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REPORTS

ON

FIRES WHICH OCCURRED OR WERE REPORTED ON BRITISH SHIPS

DURING THE PERIOD

1ST AUGUST 1919 AND 31ST JULY 1920.

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INTRODUCTION.

In the Autumn of 1919, attention was directed to the number of serious fires which were occurring on ships, and discussions took place on 5th and 18th November at the Board of Trade with representatives of the Liverpool Underwriters' Association and Lloyd's. It was decided, at these meetings, that special arrangements should be made for Board of Trade surveyors to investigate as closely as possible every case that came within their reach.

Surveyors' reports of 114 cases have now been received and are printed here, together with a tabular statement of all the cases which occurred from 1st August 1919 to 31st July 1920. Some of the vessels concerned have not since been to the United Kingdom while others have been lost abroad, and in these cases reports may not be obtained. The protest by the master of the "Nembe," the reports by the British Consul-General at Dakar, and the deposition of the master in the "Ashanti" case and the report by the Receiver of Wreck at Barbados in that of the "Tennyson" have been included, as surveyors' reports will not be available in these cases.

An analysis of these cases by the Board's Engineer Surveyor in Chief is given in an appendix to these reports.
### REPORTS OF FIRES WHICH OCCURRED OR WERE REPORTED ON BRITISH SHIPS

List of Vessels on which Fires have occurred from 1st August 1919 to 31st July 1920.

<table>
<thead>
<tr>
<th>Name of Vessel, Port of Registry, and Official Number</th>
<th>Voyage and Cargo</th>
<th>Nature of Coal in Bunkers, where Shipped, and Ventilation</th>
<th>Particulars of Casualty</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Ambassador.” Newcastle, 106618.</td>
<td>In dock at West Hartlepool for repairs.</td>
<td>On 11th September, while in dock at W. Hartlepool for repairs, a fire broke out in the boiler-room casing. The Board of Trade surveyor reported that a candle or lamp, which had not been extinguished, fell down from the boiler top, and set fire to the wood screen bulkhead at the after end of the boilers. The only man on board at night was a watchman. Two-thirds of screen bulkhead renewed. See Surveyor’s Report, No. 26.</td>
<td></td>
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<tr>
<td>“Anchoria.” Glasgow, 129359.</td>
<td>In Tilbury Dock</td>
<td>In dock on 13th October 1919 while discharging jute from No. 4 deep tank; one sling containing 6 bales of jute fouled the electric light cable, breaking same and setting fire to the jute in the sling. Bales were charred.</td>
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<tr>
<td>“Anglesea.” Cardiff, 139625.</td>
<td>Rosario to Hull, with linseed in bags.</td>
<td>On 9th August 1919, in North Basin, Buenos Ayres, a portion of vessel's bunker coal in starboard bridge deck bunker was found to be considerably overheated, smoke and gases rising from several parts. Damage equivalent to 5 tons of coal. Cause unknown.</td>
<td></td>
</tr>
<tr>
<td>“Arabian Prince.” Newcastle, 142824.</td>
<td>New York to Aden and China with general.</td>
<td>On 7th September 1919, when in Gibraltaar Bay, fire occurred in cross-bunker. There was a dividing bulkhead of wood, kerosene being stowed in fore part. Ship was flooded and beached. Part of cargo damaged. Cause unknown. See Report of Master, &amp;c. (with Surveyors’ Reports), No. 4.</td>
<td></td>
</tr>
<tr>
<td>“Ashanti.” Liverpool, 106847.</td>
<td>New York to Dakar and other West African ports with general.</td>
<td>Vessel anchored at Dakar on 18th August 1919, and directly afterwards dense smoke was seen arising from the bunker hatches and ventilators, fore part of the bridge and aft part of the saloon, and just after crew left heavy explosions occurred. Vessel became a total loss. See Report of Master, &amp;c. (with Surveyors’ Reports), No. 4.</td>
<td></td>
</tr>
<tr>
<td>Schooner “B. L. Rafuse.” La Have, N.S., 141134.</td>
<td>Guadeloupe to Bordeaux with rum.</td>
<td>In North Atlantic on 12 September. Fire started in engine-room for hoisting sails, &amp;c., and spread rapidly over the ship, which had to be abandoned.</td>
<td></td>
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<tr>
<td>“Barima.” Southampton, 135673.</td>
<td>Lisbon to London with wine and brandy.</td>
<td>On 5th November 1919, when at Morocco Wharf, Wapping, River Thames, during discharge of No. 1 lower hold, a small fire occurred in hold (after part) amongst casks of brandy and pipes of wine—some casks slightly charred—no damage to ship.</td>
<td></td>
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<tr>
<td>Name of Vessel, Port of Registry, and Official Number</td>
<td>Voyage and Cargo</td>
<td>Nature of Coal in Bunkers, where Shipped, and Ventilation.</td>
<td>Particulars of Casualty.</td>
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<tr>
<td>&quot;Bassano.&quot; Hull, 129250.</td>
<td>Singapore to London.</td>
<td>The bunkers were ventilated by 10-inch ventilators, and by short hatch on fiddley top. Bunker coal had been shipped in Japan and at Colombo.</td>
<td>Vessel was in Rotterdam dry dock on 14th October 1919, when a fire broke out in the port bunker, owing to the old insulation becoming ignited. One lead soil pipe destroyed.</td>
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<tr>
<td>&quot;Baysarnia.&quot; London, 139182.</td>
<td>In dock at Rotterdam.</td>
<td>There was no coal on board. Ventilated by open hatch.</td>
<td>On 11th November 1919, while discharging cargo at Antwerp, a fire occurred in copra on port side of after end of bridge space. On November 12th fires broke out simultaneously in after hold amongst bags of copra, afterwards spreading to deep tank where copra was stowed. This was apparently subdued, but later there was a further outbreak on a small scale. Extensive damage was done to ships' 'tween decks, &amp;c., and about 900 tons of cargo (mostly copra) were damaged by fire and water.</td>
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<tr>
<td>&quot;Benalder.&quot; Leith, 129546.</td>
<td>Port Said to Antwerp with general.</td>
<td>-</td>
<td>The Board of Trade Surveyor reported that the master could not state cause of fire; the copra was loaded at Colombo and was of a drier nature than he had been in the habit of carrying. The Surveyor could not state cause, but from master's description of the fire it would appear that something in the nature of an inflammable gas emanates from copra, and, if this is so, the fire might have been caused either by spontaneous combustion or a light accidentally dropped. Cargo was loaded in fine weather and the bags were in excellent condition when being discharged.</td>
</tr>
<tr>
<td>&quot;Berwick Castle.&quot; London, 114822.</td>
<td>London to Kilindini with general.</td>
<td>Durban Navigation, Natal Navigation Cambrian, Hlobane, Wallsend, Avon, Inyati, S. African collieries. Bunkers ventilated by ventilators and hatchways—coal shipped in fine weather, and was not stacked before shipment.</td>
<td>On 16th October 1919, when at Kilindini, British East Africa, fire occurred in permanent bunker caused by spontaneous combustion. The steamer was gutted, but was repaired.</td>
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<tr>
<td>&quot;Betty Hanson.&quot; Lighter No. 20. Hull, 132220.</td>
<td>Town Docks, Hull, to Keighley's Oil Mill, Hull, with rice meal.</td>
<td>-</td>
<td>While lying alongside Keighley's Oil Mill, Hull, on 15th December 1919, a slight fire broke out in four bags of rice meal from an unknown cause.</td>
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The Board of Trade Surveyor reported that probable cause of fire was the introduction of naked lights into a space partly full of wine and spirits. One cask of brandy had been recently spilled and the spirit leaking. Probably some person broaching the cask had been using matches or other naked lights. 

See Surveyor's Report, No. 36. On 20th June 1919, in the Red Sea, slight fire in bunkers. 50 tons of coal moved on to deck. No damage to ship. Cause is said to be spontaneous combustion.
<table>
<thead>
<tr>
<th>Name of Vessel</th>
<th>Port of Registry</th>
<th>Nature of Coal in Bunkers, where Shipped, and Ventilation</th>
<th>Particulars of Casualty</th>
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<tr>
<td>&quot;Boonah.&quot;</td>
<td>London. 139007</td>
<td>Loading at No. 1 shed Royal Albert Dock Basin, London, for Australian Ports.</td>
<td>On 15th December 1919, in Royal Albert Dock Basin, a fire started in No. 4 lower hold, spreading to No. 5 hold, and caused extensive damage. The Board of Trade Surveyor states that No. 4 and 5 holds were insulated and separated by a wooden bulkhead; but both were burnt out. Six aliens were among the crew, but no one was suspected of foul play. See Surveyor's Report, No. 45.</td>
</tr>
<tr>
<td>&quot;Bovic.&quot;</td>
<td>Liverpool. 99430</td>
<td>Boston, Mass., to Manchester with general.</td>
<td>Vessel was discharging at No. 9 Dock, Manchester Ship Canal. At 5 p.m. on 20th October 1919, workmen left vessel for tea, the hatch of No. 2 being off. At 6 p.m. flames were seen coming from No. 2 hold apparently from bags of sugar. Hold was flooded, and fire extinguished about 8.30 p.m., and most of the sugar destroyed. The Board of Trade Surveyor states that there is no information as to cause of fire. See Surveyor's Report, No. 32.</td>
</tr>
<tr>
<td>&quot;Brodvale.&quot;</td>
<td>London. 110136</td>
<td>At Nanking with general. Best S. Yorkshire. Shipped at Liverpool. The bunkers were ventilated by two 12-inch ventilators and by two 8-inch ventilators also by four trimming hatches on the weather deck.</td>
<td>While at Nanking, on 8th September 1919, fire broke out in forward cross bunker and extended to No. 3 hold, the cargo in which (frozen produce) was totally destroyed. Insulation also destroyed. Cause not stated. The Board of Trade Surveyor states that on outward voyage to Japan the coal became heated, and he is of opinion that the fire was due to spontaneous combustion. See Surveyor's Report, No. 6.</td>
</tr>
<tr>
<td>&quot;Buckleigh.&quot;</td>
<td>London. 140320</td>
<td>Genoa to Rosario in ballast. 1,092 tons North's Navigation Coal (large coal), 716 tons North's Navigation Coal (small coal). Shipped at Barry in June 1919. No information as to ventilation available.</td>
<td>Vessel left New York on 1st October 1919, and on 5th October, when in Lat. 50° N., Long. 23½° W., North Atlantic, smoke was seen to issue from the forward part of No. 2 hold, the same hold where the cross ship bunker with 700 tons of American coal was placed, but at its after end. Vessel arrived at Queenstown. Attributed to spontaneous combustion. When off Halifax, on 13th December 1919, fire broke out in cotton, wool, &amp;c., stowed under poop deck, port side, on shelter deck. Damaged cargo removed and vessel proceeded on voyage. The Board of Trade Surveyor could not see vessel; the Owners are of opinion that the fire originated in some oiled cotton waste stowed under the poop. See Surveyor's Report, No. 44.</td>
</tr>
<tr>
<td>&quot;Caledonian.&quot;</td>
<td>Liverpool. 113363</td>
<td>Boston, Mass., to Manchester, via Louisburg, N.S., with general.</td>
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<tr>
<td>&quot;Camillo.&quot; Liverpool. 127831.</td>
<td>Fire occurred in stokehold on 14th September 1919, 2 hours steaming west of Port Said; due to bursting of a joint immediately in front of the port boiler and facing it, the oil from the joint spraying on to the boiler fire and getting ignited. Damage trifling. The Board of Trade Surveyor reported that the outbreak was confined to the stokehold and was caused by the joint of one of the oil fuel pipes blowing out. See Surveyor's Report, No. 63.</td>
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<tr>
<td>&quot;Canada.&quot; Liverpool. 106806.</td>
<td>On 16th January 1920, when in Canada Dock, Liverpool, fire occurred in No. 3 'tween deck in the 3rd class accommodation. The space was divided into a number of rooms, in four of which about 200 wood fibre beds and some kapok lifebelts were stowed, and in these rooms fire occurred. Fire supposed to have been caused by a candle being left burning after painters had ceased work, or by someone smoking. Five strakes of deck plates buckled, 4 beams between No.2 hatch and ship's side removed, faired and replaced, &amp;c. The Board of Trade Surveyor considers that the fire was due to the carelessness of some one on board. See Surveyor's Report, No. 51.</td>
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<td>&quot;Cap Horn.&quot; Vancouver, B.C. 141210.</td>
<td>While in Surrey Commercial Dock, London, on 19th September 1919, a fire was discovered on the wooden floor of the engine-room. Electric light plant and engine, &amp;c., damaged. Attributed to an electric wire fusing. On 4th December 1919, while vessel was moored at Q. shed, Royal Edward Dock, Avonmouth, smoke was observed issuing from the reserve hold. At 1 p.m. the smoke abated, but water was played on it until 10th December. From 6th to 19th December the coal was discharged into lighters. A smell of naphtha was noticed coming from the coal for four or five days before the fire, but no trace of smoke or heating could be discerned. The ceiling limbers and pipe casings in the reserve hold were burned in places. The Board of Trade Surveyor reported that no satisfactory explanation could be given for the cause of the fire, which appears to have started about the junction of the Yorkshire and Welsh coal. For two days before the outbreak, a strong smell of petrol was detected coming from the bunker. The Engineer Surveyor-in-Chief remarked that it was difficult with any certainty to assign a cause. The fire appears to have occurred in the Yorkshire coal, which would probably have been a bituminous quality, and had been in the ship some time exposed to air, in circumstances favourable to becoming</td>
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<td>&quot;Cap Verde.&quot; London. 143284.</td>
<td>Coal in which heat occurred (see next column). 100 tons of Yorkshire coal loaded at Hull, July 21st and following days, and about 480 tons of Welsh coal loaded at Avonmouth on October 28th and following days. The latter was dumped on top of the old, and the weather was wet while bunkering. Welsh coal supplied by Messrs. Rea was obtained from several collieries, Powell Duffryn, &amp;c., but firm were unable to state their names.</td>
<td>Bristol to Australian Ports with galvanized iron and tin plates.</td>
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<tr>
<td>&quot;Cawdor Castle.&quot; London. 114823.</td>
<td>Beira to London (via Teneriffe), with general (asbestos, hides, tobacco, copper, &amp;c.)</td>
<td>dry and for absorption of air. These circumstances might be considered favourable to produce spontaneous combustion in the Yorkshire coal after it was covered by the coal taken in at Avonmouth in November 1919. Unless smell of petrol could be considered as evidence of some other cause, it would seem probable that the Yorkshire coal became heated, at first, at some little distance from the bulkhead. See Surveyor's Report, No. 16.</td>
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<tr>
<td>&quot;Chevalier.&quot; Glasgow. 53409.</td>
<td>Laid up in Albert Harbour, Greenock.</td>
<td>At about 9.30 p.m. on 9th November 1919, in East India Dock, smoke was observed issuing from the skylight and ventilators on bridge deck, which are immediately over the 1st class saloon accommodation. Considerable damage was done to the work in the passage way to the saloon entrance, in the bridge span, and a staircase leading therefrom to the rooms of the captain, the chief officer and Marconi operators. Electric light was on from 7 a.m. to 4 p.m., and the fire is believed to have been caused through a fused or short-circuited wire. The Board of Trade Surveyor was of opinion that fire originated at or near an electrical distribution box, about the centre of the passage way leading to the saloon. The fire appears to have been caused by the fusion of the electric wires owing to a short circuit, for it is a significant fact that the only wire which in this instance could short-circuit was electrically fused. See Surveyor's Report, No. 37.</td>
<td></td>
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<tr>
<td>&quot;City of Chester.&quot; Glasgow. 128046.</td>
<td>Malabar Coast to Liverpool with general.</td>
<td>On 25th October 1919, in Albert Harbour, Greenock, a fire occurred originating in cabin. Fire was discovered in No. 6 hold when vessel was in the Mediterranean 450 miles east of Malta on 10th October 1919. Hold was flooded to a depth of 14 feet, and the day after arriving at Malta on the 12th, fire was extinguished. Damage to ship trifling, but about 250 tons of cargo destroyed or damaged. The fire occurred among oil-cake, probably through overheating. The Board of Trade Surveyor reports that the fire occurred in the centre of a quantity of oil-cake and was due presumably to spontaneous combustion. See Surveyor's Report, No. 66.</td>
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<tr>
<td>&quot;City of Rangoon.&quot; Liverpool. 135582.</td>
<td>Calcutta to London and Dunkirk with general.</td>
<td>Fire in bunkers caused by spontaneous combustion of coal. Fire continued from 31st October 1919 to 3rd December in the Indian and Atlantic Oceans. The Board of Trade Surveyor reported that this fire, which was not serious, was caused by spon-</td>
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</table>

**Notes:**
- The terms "dry and for absorption of air" refer to the condition of the coal which might have contributed to spontaneous combustion.
- The "Beira to London" voyage indicates a route through Teneriffe, suggesting the coal was likely subject to varying conditions during transport.
- The "City of Chester" was laid up in Albert Harbour, which might indicate it was not in active service at the time the conditions leading to the fire occurred.
- The "City of Rangoon" fire occurred among oil-cake, which is known to be a potential source of spontaneous combustion.
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<tr>
<td>“City of Winchester.” Liverpool. 140546.</td>
<td>Lyttelton to Melbourne with frozen meat.</td>
<td>Eureka shipped at New York in wet weather.</td>
<td>On 30th October 1919, when in Lat. 38°49' S., 170°22' E., fire was discovered in insulation after part of No. 2 hold. No damage to ship or cargo. Cause—coal (for ship’s use) heating in No. 3 hold. The Surveyor thought that fire was due to spontaneous combustion in coal which had been on board for nearly three months. See Surveyor’s Report, No. 10.</td>
</tr>
<tr>
<td>“Clan Colquhoun.” Glasgow. 111187.</td>
<td>Chittagong to Dundee with jute.</td>
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<tr>
<td>“Clan Mackintosh.” Glasgow. 121290.</td>
<td>Beira to Liverpool with general.</td>
<td>Transvaal, South Wales and Scotch Whitbank Transvaal Mine. Ventilated by four 18-inch ventilators.</td>
<td>While in Lobito Bay, on 23rd October 1919, an explosion occurred in No. 3 hold through gas. A donkey-man was injured and subsequently died. No damage to ship and very slight to cargo.</td>
</tr>
<tr>
<td>“Clan Maclaren.” Glasgow. 111188.</td>
<td>Durban to Lobito Bay (Portuguese W. Africa) with general.</td>
<td>Durban coal shipped in damp weather.</td>
<td>On 2nd December 1919, off Cape St. Vincent, Portugal, smoke was observed in port between deck bunkers. Bunker was flooded and there was no real outbreak of fire and no damage done.</td>
</tr>
<tr>
<td>“Clan Macvean.” Glasgow. 141878.</td>
<td>Liverpool to Bombay with Manganese ore.</td>
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<td>Name of Vessel</td>
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<td>&quot;Clan Murdoch.&quot;</td>
<td>Glasgow. 141911.</td>
<td>Chittagong to Boston and New York with general.</td>
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<tr>
<td>&quot;Clan Murray.&quot;</td>
<td>Glasgow. 141894.</td>
<td>New York to Piraeus, Suez, and Java with general.</td>
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<tr>
<td>&quot;Clan Skene.&quot;</td>
<td>Glasgow. 141893.</td>
<td>Montreal to Monte Video with general.</td>
<td>Cape Breton, Yorkshire and Durham. Ventilated by two 24-inch ventilators.</td>
</tr>
<tr>
<td>&quot;Commonwealth.&quot;</td>
<td>London. 115903.</td>
<td>In Royal Albert Dock, London.</td>
<td>-</td>
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<tr>
<td>&quot;Cressington Court.&quot;</td>
<td>Newcastle. 125709.</td>
<td>Rosario to Hull with grain.</td>
<td>Durham collieries (steam).</td>
</tr>
<tr>
<td>&quot;Crown of Galicia.&quot;</td>
<td>Glasgow. 124135.</td>
<td>Glasgow to Los Angeles and Pacific Coast ports with general.</td>
<td>-</td>
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<tr>
<td>&quot;Culna.&quot;</td>
<td>Glasgow. 124164.</td>
<td>Bombay to London and Antwerp with general.</td>
<td>Welsh and Indian coal. Ventilated by two ventilators on each side of boat deck.</td>
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<tr>
<td>&quot;Cyprian Prince.&quot; Newcastle. 142842.</td>
<td>Alexandria to Manchester with cotton and general. On 16th November, when in Lat. 32°11 N., long 26°50 E., in Mediterranean, a fire broke out in No. 2 hold. This was extinguished and vessel taken back to Alexandria. Damage to vessel—some plates and a beam buckled; to cargo—50 bales of cotton by fire and 100 by water.</td>
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<tr>
<td>&quot;Danier.&quot; London. 145464.</td>
<td>Genoa to Monte Video in ballast. Coal shipped at North Shields in rainy weather. Ventilators to shelter deck four 6-inch gooseneck ventilators and one 8-inch cowl ventilator on each side. To lower bunkers one 6-inch gooseneck ventilator, and one 12-inch cowl ventilator on each side. On arrival at Marseilles on 7th December 1919, found fire inside bunkers, through spontaneous combustion. 200 tons of burnt coal discharged.</td>
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<tr>
<td>&quot;Douro.&quot; Hull. 95796.</td>
<td>Liverpool to Venice with general. On 25th December 1919, when at Venice, fire occurred in strong room (No. 1 'tween decks). Cargo and ship's stores damaged. One life lost. The Board of Trade Surveyor states that it is possible that a match had been thrown down the ventilator. See Surveyor's Report, No. 46.</td>
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<tr>
<td>&quot;Elleric.&quot; Glasgow. 126221.</td>
<td>Loading a general cargo at Glasgow. 22nd September 1919, when at Glasgow, a fire of a trifling nature broke out in after part of No. 2 hold. A small quantity of cargo damaged by fire and water. No damage to ship. The Board of Trade Surveyor reported that vessel had been loading a general cargo of bale goods, linen, ropes, &amp;c. No. 2 hold is separated from stokehold by a watertight steel bulkhead, and it was near this bulkhead where the fire originated, but there was no reason to think that the stokehold had anything to do with it. No goods of an explosive nature were carried, and it can only be assumed that the cargo men had been smoking and had thrown matches carelessly about. The shore gang had finished work for the night. See Surveyor's Report, No. 28.</td>
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<td>&quot;Fawn.&quot; Guernsey. 105152.</td>
<td>Poole to Guernsey with straw, lime and soap.</td>
<td>-</td>
<td>On 19th September 1919, after vessel had arrived at discharging berth in Guernsey harbour, smoke was noticed. Vessel carried 25 bags of lime on deck, and on top was stowed some straw. Lime and straw thrown overboard. Damage trifling. The Board of Trade Surveyor states that the owner is of opinion that the straw may have been heated when shipped. See Surveyor's Report, No. 27.</td>
</tr>
<tr>
<td>&quot;Fernfield.&quot; London. 105704.</td>
<td>At Antwerp - Nature of bunker coal not known.</td>
<td>-</td>
<td>While at Antwerp fire broke out in starboard bunkers on 17th and 22nd June 1919. No material damage.</td>
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<tr>
<td>&quot;Foochow.&quot; London. 105721.</td>
<td>Hong Kong to Shanghai with general.</td>
<td>-</td>
<td>When at Shanghai, on 19th December 1919, fire broke out in cargo (jute) in No. 1 lower hold. Ship not damaged, but cargo in No. 1 hold and 'tween deck all more or less damaged by fire and water. This vessel is trading in China seas and cannot be seen by a Surveyor.</td>
</tr>
<tr>
<td>&quot;Francisco.&quot; Hull. 132209.</td>
<td>New York to Hull with general.</td>
<td>-</td>
<td>On 20th November 1919, when about 1,000 miles E. of New York, a fire broke out in No. 6 hold amongst sugar, rags, hemp, tobacco, carbon black, &amp;c. Deck became very hot and automatic steering gear gave out owing to pipes being burned through. Vessel put back full speed to Halifax, certain portions of the burning cargo having been jettisoned. Fire was extinguished on the 26th November. Deck plates, stanchions and supports 'tween decks partly buckled, also upper deck, shelter deck and orlop deck partly buckled. Master says probably due to spontaneous combustion. On discharging remains of cargo, surveyors formed an opinion that the fire originated first at the fore end of sugar in lower hold, and later at after end. The Board of Trade Surveyor reported that it was difficult to assign any cause other than incendiarism. The lamp black (liable to spontaneous combustion) was hardly touched by fire. See Surveyor's Report, No. 40.</td>
</tr>
<tr>
<td>&quot;Gairlochy.&quot; Glasgow. 42537.</td>
<td>Lying at pier, Fort Augustus, Caledonian Canal, with general.</td>
<td>-</td>
<td>While sleeping on board at Fort Augustus on 27th December 1919 the crew were awakened by the noise of fire raging overhead. The only fire on board was in the stokehold, where the fires were banked up. The vessel was totally destroyed. The Board of Trade Surveyor reported that from the progress of the fire it was thought that it broke out in the purser's room, or in the galley on the main deck. See Surveyor's Report, No. 48.</td>
</tr>
<tr>
<td>Name of Vessel</td>
<td>Nature of Coal in Bunkers, where Shipped, and Vestilation.</td>
<td>Port of Registry, and Voyage and Cargo</td>
<td>Particulars of Casualty</td>
</tr>
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</tr>
<tr>
<td>&quot;Gasconier.&quot;</td>
<td>Barnsley coal shipped in fine weather at Barrow, and also some coal at Baltimore.</td>
<td>Norfolk, U.S.A., to Antwerp with general.</td>
<td>On 6th August 1919, in Lat. 49° 40' N., Long. 7° 49' W., English Channel, coal in starboard after permanent bunker was found to be smouldering. No damage to vessel. The Board of Trade Surveyor considers that it is probable that water got into the coal and generated heat. See Surveyor's Report, No. 4. Fire in bunkers of vessel when in Buenos Aires Roads on 9th July 1919. Starboard bunker and wood casing over same destroyed, bridge deckplate between starboard bunker hatch and engine-room casing slightly buckled. Wireless operator died in bed through suffocation by coal gas. The Board of Trade Surveyor states that fire appears to have been the result of spontaneous combustion, caused by 10 tons of coal being left in the starboard reserve bunker. See Surveyor's Report, No. 53.</td>
</tr>
<tr>
<td>London.</td>
<td>143137.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Gledhow.&quot;</td>
<td>Durham bunker coal supplied at Oran consisted of Leveen Wallsend steam coals and Morrison's Hartley unscreened steam coals. One cowl ventilator each side to bunkers, also hatches always kept open.</td>
<td>River Plate to Antwerp with maize.</td>
<td>While in Surrey Commercial Dock, London, on 5th August 1919, fire broke out in the after store-room. Damage trifling.</td>
</tr>
<tr>
<td>London.</td>
<td>98913.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Glenetive.&quot;</td>
<td>-</td>
<td>New Orleans to London with general.</td>
<td>While at anchor in Margate Roads, on 12th January 1920, fire broke out in engine-room, the paraffin oil tank being ablaze. Flames shot out of skylight, and fire raged very fiercely, bursting a steam pipe. One life lost. Vessel returned to Gravesend for survey and repairs. Apparently due to the close proximity of a lamp to the paraffin oil tank.</td>
</tr>
<tr>
<td>Newcastle.</td>
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<tr>
<td>129600.</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Gudrun.&quot;</td>
<td>-</td>
<td>London to Cuba in ballast.</td>
<td></td>
</tr>
<tr>
<td>London.</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>143106.</td>
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<td></td>
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<tr>
<td>&quot;Hakan.&quot;</td>
<td>Gas coal supplied by the Stella Coal Company, Newcastle (wrought from Addision, Clare Vale, Stargate, Emma, and Greenside Pits, the seams being the &quot;five quarter,&quot; the &quot;stone coal,&quot; the &quot;three quarter,&quot; and &quot;Brock well&quot;).</td>
<td>Newcastle-on-Tyne to Southampton with gas coal.</td>
<td>On the 30th August 1919, when about 15 miles N.E. of Spurn Lighthouse, Yorkshire, after encountering bad weather, in which vessel rolled very heavily, a fire occurred in cargo. Damage to cargo about 10%; none to vessel. Cargo loaded in wet weather. Master attributes fire to spontaneous combustion.</td>
</tr>
<tr>
<td>London.</td>
<td>83891.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Haliartus.&quot;</td>
<td>Northumberland unscreened coal from Hastings Colliery. Surface ventilation through hatches. The bunkers were ventilated by cowl ventilators.</td>
<td>Montevideo and Buenos Aires with general.</td>
<td>On 2nd December 1919, when in Lat. 32° 38' N., Long. 17° 24' W., Atlantic, fire occurred in starboard lower bunker. No apparent damage. Cause, spontaneous combustion. The Board of Trade Surveyor says that, according to the chief engineer, ship bunkered at London on 31st October 1919, the coal being inferior quality. Fire thought to be due to spontaneous combustion. Coal had been on board about five weeks. See Surveyor's Report, No. 56.</td>
</tr>
<tr>
<td>Liverpool.</td>
<td>-</td>
<td></td>
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<tr>
<td>142632.</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Herefordshire.&quot;</td>
<td>-</td>
<td>In Tilbury Dock</td>
<td>On 17th August 1916, while in Tilbury Dock, a fire broke out in No. 1 lower hold. Cargo consisted of bags of oil cake, paraffin wax</td>
</tr>
<tr>
<td>Liverpool.</td>
<td>-</td>
<td></td>
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</tr>
<tr>
<td>120903.</td>
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</tr>
</tbody>
</table>
| "Highland Heather."
London.
118453. | River Plate to Boulogne with frozen meat. | Welsh, transhipped from coasteers at Liverpool.
Name of mine unknown. | and bundles of hides, a considerable quantity of which was damaged. Cause could not be ascertained, but thought to be due to workmen smoking in the hold. The Board of Trade Surveyor could assign no definite reason for the fire, but assumed that a lighted cigarette or match had been allowed to fall amongst the cargo. See Surveyor's Report, No. 62. |
| "Hilaarius."
Liverpool.
104255. | New York to Buenos Aires. | S. Wales shipped at Liverpool. Ventilated by 18-inch ventilators on each side. | Coal overheated on 9th November 1919 in Boulogne harbour and caused insulation to fuse, and set fire to cargo in No. 2 hold. Insulation damaged and a good deal of cargo. |
| "Hilton s/v."
London.
91851. | Baltimore to Buenos Aires with coal. | American coal. | While at Buenos Aires, on 26th August 1919, a fire occurred in the bunker coal owing to spontaneous combustion. No damage to hull. |
| "Hollinside."
Newcastle.
132803. | Alexandria to Hull, with oil-cake and cotton seed. | - - - | On 12th December 1919, at Buenos Ayres, a fire occurred in hold. Damage slight. Cause, coal heating. |
| "Hydaspes."
Liverpool.
108840. | New York to River Plate with general. | - - - | On 21st November 1919, in Albert Dock, Hull, a fire broke out in a parcel of oil-cake in No. 2 hold after some of the cargo had been discharged and work had ceased. Damage to ship very slight; some cargo damaged by fire and water. The stevedores had possibly been smoking. |
<p>| | | | On 15th December 1919, in Lat. 18° 18' N. long. 46° 4' W., smoke was seen coming from No. 7 hatch ventilator. Cargo was shifted on deck, and smoke was then seen coming from No. 8 hatch and from 'tween decks; a bale of cotton waste was seen in flames. Holds were flooded and vessel put into Barbados on 19th December with fire still burning. Decks and sides buckled, &amp;c. No spontaneous combustion so far as master knew. The Receiver of Wreck, Barbados, reported that it was impossible to state origin of fire: there was no evidence of any cargo being on board of an inflammable nature, and there was no reason to suspect crew; but having regard to the number of fires in steamers arriving at Barbados recently, the origin must be looked for at ships last port of entry, which in this case was Halifax, N.S. The Board of Trade Surveyor says that the senior officers were of opinion that fire was caused by incendiary action, and the supposition is supported by the facts that: (1) There were two distinct sources of origin, separated by a steel deck. (2) Both outbreaks occurred at points the most remote from the hatches. (3) Both fires started in large packing cases. See Surveyor's Report, No. 67. |</p>
<table>
<thead>
<tr>
<th>Name of Vessel, Port of Registry, and Official Number</th>
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<th>Nature of Coal in Bunkers, where Shipped, and Ventilation</th>
<th>Particulars of Casualty</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Juno,&quot; Hull. 105043.</td>
<td>Dunkirk to Hull with general.</td>
<td>- - -</td>
<td>While in Humber Dock, Hull, on 13th September 1919, rags were found smouldering in No. 3 hold. No damage to ship.</td>
</tr>
<tr>
<td>&quot;Kalyan,&quot; Liverpool. 137449.</td>
<td>In Tilbury Dock; no cargo.</td>
<td>- - -</td>
<td>On 30th October 1919, in Tilbury Dock, a slight fire occurred in No. 2 hatch, behind the boards forming the insulation from the ship's side lower between decks port side. No damage to vessel.</td>
</tr>
<tr>
<td>&quot;Kandahar.&quot; N. Shields. 133818.</td>
<td>London to Wellington, N.Z., via Cape Town and Hobart, with general.</td>
<td>- - -</td>
<td>On 18th July 1919, when 500 miles S. of Teneriffe, smoke was seen coming from ventilator and hatch of the starboard lower bunker, Insulation in No. 3 lower hold was set on fire. Damage trifling. The Board of Trade Surveyor states that no cause could be assigned for the fire. See Surveyor's Report, No. 1.</td>
</tr>
<tr>
<td>&quot;Kilkenny.&quot; Harwich. 117513.</td>
<td>In River Thames; no cargo.</td>
<td>- - -</td>
<td>Vessel was, on 31st October 1919, at Messrs. R. and H. Green and Setley Weir's Yard, London, for re-conditioning when fire was discovered in forward air duct to stokehold. Attributed to ship repairers making a hole with acetylene burning plant through the casing, and to the fact that some coal dust and oil had accumulated in this space, which ignited and caused fire. The Board of Trade Surveyor considers that the fire was caused by the oxy-acetylene burning apparatus. See Surveyor's Report, No. 34.</td>
</tr>
<tr>
<td>&quot;Knight Templar.&quot; Liverpool. 120900.</td>
<td>Liverpool to Kobe and Yokohama with general.</td>
<td>- - -</td>
<td>On 16th December 1919, at Kobe, when discharging bags of fish guano (shipped at Colombo on 25th October 1919) from port deep tank, it was found that the bags were smouldering. 50 bags more or less wet and stained. No damage to vessel.</td>
</tr>
<tr>
<td>&quot;Königin Luise.&quot; London. 143196.</td>
<td>Sydney, N.S.W., to London with copra.</td>
<td>- - -</td>
<td>While loading copra at Sydney, N.S.W., on 29th August 1919, a fire broke out in No. 6 hold between the side of the tunnel and the shell plating. Fire afterwards broke out in the charcoal insulation under lower deck of No. 6 hold. Insulation in orlop deck extensively damaged. No damage to ship. Cargo much damaged by water. The Board of Trade Surveyor reported that those on board assumed that one of the stevedores lit a cigarette before leaving work, and either the match or part of a lighted cigarette fell between the bags of copra. This was probably correct, but there was no evidence to confirm it. See Surveyor's Report, No. 24.</td>
</tr>
<tr>
<td>Name of Vessel, Port of Registry, and Official Number.</td>
<td>Voyage and Cargo</td>
<td>Nature of Coal in Bunkers, where Shipped, and Ventilation.</td>
<td>Particulars of Casualty.</td>
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<tr>
<td>&quot;Lancastrian.&quot; Liverpool. 99326.</td>
<td>Antwerp to New York with general.</td>
<td>-</td>
<td>On 16th December 1919, when about 400 miles east of Halifax, N.S., a fire occurred in No. 1 lower hold among cargo of linseed oil, bales of rags, &amp;c. The woodwork of hold was damaged and there was considerable damage to cargo. The fire is supposed to have been due to spontaneous combustion of the oil and rags. The Board of Trade Surveyor reports that it was impossible to ascertain cause of fire or to state which part of the cargo was first ignited. See Surveyor's Report, No. 68.</td>
</tr>
<tr>
<td>&quot;Laristan.&quot; Newcastle. 139221.</td>
<td>Monte Video to Antwerp with grain and general.</td>
<td>Welsh. Taken at Barry and Gibraltar. A heat extractor was fitted over the boilers, there was also a ventilator on the bridge.</td>
<td>Between 23rd and 25th July 1919, after leaving Monte Video, a fire occurred in port side bunkers. Some plates, beams, and bars damaged. Fire attributed to spontaneous combustion.</td>
</tr>
<tr>
<td>&quot;Las Palmas.&quot; London. 143279.</td>
<td>In Surrey Dock, London, in ballast.</td>
<td>-</td>
<td>When in Surrey Commercial Dock, London, on 23rd October 1919, a fire broke out in the after peak hatch, the cause of which was considered to be due to fusing of electric wire to the stern light. No damage to ship, but stores damaged.</td>
</tr>
<tr>
<td>&quot;Lochness.&quot; Glasgow. 106014.</td>
<td>Ballachullish to Kinlochleven with general.</td>
<td>-</td>
<td>On 26th December 1919, when 10 minutes steam from Ballachullish pier, fire broke out amongst furniture stowed on the upper deck, and owing to the wind the fire spread to the rest of the cargo stowed with the furniture. Deck slightly scorched. The Board of Trade Surveyor reported that household furniture had been placed on top of the deck shelter aft, in the neighbourhood of a funnel from a stove, and it must have been in close contact with this funnel, and so caused the fire. See Surveyor's Report, No. 47.</td>
</tr>
<tr>
<td>&quot;Lowmoor.&quot; Newcastle. 114429.</td>
<td>Bombay to Hull with cotton seed and manganese ore.</td>
<td>-</td>
<td>When in dock at Hull, on 2nd January 1920, a fire broke out in No. 2 hold (forward), and three days later fire again broke out in the after part of the same hold. The ore was loose in Nos. 2 and 3 holds at bottom and the seed in bags in all holds tightly packed. Damage not stated. The Board of Trade Surveyor reported that No. 2 hold was separated from the boiler-room bulkhead by a temporary cross bunker length, about 10 feet. Whole of cargo in upper part of holds was very heated and quite brown, although fire was confined to No. 2 hold. It seemed a clear case of spontaneous combustion arising through cargo being in vessel for such a long period. See Surveyor's Report, No. 49.</td>
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<tr>
<td>&quot;Lubeck.&quot; London. 120926.</td>
<td>Norfolk to Buenos Aires with coal.</td>
<td>N. American coal, shipped in dry weather. Ventilated by three manholes with gratings over top. These were clear at time of fire.</td>
<td>On 10th September 1919, in North Atlantic, fire was discovered in port side bunker, and having to put into Bahia for engine trouble, coal was all shifted out and again returned. On 15th September, at Buenos Aires, another fire occurred in No. 3 hold amongst bunker coal stowed there. Hold was flooded and fire extinguished. Cause, heating of coal.</td>
</tr>
<tr>
<td>&quot;Luneburg.&quot; (A German vessel given up under the terms of the Armistice — not yet registered.)</td>
<td>Singapore to Liverpool with rice meal.</td>
<td>The coal had been obtained at several ports in the Far East, some of it was Natal coal and some was Welsh. On each side there are four hatches on the upper deck, also two saddleback hatches. On the after one there are placed two ventilators, both with 18-inch shaft and 21-inch cowls; on the forward hatch there is one of the same dimensions which serves to ventilate the top bunkers. There are also two derrick posts 24-inches in diameter, fitted with 34-inch cowls which ventilate the lower bunkers on the fore end, and two ventilators with 20-inch shafts, and 36-inch cowls which ventilate the upper and lower bunkers, making a total of seven ventilators leading directly into the bunkers.</td>
<td>On 14th November 1919, in Lat 31° 55' N. of Long. 31° 18' E. (in Mediterranean), a fire broke out in port bunker after leaving Port Said. It could not be put out, many explosions occurring, and on 15th November vessel was headed for Alexandria, where she arrived on 16th, where the fire, which had also broken out in No. 4 hold, was finally subdued on 17th. No reference to damage done or cause. The Board of Trade Surveyor considers that the fire may have been due to a match having been thrown down when coal was being loaded. See Surveyor's Report, No. 12.</td>
</tr>
<tr>
<td>&quot;Lynton.&quot; London. 115766.</td>
<td>In Penarth Dock in ballast.</td>
<td>- - -</td>
<td></td>
</tr>
<tr>
<td>&quot;Malatian.&quot; Liverpool. 125534.</td>
<td>At Liverpool with general cargo including nitrate.</td>
<td>- - -</td>
<td>Fire broke out in Nos. 1 and 2 holds while loading in Alexander Dock, Liverpool, on 7th October 1919. Nitrate was stored in both holds. Ship and cargo extensively damaged. Cause unknown. The Marine Superintendent of the Company considers that the fire was caused by a lighted match or cigarette being thrown down a ventilator. See Surveyor's Report, No. 31.</td>
</tr>
<tr>
<td>&quot;Maraval.&quot; Glasgow. 115787.</td>
<td>At Brooklyn, New York, with general.</td>
<td>- - -</td>
<td>At Brooklyn, New York, on 30th July 1919, fire occurred in No. 2 'tween deck. Plates slightly buckled.</td>
</tr>
<tr>
<td>Name of Vessel, Port of Registry, and Official Number</td>
<td>Voyage and Cargo</td>
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<tr>
<td>&quot;Mary Smethurst,&quot; Weymouth, N.S. 138805.</td>
<td>In Arbroath Harbour; no cargo.</td>
<td>- - -</td>
<td>A few sails in the forecastle caught fire in Arbroath Harbour, on 29th October 1919. Vessel sustained no damage, but a few sails were burnt. Probably caused by the upsetting of a lamp.</td>
</tr>
<tr>
<td>&quot;Melanson Brothers,&quot; s/v. Weymouth, N.S. 138805.</td>
<td>At Bordeaux; no cargo.</td>
<td>- - -</td>
<td>Vessel was in Bordeaux harbour, on 13th November 1919, when smoke was seen coming from the lazarette hatch, and on examination it was found that fire had broken out below. Damage trifling. Cause unknown.</td>
</tr>
<tr>
<td>&quot;Mineric.&quot; Glasgow. 129443.</td>
<td>New York to Shanghai with general.</td>
<td>Bunker coal in cross-bunker partly from New York, Pardee Coal, and partly from San Francisco, Comax Coal, Weather fine time of shipment. Ventilated by two 18-inch ventilators.</td>
<td>When at Shanghai, on 2nd October 1919, smoke was seen issuing from No. 2 hold ventilators, and on investigation, coal in bunker and the cargo in No. 2 hold was found to be on fire, evidently through spontaneous combustion. Little or no damage to ship.</td>
</tr>
<tr>
<td>&quot;Morinier.&quot; London. 113541.</td>
<td>In dock at Buenos Aires with general.</td>
<td>- - -</td>
<td>The Board of Trade Surveyor reports that in his opinion fire originated in the bunker, due to the gradual heating up of the &quot;Pardee&quot; coal, put on board at New York. The rise in the temperature of the coal was due to causes inherent in the coal itself, its condition when put on board, and the time (2½ months) during which it had been lying under conditions suitable to the generation of heat.</td>
</tr>
<tr>
<td>&quot;Mounteagle.&quot; Vancouver, B.C. 110564.</td>
<td>In dock at Hong Kong, in ballast.</td>
<td>- - -</td>
<td>Fire broke out in dock on 17th January 1920 amongst cargo in No. 1 shelter deck. Cause and damage not stated.</td>
</tr>
<tr>
<td>&quot;Myrtis.&quot; Glasgow. 120613.</td>
<td>At Nantes with general.</td>
<td>- - -</td>
<td>While in dock at Hong Kong on 31st December 1919, oil in engine-room caught fire. (Not trading to United Kingdom.)</td>
</tr>
<tr>
<td>&quot;Nembe.&quot; Liverpool. 114427.</td>
<td>New York to Addah; general cargo, including kerosene and gasoline.</td>
<td>- - -</td>
<td>On 14th August 1919, in River Loire, fire was discovered in cargo of bales of sheepskins, wool, and bales of cotton stowed under forecastle head. Extinguished in 15 minutes, but again broke out eight hours later in another bale of skins. Supposed spontaneous combustion. The Surveyor states that fire was caused by heat radiated from the iron deck to the skins below.</td>
</tr>
<tr>
<td>&quot;Nigaristan.&quot; Swansea. 158,919.</td>
<td>At Cienfuegos with cargo of sugar.</td>
<td>Wittenburg Coal Co., New York.</td>
<td>Spontaneous combustion of bunker coal at Acrea. Vessel destroyed, carried in No. 1 hold, kerosene; No. 2 hold, general; No. 3 hold, kerosene and gasoline. See Protest of Master (with Surveyors' Reports, No. 3.)</td>
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<tr>
<th>Name of Vessel, Port of Registry, and Official Number</th>
<th>Voyage and Cargo</th>
<th>Nature of Coal in Bunkers, where Shipped, and Ventilation</th>
<th>Particulars of Casualty</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;North Point.&quot; Liverpool. 113428.</td>
<td>At Sydney, N.S.W.; no cargo.</td>
<td>Indian and Colonial coal mixed. Surface ventilation to the shelter deck which was ventilated by large ventilators two each side in way of engine-room and stokehole side bunkers. The cross bunker had four large ventilators leading through the shelter and 'tween deck to the lower cross, with ventilating shaft and 'tween deck over cross.</td>
<td>Vessel was in Sydney Harbour, New South Wales, on May 1919, when coal in starboard engine-room bunker took fire. Plates slightly buckled. Cause: spontaneous combustion.</td>
</tr>
<tr>
<td>&quot;Oakfield.&quot; W. Hartlepool. 132816.</td>
<td>Rosario to Buenos Aires; no cargo.</td>
<td>Unscreened West Hickey, Townley and Montague, River Tyne. Ventilated by two ventilators at each side and hatches when weather permitted.</td>
<td>Fire occurred at Rosario in bunkers on 30th October 1919.</td>
</tr>
<tr>
<td>&quot;Oaklands Grange.&quot; W. Hartlepool. 132833.</td>
<td>Bahia to Buenos Aires (in dock) with cereals.</td>
<td>- -</td>
<td>Fire in No. 1 lower hold at Buenos Aires on 2nd October 1919, probably caused by a lighted cigarette dropped by a stevedore while loading the cargo.</td>
</tr>
<tr>
<td>&quot;Othello.&quot; Hull. 106732.</td>
<td>Bombay to Mar-selles, via Karachi, with cargo of various grains and seeds.</td>
<td>- -</td>
<td>The Board of Trade Surveyor reported that the fire started on the starboard side of the hold, which contained ham or middlings, and was thought, to have been caused as above. Damage slight.</td>
</tr>
<tr>
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<td>3rd August 1919, in Suez Canal, small fire located under or in starboard aft ventilator No. 1 hold; extinguished 6.15 p.m. No damage to ship or cargo.</td>
</tr>
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<td>The Board of Trade Surveyor reported that a small fire was located under starboard aft ventilator to No.1 hold. Cargo in this hold consisted principally of linseed, mowrie seed and cotton seed. Cause unknown. The ventilators being open and unprotected by gauze, in all probability a spark, used match, &amp;c., may have been blown down and fanned into a flame by draught from ventilators.</td>
</tr>
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<td>When in Lat. 35° 47' S., Long. 132° 20' E., Southern Ocean, on 7th November 1919, port permanent bunker was found to be on fire. To find seat of fire, it was decided to burn out the pocket. After opening lower door, pocket broke out into flames, and the pocket became jammed, and while firemen were clearing bunker from below through the slide door, the 3rd engineer went on deck to clear the jamb from the top. The coals took a</td>
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<tr>
<td>&quot;Port Elliot.&quot; London. 131279.</td>
<td>Pirie to Adelaide in ballast.</td>
<td>Probably Pocohantas or Pennsylvania, U.S.A. The coal was shipped at New York in July during showery weather. Hold ventilated by four ordinary cowl ventilators.</td>
<td>run and carried him down to the mouth of the pocket on top of the fire, and he was suffocated. Cause and damage not stated. When in Indian Ocean, bunker coal in No. 3 hold, took fire on 15th September 1919, and insulation on bulkheads fore and aft damaged. The Board of Trade Surveyor reports that there was very little damage, and that this is probably a case of spontaneous combustion. See Surveyor's Report, No. 7. On 22nd January 1920, when in East India Dock, some waste and coconut fibre mats caught fire in engine room. No damage done. The Board of Trade Surveyor states that fire was due to a workman lighting a candle under the fibre when working at a pipe. See Surveyor's Report, No. 52.</td>
</tr>
<tr>
<td>&quot;Port Lincoln.&quot; London. 132733.</td>
<td>In East India Dock, River Thames; no cargo.</td>
<td>- - -</td>
<td>- - -</td>
</tr>
<tr>
<td>&quot;Port Macquarie.&quot; London. 135132.</td>
<td>Cape Town to London with general.</td>
<td>Natal navigation coal. Ventilated by six ordinary cowl ventilators.</td>
<td>While in Victoria Dock, London, on 10th September 1919, fire in bunkers caught cargo in shelter deck. Frames, beams and hides damaged. The Board of Trade Surveyor reports that the shelter deck was stowed with scoured wool in bales and had taken fire in way of a coal shoot. The weather was hot and the coal in the shoot, which had been on fire after leaving Durban and had cooled down, was again heating up. Coal loaded into the clear shoot was from Newcastle, N.S.W., and had been in the ship about two months. It is thought that the wool had been smouldering sometime previously, due to the hot weather, and heat from the coal shoot, and that the draught, which had been caused by opening No. 2 and 4 hatches to discharge cargo, had caused fire to break out. Damage slight. See Surveyor's Report, No. 54. On 23rd October, when 20 miles from Vancouver, fire was discovered in No. 1 hold (also used as deep tank), caused by matches in personal effects. Slight buckling of main deck only. Vessel is trading abrad.</td>
</tr>
<tr>
<td>&quot;Prince Rupert.&quot; Newcastle. 129743.</td>
<td>Vancouver to Ocean Falls, B.C., with general.</td>
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<tr>
<td>&quot;Prinz Hubertus.&quot; London. 143189.</td>
<td>Melbourne to London with cargo of wheat, copper, cotton seed.</td>
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<tr>
<td>Name of Vessel, Port of Registry, and Official Number</td>
<td>Voyage and Cargo</td>
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<tr>
<td>&quot;Queen Alexandra.&quot; Glasgow. 136672.</td>
<td>Almeria to Barrow with cargo of iron ore, 1,296 tons of Cobber bituminous coal shipped at Philadelphia in dry weather, and after 'tween deck bunkers were filled, about 871 tons were put into lower cross-bunker. Name of colliery unknown. The bunkers are ventilated by two 19-inch derrick ventilators.</td>
<td>When in Mediterranean on 25th November 1919, fire broke out in lower cross-bunker and two or three times on way home, but was easily subdued. Fire again broke out on arrival at Barrow on 4th December 1919, and about 112 tons of coal were landed. Damage trifling. The Board of Trade Surveyor reported that the coal was very small with a large percentage of dust, and had been on board since 19th September. In his opinion, fire was caused by spontaneous combustion. See Surveyor's Report, No. 15.</td>
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</tr>
<tr>
<td>&quot;Queen Helena.&quot; Glasgow. 119147.</td>
<td>Santos to Havre with general. A mixture of North Country and Welsh coal, rather dirty. The bunkers were ventilated by cowl ventilators.</td>
<td>On 2nd January 1920, in S. Atlantic, port and starboard 'tween decks bunkers took fire and continued burning till the 9th. Cause believed to be spontaneous combustion. Damage slight.</td>
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<tr>
<td>&quot;Queen Margaret.&quot; Glasgow. 133093.</td>
<td>Gibraltar to New York in ballast. Unknown, but presumed Welsh coal shipped at Gibraltar. The bunkers were ventilated by four cowl ventilators.</td>
<td>On 26th August 1919, in Lat. 35° 44' N., Long. 36° 50' W., a fire broke out in cross-bunker and continued until vessel arrived at New York.</td>
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<tr>
<td>&quot;Queen Maud.&quot; Glasgow. 129452.</td>
<td>In Albert Dock, Hull, with linseed.</td>
<td>When at Hull, fire broke out in engine-room oil tank, 24th November 1919. It was confined to engine-room and extinguished in 3½ hours. Ship's frames and plates buckled and engine-room fittings warped and damaged. Cargo undamaged. [A later report states that the coal in bunker above (containing about 40 tons of Yorkshire coal) was ignited by heat generated below, and also that the woodwork of store-room was burned to ashes.] The Board of Trade Surveyor reported that the fire was due to a lamp falling in an oil measure when a fireman was drawing oil. See Surveyor's Report, No. 33.</td>
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</tr>
<tr>
<td>Queenmore.&quot; 114440.</td>
<td>Bombay to Hull with cargo of cotton seed and linseed.</td>
<td>On 4th October 1919, when in Alexandra Dock, Hull, fire started in chart room and spread to master's cabin. Woodwork and fittings damaged. Attributed to choking up of cabin chimney and soot getting on fire.</td>
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<tr>
<td>&quot;Quilpue.&quot; Liverpool. 124005.</td>
<td>Liverpool to London with cargo of rum and sugar.</td>
<td>On 22nd October 1919, at N. Quay, West India Dock, fire broke out in No. 1 lower hold, following discharge of rum and sugar. Ship did not suffer any structural damage. The Board of Trade Surveyor reported that fire was probably caused by the introduction of naked lights into the space which had been full of rum and sugar. Fire originated amongst dunnage wood, &amp;c. See Surveyor's Report, No. 33.</td>
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<tr>
<td>&quot;Rassay,&quot; late &quot;Hatumet.&quot; Newcastle. 120605.</td>
<td>Madras to Hull with cargo of ground nuts and cotton seed.</td>
<td>Fire broke out in No. 1 hold on 6th October 1919, while vessel was in dock at Hull, and was immediately seen by the stevedore's men at work there. The cargo and vessel were damaged. Cargo was stowed in bags in the holds.</td>
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<tr>
<td>&quot;Ravens Point,&quot; Liverpool. 140597.</td>
<td>Palermo to Liverpool with general.</td>
<td>On 11th November 1919, while discharging in W. Langton Dock, Liverpool, fire broke out in Nos. 3 and 4 holds. Damage slight. Cause unknown, but there was some sulphur in the holds. The Board of Trade Surveyor reports that the fire arose in the bags of sulphur. See Surveyor's Report, No. 38.</td>
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<tr>
<td>&quot;Rudelsburg.&quot; London. 143092.</td>
<td>Southampton to Finland, cargo unknown. New York coal. Very well ventilated by 8 cowl ventilators.</td>
<td>On 1st September 1919, in Lat. 57° 31' N., Long. 9° 00' E., a fire broke out in starboard reserve bunker, containing about 200 tons of small coal shipped at New York on 10th, 11th, and 14th July 1919, but after water had been played on it smoke abated. Fire broke out several times later but was kept under by water. Damage—some ceilings burnt, 1 batten charred, iron bulkhead bilged, and two bulkhead stiffeners bent. Fire was caused by coal remaining a long time in bunkers owing to vessel being delayed.</td>
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<tr>
<td>&quot;Saint Maurice.&quot; s/v. Parrsboro, N.S. 103723.</td>
<td>St. Marc, Hayti, to Mobile with cargo of logwood.</td>
<td>On 22nd December 1919, when 25 miles S.E. of Cape Cruz, Cuba, a fire was discovered forward. Cause uncertain, but soon after fire was seen the gasoline tank burst. Crew could not cope with fire, and ship and cargo became a total loss, ship sinking.</td>
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<tr>
<td>&quot;Sea Serpent.&quot; Dover. 137751.</td>
<td>Liverpool to Fiume with general.</td>
<td>Fire in hold amongst cargo at Fiume on 16th August 1919. Damage trifling. The Board of Trade Surveyor considers that the fire was probably due to a cigarette having been thrown down in the hold. See Surveyor's Report, No. 22.</td>
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</tr>
<tr>
<td>&quot;Shropshire.&quot; London. 132607.</td>
<td>Newport News to Glasgow with frozen meat and general. American Poohontas and New River coal.</td>
<td>On 13th October 1919, in Yorkhill Basin, Glasgow. Fire in No. 4 'tween decks, originating in some crates of cheese stowed in after end. Owing to dense volumes of smoke seat of fire could not be located, but eventually fire was found extinguished. No reference to damage.</td>
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</tr>
<tr>
<td>&quot;Siberian Prince.&quot; Newcastle. 135729.</td>
<td>New York to Havre with general. Berwind White's &quot;Eureka&quot; American coal.</td>
<td>On 6th October 1919, in Havre Roads, smoke was seen issuing from cross bunker hatch and ventilators. Coal was discharged from cross bunker hatch into bridge space.</td>
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<tr>
<td>“Start Point.” Liverpool. 137512.</td>
<td>London to Philadelphi, U.S.A., with general.</td>
<td>No coal in bunker</td>
<td>On 3rd December 1919, when near Wilmington, River Delaware, U.S.A., the forward bunker bulkhead starboard side in shelter deck caught fire, burning wooden casing around refrigerating pipes. Caused by deck lamp being hung on bulkhead. No cargo damaged. The Board of Trade Surveyor states that electric lamps have now been fitted. See Surveyor’s Report, No. 35.</td>
</tr>
<tr>
<td>“Strathearn.” Glasgow. 121282.</td>
<td>London to Jamaica with general.</td>
<td>Put on board in London</td>
<td>On 2nd October 1919, in North Atlantic, a fire occurred in bunkers. No structural damage. At Las Palmas, on 7th August 1919, a small fire broke out in No. 1 hold. Attributed to fusing of electric lamp.</td>
</tr>
<tr>
<td>“Sutherland Grange.” W. Hartlepool. 124326.</td>
<td>Las Palmas to Buenos Ayres with meat.</td>
<td>- -</td>
<td>On 27th November 1919, in Royal Albert Dock, London. When about two-thirds of cargo had been unloaded fire was reported in No. 3 hold, from which cargo was being discharged. Hold was flooded and fire was extinguished in about three hours. Master attributes casualty to absence of special precautions at Sydney against moisture entering hold and to men smoking in holds and vicinity. The Board of Trade Surveyor states that a plumber, when working in the hold, dropped a candle. See Surveyor’s Report, No. 41.</td>
</tr>
<tr>
<td>“Swakopmund.” London. 143182.</td>
<td>Sydney to London with copra.</td>
<td>- -</td>
<td>Left Hull on 14th November 1919, and on 23rd November, when in Atlantic, a fire broke out in No. 4 hold amongst bales of old rags and flax waste. This was extinguished by water, but broke out again on 25th November, and again extinguished by water. On 27th November a fire broke out in No. 5 hold in similar cargo, and extinguished by water. No details of damage.</td>
</tr>
<tr>
<td>“Swazi.” London. 114734.</td>
<td>Hull to New York with general.</td>
<td>- -</td>
<td>Was in dock at Calcutta on 26th November 1919, when port bunkers were found on fire, and two trimmers were suffocated by accumulated gas from the fire. Cause, spontaneous combustion in the bunker coal. Damage not stated. The Board of Trade Surveyor reports that the bunker coal was liable to spontaneous combustion, and fires occurred in ‘tween deck on passage to Calcutta. About 40 tons of this coal was left in the port forward pocket-bunker, and the bunker filled up with coal at Calcutta. Fire occurred in this bunker just previous to leaving this port, and appears to be entirely due to the nature of the coal. Origin of the coal is not known, but it is assumed to be Australian and Javanese. See Surveyor’s Report, No. 55.</td>
</tr>
<tr>
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<td>Port of Registry, and Official Number</td>
<td>Voyage and Cargo</td>
<td>Nature of Coal in Bunkers, where Shipped, and Ventilation</td>
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<tr>
<td>&quot;Syria.&quot; Glasgow.</td>
<td>113959.</td>
<td>Suez to Bombay; no cargo.</td>
<td>The bunkers were ventilated by seven 12-inch by 4-inch ventilators. Ventilating doors were also fixed in bunker bulkhead.</td>
</tr>
<tr>
<td>&quot;Taransay.&quot; Newcastle. 142833.</td>
<td>Bombay to Dundee with cotton seed.</td>
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<td>&quot;Tennyson.&quot; Liverpool. 112425.</td>
<td>Para to New York with cargo of coffee, cocoa, raw rubber, and hides.</td>
<td>American bituminous coal, shipped from lighters in fair weather. Surface ventilation was provided.</td>
<td>Fire occurred at Barbados on 17th September 1919, and on 20th the hold burst into flames, which came up through the hatchway. Ship was flooded and fire extinguished the following day. The coal in the cross bunker had been heated previously. Origin of fire unknown. See Report by Receiver of Wreck at Barbados with Surveyor's Report, No. 8.</td>
</tr>
<tr>
<td>&quot;Tudor Prince.&quot; Liverpool. 114438.</td>
<td>Buenos Aires to Liverpool with general.</td>
<td>Welsh and American. Ventilated by a 12-inch ventilator on each side.</td>
<td>On 20th December 1919, in Buenos Aires Channel, smoke was observed coming from port bunkers. Fire apparently extinguished in two hours. No damage to ship. On 28th December smoke was observed in lower port bunkers. Fire extinguished. No damage. The Board of Trade Surveyor is of opinion that as the bunkers were exposed to the tropical sun when on a voyage from New York to South America, this developed spontaneous combustion in the coal. See Surveyor's Report, No. 17.</td>
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<tr>
<td>&quot;Turcoman.&quot; Liverpool. 99130.</td>
<td>Montreal to Avonmouth with general.</td>
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<td>&quot;Twilight.&quot; Leith. 119885.</td>
<td>Malaga to London and Newcastle with general.</td>
<td>Reserve bunker ventilated by one ventilator on each side of bridge deck.</td>
<td>On 10th November 1919 a fire started in the starboard wing bunker of engine-room and was apparently extinguished. Fire broke out again on the 12th and the ship was forced to put into Lisbon for assistance in extinguishing the fire. Damage and cause of fire not stated.</td>
</tr>
<tr>
<td>&quot;Vestris.&quot; Liverpool. 131451.</td>
<td>Liverpool to Buenos Aires via New York with general.</td>
<td>1,683 tons Lancashire, at Liverpool, 2,387 tons &quot;Eureka&quot; at New York. Shipped in fine weather. Board of Trade surveyor reported that bunkers were partly filled at Liverpool with mixed English coal, and on arrival at New York, forward cross bunker was filled to top of 'tween decks space with American &quot;Eureka,&quot; small coal at Hoboken, where she had been about 10 days. Ventilated by 14 vents (seven each side) 11½ inches by 4 inches; two coaling hatches 5 feet 6 inches by 18 feet; three pipes 10 inches diameter led from cross bunkers to fiddley.</td>
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<tr>
<td>&quot;Vestris.&quot; Liverpool. 131451.</td>
<td>New York to Barbados, Brazil and River Plate with general.</td>
<td>Ventilated by seven vents on each side 11½ inches by 4 inches; two coaling hatches 5 feet 6 inches by 18 feet; three pipes 10 inches diameter led from cross bunker to fiddley.</td>
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<tr>
<td>&quot;War Halifax.&quot; London. 143298.</td>
<td>In Roath dock, Cardiff, in ballast.</td>
<td>Had about 530 tons of bunker coal, about 60 tons of which at bottom of bunkers was Canadian coal shipped at Halifax, N.S., and Liverpool, N.S., previous to May 1919. The remainder was Welsh coal. Bunkers ventilated by two 18-inch deck ventilators; the saddle-back hatch was also open, and all coal was shipped in dry weather.</td>
<td>On 9th September 1919, in Lat. 16° 35' N., Long. 62° 25' W., Caribbean Sea, a fire (which originated in No. 3 lower hold, containing timber, jute and bundles of tarred twine) occurred when a few days out. The lower hold and the lower 'tween decks space of No. 3 hold were insulated. Little damage to ship, but a good deal of cargo destroyed. Master did not think it a case of spontaneous combustion, and could not state the cause. The Board of Trade Surveyor reported that the fire apparently originated at the after end of the lower hold, near the bottom where the timber was stowed. Cause of fire unknown, but it may have been due to a lighted cigarette carelessly or maliciously dropped among the timber.</td>
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<td>See Surveyor's Report, No. 5.</td>
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<tr>
<td>&quot;War Isis.&quot;</td>
<td>South and West Yorks and Derbyshire steam coal</td>
<td>25th September 1919, at Suez, a fire broke out in No. 1 hold, all the cargo in which and in No. 2 hold was damaged by water. Only paint-work damaged in vessel. The Board of Trade Surveyor reported that fire originated amongst the oil cakes, of which she had 200 tons, with raw hides stowed round it. Surveyors at Suez attributed fire to spontaneous combustion of the oil cakes. Captain of vessel stated that during the wet season the precautions taken to keep the cargo dry when loading are insufficient, and that fires seldom occur on vessels which are loaded in the dry season at Indian ports. See Surveyor's Report, No. 30.</td>
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<td>London.</td>
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<td>142469.</td>
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<td>London.</td>
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<td>143210.</td>
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<tr>
<td>&quot;War Penguin.&quot;</td>
<td>Ventilated by two long ventilators after side of bridge house which run through bridge space and 'tween decks into the lower hold, with slats 12 inches by 2½ inches for the 'tween deck use. Owing to bad weather, hatches were battened down and ventilators turned back to wind.</td>
<td>Vessel was in Lat. 31° 30' S., Long. 79° 40' E., on 13th September 1919, when a fire occurred in the thwart-ship bunker which contained cargo.</td>
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<td>London.</td>
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<td>142665.</td>
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<tr>
<td>&quot;War Pike.&quot;</td>
<td>In October 1919, while unloading ammunition at Novorossik, a wagon containing shells caught fire and exploded. Towed out of harbour and sunk. Expected to be raised. One life was lost. Had shipped 32 cases of consumable stores belonging to His Majesty's Ship &quot;Mersey&quot; which was placed under forecastle head and locked up. Immediately underneath, and separated by the deck only, were ship's ordinary stores including oils and paints. On 21st February 1919, in River Danube, on door of forecastle head being opened, flames burst forth, and, owing to the heat, stores in forecastle caught fire. Practically all the stores were destroyed. Damage to ship trifling.</td>
<td>Vessel put into Swansea, on 28th June 1919, owing to fire under starboard boiler. Bunkers were discharged and vessel left for Barry for repairs. On 10th August smoke was seen issuing from ventilators in No. 1 hold, but no signs of fire were found. Next</td>
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<td>London.</td>
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<td>142389.</td>
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<tr>
<td>&quot;War Tulip.&quot;</td>
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<td>London.</td>
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<td>142554.</td>
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<tr>
<td>&quot;War Yukon.&quot;</td>
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<tr>
<td>London.</td>
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<td>142657.</td>
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<td>&quot;Waziristan.&quot; Newcastle. 142310.</td>
<td>North Shields to Buenos Aires; no cargo.</td>
<td>North country, various collieries. The bunkers were ventilated by two 6-inch ventilators, two 12-inch ventilators, two 9-inch ventilators and two 18-inch ventilators.</td>
<td>Day a little smoke was seen coming from same hold, but by the time fire brigade arrived the fire was out. Attributed to spontaneous combustion of coal. Managers state fire was due to hot cinders getting into timbers of vessel from furnaces. On 19th October 1919, 31° 15' 5&quot;, 49° 30' W. Bunkers found to be on fire. No reference to damage. Fire attributed to spontaneous combustion.</td>
</tr>
<tr>
<td>&quot;Waziristan.&quot; Newcastle. 142310.</td>
<td>Buenos Aires to Hull with oats in bulk.</td>
<td>Washington un-screened steam, 495 tons; Vickley screened, 929 tons; Burnhope, 406 tons. All these are Durham collieries.</td>
<td>While in River Plate, on 24th November 1919, a fire broke out amongst coal in permanent bunkers, caused by spontaneous combustion. Damage not stated. \ The Board of Trade Surveyor considers that the first fire occurred owing to the heat, and that the second was due to the coal being still hot when placed in bunkers. See Surveyor's Report, No. 9.</td>
</tr>
<tr>
<td>&quot;William Mc L. Borden &quot; s.v. Picton, Nova Scotia. 138655.</td>
<td>Pugwash, N.S., to Ayamonte, Spain, with coal.</td>
<td>-</td>
<td>29th October 1919, 2 a.m., fire broke out in engine-room, caused apparently by explosion of gasoline tank or by spontaneous combustion of the cargo, and in less than 20 minutes it had spread over the ship, which became a total loss.</td>
</tr>
<tr>
<td>&quot;York.&quot; Hull. 124758.</td>
<td>Hull to Dunkirk, with general.</td>
<td>-</td>
<td>Was in Dunkirk docks on 21st August 1919, when night watchman discovered fire in No. 3 hold containing bales of rags. Considerable damage sustained.</td>
</tr>
<tr>
<td>&quot;Yu Sang.&quot; London. 132659.</td>
<td>Loading jute and general at Shanghai.</td>
<td>-</td>
<td>The Board of Trade Surveyor reported that bags were discharged, but nothing was discovered that might account for the outbreak. Probably caused by smoking in the hold contrary to orders, and dropping cigarette end or contents of pipe. See Surveyor's Report, No. 23.</td>
</tr>
<tr>
<td>&quot;Alaveno.&quot; Liverpool. 110630.</td>
<td>In Palermo Harbour with general.</td>
<td>-</td>
<td>Vessel was in Auckland Harbour; fire was discovered in the after storeroom on the port side which was soon extinguished. No damage to ship or cargo. Cause unknown. 11th November 1919.</td>
</tr>
<tr>
<td>&quot;Albemaria,&quot; Schooner. Liverpool. 138600.</td>
<td>Newcastle to Auckland, N.Z.</td>
<td>-</td>
<td>When in Palermo Harbour on 9th June 1920, fire occurred in No. 4 hold amongst bales of hemp and cotton and other general cargo, probably caused by spontaneous combustion. No damage to hull. The Board of Trade Surveyor does not think that the fire was due to incendiaries, but it might be attributed to spontaneous combustion. See Surveyor's Report, No. 108.</td>
</tr>
<tr>
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<td>Voyage and Cargo</td>
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<td>Particulars of Casualty</td>
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<tr>
<td>“Artistic.” Fraserburgh. 125353.</td>
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<td>At 6.30 p.m., 15th July 1920, the engineer went on board to prepare for sea and to start up the engine. He oiled the engine and then lit a torch with the intention of examining the engine. An explosion immediately occurred. The main hatches were blown off and the vessel burst into flames. There were 12 gallons of petrol and 300 gallons of paraffin on board which caught fire. At 8.30 the mooring ropes burned away and the vessel drifted out to sea. See Surveyor’s Report, No. 112.</td>
</tr>
<tr>
<td>“Arzila.” Liverpool. 124097.</td>
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<td></td>
<td>Fire in No. 1 ‘tween deck on 6th May 1920. Serious structural damage. The Board of Trade Surveyor states that no member of crew was on board. The fire originated in a pile of damage wood and ignited No. 1 hold. The cause was not ascertained, but as vessel was in theremover’s hands and had no cargo stowed, it is assumed that the men employed were responsible. See Surveyor’s Report, No. 102.</td>
</tr>
<tr>
<td>“Australind.” London. 118478.</td>
<td></td>
<td>American bituminous coal shipped at New York, 13.7.19. No ventilator fitted, but is ventilated by open hatch near.</td>
<td>On 6th September 1919, when leaving wharf at Sydney, N.S.W., fire was reported in port reserve bunker. Coal was discharged at Melbourne and found to be badly burned. Beam across bunker hatchway was replaced. On 3rd January 1920, in Lat. 32° 36’ N., Long. 13° 56’ W., N. Atlantic, smoke was seen coming from port side bunkers and the coal in the port reserve bunker pocket was found on fire. Fire was soon put out, and coal removed from the vicinity. No damage.</td>
</tr>
<tr>
<td>“Australind.” London. 118478.</td>
<td></td>
<td>No ventilator fitted, but is ventilated by open hatch near. Natal navigation steam coal shipped at Durban.</td>
<td>On 22nd May 1920, smoke was seen coming from the cross bunker. A buffer plate with a 4 or 5-inch airspace is being put in to keep the hot ashes away from the bunker. Fire originated through the hot ashes heating the intervening plate. Damage nil.</td>
</tr>
<tr>
<td>“Boonah.” London. 139007.</td>
<td>Loading general cargo in Royal Albert Dock, River Thames.</td>
<td>Yorkshire quick-burning coal. Bunker ventilated with four Sampson post ventilators and all hatches (10) were open—four on each side and two trunk ways on top. Coal shipped straight from mine by trucks in fine weather. Bunkers filled at Hull on 11th May 1920.</td>
<td>On 30th January 1920, when getting under weigh from Lautoka wharf, engine back fired and set fire to engine-room. Vessel was burnt to water’s edge. On 14th February 1920, fire was observed in the fan room, starboard side. Damage not serious. Cause unknown. The Board of Trade Surveyor states that the fire was probably due to carelessness on the part of one of the workmen. See Surveyor’s Report, No. 77.</td>
</tr>
<tr>
<td>“Breta Tui.” Suva, Fijis. 127874.</td>
<td>Levuka to Lautoka with general.</td>
<td></td>
<td>On 22nd May 1920, smoke was seen coming from the cross bunker. A buffer plate with a 4 or 5-inch airspace is being put in to keep the hot ashes away from the bunker. Fire originated through the hot ashes heating the intervening plate. Damage nil.</td>
</tr>
<tr>
<td>“Caesarea.” Southampton. 131763.</td>
<td>In Camperdown Dock, Dundee, in ballast.</td>
<td></td>
<td>On 30th January 1920, when getting under weigh from Lautoka wharf, engine back fired and set fire to engine-room. Vessel was burnt to water’s edge. On 14th February 1920, fire was observed in the fan room, starboard side. Damage not serious. Cause unknown. The Board of Trade Surveyor states that the fire was probably due to carelessness on the part of one of the workmen. See Surveyor’s Report, No. 77.</td>
</tr>
<tr>
<td>Name of Vessel, Port of Registry, and Official Number</td>
<td>Voyage and Cargo</td>
<td>Nature of Coal in Bunkers, where Shipped, and Particulars of Casualty</td>
<td></td>
</tr>
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<tr>
<td>&quot;Campus.&quot; Cardiff. 119218.</td>
<td>Matanzas to Liverpool with sugar.</td>
<td>Fire on 'tween deck beam on starboard side in No. 3 hold on 26th June 1920. A good deal of cargo damaged; also heavy damage to vessel. The Board of Trade Surveyor states that there would appear to be no definite cause for the fire, but it may have been due to a match or spark coming through a ventilator, or to some one who was pilfering the sugar. See Surveyor's Report, No. 110.</td>
<td></td>
</tr>
<tr>
<td>&quot;Cardigan.&quot; Cardiff. 139622.</td>
<td>At New York, loading oats and sugar.</td>
<td>When at New York on 13th June, fire broke out in No. 2 hold. Damage to vessel slight. Cargo damaged by fire and water.</td>
<td></td>
</tr>
<tr>
<td>&quot;Charlotte Fenwick.&quot; Sydney, N.S.W. 89289.</td>
<td>Sydney to Hawkesbury River with general.</td>
<td>On 1st May, fire broke out at Pages Wharf, Hawkesbury River, N.S. Wales, which finally destroyed vessel. No opportunity owing to flame to put the hose on. Ship quite empty. A Surveyor's Report cannot be obtained as vessel is not trading to this country.</td>
<td></td>
</tr>
<tr>
<td>&quot;City of Poona.&quot; Liverpool. 131423.</td>
<td>Bombay to Marseilles with general.</td>
<td>On 5th April 1920, while at Karachi fire was discovered in No. 4 lower hold among oil cakes; probably caused by native stevedores smoking in the hold. See Surveyor's Report, No. 92.</td>
<td></td>
</tr>
<tr>
<td>&quot;Cordoba.&quot; London. 143095.</td>
<td>Colombo to Aden in ballast.</td>
<td>On 21st May, Lat, 11° 40' N., Long. 55° 00' E., Arabian Sea, vessel was destroyed by a fire in the main bunkers.</td>
<td></td>
</tr>
<tr>
<td>&quot;Dallington.&quot; London. 112744.</td>
<td>Lying in dock at Sunderland after repairs. (In ballast.)</td>
<td>Fire broke out in engineers' store-room, 26th March 1920, and spread to engineers' quarters. Damage to store-room, engine-room, and engineers' quarters, and two of the lifeboats were damaged. The Board of Trade Surveyor states that the fire was probably caused by someone throwing a match or cigarette end on to the waste in the store-room. See Surveyor's Report, No. 86.</td>
<td></td>
</tr>
<tr>
<td>&quot;Defender.&quot; Lerwick. L.K. 1046.</td>
<td>Lerwick from fishing grounds.</td>
<td>On 4th February 1920, off Mousa Island, Shetlands, petrol in motor engine became ignited through engine back firing through carburettet. Attempts to extinguish fire failed, and vessel was run ashore and sank. It was impossible to obtain a Surveyor's Report as vessel had sunk.</td>
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<tr>
<td>&quot;Dredgwell,&quot;</td>
<td>Southampton, 135696.</td>
<td>In West India Dock, London, in ballast.</td>
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<tr>
<td>&quot;Eastwood.&quot; W. Hartlepool, 115170.</td>
<td>Cienfuegos to Queenstown, with sugar.</td>
<td>American small Berwind White Mining Co. Bunkers ventilated by cowl ventilators and through surface ventilation. Coal shipped in fine weather.</td>
<td>- - -</td>
</tr>
<tr>
<td>&quot;Echo.&quot; Napier, N.Z. 118978.</td>
<td>Napier to Wairoa, N.Z., with general.</td>
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<tr>
<td>&quot;Edindoune.&quot; Banff, BF 1118.</td>
<td>St. Mary's Holm, Orkneys, to Stromness (fishing vessel).</td>
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<tr>
<td>&quot;El Kahira.&quot; London, 110140.</td>
<td>In Algiers Harbour, with general.</td>
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<tr>
<td>&quot;Engineer.&quot; Liverpool, 127942.</td>
<td>Durban and Mauritius, with general.</td>
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<tr>
<td>&quot;Ernemore.&quot; Liverpool, 137659.</td>
<td>Glasgow to Boston, U.S.A., with general.</td>
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<tr>
<td>&quot;Ethelhilda.&quot; Whitby, 106105.</td>
<td>Cuba to London, with sugar.</td>
<td>The cross bunker was well ventilated by one 17-inch and two 14-inch cowl-ventilators.</td>
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<tr>
<td>“Etheredge.” Unregistered. (Gravesend.)</td>
<td>Moor at Gravesend pier. (Motor launch river used as a tender.)</td>
<td>Name of Vessel, Nature of Coal in Bunkers, Port of Registry, and Voyage and Cargo where Shipped, and Particulars of Casualty.</td>
<td>On 4th February 1920, a boy, who was on board alone, used a blow lamp to remove some solder round a vent hole in the full (paraffin) tank. Paraffin caught fire and inside of vessel was burnt out. Hull was not damaged, nor engine, except some of the connections and fuel pipes. See Surveyor’s Report, No. 74.</td>
</tr>
<tr>
<td>“Gleneue.” Glasgow. 141941.</td>
<td>At Kobe with general.</td>
<td>Name of Vessel, Nature of Coal in Bunkers, Port of Registry, and Voyage and Cargo where Shipped, and Particulars of Casualty.</td>
<td>When at Kobe, Japan, there was a sudden outbreak of fire in hold. Damage to cargo small. Extensive damage to hold. Probably caused by spark due to friction.</td>
</tr>
<tr>
<td>“Heathside.” Newcastle. 124124.</td>
<td>Bombay to Antwerp with general.</td>
<td>Name of Vessel, Nature of Coal in Bunkers, Port of Registry, and Voyage and Cargo where Shipped, and Particulars of Casualty.</td>
<td>On 11th April 1920, when in Lat. 35°16’N., Long 19°01’E., Mediterranean, fire occurred in No. 2 hold through spontaneous combustion in cotton cargo. It was extinguished at Malta by flooding the hold. When the vessel was surveyed it was found that the fire started 20 feet below the main deck in bales of cotton. It is unlikely that the cleaning of the derricks with lighted paraffin had anything to do with the fire as every precaution was taken, and the operations were concluded about nine days before the fire was discovered. See Surveyor’s Report, No. 114.</td>
</tr>
<tr>
<td>“Hecina.” Aberdeen. 104140.</td>
<td>Moor to quay at Pointlaw. (Steam trawler.)</td>
<td>Name of Vessel, Nature of Coal in Bunkers, Port of Registry, and Voyage and Cargo where Shipped, and Particulars of Casualty.</td>
<td>While moored to quay on 4th April 1920, wind shifted and swung vessel round until she grounded and heeled over and filled. The water exploded the carbide in the engine-room and set fire to the vessel. Watchman says vessel was all right when he went off duty. Subsequently raised. The Board of Trade Surveyor states that the gas liberated by the bursting of the storage tank was probably ignited by a lamp left burning, possibly at the water gauge. See Surveyor’s Report, No. 91.</td>
</tr>
<tr>
<td>Name of Vessel</td>
<td>Nature of Coal in Bunkers, where Shipped, and Ventilation.</td>
<td>Particulars of Casualty.</td>
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<tr>
<td>&quot;Herring Ho.&quot; Scarborough. 137590.</td>
<td>Fishing boat moored in Scarborough Harbour.</td>
<td>On the 12th March 1920, engine man in charge left vessel, and on returning found a smouldering fire behind cabin fire, which broke into flames and badly damaged vessel. Engine man attributed fire to soot lodged in the bend of the cabin fire funnel taking light, and causing funnel to get red hot, thereby setting fire to the woodwork. The Board of Trade Surveyor considers that the fire was accidental. See Surveyor’s Report, No. 84.</td>
<td></td>
</tr>
<tr>
<td>&quot;Hyacinth.&quot; Fraserburgh. F.R. 171.</td>
<td>Oban to fishing grounds.</td>
<td>When two miles from Oban Light on 28th April 1920, fire suddenly broke out in the engine-room, due to the failure of a joint in the feed system, which allowed the fuel to pour over the cylinders. Total loss. See Surveyor’s Report, No. 98.</td>
<td></td>
</tr>
<tr>
<td>&quot;Invincible.&quot; (Storeship.)</td>
<td>Moored off Peel Island landing stage. Used as a store ship for coal, water, explosives, &amp;c., but she had no explosives on board at the time of casualty with the exception of about 100 fuse detonators. She had two tanks aft, each containing about 60 gallons of paraffin.</td>
<td>On 28th February vessel was in charge of a watchman. From Peel Island master saw that vessel was on fire, and went off in a boat, but being dangerous to go near, returned to shore and saw vessel blow up. Watchman jumped overboard and was drowned. Attributed to watchman in taking down riding light at daybreak, upsetting it, and so igniting lug sail and setting fire to paraffin in the tanks. See Surveyor’s Report, No. 81.</td>
<td></td>
</tr>
<tr>
<td>&quot;Ixion.&quot; Liverpool. 135431.</td>
<td>At Hong Kong with general.</td>
<td>On 7th May 1920, while at Hong Kong, fire occurred in No. 7 lower hold. Cause unknown. Beams and deck plates buckled. 1,500 bales of hemp damaged by fire and water. Fire discovered in bunker presumably caused by spontaneous combustion, extinguished by crew with ship’s appliances without any apparent damage to ship or cargo, 18th February 1920. Lat. 30° 40’ S., Long. 97° 59’ E. See Surveyor’s Report, No. 59.</td>
<td></td>
</tr>
<tr>
<td>&quot;Kameetz Podolsk.&quot; London. 183754.</td>
<td>Freemantle to Fallsmouth and Durban with wheat.</td>
<td>On 12th May 1920, in Lat. 32° 02’ N., Long. 27° 47’ E., Mediterranean, fire occurred in No. 3 hold in cotton cargo. Returned to Alexandria and discharged damaged cargo. About 200 bales damaged. The Board of Trade Surveyor reported the fire originated amongst the bales of cotton which were stowed end on. The officers were of opinion that it was caused by friction. See Surveyor’s Report, No. 103.</td>
<td></td>
</tr>
<tr>
<td>&quot;Karthok.&quot; Liverpool. 123991.</td>
<td>Alexandria to Liverpool with general. (Deck load 1,450 bags of onions.)</td>
<td>On 12th May 1920, in Lat. 32° 02’ N., Long. 27° 47’ E., Mediterranean, fire occurred in No. 3 hold in cotton cargo. Returned to Alexandria and discharged damaged cargo. About 200 bales damaged. The Board of Trade Surveyor reported the fire originated amongst the bales of cotton which were stowed end on. The officers were of opinion that it was caused by friction. See Surveyor’s Report, No. 103.</td>
<td></td>
</tr>
<tr>
<td>&quot;Kemmel.&quot; London. 106021.</td>
<td>Rosario to Gibraltar and Mediterranean with flour and meat.</td>
<td>While at anchor in St. Vincent Roads, C.V., 23rd February 1920, found smoke issuing from trunkway in cross bunker. Vessel listed on account of so much water being in hold and had to be beached to prevent capsizeing. Fire finally extinguished. Cabin, bridges, hatches, &amp;c., burnt down.</td>
<td></td>
</tr>
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<td>Name of Vessel, Port of Registry, and Official Number</td>
<td>Voyage and Cargo</td>
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<tr>
<td>&quot;Khiva.&quot; Liverpool. 135533.</td>
<td>In Keppel Harbour, Singapore, with general.</td>
<td>- - -</td>
<td>On 22nd April 1920, in Keppel Harbour, Singapore, fire occurred in No. 3 upper orlop deck, and extended to upper deck. Slight damage to bulkhead and upper deck. Thought to be due to a coolie smoking while working the cargo. See Surveyor's Report, No. 97.</td>
</tr>
<tr>
<td>&quot;König Friedrich August.&quot; London. 143162.</td>
<td>Bombay to London in ballast.</td>
<td>Bengal mixed coal, shipped from lighters. Bunkers ventilated with cowl ventilators and hatches opened occasionally. Fire at time of shipment.</td>
<td>On 9th May 1920, off Algiers, gas, steam and smoke was found issuing from coal (850 tons) in No. 3 reserve hold, and next day fire was reported in lower forward bunker. Vessel put into Gibraltar, where 820 tons of bunker coal were discharged. Fire extinguished on 16th May. Attributed to spontaneous combustion. No damage to ship.</td>
</tr>
<tr>
<td>&quot;Kum Sang.&quot; London. 110076.</td>
<td>Hong Kong to Moji with general.</td>
<td>- - -</td>
<td>On 7th June, whilst lying in Kobe Harbour, two blazing lighters fouled the cables and set fire to the forepeak and forecastle. Fire put out with assistance by tugs. Damage to hull by fire and to cargo by water. A Surveyor's Report could not be obtained in this case, as the vessel is trading abroad.</td>
</tr>
<tr>
<td>&quot;Kurmark.&quot; London. 138649.</td>
<td>Bombay to Liverpool with general.</td>
<td>- - -</td>
<td>On 12th April 1920, when in Victoria Dock, Birkenhead, fire broke out in No. 1 hold. Considerable damage to cargo—cotton, cottonseed—and No. 1 bulkhead, and some plates buckled. Cause not known, but some ship repairers were working forward, and some hot rivets may have got away. The hold was ventilated by four 24-inch cowl ventilators, and when discharged the cargo showed no signs of firing. The Board of Trade Surveyor reported that oxy-acetylene gas was used to cut out damaged frames, &amp;c., and the cement in the waterways adjacent to the fire had broken away, leaving small apertures in the deck. In the Surveyor's opinion fire originated through sparks or hot rivets finding their way through the apertures into the hold and igniting the cotton. See Surveyor's Report, No. 95.</td>
</tr>
<tr>
<td>&quot;Lady Thea.&quot; Provisional certificate, Constantinople.</td>
<td>Sebastopol to Constantinople with bulk petroleum.</td>
<td>- - -</td>
<td>Heavy explosion on 17th June 1920 whilst lying in No. 3 berth, Petroleum Harbour, Batoum. Fire uncontrollable. Towed out of harbour by H.M.S. &quot;Swallow,&quot; grounded and became total loss.</td>
</tr>
<tr>
<td>&quot;Libbie.&quot; Victoria, B.C. 94639.</td>
<td>In Victoria Harbour, B.C.; cargo unknown.</td>
<td>- - -</td>
<td>Ship was destroyed by fire in December 1919 in Victoria Harbour, B.C. No further information.</td>
</tr>
<tr>
<td>&quot;Loch Hourn.&quot; Lowestoft. 133613.</td>
<td>Dry Dock, Lowestoft. Steam trawler.</td>
<td>- - -</td>
<td>On 20th May 1920, while in dock at Lowestoft, a fire broke out on board, due to overheating of a flue pipe. Skipper's berth and stairway and provision store damaged.</td>
</tr>
<tr>
<td>Name of Vessel, Port of Registry, and Official Number</td>
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<tr>
<td>&quot;Locksley.&quot; Montrose, 88775.</td>
<td>Ardrossan to Donaghadee with coal.</td>
<td>Lanarkshire screened house coal, shipped at Ardrossan. Hold is provided with two cowl ventilators 10-inch diameter, situated at the middle line, one forward of the hatchway and the other aft. These ventilators were ample for the purpose. Weather dull when coal was shipped, and it had not been stacked before shipment.</td>
<td>The Board of Trade Surveyor reported that the fire emanated at the sides of the wooden stairway where the flue pipe from the cabin stove passes through horizontally. See Surveyor's Report, No. 104. Whilst lying at Donaghadee Pier, Co. Down, on 16th July 1920, cargo in after part of hold took fire. Sea cocks were opened and vessel was submerged in shallow water. About 10 tons of cargo damaged. The Board of Trade Surveyor reported that the representative of the owner stated that in trimming the coal at Ardrossan tallow candles were stuck to the frames close under the deck. Some of the trimmers were in drink, and it was thought that they left behind some of the lighted candles, and that they melted and fired the coal. Loading was completed and vessel left for Donaghadee. See Surveyor's Report, No. 111.</td>
</tr>
<tr>
<td>&quot;Luceric.&quot; Glasgow, 142768.</td>
<td>San Francisco to Kobe with general.</td>
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<tr>
<td>&quot;Maggie.&quot; Buckie, B.F. 1292.</td>
<td>In Buckie Harbour (fishing vessel).</td>
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</tr>
<tr>
<td>&quot;Manchurian Prince.&quot; Newcastle, 135324.</td>
<td>New York to Buenos Aires with general and coal.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>&quot;Margaret Haney.&quot; Vancouver, B.C. 138353.</td>
<td>Kotka to Ostend with timber.</td>
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</table>

The Board of Trade Surveyor reported that the fire emanated at the sides of the wooden stairway where the flue pipe from the cabin stove passes through horizontally.

See Surveyor's Report, No. 104. Whilst lying at Donaghadee Pier, Co. Down, on 16th July 1920, cargo in after part of hold took fire. Sea cocks were opened and vessel was submerged in shallow water. About 10 tons of cargo damaged. The Board of Trade Surveyor reported that the representative of the owner stated that in trimming the coal at Ardrossan tallow candles were stuck to the frames close under the deck. Some of the trimmers were in drink, and it was thought that they left behind some of the lighted candles, and that they melted and fired the coal. Loading was completed and vessel left for Donaghadee.

See Surveyor's Report, No. 111. In February 1920, in S. Pacific, boisterous weather led to deck cargo being ignited through water entering cases of phosphorus. Deck cargo jettisoned; steering gear, decks, and hull damaged. The Board of Trade Surveyor reported that the superintending engineer did not know the precise nature of the small quantity of acid carried. It was in steel drums, and when vessel met with heavy weather the drums sustained some damage, and, seeing fumes arising, master had all the drums thrown overboard.

See Surveyor's Report, No. 82. Engine had been under repair in Buckie, and on 5th May two of repairer's engineers were running the engine before handing over to owner. The engine back fired, flame setting fire to carburettor, and vessel was burned from midship shaft to fore shaft. Engine also badly damaged. The Board of Trade Surveyor reported that the cause of the back fire from the motor may be that as the engine had recently been dismantled, it is probable that there was faulty adjustment in the valve gear or ignition timing when reassembled.

See Surveyor's Report, No. 100. Whilst at Monte Video Harbour on 30th May, coal in lower permanent bunker (port side) became heated. Coal was trimmed into cross bunker and well soaked with water. Extent of damage slight. A Surveyor's Report could not be obtained, as vessel is trading on east coast of North America. When 20 miles west of Dagerort; Baltic, cn 22nd July, fire in engine-room, which gained control. Ship abandoned. Total loss.
<table>
<thead>
<tr>
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<th>Nature of Coal in Bunkers, where Shipped, and Ventilation</th>
<th>Particulars of Casualty</th>
</tr>
</thead>
</table>
| "Marian W."
Montreal.
134145.                                                | Laid up in winter quarters in Louise Basin, Quebec.    | -                          | Fire broke out on 6th March and vessel was burnt to the water’s edge. No further information. |
| "May Baby."
(Motor.)
Ramsgate.
125509.                                                 | Ramsgate for fishing.                                   | -                          | Fire broke out under the capstan steam boiler forward and quickly spread to the rope room which contained about 40 gallons of paraffin and lubricating oils, and also tarred net. Crew rescued by sailing trawler “Defender.” Remains of vessel afterwards sunk by gunfire, 6 to 8 miles S.E. of Kentish Knock, North Sea, 5th April 1920. Cause of fire unknown. See Surveyor’s Report, No. 93. |
| "Melusia."
Sydney.
101741.                                                  | Raboul to Sydney, N.S.W., with copra and shell.         | -                          | On 15th April in 16° 46' S., 154° 25' E., South Pacific, fire was discovered in No. 2 hatch amongst stacks of copra, but on account of excessive heat decided to jettison, and 250 bags of copra jettisoned. No damage to vessel. Fire caused by cigar end carelessly thrown down by passenger. A report cannot be obtained from Surveyor as the vessel is not trading to this country. |
| "Merry Sea."
Vancouver, B.C.
130452.                                                  | Vancouver fishing patrol.                               | -                          | When in English Bay, Vancouver, B.C., on 29th March 1920, an oil stove for heating pilot-house was overturned by the swell from a passing ship. Engine-room and saloon gutted and pilot-house destroyed. |
| "Mesaba."
London.
142695.                                                  | London to New York with general.                        | -                          | On 5th May 1920, at New York, a fire occurred amongst sugar cargo, stowed on orlop deck, No. 6 hatch. No damage to ship. The Board of Trade Surveyor reported that it is presumed that stavedores had been smoking in the hold before finishing work, and had dropped either a lighted match or a cigarette end amongst the cargo. See Surveyor’s Report, No. 101. |
| "Mount Berwyn."
London.
142895.                                                  | Hull to New Orleans with oil-cake.                      | -                          | On 22nd May, 5 miles E. of N. Goodwin light vessel, smoke was seen issuing from after ventilator, No. 2 hold. Put into Dover where fire was extinguished. Very little damage to hull. Said to be due to spontaneous combustion. |
| "Mutlah."
London.
123038.                                                  | Leghorn to Liverpool with general cargo, mostly bales of hemp. | -                          | Whilst at Naples, fire broke out in No. 3 lower hold, 24.3.20; afterwards spreading to all hatches. All holds were flooded and vessel took the bottom; soft mud, decks awash. Cause unknown. |
| "Navasota."
Southampton.
135702.                                                  | In Albert Dock with general.                            | -                          | While discharging in Albert Docks, Thames, on 2nd February 1920, fire broke out in No. 2 lower hold. No apparent structural damage, but insulation and cargo damaged by fire and water. The Board of Trade Surveyor states that the fire was probably due to a naked light having been dropped into the hold. See Surveyor’s Report, No. 72. |
<table>
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<tr>
<th>Name of Vessel</th>
<th>Nature of Coal in Bunkers, where Shipped, and Ventilation</th>
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<tr>
<td>&quot;Novian.&quot; Liverpool. 135542.</td>
<td>New Orleans to Liverpool with general.</td>
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<td>On 3rd May 1920, when 200 miles W. of Fastnet, fire occurred in No. 3 lower 'tween deck. Cargo—sugar, cotton, log extract and timber. The Board of Trade Surveyor was of opinion that fire was probably due to friction of cotton. See Surveyor’s Report, No. 99.</td>
</tr>
<tr>
<td>&quot;Olympic.&quot; Liverpool. 131346.</td>
<td>Belfast to Southampton, in ballast.</td>
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<td>-</td>
<td>-</td>
<td>On 17th June while lighting fires off Belfast Lough, the oil burner valve came out, and oil caught fire, one man being injured and subsequently dying. Fire extinguished by Pyrene and steam fire extinguishers. Insulation of steam and water pipes and electric cable in forward stokehold destroyed. Whilst discharging at berth on 6th April 1920, fire was discovered in saloon which was extinguished in about 40 minutes. The fire was caused by overheating of cabin chimney. Damage sustained to deck by fire and to fittings and furniture by fire and water. See Surveyor’s Report, No. 94.</td>
</tr>
<tr>
<td>&quot;Patmos.&quot; London. 143403.</td>
<td>Lying in Edinburgh Dock, Leith, discharging cargo of phosphate.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>On 11th June 1920, in Findochty Harbour, after part of boat was severely damaged by fire, which is believed to have started in the engine-room near the engine. Cause unknown. See Surveyor’s Report, No. 109.</td>
</tr>
<tr>
<td>&quot;Phalarope.&quot; Banff. B. F. 1128.</td>
<td>Lying in Findochty Harbour. (Herring fisher.)</td>
<td>Aberdeen for fishing.</td>
<td>-</td>
<td>-</td>
<td>Explosion of acetylene gas occurred on 1st May 1920, off Jagoifsoof, Iceland, damage to chart house, wheel house, &amp;c.</td>
</tr>
<tr>
<td>&quot;Phyllis Belman.&quot; Aberdeen. 137169.</td>
<td>In dock at Havre with general.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>When in dock on 17th February 1920, a fire occurred in No. 4 lower hold amongst bales of cotton. Later on, same day, fire was again noticed in same hold on portside. Damage to cargo slight, to vessel none. The Board of Trade Surveyor reports that the fire was probably caused by sparks made by ship repairers who were working on deck above the position of fire cutting out rivets by the oxy-acetylene process. See Surveyor’s Report, No. 80.</td>
</tr>
<tr>
<td>&quot;Radnorshire.&quot; London. 143441.</td>
<td>Fishing motor laid up in Lossiemouth Harbour for repairs.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>On 27th March 1920, there was no one on board and no light of any kind. Master being called found boat in flames and much damaged and she became a total loss. Cause unknown. Two members of the crew stowed an empty barrel in the hold which had contained fuel. See Surveyor’s Report, No. 87.</td>
</tr>
<tr>
<td>&quot;Restless Ocean.&quot; Inverness. I.N.S. 583.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>On the 12th February.1920, when off the Island of Soostra, smoke suddenly burst from the ventilators of No. 5 hold, and afterwards from those of No. 4. The former was flooded and was practically ruined so far as cargo was concerned. See Surveyor’s Report, No. 87.</td>
</tr>
<tr>
<td>&quot;Rheinland.&quot; London. 114524.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>On 3rd May 1920, when 200 miles W. of Fastnet, fire occurred in No. 3 lower 'tween deck. Cargo—sugar, cotton, log extract and timber. The Board of Trade Surveyor was of opinion that fire was probably due to friction of cotton. See Surveyor’s Report, No. 99.</td>
</tr>
</tbody>
</table>

On 11th June 1920, in Findochty Harbour, after part of boat was severely damaged by fire, which is believed to have started in the engine-room near the engine. Cause unknown. See Surveyor’s Report, No. 109. 

Explosion of acetylene gas occurred on 1st May 1920, off Jagoifsoof, Iceland, damage to chart house, wheel house, &c. 

When in dock on 17th February 1920, a fire occurred in No. 4 lower hold amongst bales of cotton. Later on, same day, fire was again noticed in same hold on portside. Damage to cargo slight, to vessel none. The Board of Trade Surveyor reports that the fire was probably caused by sparks made by ship repairers who were working on deck above the position of fire cutting out rivets by the oxy-acetylene process. See Surveyor’s Report, No. 80. 

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<tr>
<td>&quot;Raapehu.&quot; Plymouth. 111357.</td>
<td>London to Lyttelton, N.Z., with general.</td>
<td>-</td>
<td>The Board of Trade Surveyor reported that no serious damage was caused to the hull of the vessel. The chief officer thinks it was due to incendiarism, probably owing to phosphorus being placed among the cargo, but he had no proof to support his assumption. See Surveyor's Report, No. 76.</td>
</tr>
<tr>
<td>&quot;St. Finbar.&quot; (Motor.) Skibbereen. 135644.</td>
<td>Baltimore for fishing.</td>
<td>-</td>
<td>On 13th February 1920, in Lyttelton Harbour, smoke was seen coming from No. 4 'tween decks. Straw packing of tiles against forward bulkhead was on fire. Slight damage. Cause not stated.</td>
</tr>
<tr>
<td>&quot;Salaga.&quot; Liverpool. 124635.</td>
<td>Lying in Hartington Dock, Liverpool, with general.</td>
<td>-</td>
<td>On 2nd April 1920, when preparing the engine to start, a back fire occurred at the air inlet. An explosion took place in engine-room and all efforts to subdue the fire caused by the explosion were futile and the vessel had to be abandoned burning fiercely. Vessel at time was 12 miles W. by N. of Mizen Head. The Board of Trade Surveyor reports that the woodwork of these engine-rooms is generally saturated with paraffin and the men are careless. See Surveyor's Report, No. 89.</td>
</tr>
<tr>
<td>&quot;Salerno.&quot; Liverpool. 127993.</td>
<td>New York to Constanti poline with sugar.</td>
<td>-</td>
<td>A fire broke out on 3rd April 1920 in engineer's store-room which was extinguished by fire brigade in about two hours. No damage to ship. The Board of Trade Surveyor says that fire was reported to have originated by either a spark from a hand lamp or a lighted match being dropped by one of the stokehold hands. See Surveyor's Report, No. 90.</td>
</tr>
<tr>
<td>&quot;Sardinia.&quot; Glasgow. 115696.</td>
<td>At Marseilles with general.</td>
<td>-</td>
<td>On 20th May 1920, at Marseilles, an electric cable fused and caused a fire in No. 2 hold, among jute. Woodwork beams, deck plates of steamers were damaged. See Surveyor's Report, No. 105.</td>
</tr>
<tr>
<td>&quot;Sea Hawk.&quot; Grimsby. 108428.</td>
<td>In dock at Grimsby in ballast.</td>
<td>-</td>
<td>On 2nd February 1920, in No. 2 Fish Dock, Grimsby, a fire took place in the cabin, suffocating a watchman and another man. Damage 125L., confined to cabin. Apparently caused by the overheating of the stove which caused the wooden partition to ignite. See Surveyor's Report, No. 73.</td>
</tr>
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**Name of Vessel, Port of Registry, and Official Number.**

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<tbody>
<tr>
<td>&quot;Sellasia.&quot; Leith. 113495.</td>
<td>In dock at W. Hartlepool; no cargo.</td>
<td>- - - -</td>
<td>Whilst in charge of a watchman, undergoing repairs in Irvine's dry dock, W. Hartlepool, on 1st February 1920, the cabin-room fire set ablaze the upper deck, damaging latter and burning down the wheel-house. The Board of Trade Surveyor states that the fire was probably due to the overheating of the funnel. See Surveyor's Report, No. 70.</td>
</tr>
<tr>
<td>&quot;Servian Prince.&quot; Newcastle. 113116.</td>
<td>River Plate to Liverpool with general.</td>
<td>- - - -</td>
<td>On 29th March 1920, while in Lat. 49° 0' N., Long. 7° 25' W., N. Atlantic, fire occurred in pantry and spread to saloon and wireless operator's room. Considerable damage. Cause unknown. Operator lost his life.</td>
</tr>
<tr>
<td>&quot;Shipmate.&quot; Lowestoft. 130036.</td>
<td>In dock at Lowestoft in ballast.</td>
<td>- - - -</td>
<td>On 11th June in Waveney Dock, Lowestoft, was awaiting orders to proceed fishing. A watchman left a paraffin lamp burning on cabin table and went on deck. Soon afterwards smoke was seen issuing from the cabin. Cabin and fittings were damaged.</td>
</tr>
<tr>
<td>&quot;Sicily.&quot; Liverpool. 135549.</td>
<td>Liverpool to Rosario with general.</td>
<td>- - - -</td>
<td>On 25th May 1920, fire in No. 3 hold whilst at Rosario, crew unable to get down hold owing to smoke. Used the hose on both sides from deck. Got down hold and found fire on port side amongst cases of galvanised iron. Fire extinguished; cases of galvanised iron damaged by fire and water, and ceiling on tank top burnt. See Surveyor's Report, No. 107.</td>
</tr>
<tr>
<td>&quot;Sissy West.&quot; Inverness. I.N.S. 503.</td>
<td>Lossiemouth for fishing.</td>
<td>- - - -</td>
<td>Fire occurred in Lossiemouth Harbour on 10th February 1920, through opening the crank door and lighting a match, causing fumes to ignite. No damage. The Board of Trade Surveyor states that fire was due to one of the hands inserting a match in the crank-case door to ascertain the amount of lubricating oil remaining. See Surveyor's Report, No. 75.</td>
</tr>
<tr>
<td>&quot;Solingen.&quot; London. 143203.</td>
<td>In Brocklebank Branch Dock, Liverpool, with sugar.</td>
<td>- - - -</td>
<td>On 12th April 1920, fire was discovered in No. 1 hold, which had never been opened until it was opened by fire brigade. No damage to vessel, but a good deal to cargo. Cause unknown. Sugar shipped at Cienfuegos. The Board of Trade Surveyor reported that master and officers could assign no reason for the fire, and Surveyor could form no opinion, but observed that the gunny bags appeared to have accelerated the combustion. See Surveyor's Report, No. 96.</td>
</tr>
<tr>
<td>Name of Vessel, Port of Registry, and Official Number</td>
<td>Voyage and Cargo</td>
<td>Nature of Coal in Bunkers, where Shipped, and Ventilation</td>
<td>Particulars of Casualty</td>
</tr>
<tr>
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<tr>
<td>&quot;Speedonia.&quot; London. 139002.</td>
<td>Pura Samboe to Cape Town with petrol.</td>
<td>- - -</td>
<td>On 19th March 1920, in Lat. 29° S., Long. 49° E., Indian Ocean, two explosions occurred through fumes escaping from petrol cargo, causing fire and material damage to after part of vessel, steering-gear &amp;c., 27 lives lost. Smoke was observed coming from the cabin on 31st March 1920. On examination the engine-room was found to be on fire. It was flooded and the fire extinguished. Deck beams and all parts of the engine-room and engines were found to be charred. The Board of Trade Surveyor suggests that a cinder from the stove funnel must have fallen into the motor space and ignited the oil-saturated wood. See Surveyor's Report, No. 88.</td>
</tr>
<tr>
<td>&quot;Spring Flower.&quot; (Aux. Motor.) Skibbereen. 108065.</td>
<td>Lying at Baltimore Pier, Co. Cork in ballast</td>
<td>- - -</td>
<td>On 19th February 1920 when near Alexandria, coal became heated in the after cross bunkers. No damage to ship or cargo. Attributed to spontaneous combustion. The Board of Trade Surveyor considers that the fire is due to spontaneous combustion. See Surveyor's Report, No. 60.</td>
</tr>
<tr>
<td>&quot;Stephan.&quot; London. 143365.</td>
<td>London to Alexandria with cable. Bunkers were ventilated by doors and openings; no cowl ventilators. The coal was Durham steam slack.</td>
<td>-</td>
<td>On the 30th July in the Minch, on starting motor after hauling in nets, back fire took place through inlet pipe, carburettor took fire. Attempts made by chemical extinguisher and water poured on, but unsuccessful. Flames spread from carburettor and oil-soaked planks below engine. Ship became total loss.</td>
</tr>
<tr>
<td>&quot;Sunbeam.&quot; Unregistered. Motor fishing boat.</td>
<td>Stornoway for fishing.</td>
<td>- - -</td>
<td>While in Colombo Harbour on 26th March 1920, fire broke out in No. 3 'tween decks, amongst cargo of hemp. No damage to ship. Cause unknown.</td>
</tr>
<tr>
<td>&quot;Swazi.&quot; London. 114734.</td>
<td>Penang to London with general.</td>
<td>-</td>
<td>On 1st February 1920, off Hartlepool, fire boxes on top of the cylinders of the motor engine caught fire. Vessel burnt to water's edge and sank. Attributed to paraffin oil supplying the motor engine catching fire. The Board of Trade Surveyor thinks that the vapourized paraffin may have been fired by the lamp, owing to the cast iron casing over it having failed. See Surveyor's Report, No. 71.</td>
</tr>
<tr>
<td>&quot;T. H. Tilly.&quot; W. Hartlepool. 135014.</td>
<td>Hartlepool on pilotage duties in ballast.</td>
<td>-</td>
<td>On 1st February 1920, off Hartlepool, fire boxes on top of the cylinders of the motor engine caught fire. Vessel burnt to water's edge and sank. Attributed to paraffin oil supplying the motor engine catching fire. The Board of Trade Surveyor thinks that the vapourized paraffin may have been fired by the lamp, owing to the cast iron casing over it having failed. See Surveyor's Report, No. 71.</td>
</tr>
<tr>
<td>&quot;Tainui.&quot; Auckland, N.Z. 118955.</td>
<td>Lyttelton to Tanga-nui with benzine, ploughs, lacquer and zinc.</td>
<td>-</td>
<td>On 16th September 1919, when 4 miles off Gore Bay, N.Z., a loud explosion took place, which blew off forehatches, and fore hold burst into flames and vessel was burnt to the water's edge. Eight of crew lost in getting ashore. Inquiry held at Lyttelton and Christchurch, and Court found fire was caused by ignition of petroleum stowed in the forward hold. Regulations as to shipment and carriage at sea of petroleum were not complied with and that due care was not taken in the stowage. Ship was not safe and suitable for conveyance of petroleum, the tins and cases were</td>
</tr>
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<tr>
<td>&quot;Te Anau.&quot; Dunedin. 76225.</td>
<td>Timaru to Lyttleton, N.Z., with general.</td>
<td>- - -</td>
<td>Whilst alongside wharf in Lyttleton Harbour, 14th January 1920, fire was discovered at the bottom of cargo in No. 4 hatch; it was smouldering only, and was easily extinguished without water. The charred remains of a box of matches was found at the seat of the fire.</td>
</tr>
<tr>
<td>&quot;Teutonic.&quot; Liverpool. 96334.</td>
<td>At berth at Canada Tongue; no cargo.</td>
<td>- - -</td>
<td>On 8th and 9th June 1920, at Canada Tongue, Liverpool, fire was discovered in after fan room and in saloon pantry. Light damage to bulkhead fittings, &amp;c. Cause unknown.</td>
</tr>
<tr>
<td>&quot;Tropic.&quot; Liverpool. 106828.</td>
<td>Lyttleton, N.Z., to Liverpool, with wool, frozen meat, and general.</td>
<td>New River coal, shipped in fine weather at Newport News. Hold ventilated by two trunks, having low coamings only, on the weather deck.</td>
<td>On 5th February 1920, in Lat. 28° 23' S., Long. 12° 30' E., S. Atlantic, fire was discovered in No. 3 hold. After discharge it was ascertained that the fire originated at the fore end of No. 3 lower hold in some American coal which was shipped in August 1919 and not worked out. The Surveyor considers that the fire was caused by spontaneous combustion owing to the coal being allowed to remain for a long period in an underneath position. See Surveyor's Report, No. 58.</td>
</tr>
<tr>
<td>&quot;Vesper.&quot; Buckie. B.C.K. 307.</td>
<td>Moored in port, Gordon Harbour.</td>
<td>- - -</td>
<td>Was moored on 24th March 1920 with no one on board. At 1.15 a.m. boat was found to be on fire, and was burned to water's edge. Origin unknown, but owner states that he had had trouble previously owing to the deck catching fire where the funnel passes through. See Surveyor's Report, No. 85.</td>
</tr>
<tr>
<td>&quot;Waddon.&quot; London. 118483.</td>
<td>Port Louis, Mauritius, to St. Nazaire, with sugar.</td>
<td>Small Welsh coal—Hoods, Merthyr, Ferndale, and Graham Navigation—shipped at Barry. It had been on board for two and a half months.</td>
<td>On 21st February 1920, while in the Indian Ocean, fire was discovered in port lower bunker, probably caused through spontaneous combustion. Two casing plates were badly buckled and timber boards burnt away. See Surveyor's Report, No. 61.</td>
</tr>
<tr>
<td>&quot;War Casco.&quot; London. 141118.</td>
<td>Melilla to Glasgow with iron ore.</td>
<td>- - -</td>
<td>On 27th February 1920, when in Gibraltar Bay, fire suddenly broke out in engine-room. Vessel was taken outside and stranded on Canners Point, Spain, where she was finally abandoned as a total loss. Cause not stated.</td>
</tr>
<tr>
<td>&quot;War Soldier.&quot; London. 140379.</td>
<td>Freemantle to Las Palmas with wheat.</td>
<td>Natal coal</td>
<td>Coal ignited in port bunker. Fire was kept under until it could be extinguished when vessel was near Las Palmas. Damage to bulkhead separating permanent bunkers from reserve bunkers and deck badly buckled. A number of bags of wheat were damaged by fire and water. Master attributes the fire to bad ventilation of bunkers which has since been remedied. 16th November 1919.</td>
</tr>
<tr>
<td>Name of Vessel, Port of Registry, and Official Number</td>
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<tr>
<td>&quot;Wasa.&quot; Liverpool, 143636.</td>
<td>Liverpool to Hernsand in ballast.</td>
<td>40 tons of N. Wales coal and 450 tons of S. Wales in bunkers, which were forward of the engine-room, one on each side and nearly full. There was also a quantity of coal in the bridge space and about 30 tons on deck across the fore part of bridge.</td>
<td>When 7 miles W. by N. ¼ N. of Dubh Airtasach on 24th May 1920, fire broke out in after end of port bunker and spread so rapidly as to render it impossible to inquire as to cause. Four lives were lost by upsetting of the boat. Ship a complete wreck. A formal investigation was held at Liverpool, but the Court was unable to discover the cause of the fire.</td>
</tr>
<tr>
<td>&quot;Westmoreland.&quot; London, 140292.</td>
<td>Port Chalmers to Wellington, N.Z., and England, with general.</td>
<td>- - -</td>
<td>Fire discovered whilst vessel was at Timaru in bridge deck amongst cargo (tow), 19th November 1919. Put out by fire brigade. Damage to ship slight. Damage to cargo cannot be estimated. The remainder of cargo consisted of frozen mutton, wool, tallow, &amp;c.</td>
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SURVEYORS’ REPORTS.

FIRES IN BUNKERS.


Report on fire which occurred in the South Atlantic on 18th July 1919.

SIR,

In accordance with instructions, I visited the above vessel to inquire into the cause of the fire which occurred in the bunkers on the 18th of July 1919. The fire originated in the starboard pocket bunker. This bunker was entirely cleaned out for survey and coated with bituminous paint previous to this voyage.

Two thousand tons of bunkers were taken in at Middlesboro’ and placed in the permanent bunkers and in No. 3 hold.

The vessel left Middlesboro’ for London on 26th June 1919, and left London on 9th July for New Zealand.

On the 18th July, smoke was noticed to be coming out of the starboard forward end of the bunker, the coal at the time being worked from No. 3 hold. On the starboard side the coal was worked out of the pocket bunker and the fire extinguished by means of the hose.

On the 20th July the coal in No. 3 hold was noticed to be on fire close to the bulkhead dividing it with the starboard pocket bunker. The wooden insulation of the bulkhead was also on fire. The fire was extinguished by means of the hose and working the coal away from this part, the fire being finally extinguished on the 29th July.

No cause can be assigned for the fire. I was unable to obtain the information as to which colliery supplied the coal; the coal is possibly “Yorkshire.” There are several collieries in Yorkshire, and no doubt in other places where the dirt, which is of the same appearance as the coal without the bright lustre, is very liable to spontaneous combustion.

This dirt lays between the true seam of coal and the roof and bottom of the seam as worked. It is usually cleaned out of the coal. It is the cause of “gob” fires in the pits, and I have seen myself a large bank of it on fire outside Dinnington Colliery.

I am, Sir,
Your obedient Servant,

(Signed) E. Vie,
The Principal Officer, Engineer and Ship Surveyor.
Board of Trade, London District.


Report on fire which occurred in the English Channel on 6th August 1919.

SIR,

I respectfully beg to report that in accordance with instructions I investigated the circumstances under which a fire took place on above vessel.

The second engineer is the only member of the crew now on board, who was on board when fire occurred.

When on a voyage from Norfolk, Virginia, to Antwerp, about 10 days out, fire was discovered in starboard ’tween deck bunker. It was extinguished after about eight hours’ work, pumping and shifting coal. The seat of the fire was in the locality adjacent to the steel casing of starboard boiler.
Bunker coal was shipped at Barrow early in May 1919, and on arrival at Baltimore the bunkers were filled up again on top of what remained of the original coal. The coal shipped at Barrow was small Barnsley of good quality, and at Baltimore the coal taken is reported as being good and of medium size.

The seat of the fire is directly under the saddle-back hatch, and it seems probable that either rain or sea water had entered through this hatch and generated heat in the Yorkshire coal, which possibly was accentuated by the admixture of the American coal, and also by the heat of the adjacent boiler.

The bunkers are ventilated by two large ventilators passing through bridge deck.

I am, Sir,
Your obedient Servant,
The Principal Officer, E. S. MACLEOD.
North Shields.

No. 3.—S.S. "NEMBE." O.N. 114427. Gross tonnage, 3,855.

Protest re fire which occurred at Secondee on 7th August 1919.

By this Public Instrument of Protest it is known that on the twenty-fourth day of September in the year of our Lord One thousand nine hundred and nineteen Before me Charles Oswald Grindrod of the Port of Liverpool in the County of Lancaster in England Notary Public by Royal Authority duly admitted and sworn personally came and appeared Robert William Brisco Master of the Steamer "Nembe" belonging to the Port of Liverpool and duly noted his Protest and again on the day of the date hereof personally came and appeared before me the said Notary the said Robert William Brisco together with Arthur Mitchell Chief Officer on board the said Vessel at the time of the occurrences hereinafter mentioned who did severally make and subscribe in my presence the Declaration following that is to say:—We, Robert William Brisco and Arthur Mitchell do severally solemnly and sincerely declare that on the Thirtieth day of June One thousand nine hundred and nineteen we and the rest of the Crew of the said Vessel sailed in her from New York bound on a voyage thence to Dakar and other West African Ports with a cargo of General the said Vessel being then tight stiff staunch strong well manned and in every respect well and sufficiently fitted and provided for her said intended voyage.

1919.
30th June. We left New York and proceeded on our voyage towards Dakar. We experienced various winds and weather and on
18th July. We arrived at Dakar and discharged and took on board certain cargo.
20th ,, We left Dakar and proceeded towards Bissao.
21st ,, We arrived at Bissao and commenced discharging certain cargo.
29th ,, We left Bissao and proceeded towards Sierra Leone.
1st August. We arrived at Sierra Leone and discharged certain cargo. At 7.45 p.m. we finished discharging cargo and proceeded towards Tabou.
4th ,, We arrived at Tabou and after taking on board intermediate cargo and passengers proceeded on our voyage towards Secondee.
6th August. We arrived at Secondee.

9th " Noon, discovered fire in main bunker and commenced working out same.

8th " Fire still in main bunker, had to play hose on it.

9th " Midnight. We left Secondee and proceeded towards Saltpond.

10th " Fire still in main bunker, working coal out and hose playing continually, p.m. Men working in bunker shifting coal. 10 p.m. Fire apparently out.

11th 12th ..

10 a.m. Finished discharging cargo. 10.5 a.m. We left Saltpond and proceeded towards Accra. Crew working coal out of main bunker, fire seemingly in wing sides; hose playing continually. 4.15 p.m. We arrived at Accra. 10 p.m. Stopped working on bunker wings and limber boards clear, smoke stopped, hose kept handy ready for instant use.

12th 5.30 a.m. Commenced heaving up coal out of bunker hold into 'tween deck on account of smoke issuing from bunker again. 6.0 a.m. Commenced discharging at all hatches. 3 p.m. Dense smoke and flames coming out of bunker hatch, making it impossible for the crew to continue working out coal. Second hose brought into play on bunker. Closed watertight doors and captain ordered all ballast tanks to be filled. 4.30 p.m. Smoke and dense fumes enveloping the whole of the ship. Commenced heaving up anchor but had to stop on account of no steam. Brought the two hoses into play on the after part of No. 2 hatch, which was now threatened by fire. 7 p.m. Fire gaining rapidly. All Kroo boys ordered to the boats. 7.30 p.m. All articulated men ordered to the boats, the Master, Chief Officer, Chief Engineer and 2nd Engineer remaining on board playing the hose on the fire. 8.25 p.m. Port 'tween deck fell in on the after part of No. 2 hatch. 8.30 p.m. Had to abandon ship, decks getting too hot to remain. We encircled the vessel for some time whilst in the boats, and at about 10 p.m. heard three very heavy explosions from No. 2 hold. At about 10.30 p.m. the vessel was ablaze forward.

13th, 14th, The vessel continued burning furiously.

15th Aug. The vessel, which was still burning furiously, took a heavy list to starboard.

16th Aug. Similar conditions, the vessel having taken a list of about 35 degrees.

17th Vessel burning aft and in the engine-room. All the port side of No. 3 hatch had collapsed and No. 2 hatch was all buckled and bent; the after decks, forward deck, 'tween deck and shelter deck were right in.

18th The vessel's list had increased to about 40 degrees, and she was rolling heavily. She was buckling at No. 3 hatch and commencing to crack.

19th The vessel's list had increased to about 45 degrees and she was making water. The fire was still burning in the bunkers, No. 1 hold and the engine-room. The engine-room sky-light and the decks round the engineers' quarters had all fallen in, and the mainmast was bent and hanging over the ship's side. At about 2 p.m. the vessel commenced to sink, having opened out aft, and at 2.20 p.m. she foundered. In consequence of the said fire all the cargo on board, with the exception of about 400 tons of general which we managed to discharge after arriving at Accra, was totally lost.

And we make this solemn Declaration conscientiously believing the same to be true and by virtue of the provisions of the Statutory Declarations Act, 1835.

(Signed) R. W. BRISCO,
Master.

(Signed) A. MITCHELL,
Chief Officer.
And the said Declarants did severally declare and protest and I the said Notary at their request have protested and by these presents do protest that all and whatsoever damage or loss hath arisen to the said Vessel her tackle apparel or cargo or to the owner thereof respectively hath been wholly owing to the circumstances before stated and to the dangers and perils of navigation and not to the negligence misconduct want of skill or attention of the said Declarants or any of the said Crew of the Vessel or to any insufficiency of the said Vessel her tackle apparel or furniture.

In Faith and Testimony whereof I the said Notary have hereto set my hand and affixed my Notarial Seal of Office at Liverpool aforesaid the 27th day of September One thousand nine hundred and nineteen.

(Signed) C. C. GRINDROD,
Notary Public.

No. 4.—S.S. "ASHANTI." O.N. 106847. Gross Tonnage, 3,423.

Report by British Consul-General at Dakar on fire which occurred at Dakar on 18th August 1919.

Sir,

Referring to my telegram of the 19th August, in which I reported the destruction by fire of the Steamship "Ashanti," of Liverpool, No. 106847, and to Form Wr. 1 (i) of the following day, in which I furnished such particulars of the disaster as were obtainable, I have now the honour to transmit in duplicate the statement of the master made before me. I regret that I have been unable to secure the attendance of Mr. Baxter for the administration of the oath, but both copies have been signed by him.

As soon as possible after the occurrence was reported to me, I called in the master, the chief engineer, the purser, and others of the crew, and conducted an informal enquiry; but it was at once evident that, such was the complete ignorance of all these persons regarding the origin of the fire, it would have served no useful purpose to hold a Naval Court, all available information and evidence being contained in the master’s statement, to which no person was able to add anything whatsoever.

I have the honour to be, Sir,
Your obedient Servant,

The Assistant Secretary,
Marine Department, Board of Trade,
London, S.W.1.

(Signed) B. C. F. MAUGHAM.

I, W. C. BAXTER, Master Mariner, Certificate No. 003306, master of the British steamship "Ashanti," Registered No. 106847 of Liverpool, make oath and say as follows:

1. The ship under my command left New York at 4.0 p.m. on August 1st, 1919, with a full general cargo, bound for the port of Dakar and other West African ports. Her crew numbered thirty-eight, and there was one first-class passenger, an American subject. The crews, sailors and firemen, were of various nationalities.

2. After a voyage of 17 days 4 hours, experiencing fair weather all the way, I proceeded to anchor in Dakar roads at midnight the 18th August 1919 anchoring in 7 fathoms water, 45 fathoms port cable, ringing off about midnight.

3. Directly afterwards, I was talking to the chief engineer about steam for moving into harbour at 6.0 a.m., and the latter was just about to come up the starboard ladder, to receive his orders for the morning, when, stepping on the ladder, I heard him remark: "What is this smoke?" I jumped down on the
deck, and, after looking and seeing signs of fire, I ordered fire-hose at once to be connected. I then ordered W/T operator to ask for assistance from shore, and the junior W/T operator to signal by lamp to shore, which answered. I further blew continuously on the steam syren.

4. During the issue of these orders, very dense volumes of smoke were arising from the bunker hatches and ventilators, fore part of the bridge and aft part of the saloon, filling the engine-room, and preventing the engineers from starting the pumps or engines to beach the ship. At this time the flames were spreading from fore part of bridge to aft part of engine-room. The port life-boat, two gigs, and one surf-boat from aft deck were put into the water ready for emergency which followed very shortly, I myself ordering everybody off the ship, and being the last to leave after making sure that everybody had left. I then went down the starboard boat-fall into the gig, a coloured boy remarking, “Massa, no come down small rope, ship hot too much.”

5. After getting into the boats, we pulled to windward, called all boats, and checked the crew off, and found everybody safe.

6. Just after leaving the ship, heavy explosions occurred.

7. After waiting a considerable time, as I expected help from the shore, I ordered all boats to proceed to Elder Dempster and Company’s wharf. Seeing that we could not do any more, and that the ship was now a mass of flames, we proceeded into the harbour, and just before arriving at the wharf we met the harbour-master coming out in a small tug. I asked him if there was a fire-tug, and he replied that there was, but it was not ready, as it had a number of cases of petrol on deck.

8. After going alongside the wharf, the harbour-master asked me for six boys to help discharge the petrol, which was done, whereupon he, the chief engineer, and myself proceeded out to the ship, which by this time was well alight from No. 2 hatch to after part of engine-room, and was one mass of flames.

9. After getting alongside the port bow, there was again a heavy explosion, and we had to clear from the ship. After waiting awhile, we decided to slip cable and tow the ship up the beach, as several tugboats were around by this time. We, therefore, slipped the cable and towed the ship to the beach; by this time No. 3 hatch had exploded, and terrible flames lit up the entire harbour.

10. As day was breaking, I noticed one of the tugs was armed; I therefore informed the harbour-master that I had decided to put a hole into each hatch, as it was then low water.

11. Nothing further could be done on account of the continuous small explosions, so I proceeded into harbour. I had already caused all ammunition to be thrown overside from the fore-deck when slipping cable.

12. I desire to draw particular attention to the similarity in the circumstances attending the destruction of my ship with those surrounding the burning of the steamship “Nemee” which, on or about the 13th July last, was loaded at the same port (New York) by, I may say, practically the same labourers, and close to the same wharf. In this case the fire broke out in the same place, with the same results; also that the ship belonged to the same Company, and is on the same trade, and I wish to state that, in my opinion, the similarity of these two cases presents every indication of being something more than the result of mere coincidence.

13. Right up to the time of anchoring, men were working very close to the place where the fire broke out, and I am sure that if there had been any indication of the fire whatever, it must have been seen or the smoke smelt before coming to anchor, but, up to the time of dropping anchor, there was absolutely no indication of anything wrong.

(Signed) W. C. Baxter,
Master.
I hereby certify the foregoing to be the signature of Mr. Walter C. Baxter, master of the steamship “Ashanti” herein referred to
Taken this 8th day of September 1919.

(Signed) R. C. F. MAUGHAM.

No. 5.—S.S. “VESTRIS.” O.N. 131451. Gross Tonnage, 10,494.

Report on fire which occurred at Hoboken on 29th August 1919.

Board of Trade Surveyor’s Office,
Canning Place, Liverpool,

SIR,

WITH reference to the report of a fire which occurred on the above vessel on 29.8.19 at Hoboken, I beg to submit the following particulars in accordance with M. 14974/19:—

The chief engineer states that the vessel sailed from Liverpool on 9.8.19 to Buenos Ayres, via New York, the bunkers being partly filled at Liverpool with mixed English coal supplied by Messrs. Rogers and Bright. On arrival at New York the forward cross bunker was empty at the forward end and contained approximately 100 tons at the centre and after end. The capacities of the lower part of this bunker and the ‘tween decks space are respectively 970 tons and 430 tons. The shelter deck space can also be used for coal.

The forward cross bunker had been filled to the top of the ‘tween decks space with American “Eureka” small coal at Hoboken and the shelter deck space was about to be filled, when smoke was seen to issue from one of the ventilators leading from the lower part of the bunker. The vessel had then been lying at Hoboken about 10 days. A quantity of coal from the lower part of the bunker was transferred to the shelter deck space when it was found that the fire had started at the forward end of the lower cross bunker on the starboard side, about five feet above the tank top and nine feet abaft the forward bulkhead. Fortunately the fire was discovered before it had time to spread and it was extinguished by means of a hose. The vessel was not damaged by the fire.

It is stated that the coal which was in the bunker before coaling was started at Hoboken was quite cold and it was not considered necessary to turn it over.

It would appear that the fire originated in the coal supplied at Hoboken and that it was due to incendiarism.

The vessel was again on fire off St. Lucia in No. 3 hold on 9.9.19, the case was reported on 30.12.19. From an examination of the insulation in No. 3 hold it is evident that the fire in the bunker at Hoboken did not cause the later fire in No. 3 hold.

I am, Sir,
Your obedient Servant,
The Principal Officer, Liverpool.
(Signed) H. CRANWELL.


Report on fire which occurred at Nankin on 8th September 1919.

Board of Trade Surveyor’s Office,
Canning Place, Liverpool,

SIR,

I have the honour to report that I visited the above vessel on the 12th and 13th instants with regard to M. 14974/19.

The fire broke out in the forward end of the lower hold of the cross bunker on the starboard side on the 8th September 1919, when the vessel was lying alongside the Company’s Wharf, Nankin, China; by the 9th it had spread to No. 3 hold.

The S.S. “Brodvale’s” bunkers were completely empty on June 11th, 1919, and she commenced coaling at Liverpool with Yorkshire mixed for the outward voyage.
on June 12th, finishing on the 17th. On her voyage to Japan trouble was experienced owing to the coal in the side bunkers heating.

On her arrival at Mouji on August 9th, 1919, there was a small quantity of Yorkshire coal in the lower hold of the cross bunker, over which the Japanese coal was loaded.

Sketch showing cargo in No. 3 hold, and distance of insulated bulkhead from stokehold:

<table>
<thead>
<tr>
<th>Empty.</th>
<th>Bulkhead 12&quot;</th>
<th>Stokehold.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases of Eggs.</td>
<td>Lard and Bacon.</td>
<td>Bulkhead 12&quot;</td>
</tr>
<tr>
<td>Trimming hatch.</td>
<td></td>
<td>Strokehold.</td>
</tr>
</tbody>
</table>

I am of opinion that the origin of the fire was spontaneous combustion owing to the heating of the Yorkshire coal. This was also the view taken by the Master and Chief Engineer.

Fire appliances on board: two lengths of 60 ft. 2½ ins. canvas hose. Twelve patent fire extinguishers.

I have the honour to be, Sir,

Your obedient Servant,

The Principal Officer, Liverpool. (Signed) HENRY J. TEMPERLEY GREY.

No. 7.—S.S. "PORT ELLIOT." O.N. 131279. Gross Tonnage, 7,395 tons.

Report on fire which occurred in Indian Ocean on 15th September 1919.


SIR,

A FIRE occurred on September 15th last in No. 3 hold amongst the bunker coal, in four corners, starting in the forward port corner: the ship was at the time in the Indian Ocean on the way from Suez to Adelaide.

The coal was shipped in New York from 9th to 12th July last, in fine weather with occasional showers; it was fairly small with a fair amount of dust; the hold was filled, carrying about 550 tons.

The ship left New York on 13th July for Montreal, Quebec, Piraeus; thence to Adelaide via Suez.

Coal was removed from No. 3 when sufficient space had been made in the bunker, coal having to be lifted out, there being no communicating door.

When the coal had been worked well down, fumes were noticed coming from the port forward corner; the coal was worked away and hoses put down: the after port corner gave indications of fire, and subsequently each of the other corners broke out, but the fires were kept under and finally extinguished.

No. 3 hold had been quite clear of coal before the present bunker coal was shipped.

Ventilation is provided to No. 3 hold by four 20-inch cowl ventilators, with 12-inch extensions to lower holds, there being one ventilator to each corner.
The insulation was slightly burnt and charred and damage done by water, but there was no damage to the structure of the ship.

This is probably a case of spontaneous combustion.

I am, Sir,

Your obedient Servant,

The Principal Officer,

London District.

(Signed) C. W. LIMPRICHT WREN.


Report by Receiver of Wreck on fire which occurred on 16th September 1919.

Barbados, 30th September 1919.

The above-named ship left Para on 13th September 1919, bound for New York via this port, with a crew of 84 men, all told, and 77 passengers, in good seaworthy condition and well found and with a cargo of 3,000 tons, comprising coffee, cocoas, hides, &c. Her draught of water, at the time of leaving port, was 21 ft. 7 ins. forward and 23 ft. 6 ins. aft. The ship arrived here on 17th September about 2 p.m. Three days before her arrival here, it was discovered that coal in the ship's cross bunker adjacent to the after part of her No. 2 hold was heated. There was no smoke nor any sign of fire, but the coal continued to show signs of being overheated while it was being used. At 8 a.m. of 16th September, about 30 hours before the ship's arrival here, it was found that the coal was on fire. The ship's hose was immediately played on it, and at 8.30 a.m. on the same day the fire was extinguished and the bunker showed no signs of fire after. About five hours after the ship's arrival here, fire was discovered, apparently from No. 2 hold. From that time up to the 24th inst., when the fire was finally extinguished, every effort was made to subdue it. The ship's hatches were battened down, ventilators closed and steam injected in the hold, and the ship's hose as well as those from the water-boat of this port were played on it, and afterwards the assistance of H.M.S. "Yarmouth" was obtained until the fire was finally extinguished. Meanwhile certain of the cargo had been discharged, a great portion of which has suffered damage from water and fire. The engine-room and certain of the ship's machinery have also been damaged by the flooding. There is no idea of the cost of repairing that damage. The hull itself suffered no damage, neither was there any casualty to any of the passengers or crew. Incendiarism is not suspected—the opinion being that No. 2 hold, which contained cargo liable to combustion if brought into contact with an overheated temperature, took fire from the coal bunker. The ship has been surveyed and her damage is being repaired while in port to fit her for sea.

No. 9.—S.S. "WAZIRISTAN." O.N. 142310. Gross tonnage, 5,495.

Report on fire which occurred in the South Atlantic on 19th October 1919.

Sir,

In accordance with Board's M. 14974/19, I visited the above vessel and made inquiries regarding a fire that had taken place on board.

In September 1919, 1,900 tons of coal were taken on board in the Tyne, the bunkers having been previously practically emptied. The coal was of medium size, and was stowed in the permanent bunkers and the bridge space.

On the voyage to Buenos Ayres fires broke out on both sides of the bridge space. This coal was taken out of the bridge and placed on deck, and the vessel arrived at her destination on 21st October 1919.

At Buenos Ayres a cargo of oats in bulk was put in No. 3 hold, and the vessel left on the 24th November 1919. While in port the coal on deck had been put into the bunkers and into the vertical pockets leading from the bunkers to the stokehold.
Soon after leaving Buenos Ayres a fire broke out in the starboard pocket, causing the steel bulkhead to become hot and igniting the oats in No. 3 hold. The vessel put into Monte-Video and discharged part of this cargo. The coal in the pocket was removed, and the vessel left again on the 2nd December 1919, the damaged portion of the cargo having been replaced on top of that which was undamaged. No further trouble was experienced.

The first fires in the bridge space were evidently caused by the heat from the funnel gases. When the vessel was built in 1918 she had emergency smoke ducts fitted; these passed from the base of the funnel through the bridge space to the ship's side. When the war ended these were no longer required, so the portions between the funnel casing and the ship's side were removed, and plates were fitted to blank the holes that remained. The funnel gases were therefore on one side of the plate and coal on the other, so that the coal ignited owing to the heat. The second fire was probably caused owing to the coal still being hot when it was put back into the bunkers. That which was in the vertical pocket would have a constant current of air passing through it, thus fanning it into a red heat.

The trouble is not likely to recur, as the smoke ducts have now been cropped close to the funnel, so that the funnel gases do not come in contact with any of the plates against which coal or cargo may lie.

I am, Sir,

The Principal Officer, (Signed) Geo. Brown.
North Shields.

20th March 1920.

No. 10.—S.S. 'City of Winchester.' O.N. 131451. Gross Tonnage, 7,981.

Report on fire which occurred in South Pacific on 30th October 1919.

Board of Trade Surveyor's Office,
Canning Place, Liverpool,

SIR,

I visited this ship at Manchester on the 6th instant, and was informed by the 2nd officer and chief engineer that traces of fire were discovered in the reserve bunker at 3 a.m. on the 30th October 1919, the ship having left Waitara, North Island, New Zealand, at noon on the previous day.

The location of this reserve bunker is on fore part of boiler-room bulkhead with its forward bulkhead insulated for cold storage chambers in No. 2. It appears to be well ventilated by two 18-inch derrick standard vents. According to the officers' statements it was presumed that fire originated in the coal near to the forward bulkhead and about quarter breadth from ship's side, and about half the depth of the hold. It was then ascertained, by drilling a hole in the forward bulkhead of the reserve bunker, that insulation was also on fire, and it was decided to put back to Wellington, about 380 miles distant. During the return water was played on the coal and the fire kept under, no one suffering any ill effects from gas in the process.

The chief engineer informed me that the coal was shipped at New York in July 1919, by Messrs. Berwind White Coal Company. The coal in reserve bunker amounted to 547 tons. It was mostly small slack with little lump. The chief engineer further stated that it was described as Eureka coal, and he had found it excellent steaming coal. About 2,000 tons was shipped for bunkers between the middle and end of July; there had been rain, but none of the coal was in a badly wet condition when shipped. Very little coal had been used from the reserve bunker when the fire was discovered, and from the statements it would appear to have been in the ship close on three months.

It is thought that the fire originated in the coal, probably spontaneous combustion, and that this set fire to the insulation. The chief engineer could give no further information as to the mine from which the coal was wrought.

The extent of the damage to the insulation has not yet been ascertained, as the meat carried in No. 2 is not yet discharged.

I am, Sir,

The Principal Officer, (Signed) P. G. Lowe.
Liverpool.

15235 JD
No. 11.—S.S. "CITY OF RANGOON." O.N. 135582. Gross Tonnage, 6,635.

Report on fire which occurred in the Indian and Atlantic Oceans from 31st October to 3rd December 1919.

Sir,

This vessel is at present at Middlesbrough, but is expected to return to the Royal Albert Dock, London, to complete loading.

The Assistant Marine Superintendent informs me that this fire was not a serious affair and was extinguished before any damage was done to the vessel.

It was caused by spontaneous combustion due to the bunkers not having been thoroughly cleared of coal for a long time.

(Signed) P. McNeil.
5th January 1920.

The Principal Officer,
London District.

This was a small fire which draws attention to the necessity of completely emptying the bunkers periodically of the small coal which long storage has rendered liable to spontaneous combustion.

Thomas Carlton,
Engineer Surveyor in Chief.

No. 12.—S.S. "LUNEBURG." ——. Gross Tonnage, 5,819.

Report on fire which occurred in the Mediterranean Sea on 14th November 1919.

Board of Trade Surveyor's Office,
North Shields,
21st February 1920.

Sir,

In accordance with M. 14974/19, I visited the above-named vessel on the 16th instant with a view to making inquiries regarding the fire which took place after leaving Port Said last November.

I obtained the following information from the Captain, who is the only officer now on board who was there at the time of the fire.

The vessel was originally one of the German ships that accompanied the "Emden" at the outbreak of war, and when he took command last year she still had some coal on board. The following table gives particulars, as far as obtainable, of the coal taken on board:

<table>
<thead>
<tr>
<th>Approximate Weight in Tons</th>
<th>Where obtained</th>
<th>Kind.</th>
<th>Size.</th>
<th>Date put on Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>Left by Germans</td>
<td>Possibly German</td>
<td>Medium</td>
<td>—</td>
</tr>
<tr>
<td>600</td>
<td>Borneo</td>
<td>?</td>
<td>Small</td>
<td>August 1919.</td>
</tr>
<tr>
<td>560</td>
<td>Japan</td>
<td>?</td>
<td>Very small</td>
<td>September 1919.</td>
</tr>
<tr>
<td>560</td>
<td>Colombo</td>
<td>?</td>
<td>Medium</td>
<td>29th October 1919.</td>
</tr>
<tr>
<td>560</td>
<td>Aden</td>
<td>Durban</td>
<td>Large</td>
<td>6th November 1919.</td>
</tr>
<tr>
<td>560</td>
<td>Port Said</td>
<td>Welsh</td>
<td>Large</td>
<td>13th November 1819.</td>
</tr>
</tbody>
</table>

The later supplies of coal were put into the bunkers on top of that which was already there, but in any bunker that had been partly emptied the new coal would run to the bunker door and be used first. The various kinds of coal would be to a great extent mixed, because unless a bunker is cleared right out some of the original coal will always remain. None of the bunkers appear to have been worked entirely out in this case. At the time of the fire the coal in the port forward bunker appears to have just finished running out of the door.

The cargo consisted of rice meal in bags carried in the lower hold and 'tween decks, the bridge space being empty. This was taken on board at Bassein, Burmah, about the 24th October 1919.

On November 14th, 1919, at 4.5 a.m., eight hours after leaving Port Said, the port forward bunker was found to be on fire owing to smoke coming through the
ventilators or samson posts. Steps were taken to extinguish the fire by battening down the hatches, closing ventilators and turning on steam injectors which discharge into the bunkers. At 11.45 p.m. there was an explosion in the port forward bunker, carrying away all tarpaulins and hatches. At 12.10 a.m., November 15th, there was another explosion whilst the crew were securing the hatches. One sailor was drawn through the hatch at the top of the funnel casing by the return rush of air following the explosion; he was eventually got out through the stokehold door unconscious and badly injured.

At 1.30 and 2.15 a.m. November 15th, further explosions occurred, and three more between 6 and 8 a.m. At 1.5 p.m. it was decided to turn back to Alexandria, and at 5 p.m. the same day the bunkers burst into flames. Water from three hoses was played into the bunker, and by 5.30 p.m. the flames were subdued. The water was kept running all night.

After arrival at Alexandria the fire brigade gave assistance. No. 4 hold was just forward of the bunker, and it was decided to open the hatch to protect the cargo. As soon as this was done the cargo burst into flames. Nobody appears to have previously suspected that the cargo was already on fire. Three more fire-floats and two more fire-engines were obtained, and all played into the hold. No. 4 hold and the engine-room were filled with water and the vessel rested on the ground with 7,000 tons of water in her. Holds Nos. 2 and 3 partly filled owing to the bilge suction pipes having been fractured by the explosions where they passed beneath the bunker, but these pipes soon became choked with coal. Holds Nos. 5 and 6 partly filled owing to the tunnel not being tight.

All the coal and the cargo from No. 4 hold was then discharged and the vessel floated.

The captain is quite sure that the fire originated in the coal, and he is probably correct in his surmise, but it was noted that by far the worst fire damage was caused in No. 4 main hold at the forward side of the hatchway. This is quite 30 feet from the port forward bunker, and at this part the deck and deck beams were twisted in the form of waves about 12 inches high. From here to the bunker the distortions decrease.

The part referred to lies between two large ventilators, and it is possible that the fire originated here owing to a match thrown down when loading. The fire would then travel and heat the bunker bulkhead sufficiently to ignite the old coal that would be lying on the other side of it. This would be in accordance with an experience of my own when the only signs of fire were 50 feet away from where the origin was finally discovered, the draught from a ventilator having carried the heat and smoke aft.

If the fire did commence in the bunker, the extra damage in the hold might be explained owing to the fire brigade running their hoses down the ventilators. This would probably induce a draught and cause the adjacent cargo round about the upper part of the lower hold to burn more fiercely.

No wooden bulkheads were fitted in the bunkers or holds.

A rough plan is attached showing the position of the forward bunkers and the ventilators in No. 4 hold.

I am, Sir,
Your obedient Servant,
The Principal Officer,
North Shields.

(Signed) GEO. BROWN.


Report on fire which occurred in Cape Town Docks on 14th November 1919.

Sir,
I visited this ship to-day.
She is now under the French flag and has a French crew. The captain was not on board and I could not find anybody who knew that there had been a fire on board.
As the fire appears to have taken place more than a year ago it will probably be difficult to obtain any information about it.

(Signed) GEO. BROWN.

The Principal Officer,
North Shields.

12th February 1920.

Report on fire which occurred at Hull on 24th November 1919.

I visited this vessel in the Albert Dock, Hull, on the 24th November last respecting a fire which occurred in the bunkers. One of the firemen went to the paraffin tank to draw some oil into a measure tin and had with him a hand lamp which he accidentally upset into the measure. This ignited the paraffin, the tank cock was in the midst of the flames, consequently the man could not get near enough to shut it off. The flames then got hold of the store-room, all the woodwork being burned to ashes. This was immediately below the floor of the bunker, which then contained about 40 tons of Yorkshire coal. Through the heat generated by the flames, this coal caught fire, but was eventually extinguished by using the shore fire brigade hose.

Every endeavour was used to extinguish the original fire by ashes, sacks, &c., the engine-room pump being out of operation owing to the area of the flames.

The Dock Fire Brigade ultimately succeeded in overcoming the fire both in the store-room and bunker.

The fire started at 3 p.m. and the firemen all left at 6.15 p.m. the same day, satisfied that there was no further damage.

(Signed) JAMES WM. RICHARDSON.
6th December 1919.

No. 15.—S.S. “QUEEN ALEXANDRA.” O.N. 136672. Gross Tonnage, 4,211.

Report on fire which occurred during voyage from Almeria to Barrow on 25th November 1919.

This case of fire is interesting as an example showing most of the factors which are generally considered as being conducive to the spontaneous combustion of coal on board ship.

Small bituminous coal was kept for some three months at the bottom of a partially emptied cross bunker which adjoined the stokehold. The conditions there would permit of the oxidation of the coal; through the spaces between the boards forming the bunker wall a small amount of air circulated, sufficient to maintain combustion but not of sufficient quantity to have effect in cooling the coal.

The surveyor did well to have the coal removed to prevent a recurrence of the fire.

THOMAS CARLTON,
Engineer Surveyor in Chief,
The Assistant Secretary,
Marine Department.
28th January 1920.

SIR,

I beg to report that I visited the above-named vessel and found that fire had broken out amongst coal in the lower cross bunker on the 25th ult., and although apparently extinguished by water, smoke again issued from the coal on the 25th, 29th, and on the 1st and 4th instant, flames being seen on the latter occasion. Also on one occasion the heat was very strong, the coal being red hot in places.

The vessel left Almeria with a cargo of iron ore on the 24th ult., and arrived at his port on the 3rd inst.

It appears that the vessel coaled last at Philadelphia, where on the 19th September last, about 1,296 tons of Cobber Bituminous coal were put on board, and after the 'tween deck bunkers were filled, about 871 tons were put into the lower cross bunker which previously was empty. This coal was partly used on a voyage to Italy and thence to Almeria, and when the fire was first observed there still remained about 200 tons in the lower cross bunker, and on arrival at this port about 170 tons.

The lower cross bunker is a part of No. 2 hold and is separated from the cargo space by a wood bulkhead of 3-inch plank fitted with battens 2½ inches in breadth.
by about \( \frac{1}{2} \) inch thick, the length of the bunker being 30 feet 8 inches and its total capacity, including trunk to deck, about 900 tons of coal. Two ventilators, derrick posts with cowls, each 29 inches in diameter and 18 feet in height from the bridge deck, were situated at the after end of the bunker.

The bunker is separated from the stokehold by a steel bulkhead fitted with two watertight doors, and sheathed with wood with an air space between, except for about 5 feet in each wing.

The registered dimensions of the vessel are \( 370'0 \times 50'9 \times 26'2 \) and the gross and net tonnage was 4,211 and 2,670 tons respectively.

I inspected the bunker before the coal was moved, and found the coal warm in places, the fire apparently smouldering underneath about 10 or 12 feet from the top of the double bottom and adjacent to the forward wood bulkhead.

As there was some doubt as to whether the coal should be moved so as to properly extinguish the fire, I pointed out to the owner's representative that it would be necessary to take such steps as to prevent any recurrence of fire, and later about 112 tons of coal were taken out and put ashore.

On inspection when the forward end of the bunker was clear for about half the length, I found that on the starboard side there was as a result of the fire a large hole in the wood bulkhead 5 feet in height by 4 feet in width, and a further extension of 1 foot in height at one part. Also on the port side there was a hole which measured about 2 feet in height and 7 inches in width, &c. Further, along each side the wood sparring was burnt, three battens for a length of 15 feet being burnt on the starboard side as well as a part of the limber boards, and on the port side five battens at about the level of the holes were burnt for about the same distance.

The bottom crossboard of the bulkhead was, however, undamaged, and the unceiled tank top and also the ship's sides were not appreciably affected. It was, however, very noticeable how the fire had crept along the seam of the bulkhead planking. This feature was observed on the starboard side where an elongation of the large hole extended up the seam, and on the port side the smaller hole referred to was situated on a seam, and likewise a small hole adjoining.

The coal, which was very small and had a very large percentage of dust, had been on board since the 19th September last, but since that date no other coal had been placed in that bunker.

It appeared that after the greater portion of the cross bunker coal had been used the coal in the forward end of the 'tween decks bunker had been worked out on account of its proximity to the boilers. Further, it was stated that the coal in the lower cross bunker remained there longer than intended, as the vessel did not return to the United States as expected.

In my opinion the fire was caused by spontaneous combustion, and the outbreak occurred at the wood bulkhead, the leakage of air through the plank seams promoting the combustion where small pockets of gas formed.

I am, Sir,

Your obedient Servant,

The Principal Officer, Liverpool.

(Signed) W. L. MACGREGOR.


Report on fire which occurred at Avonmouth on 4th December 1919.


I beg to submit the following report with reference to a fire which occurred on board the above-named vessel at present lying in Avonmouth Dock.

The "Cap Verde" was formerly a German passenger steamer, but is now owned by H.M. Shipping Controller, and managed by the Peninsular and Oriental Co., London; the vessel has just been surveyed by me, and a passenger certificate granted.

The attached rough sketch shows the arrangement of the reserve bunkers, and also indicates the position of the fire. It will be seen that the No. 3 hold forward of the permanent cross bunker (A) has been divided into three compartments by means of two wood bulkheads; the fire occurred at the fore end of the forward space (D) under the wide plate beam, as indicated on sketch.
Bunkering operations commenced at Avonmouth on the 28th October last and finished on the 5th November; there was then about 100 tons of Yorkshire coal taken on board at Hull in July last, at the fore end of compartment (p), and the fresh coal, amounting to about 450 tons, was dumped on top of the old. This coal was supplied by the Rea Transport Co., Ltd., Bristol, and consisted of small and large in equal proportions; the weather is stated to have been wet while the bunkering was in progress.

Evidence of fire was detected on the 4th December; the coal had therefore been on board about a month. A plentiful supply of water was available from the ship's fire hose, but owing to the position of the outbreak, under the wide plate beam, it was found that the water was not reaching the seat of the fire; consequently it was found necessary to cut several holes in the iron bulkhead from the No. 2 hold side, into which the hose was inserted, and by this means the fire appears to have been quickly subdued. No. 2 hold contained only a few layers of tin plates in boxes.

The compartment (p) had been completely discharged, and a careful examination made, but the only damage found was to the hold ceiling and wood covering for the bilge pipes on the port side; all damage has been made good.

I may say that the two wood bulkheads have large openings in them for trimming purposes, and additional openings have been cut in the wings of the one at the after end of compartment (p), but no signs of heating can be detected in the coal in space (c); it is not intended, therefore, to discharge this compartment.

No satisfactory explanation can be given for the cause of this fire which appears to have started about the junction of the Yorkshire and Welsh coal, but a curious feature in connection with it lies in the fact that for two days before the outbreak a strong smell of petrol was detected coming from the bunker.

The master, chief engineer, and superintendent are all emphatic on this point, but are quite unable to give a reason for it.

The Welsh coal supplied by Messrs. Rea was obtained from several collieries, Powell Duffryn, &c., but the firm are unable to state their names.

I am, Sir,

Your obedient Servant,

The Principal Officer, (Signed) D. W. Stephen,
South Wales District. Senior Surveyor.

It is difficult to assign with certainty a cause to which this fire might be attributed.

The fire appears to have occurred in the Yorkshire coal, which would probably have been a bituminous quality and was described as having been of "large and small" in equal quantities, and had, moreover, been in the ship some time exposed to air in circumstances favourable to becoming dry and for absorption of air. These circumstances might be considered favourable to produce spontaneous combustion in the Yorkshire coal after it was covered by the coal taken in at Avonmouth in November last. The fire, however, occurred at a comparatively cool part of the ship and at a place on a steel bulkhead which was protected by a horizontal shelf plate.
Unless a 'smell of petrol noticed by the ship's officers can be considered as evidence of some other cause, it would seem probable that the Yorkshire coal became heated at first at some little distance from the bulkhead. A rise of temperature would occur under the shelf where the coal would not be closely trimmed, and a supply of air would be available in the loosely packed coal which would permit actual ignition of the coal and accumulated gases.

(Signed) THOMAS CARLTON, 
Engineer Surveyor in Chief. 
30th January 1920.

The Assistant Secretary, 
Marine Department.


Report on fire which occurred at Buenos Aires on 20th December 1919.

I visited the vessel on 3rd inst. and it appears that no structural damage was sustained as a result of the fires in the port side bunkers (permanent bunkers). It appears that the bunkers were filled at Partington before leaving for New York on 6th September 1919. The coal was partly Lancashire and partly Welsh. At New York on October 2nd American slack was taken on top of the remainder in bunkers, the conditions then being half American slack and half Lancashire and Welsh. The vessel left New York for Buenos Aires via numerous ports. On 20th December the vessel had left Buenos Aires for L’pool when a fire occurred in the bridge space permanent bunker, port side at point A. Smoke was observed and the hose was played on the ship’s side, when the seat of the fire was easily located by the vapour arising from the heated bridge side plating. There was about 70 tons in the space and the temporary wood bulkhead closing the aft end of the open bridge space was removed to enable the hose to be played on the coal. The coal was wheeled out on the well deck aft and the fire extinguished in about two hours. At the point A there was found a large cake or cinder (about 1 ton of coal).

On the 28th December at sea on the passage to Liverpool another fire broke out again on the port side but at the lower deck at the point B next to the ship side plating as before at the after side of the trunk shown in dotted lines on the plan. This trunk drops down to the stokehold floor plates. There are no side bunkers in stokehold, the bottom of bunkers being at the lower deck level and well clear of boilers beneath. This fire was extinguished in about three hours’ time with the hose. At Buenos Aires the coal in the forward cross bunker was removed into the bridge space forward end and grain was stowed in the lower cross bunker. A large caked mass of coal similar to that in the bridge space was also found at point B when fire was put out. It appears that the port side of the ship was away from the quay and exposed to the tropical sun most of the time at the numerous ports of call from New York to Buenos Aires and the heat favoured spontaneous combustion of the coal, which in the opinion of the chief engineer and master took place. From my own experience of spontaneous combustion at sea in which a similar cinder was formed at the seat of the fire I am of the same opinion. The space was well ventilated by the open bridge end and the large or small hatchways kept open.

(Signed) J. Dow. 
4th February 1920.
No. 18.—S.S. "Clan Macmaster." O.N. 140691. Gross tonnage, 6,563.

Report on fire which occurred at Tilbury Dock on 12th January 1920.

Board of Trade Surveyors' Office,

Sir,

I have obtained the following information from Captain Norton, the Clan Line Supt. at Tilbury Dock. The forward cross bunker was swept out and 100 tons of coal put into it at Tilbury Dock; 4 days afterwards this coal was observed smoking and on fire; and the fire was extinguished with the vessel's fire appliances, a few days afterwards similar coal took fire in another bunker and was also easily put out. The bunkers were not closed after the coal was shipped.

No reason can be assigned for the fire.

The coal merchants, Messrs Lindsay Blee and Co., St. Mary Axe, were communicated with and samples of the coal were taken for analysis, but the results were not known to Captain Norton.

(Signed) P. McNeil.

The Principal Officer,

London District.

31st January 1920.

FIRES IN HOLDS.


Report on fire which occurred in the Suez Canal on 3rd August 1919.

Board of Trade Surveyors' Office,

Sir,

This vessel commenced to load a cargo of various grains and seeds, in Bombay, on 25th June 1919; completed and left for Karachi on 5th July 1919; arrived at that Port on the 8th July, finished loading and sailed for Marseilles on 15th July 1919.

On 3rd August, while proceeding through the Suez Canal, at about 6 p.m. smoke was observed issuing from vents to No. 1 hold.

A small fire was located under starboard aft vent to No. 1 hold, hose being immediately rigged and by 6.15 p.m. fire was extinguished.

The cargo in No. 1 hold consisted principally of linseed, mowrie seed and cotton seed.

The cargo was cool and in good condition, and cause of fire unknown.

The vents being open and unprotected by gauze, in all probability a spark, used match, &c., may have been blown down and fanned into a blaze by draught from vents.

I am, Sir,

Your obedient Servant,

The Principal Officer, Hull.

(Signed) G. A. Williamson.

24th February 1920.


Report on fire which occurred in the North Atlantic on 7th August 1919.

Board of Trade Surveyors' Office,

Sir,

I beg to report having visited this vessel in Avonmouth Dock on the 21st instant, and made inquiries respecting the outbreak of fire which occurred on board during the voyage of August 1919. On that occasion the vessel left Montreal on August 2nd, and when five days out steam and smoke were seen to be coming out of the deep tank air pipes in No. 4 hold. This hold is immediately abaft the engine-room, and in it was stowed sugar, lumber, wood pulp, &c. The ventilators to the orlop and 'tween decks were closed by ordinary canvas covers over these orifices, and upon these being removed dense volumes of smoke issued from the ventilators. Subsequently intense heat arose from the hatchways, and a red glow was seen down the ventilator pipes, showing that the fire had obtained a firm hold. By the flooding of the compartments with water and steam the fire was kept from spreading beyond the boundaries of the transverse bulkheads to No. 4 hold until the
arrival of the vessel at Avonmouth on the 14th August, when the local fire brigade took charge. So far as could be ascertained, the fire originated amongst the sugar stowed in the orlop deck, but the cause of such outbreak is obscure. The master and officers, I understand, favour the opinion of spontaneous combustion in the sugar, but in the many similar cargoes carried under similar conditions they are unable to find a parallel case.

In my own experience in vessels carrying sugar cargoes from Australia I never knew heating to take place, although some cargoes I have in mind would be in the vessel over a month. In these cases the sugar was of the granulated kind, contained in grass bags, whereas in the case of the "Turcoman" the sugar—ordinary moist—was stowed in gunny bags of jute with an inner bag of paper.

The vessel's decks, beams, hatchways, &c., to No. 4 hold suffered considerably, I may mention, but the boundary bulkheads and vessel's frames and skin escaped serious damage.

I am, Sir,

Your obedient Servant,

The Principal Officer,
South Wales District.

(Signed) RICH BLAKE,
Surveyor.

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No. 21.—S.S. "MYRTIS." O.N. 120513. Gross tonnage, 971.

Report on fire which occurred in River Loire on 14th August 1919.

SIR,

I VISITED this vessel on the 2nd and 3rd instant, and, according to the ship's log and master's statement, the vessel left Garston on the 8th August with a general cargo for Nantes.

At 2 p.m. on the 14th, vessel lying at Nantes, smoke was observed coming up No. 1 hatchway. The fire was extinguished by means of the ship's hose in 15 minutes, and the burnt cargo brought on deck; this was found to consist of bales of sheepskins, which were stowed underneath and close up to the iron deck.

At 10 p.m. fire again broke out amongst the sheepskins in the hold, and was extinguished in 10 minutes.

The master informed me that the sheepskins had the wool on, and were greasy and dirty; that the weather was very hot at the time, it being impossible to keep one's hand on the iron deck immediately under which these skins were stowed; and that he was satisfied that the fire was caused directly by the heat radiated from the iron deck to the skins below.

(Signed) CHAS. H. DANIELS.
4th February 1920.

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No. 22.—S.S. "SEA SERPENT." O.N. 137751. Gross tonnage, 2,424.

Report on fire which occurred at Fiume on 16th August 1919.

SIR,

I HAVE seen the master of this vessel, who reports that he took in a miscellaneous cargo at Liverpool for the Serbian relief. Nothing untoward occurred during the voyage, but on the 16th August 1919, at Fiume, when the hatches were removed from No. 4 hold, smoke issued. The port authorities were summoned for assistance, and, when the cargo was removed, it was found that the fire arose from some cases of cigarettes stowed in the square of the hatchway. The whole affair only took about 20 minutes, and no structural damage to the ship was effected.

The master suggested that the fire originated in Liverpool by the careless use of matches, and that the cigarettes smouldered during the voyage, but, as there are no ventilators to the hold, the smoke was not noticed until the hatches were taken off.

I am, Sir,

Your obedient Servant,

The Principal Officer,
London District.

(Signed) CHAS. W. ROBERTS,
Senior Engineer Surveyor.

Report on fire which occurred at Dunkirk on 21st August 1919.

Board of Trade Surveyors' Office,
Market Place, Hull,
3rd February 1920.

SIR,

A FIRE occurred on this vessel whilst loading a cargo at Dunkirk.

At 4.45 a.m. on 21st August 1919 the night watchman discovered that the cargo in No. 3 hold was on fire; this consisted of bales of rags, most of which had been loaded the previous day.

Hoses were immediately rigged, and the assistance of tug Halner obtained, the fire being extinguished at 7.0 a.m.

The bales of rags were then discharged, but nothing was discovered that might account for the outbreak.

It is, possibly, a case of carelessness on the part of men handling the cargo, probably smoking in the hold contrary to orders, and dropping cigarette end, or contents of pipe, when work was finished and leaving vessel for the day.

I am, Sir,
Your obedient Servant,

(Signed) C. A. WILLIAMSON.

The Principal Officer, Hull.

No. 24.—S.S. "KÖNIGIN LIUISE." O.N. 143196. Gross tonnage, 10,785.

Report on fire which occurred at Sydney, N.S.W., on 29th August 1919.

Board of Trade Surveyors' Office,
79, Mark Lane, London, E.C.3,
8th December 1919.

SIR,

From inquiries I have obtained the following information regarding this fire.

It commenced about 10.30 p.m. on the 29th August in the lower hold of No. 6, between the side of the tunnel and the shell plating.

There were stevedores at work in the hold at the time stowing copra, but they were to leave off work at that time.

The first indication of fire was smoke rising from between the bags of copra.

The ship's fire hose was brought into use and the fire brigade telegraphed for, and on their arrival the fire had a good hold. At 11.30 p.m. it was thought to be under control, but subsequently broke out afresh in charcoal insulation under the lower deck of No. 6 hold; the space above is used as a refrigerated chamber for ship's stores.

The hold was flooded and the fire finally extinguished at 1.30 a.m. on the 30th.

It is assumed by those on board that one of the stevedores lit a cigarette before leaving work, and either the match or part of the cigarette alight fell between the bags of copra.

This is assumption and is probably correct, but there is no evidence to confirm it.

There was no other cargo in the hold; the copra was only being loaded and was not to the height of the tunnel top, so that it had no time to heat and cause spontaneous combustion.

No. 6 hold is the second one aft of the engine-room and therefore the bulkheads and tunnel sides would be at about the ordinary temperature of the atmosphere.

The only artificial light in the hold was electric clusters.

Principal Officer, London District.

P. McNEIL.

8th December 1919.

Report on fire which occurred in the Caribbean Sea on 9th September 1919.

Board of Trade Surveyor’s Office,
Canning Place, Liverpool,
30th December 1919.

SIR,

It is reported that a fire occurred on board the above vessel in No. 3 hold on 9th September 1919. In accordance with M. 14974/19, I have visited this vessel and made inquiries into the circumstances attending the casualty.

The lower hold and the lower ‘tween decks space of No. 3 hold are insulated and fitted with brine pipes in connection with the CO₂ system of refrigeration. The upper ‘tween decks space is not insulated. A cross bunker separates No. 3 hold from the stokehold.

At the time of the fire the lower hold contained bales of American spruce approximately 20 feet in length, 12 inches in breadth and 3 inches in thickness. These were close stowed and filled the lower part of the hold to a depth of about 14 feet. Bales containing balls of tarred twine were stowed on top of the timber, the depth of the bales being about 6 feet. Above these were packed cases containing machinery, and the remainder of the space of No. 3 lower hold was occupied by bales of jute. Insulated hatches separated the lower hold from the lower ‘tween decks space.

The lower ‘tween deck space contained cases of machinery, on the top of which were stowed bags of paraffin wax. Insulated hatches were fitted to the lower ‘tween deck hatchways.

The upper ‘tween deck space contained tinned steel plates and barbed wire in the centre and a small amount of coal in the wing spaces.

The chief officer states that the cargo was well stowed.

The vessel was loaded with cargo in New York and sailed from that port to South America on the 4th September last. No indications of fire were observed until the 9th September, when smoke was seen to be coming from No. 3 lower hold around the insulated doors between the hold and the passage-way to the stokehold. Steam was at once turned on to the extinguisher pipes in the hold and the vessel put into St. Lucia on the 10th September where an attempt was made to work the cargo out of No. 3 hold. Dense smoke from the fire interfered with the work and the hold was flooded on the 11th September. The hold was then emptied, when it was found that the fire apparently originated at the after end of the lower hold near the bottom where the timber was stowed. The fire broke through into the lower ‘tween decks space, causing some damage to the cargo. Neither the upper ‘tween deck’s space nor the cross bunker was materially affected by the fire.

The cause of the fire is not known, but it may have been due to a lighted cigarette carelessly or maliciously dropped among the timber.

I am, Sir,

Your obedient Servant,

The Principal Officer,
Liverpool.

(Signed) H. CRANWELL.

No. 26.—S.S. “AMBASSADOR.” O.N. 106618. Gross tonnage, 2,578.

Report on fire which occurred at West Hartlepool on 11th September 1919.

Board of Trade Surveyors’ Offices,
West Hartlepool,
3rd February 1920.

SIR,

In respect to the fire on board the above-quoted vessel at this port on 11th September 1919, I beg respectfully to report as follows:—

The vessel at that date was undergoing repairs at Messrs. Gray & Co.’s Dockyard at this port and was then lying alongside their quay in the Swainson Dock. During the day fitters had been working overhauling the boiler mountings, and it is assumed that when they left work at 5 p.m. a candle or lamp which had not been extinguished fell down from the boiler top and set fire to the wood-screen bulkhead at the after end of the boilers. The only man on board during the night was a watchman.
A new vessel, S.S. "Fabian," was moored alongside and on which work was proceeding during the night. Some men on board this vessel discovered the fire on the S.S. "Ambassador" about 11 p.m., and it was speedily put out. The damage was confined to the screen bulkhead, two-thirds of which was renewed, and the lagging on the boiler ends and pipes and one or two minor details.

I am, Sir,

Your obedient Servant,

The Principal Officer,

North Shields.

(Signed) ARTHUR B. BULL.

No. 27.—S.S. "FAWN." O.N. 105152. Gross tonnage, 150.

Report on fire which occurred at Guernsey on 19th September 1919.

Board of Trade Surveyors' Office,

Southampton,

29th January 1920.

I am informed by the owner that this fire occurred in bales of straw carried as deck cargo from Poole to Guernsey. The vessel arrived at Guernsey, and was moored alongside the quay, when smoke was seen issuing from under the tarpaulin covering the straw. The tarpaulin was removed and the smouldering straw thrown over the side. No damage beyond the charring of three deck planks was done to the vessel.

The origin of the fire is unknown, but the owner states that in his opinion it could only have been due either to some accidental cause or to spontaneous combustion through the straw having been heated when shipped. No one beyond the ordinary crew of the vessel was on board at the time or during the passage.

(Signed) G. PARKER.

The Principal Officer, 25th February 1920.

London District.


Report on fire which occurred at Glasgow on 22nd September 1919.

Board of Trade Surveyors' Office,

North Shields,

31st January 1920.

In accordance with Board's M. 14,974/19, I beg to report as follows:—

The fire on board the above vessel appears to have been of a trifling nature. According to the captain, the time from when the alarm was given until the water was turned off was less than one hour. Had it occurred after the vessel had been fully laden and hatches closed, a different tale might have been told.

At the time the vessel was lying at the quay in Glasgow (22nd September 1919) and had been loading a general cargo of bale goods, linen, ropes, &c. The shore gang had finished work for the night, having left the No. 2 main hold about half full, and about 6 p.m. smoke was seen coming through the open hatch. The ship's pumps and hose were first used to play two jets into the hold, and later another hose was used from the shore. Five portable fire extinguishers were on board the vessel, but none were used, the hose being more convenient.

The No. 2 hold is separated from the stokehold by a watertight steel bulkhead, and it was near this bulkhead where the fire originated, but there is no reason to think that the stokehold had anything to do with it.

No goods of an explosive nature were being carried, and it can only be assumed that the cargo men had been smoking and had thrown matches carelessly about.

No damage was done to the ship and only about 20 bales and packages were discharged, these being apparently not badly burnt.

I am, Sir,

Your obedient Servant,

The Principal Officer,

North Shields.

(Signed) GEO. BROWN.

Report on fire which occurred at Buenos Ayres on 2nd October 1919.

Board of Trade Surveyors' Office,
79, Mark Lane, London, E.C.3,
8th December 1919.

SIR,

While lying at Buenos Ayres, on 2nd October, fire was reported, at 1.30 a.m., in No. 1 lower hold; the crew got the hose to work, and a fire-float with three hoses was brought alongside, the fire being extinguished by 4.30 a.m.

The fire was found to have started on the starboard side of the hold, which contained ham, or middlings; and was thought to have been caused by a stevedore dropping a lighted cigarette while loading the cargo.

The damage was slight, being confined to burnt and charred sparring over 6th, 7th and 8th frames from after bulkhead, and the 6th frame slightly buckled.

I am, Sir,
Your obedient Servant,
The Principal Officer,
London District.

(Signed) C. W. Limprecht Wren.


Report on fire which occurred at Suez, on 5th October 1919.

Board of Trade Surveyors' Office,
79, Mark Lane, E.C.,
4th February 1920.

SIR,

In accordance with your instructions, I visited the above-named vessel on the 3rd inst. Inquired into the circumstances attending the fire which occurred on board, and now beg to report as follows:

The vessel is a steel, single-screw steamer of 2,231 tons gross, built at Port Arthur, Canada, in 1918, having the following registered dimensions: length 251 feet, breadth 43 feet 8 inches, depth 21 feet. She is fitted with four bulkheads, one at each end of the machinery space and one at each end of the vessel. There are only two holds, the forward being 96 feet and the after 88 feet in length, and each hold is served with two hatchways. It appears that the vessel left Bombay for London on 2nd September last, with a general cargo, a stowage plan of which is attached hereto.

On the 5th October the vessel was at Suez effecting repairs to machinery, and at 6 p.m. on that day, smoke was seen to be issuing from port side ventilator of No. 1 hold. The hatches were then removed, and water from the ship's hoses played on the fire until 10 p.m. The hatches were then battened down, and all ventilators to No. 1 hold were plugged. A flexible steam hose, about 1-inch bore (which had in the meantime been obtained from the shore) was then led into the hold, and steam at a pressure of 140 lbs. per square inch from the main boiler was admitted and maintained for eight hours. The hatches were then removed with a view to discharging cargo into lighters. The stevedores, however, on account of the fumes and heat could not work in the hatchway. The vessel was then shifted to an anchorage with four fathoms of water, and the hold was practically flooded before the fire was under control at 7 a.m. on the 7th October.

On removal of the cargo, it was discovered that the fire originated amongst the oil cakes, of which there were approximately 200 tons at the fore end of No. 1 hold, with raw hides stowed around it.

According to the surveyors at Suez, the fire was caused by spontaneous combustion of the oil cake.

The captain of the vessel (Captain Mitchell) is of the opinion that, during the wet season, the precautions taken to keep the cargo dry when loading are insufficient, and states that it is seldom fires occur on vessels which are loaded in the dry season at Indian ports.

I am, Sir,
Your obedient Servant,
The Principal Officer,
London District.

(Signed) R. J. Berry.
Engineer and Ship Surveyor.

Report on fire which occurred at Liverpool on 7th October 1919.

Board of Trade Surveyors’ Office,
Canning Place, Liverpool,

SIR,

In accordance with M 14974/19, I beg to report on a fire which occurred on the above vessel on the 7th October 1919 while the vessel was loading in Liverpool. The cargo consisted of nitrate of soda (in bags) and manufactured cotton goods (in bales and boxes), the nitrate of soda being stowed on the bottom of the holds with the other cargo on top.

The loading was nearing completion, when smoke was seen to issue from No. 2 hatchway, and in spite of immediate steps being taken to cope with the fire, it rapidly increased in intensity, and eventually the holds were flooded. Before this was accomplished, the fire had spread to No. 1 hold and No. 2 ‘tween decks.

On the water reaching the level of the ‘tween decks, it flowed through the watertight doors, which were fitted on stokehold bulkhead in ‘tween decks, and which were open, flooding the engine-room and stokehold to a depth of 10 feet above engine-room platform.

The bunker is adjacent to the No. 2 hold, and separated from it by a wooden bulkhead, and was filled with bunker coal, along with the after end of No. 2 ‘tween deck.

It was the coal which prevented the watertight doors from being closed.

The damage sustained was considerable, the whole of the cargo being discharged; several plates and frames removed, fairied and replaced, and several plates were renewed. The saloon passenger accommodation on bridge was damaged and was refitted. The vessel was re-surveyed for a passenger certificate, and sailed from Liverpool on 3rd January 1920.

The fire started on the starboard side of No. 2 hold, and, in the opinion of the Marine Superintendent, was caused by a lighted match or cigarette being carelessly thrown down a ventilator.

There is no evidence pointing to any malicious action.

I am, Sir,
Your obedient Servant,
The Principal Officer, (Signed) J. F. BLENKINHOP.
Liverpool.

No. 32.—S.S. “BOVIC.” O.N. 99430. Gross tonnage, 6,583.

Report on fire which occurred at Manchester Ship Canal on 20th October 1919.

Board of Trade Surveyors’ Office,
Canning Place, Liverpool,

SIR,

This vessel has not been visited by me since this fire occurred on the 20th October last, and previous to the issue of the above Minute.

I am informed that the fire was confined to No. 2 lower hold, which contained sugar, one-third of the contents having been discharged; apparently the cargo men ceased work at 5 p.m. and the fire was discovered about 6 p.m. It was found necessary to flood the hold to extinguish the fire. I understand that part of the space ceiling was damaged, and the deck plating above slightly buckled. The Company are unable to attribute the cause of the fire.

I am informed that Mr. Morgan has the vessel under survey for the renewal of Load Line Certificate at the present time, and that she is due in Manchester in about three weeks’ time.

I am, Sir,
Your obedient Servant,
The Principal Officer, (Signed) ROBERT STEVENSON.
Liverpool.

Report on fire which occurred at West India Dock on 22nd October 1919.

Board of Trade Surveyors' Office, 79, Mark Lane, E.C.,

8th December 1919.

SIR,

I beg to report that from inquiries made, I find that the probable cause of the fire which broke out in the No. 1 hold of this ship at 4.45 p.m. on the 22nd October 1919 was the introduction of naked lights into the space which had been full of rum and sugar, the discharge of which had been completed and the hatches closed down earlier in the afternoon. It is stated that shortly before the fire was discovered, two men, apparently engaged in repair work, were seen to open the hatches and enter the hold with lighted naked candles. These men, however, have not been identified.

Little or no damage was done to the ship, as the fire originated amongst dunnage wood, &c., and was extinguished at 7 p.m., when there were five feet of water in the hold.

I am, Sir,

Your obedient Servant,

The Principal Officer,
(Signed) H. B. Pope,
London District.

Senior Nautical Surveyor.

No. 34.—S.S. "KILKENNY." O.N. 117513. Gross tonnage, 1,361.

Report on fire which occurred at Blackwall on 31st October 1919.

Board of Trade Surveyors' Office, 79, Mark Lane, London, E.C. 3,

17th March 1920.

SIR,

In accordance with instructions, I have made an inquiry into a fire which occurred on the above vessel on October 31st last, and now beg to report as follows:—

The vessel was being reconditioned at Messrs. Green and Silley Weir's Works, Blackwall, where various structural alterations were being effected, and in carrying this work out the oxy-acetylene burning apparatus was being used for burning necessary holes in the plates of the fan casing, inside of which a quantity of coal dust and oil had accumulated, with the result that this mixture took fire, the fire spreading throughout the whole casing. The fire was not of a serious nature, being entirely confined within the air and fan casings. It was quickly extinguished, and comparatively little damage was done.

I am, Sir,

Your obedient Servant,

The Principal Officer,
(Signed) J. E. Maxwell,
London District.

Engineer and Ship Surveyor.

No. 35.—S.S. "START POINT." O.N. 137512. Gross tonnage, 6,540.

Report on fire which occurred in the River Delaware on 3rd November 1919.

Board of Trade Surveyor's Office, 79, Mark Lane, E.C. 3,

18th March 1920.

SIR,

In accordance with my instructions, I have made an inquiry into a fire which occurred on the above vessel whilst proceeding down the River Delaware on November 3rd, 1919, and now beg to report as follows:—

The fire originated on the bunker side of the temporary wooden bulkhead in the shelter deck space forward, and was caused by one of the vessel's coal trimmers suspending a naked hand lamp by means of the hooked wire handle pressed between two adjacent planks of the bulkhead, the draught being such as to gently blow the flame against the bulkhead and so ignite the wood, and in the absence of the trimmer the flames gradually reached the hatch covers of No. 2 hatch, from which smoke was then observed. There was no cargo in the shelter deck space at the time, and there was no difficulty in bringing two of the vessel's fire hoses to bear upon the fire, with the result that it was quickly extinguished and comparatively little damage was done.
Since the fire occurred the owners have had electric fittings and portable lamps provided, and have issued instructions to the officers and engineers that no naked lights are to be used in the bunkers, and that the electric lights are to be available at all times, both day and night.

I am, Sir,
Your obedient Servant,
(Signed) J. E. MAXWELL,
Engineer and Ship Surveyor.
The Principal Officer,
London District.

Report on fire which occurred at Wapping on 5th November 1919.

SIR,
I BEG to report that from inquiries made, I find that the probable cause of the fire which occurred in the No. 1 lower hold of this ship at 10.30 a.m. on the 5th November 1919 was the introduction of naked lights into a space partly full of wine and spirits. The fire was extinguished at 10.45 a.m., and on examination it was found that one cask of brandy had been recently spilled and the spirit leaking. Probably some person broaching the cask had been using matches or other naked lights.

No damage was done to the ship, but several casks of wine and brandy were burned or charred.

I am, Sir,
Your obedient Servant,
(Signed) H. B. POPE,
Senior Nautical Surveyor.
The Principal Officer,
London District.

Report on fire which occurred at East India Dock on 9th November 1919.

SIR,
I BEG to report that I visited the above-mentioned vessel on 12th November, and subsequently in connection with her annual survey for renewal of passenger certificate, and inspected the damage by fire referred to on the attached casualty report. She is a twin screw vessel of 6,242 tons gross.

At 9.45 p.m. on Sunday, 9th November 1919, whilst vessel was lying in East India Dock, the watchman discovered that the woodwork in the passage-way to the saloon entrance in the bridge space, a staircase leading from this passage to the Marconi wireless room and captain and chief officer's room, were all on fire and seriously damaged. The vessel is wired on the single wire system for electrical lighting, and, notwithstanding that the dynamo was stopped at 4 p.m. on the day of the fire, I am of opinion that the fire originated at or near an electrical distribution box about the centre of the passage-way leading to the saloon. The fire appears to have been caused by fusion of the electric wires owing to a short circuit, for it is a significant fact that the only wire which in this instance could short circuit is electrically fused.

I am, Sir,
Your obedient Servant,
(Signed) R. J. BERRY,
Engineer and Ship Surveyor.
The Principal Officer,
London District.

Report on fire which occurred at Liverpool on 11th November 1919.

SIR,
I HAVE the honour to report that I visited this vessel on the 10th instant with regard to M. 14974/19.
The fire broke out on Tuesday, November 11th, at 8.10 a.m., in No. 4 hold (which is the after part of No. 3 hold), when the vessel was lying alongside the quay in the West Langton Dock discharging a general cargo. No. 4 hold is in no way adjacent to the stokehold.

Stowage Plan.

<table>
<thead>
<tr>
<th>No. 3</th>
<th>No. 4</th>
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<tbody>
<tr>
<td>Cases of Tinned Tomatoes.</td>
<td>Cases of Tinned Tomatoes.</td>
</tr>
<tr>
<td>Commencement of Fire.</td>
<td>Cases of Tinned Tomatoes.</td>
</tr>
<tr>
<td></td>
<td>Forward</td>
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</tbody>
</table>

At 7.50 a.m. the stevedore’s men had removed the hatches, which, together with tarpaulins, had been placed on when ceasing work the previous afternoon, and, there being no sign of fire, had gone below to continue their work. They had only been in the hold a few minutes when one of them noticed a flame shoot upwards from between the bags of sulphur, which he endeavoured to smother with his coat. Shortly after this they were all driven from the hold by apparently sulphur dioxide fumes. The hatches were placed on and all ventilation closed.

Plan showing Ventilation.

O 17 Cowl O 14 Cowl

Prompt measures were taken to extinguish the fire, but at 10 a.m. the hold had to be flooded.

During the loading and discharging the weather had been fine and the vessel left Palermo on October 22nd, 1919, experiencing no heavy weather on the homeward voyage.

It is difficult to state the origin of the fire, but I am inclined to think that it may have been caused by a lighted match falling on the hemp. In my opinion it is highly improbable that it occurred through spontaneous combustion of the sulphur, which was the view put forward by the officers of the ship. Fire appliances 60 feet 2½-inch hose. Since fire occurred steam jets fitted in all holds.

I have the honour to be, Sir,

Your obedient Servant,

The Principal Officer, Liverpool. (Signed) HENRY J. TEMPERLEY GREY.
extinguished with the ship's hose. The second, and most serious outbreak occurred the next day, November 12th, at 10.45 a.m. This fire broke out very suddenly in the after hold while the work of discharging was going on, and owing to the fact that there were no bulkheads between the deep tank and the W.T. bulkhead aft, in a very few minutes the whole of this compartment was in flames. The master informs me that the fire seemed to break out in a dozen different parts of the hold at the same time, and spread so rapidly that everyone had to get on deck at once. At this time there was no other cargo in the after holds except the copra.

The height of the cargo varied; under the hatchways there was only about two tiers of bags above the tunnel top, but in the wings and the after end of the hold the cargo was 10 to 12 feet above the tunnel top. In about eight minutes from the time the fire broke out the local fire brigade was at work, and there were also two ships' hoses at work. At 11 o'clock (15 minutes after the outbreak) the master saw that the fire was gaining rapidly and he gave orders to flood the after hold.

At 11.30 there were seven tugs and salvage vessels alongside pouring water on the fire; at 11.50 the copra in the deep tank caught fire and a number of hoses were turned on this compartment, the sea connections were also opened, and the deep tanks were started being run up. This fire was probably caused by the heat coming through the after bulkheads of the tanks.

At 2 p.m. the engine-room bulkhead was red hot and hoses were started on it, some hoses were also put on the copra in the poop, as this also showed signs of igniting. At 5.40 p.m. the after hold and deep tanks were full of water, and the fire was practically extinguished, although for some few hours afterwards as the copra floated to the surface it broke into flames on the water.

The master could not give any opinion as to the origin of the fire; he had been carrying cargoes of this nature for nearly nine years, and had never seen an outbreak of fire in copra before. He informed me that this particular cargo, which was loaded in Colombo, appeared to be of a drier nature than he had been in the habit of carrying. He noticed when walking over the bags that the contents felt crisp under the foot, while other cargoes that he had carried felt spongy when walking on it.

Extensive damage has been done to the vessel, practically all the 'tween deck plating and beams has to be renewed, also some shell plating, frames, pillars, &c. The main rigging and all the after derricks and gear was also burned.

As I have never carried a large cargo of this nature, I am unable to express an opinion as to the cause of the outbreak, but from the master's description of the fire, it appears to me that something in the nature of an inflammable gas emanates from copra, and, if this is so, the fire might have been caused either by spontaneous combustion or a light accidentally dropped.

In conclusion, I might mention that the cargo was loaded in dry weather, and the bags were in excellent condition when being discharged.

I am, Sir,

Your obedient Servant,

The Principal Officer,

North Shields.

(Signed) R. H. DAVIS.

It is possible that considerable quantity of gas may be formed through the decay of copra in transit, and this gas in the nascent conditions at favourable temperatures may ignite spontaneously. Sufficient ventilation of lower holds and bridge end spaces may have prevented this outbreak of fire.

(Signed) H. N. PEMBERTON.

29th December 1919.

No. 40.—S.S. "Francisco." O.N. 132209. Gross tonnage, 6,272.

Report on fire which occurred at 1,000 miles east of New York on 20th November 1919.

Board of Trade Surveyors' Office,

Market Place, Hull,

Sir,

The above vessel commenced loading a general cargo at New York, U.S.A., on 10th November 1919, and sailed for Hull on 17th November.
The fire occurred in No. 6 hold, amongst cargo consisting of sugar, rags, hemp, machinery, tobacco, eggs, tinned milk, candy, and carbon black (lampblack), stowed as per rough sketch attached.

On 20th November, at 10.45 p.m., dense volumes of smoke were seen issuing from forward ventilator of No. 6 hold; ventilators were immediately plugged up and hatches securely battened down, hoses were rigged and played down forward ventilators into the hold.

On 21st November, at 1.10 a.m., the vessel was turned round and headed for Halifax, and ss. "Toronto" signalled to stand by; the after deck was by this time very hot, and telemotor gear (the lead tubes for which were in shelter dock) gave out, crew commenced to jettison the hemp cargo from hatchway, and at 4.30 a.m. the men performing this duty were overcome by fumes and work ceased, but hoses were kept playing down vents and hatchway.

9.30 a.m., started to inject CO into hold. 11.0 a.m., stock of CO2 (6 cylinders) ran out.

11.50 a.m., commenced injecting steam into hold. Noon—midnight, injecting steam continuously; ss. "Toronto" still standing by.

22d November, steam injection keeping fire under control. 7.0 a.m., dismissed ss. "Toronto," and at 9.15 p.m. vessel arrived Halifax Harbour.

23rd November, fire still burning, but under control, steam injected continuously.

24th November, vessel docked, fitters cut holes in sides, and steam was injected through these; fire brigade in attendance at 1.0 p.m., hatches were taken off and all available appliances used to extinguish fire.

25th November, fire apparently extinguished.

On discharging remains of cargo, the surveyors formed an opinion that the fire originated first at fore end of sugar in lower hold and later at after end.

It is very difficult to assign any cause of the outbreak other than incendiarism, the lamp black (liable to spontaneous combustion) was hardly touched by fire, which, commencing at ends of hold, seemed to spread through sugar to the rags and so to 'tween decks.

The ship was greatly in disfavour with the stevedores and their men in Norfolk, owing to the fact that, during the strike, the crew worked the remaining ballast out, others followed suit, working cargo with their crews, and so practically broke the strike.

I am, Sir,

Your obedient Servant,

The Principal Officer, Hull.

(Signed) C. A. WILLIAMSON.


Report on fire which occurred at Victoria Docks on 27th November 1919.

Board of Trade Surveyors' Office,


Sir,

16th December 1919.

A fire was discovered by stevedores amongst the copra in No. 3 hold on 27th November at 10.40 a.m., and was immediately reported to ship's officers. All the ship's appliances were connected up and led into No. 3 hold, ventilators were covered, and tarpaulins spread over No. 3 hatch. The fire was, however, so fierce that the hatches could not be got into place, volumes of dense smoke being emitted.

A number of fire engines, which had been telephoned for immediately, were promptly alongside and took charge of the operations at 11.10 a.m., together with dock tugs and floats.

The fire had by this time spread to the port side of the ship, the vessel having taken a heavy list to starboard, and settled on the dock bottom aft, due to the large amount of water being pumped into her. The port side, being well out of the water, became red hot just under the lower deck, and three holes were consequently burnt in the side plating with an oxy-acetylene cutter and hoses inserted; by this means the fire was extinguished at 3.30 p.m.

The water in No. 3 hold was up to the level of the 'tween decks and all cargo in No. 3 hold submerged. Soundings had been taken at 2 p.m., giving No. 3 star 21 feet, port 12 feet, No. 4 star 8 feet, port dry. The ship was ultimately pumped dry with her own pumps, the holes in side patched, and the vessel brought upright.
On examination the following morning I found that the upper bags of copra had been burnt, and charred copra was lying in heaps at the forward end of the hold, and the cargo was damaged by water. The deck beams and deck on the port side of No. 3 were badly distorted, as was also one strake of shell plating where the holes had been cut in order to extinguish the fire. The E.R. bulkhead was distorted, and the lead casing off all electric wiring attached to the bulkhead melted.

The main damage was on the port side, this being due to the heavy list the ship took to starboard.

It was thought that the fire had originated from spontaneous combustion, and I was informed that three ships were loading copra at the same time in Sydney—the “Prince Hubertus,” “Swakopmund,” and another steamer; the latter took fire in Sydney, the other two within a day or so of each other in London. When examining No. 4 hold, which showed no signs of having been on fire, it was observed that all the bags of copra were steaming, and the heat in the spaces between the bags could just be borne by the hand; the bags were wet and were drying. The hose was consequently kept in readiness pumping all the time over the side, and officers kept watch in the hold.

On pursuing inquiries I was informed some time later by the superintendent that plumbers had been working down the hold altering the scupper pipes from the 'tween decks, that a plumber had dropped a candle, and that he and several stevedores had spent several minutes in trying to recover it when the fire broke out.

The ship is now under repair.

I am, Sir,

Your obedient Servant,

The Principal Officer,

(Signed) C. W. LIMPRICTHT WREN.

London District.

No. 42.—S.S. “CUINA.” O.N. 124164. Gross tonnage, 6,152.

Report on fire which occurred at Port Said on 1st December 1919.

GENTLEMEN,

I REGRET to report that a fire has occurred in the reserve bunker, forward of boiler casing, amongst London bales and packages of coir transhipped from S.S. “Canara” from Malabar ports.

The fire occurred on December 1st at Port Said during the coaling, and was discovered at 11.30 a.m. on that date, one of the trimming hatches being found burnt.

Water was at once used through this hatch, and the fire appeared to be out, but such was not the case, for smoke appeared again during the afternoon, and in consultation with Mr. Manvie, Lloyd's surveyor, it was decided to fill this compartment with steam. The vessel was then shifted to a safe anchorage, and at 8 p.m. the tugs “Titan” and “Ibis” commenced pumping steam into this compartment, which was continued throughout the night. Mr. Brown, the Chief Engineer, also diverted the steam from the bath heaters into this compartment.

On December 2nd cargo was discharged from No. 2 to clear the doors to this department, but it was not possible to get at the fire on this day, so steam was continued throughout the night.

On December 3rd the doors were opened three times and cargo discharged each time, until the men could no longer work in the smoke. Flames were discovered on the last opening and quenched with water, and during this night the compartment was again filled with steam.

On December 4th the actual fire was extinguished at 6 p.m. by water, but as this compartment was not quite clear of water I judged it best, as a precautionary measure, to again fill it with steam.

On December 5th the remainder of this cargo was discharged and a protest duly noted.

The tug “Titan” was dispensed with on December 3rd and tug “Ibis” on December 5th, when compartment was discharged.

The damage to the vessel and cargo has fortunately not been great.

The following damages have been sustained by the vessel:

(1) Two beams and two plates buckled under saloon.
(2) Two plates buckled on fore part of saloon bulkhead.
(3) All caulking in saloon to be renewed.
(4) All paintwork in reserve bunker to be renewed.
(5) Deck pierced to allow steam injection. Repaired in Port Said.
(6) Two coaling scuttles damaged.
(7) Casing protecting pipes for saloon steam-heater burnt.
(8) One trimming hatch burnt.

The only cargo affected by the fire is in that compartment in which the fire actually took place, and comprises a space of 18,230 cubic feet, and the greater part of that cargo is undamaged.

Yours faithfully,  
(Signed) W. A. MORRISON,  
Commander.

Messrs. Gray, Dawes, & Co.,  
Agents B.I.S.N. Co., Ltd.,  
122, Leadenhall Street,  
London, E.C.

Sir,  

With reference to the attached notices as to a fire having occurred on this vessel at Port Said on 1st December last, I beg to report that the vessel sailed on 28th ultimo, prior to the receipt of the information. Most of the cargo was consigned to Antwerp, where the vessel is now discharging, and from which port she will sail direct to India.

I have been unable to obtain particulars as to the cause of the fire, &c., other than that given in the master's report, a copy of which is attached.

It would appear that the damage sustained by the vessel is of a trifling nature, and the owner's representative informed me that any necessary repairs will be carried out at Antwerp after the cargo is discharged.

I am, Sir,  
Your obedient Servant,  
(Signed) THOMAS MILLER.

No. 43.—S.S. "CLAN COLQUHOUN." O.N. 111187. Gross tonnage, 5,856.

Report on fire which occurred at Dundee on 8th December 1919.

Board of Trade Surveyors' Office,  
Employment Exchange Buildings, Dundee,  
9th December 1919.

Sir,  

In accordance with instructions contained in the above Minute, I have made inquiries respecting the fire referred to and obtained the following information.

The vessel is a turret deck steamer of 5,856 tons gross and 3,760 tons net and arrived at London, Tilbury Dock, on the 21st November 1919 with a cargo of jute and tea from Chittagong.

In London the whole of the tea, about 46,800 chests and 1,150 bales of jute were discharged. The vessel left London on the 5th December 1919 and arrived at Dundee on the 7th instant with the remaining portion of her cargo—consisting of about 11,780 bales of jute.

No traces of fire were seen while discharging in London, or during the passage from that port to Dundee.

At 8.0 a.m. on the 8th instant the stevedores commenced discharging, and at 9.25 a.m. while a gang were at work in No. 1 'tween decks an alarm of fire was raised and the men rushed on deck. The ship's hose was immediately led to the fire, which was found to be at the forward end of No. 1 'tween decks, and the fire was kept under by these means and, after the removal of a few bales of jute, it was finally extinguished about 9.40 a.m. A high-pressure hose from the shore was used for about one minute and then stopped by the master's orders. About 70 bales of jute were damaged, chiefly by water, but on inspection I found the vessel had sustained no structural damage.

It appears that when the vessel arrived at this port there was only one tier of bales of jute in the No. 1 'tween deck, as apart from this the 'tween decks were loaded with chests of tea which had been discharged in London.
In my opinion the fire was caused by carelessness on the part of the stevedores, either in smoking or using matches or other lights to search for loose tea among the bales of jute; it being well known that there is generally a considerable amount of loose tea remaining in the holds after a cargo has been discharged.

Every credit is due to the officers and crew for the rapidity with which the ship’s hose was brought to bear, as with such an inflammable cargo as jute every second is of value.

I am, Sir,

Your obedient Servant,

The Principal Officer,
Eastern Coast of Scotland.

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No. 44.—S.S. “CALEDONIAN.” O.N. 113363. Gross tonnage, 4,998.

Report on fire which occurred off Halifax on 13th December 1919.

There was no opportunity to visit this ship at Manchester before she sailed.

Messrs. Leyland now state that, so far as they can judge, they are of the opinion that the fire originated amongst some oiled cotton waste which was stowed under the poop. They further state that no material damage to the ship resulted, and that no one was hurt.

(Signed) P. T. LOWES.
20th February 1920.

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- Report on fire which occurred at Royal Albert Dock on 15th December 1919.

Board of Trade Surveyors’ Office,
79, Mark Lane, E.C,
20th December 1919.

Sir,

In accordance with instructions I have visited this vessel to obtain particulars in connection with a fire which took place on board on 15th instant.

The vessel is fitted out as a transport and was about to proceed to Australia with troops, Government stores and equipment, gun limbers, practice shells, &c.

The cargo consisted largely of case goods, the contents of which, I am informed, was not known on board.

The vessel was not fully laden on 15th instant, but was expected to leave London on the 16th instant.

The full crew are on articles, having been signed on in Australia, and a watchman was on duty at the time the fire was first observed; this was at 10.15 p.m., in the forward end of No. 4 lower hold, and the ship’s company got their fire hose on at once and also informed the police and fire brigade. No time was lost and it was thought that the fire was subdued, but it soon broke out again in several places in this hold.

Nos. 4 and 5 holds are insulated and separated by a wooden bulkhead, but both were burnt out in spite of the efforts of the fire brigade. Loading ceased at 7 p.m. on 15th instant, after which the hatches were put on and no stevedores nor contractor’s workmen were on board.

There are said to be six aliens among the crew, but these have satisfied the Aliens Officer and have permission to land. No one is suspected of foul play.

From close inquiries made, nothing has yet been found to account for the outbreak, but the matter is being followed up.

I am, Sir,

Your obedient Servant,

The Principal Officer,
London District.

(Signed) W. G. COOMBER.
Forwarded to the Board. The origin of the fire is obscure, but is being investigated.

(Signed) ROBERT C. WARDEN,
P.O. London District.
20th December 1919.

Board of Trade Surveyors' Office,
79, Mark Lane, E.C.,
25th February 1920.

SIR,

I have made further close inquiries in this case, but nothing definite has been discovered to account for the fire. It is stated, however, by the agents, Messrs. Turner Davidson & Co., St. Mary Axe, that pilfering had taken place in No. 6 hold at about the date of the fire. Bales had been ripped open and socks and clothing had been stolen, and a partly-burned candle was found among the bales.

It is thought probable that an attempt had been made to steal in No. 4 hold and that a burning candle had been left, but no trace of such action could be found owing to the extent of the fire in this and No. 5 holds.

The vessel has been taken to Barrow for repair.

I am, Sir,

Your obedient Servant,

The Principal Officer, (Signed) W. G. COOMBER.

Board of Trade, London District.

No. 46.—S.S. "DOURO." O.N. 95796. Gross tonnage, 2,450.

Report on fire which occurred at Venice on 25th December 1919.

Board of Trade Surveyors' Office,
Canning Place, Liverpool,
2nd March 1920.

SIR,

I have the honour to report that I visited the above vessel on the 1st instant with regard to M. 14974.

An outbreak of fire occurred in the strong room (port side) No. 1 between deck on December 25th, 1919, at 4.15 a.m., vessel lying alongside the quay at Venice.

There are two doors to the strong room from No. 1 between deck (port and starboard), which had not been opened since the vessel left Lisbon some three weeks previously. The only other opening is an 18-inch cowl with an uptake from No. 1 lower hold; space between uptake and cowl, 3 inches.

No leakage of rum had been observed, and the officers of the vessel had no theory to put forward regarding the outbreak, as the doors had not been opened for some three weeks. It can only be surmised that a match may have been thrown down the ventilator, and the cargo mats ignited and subsequently the rum.

Fire Appliances.—Three lengths 30 feet by 2½ canvas hose. Two patent fire-extinguishers.

I have the honour to be, Sir,

Your obedient Servant,

The Principal Officer, (Signed) HENRY J. TEMPERLEY GREY.

Liverpool.
SIR,

With reference to the attached report of a fire which occurred on the above named vessel on the 25th December 1919 at Venice, I beg to submit the following particulars in accordance with M. 14974/19.

The vessel arrived at Venice at noon of the previous day, viz., 24th December 1919, and everything then appeared in order, and according to a statement made by the chief officer the fire broke out at 4.45 a.m. of the 25th, in a room used as a strong room situated in the for'd 'tween decks.

This room was constructed of timber, and was at the time of the fire being used for the stowage of a quantity of canvas covers used as cargo partings, and a jar containing five gallons of rum.

No reliable information was to be obtained as to the cause of the fire as everybody was asleep when the fire was discovered.

The fire was not of a serious nature, and very little damage was done to the vessel, the assistance of the shore fire brigade having been obtained.

I am, Sir,

Your obedient Servant,

The Principal Officer, Liverpool.

(Signed) J. W. Brackenberry.

No. 47.—S.S. "Lochness." O.N. 106014. Gross tonnage, 82.

Report on fire which occurred off Ballachulish on 26th December 1919.

A fire took place on board of this vessel on 26th December 1919, and was discovered a few minutes after her departure from Ballachulish. Some articles of household furniture had been placed on top of the deck shelter aft in the neighbourhood of a funnel from a stove. It appeared to me that the furniture must have been in close contact with this funnel, and that this caused the fire. The fire was confined to the furniture, and this was thrown overboard. No damage was done to the vessel.


Report on fire which occurred at Fort Augustus on 27th December 1919.

The fire on board of this vessel took place in the early hours of the morning when the crew was asleep. The fire had got such a hold before anybody was aware of the state of affairs that it is only a matter of surmise where it broke out. From the progress of the fire it is thought that it broke out in the purser's room or in the galley on the main deck. The vessel was entirely gutted out, and I understand that she is considered a total loss.


Report on fire which occurred at Hull on 2nd January 1919.

Board of Trade Surveyors' Office,
Market Place, Hull,
30th January 1920.

SIR,

The above vessel loaded a full cargo of cotton seed at Bombay, commenced loading 29th July 1919, and sailed for Hull on 5th August 1919.

On the 25th August, I.P. cylinder cover blew off; the engines were then compounded, and vessel proceeded, but again broke down, and on the 31st August was taken in tow by the Danish steamer "Australian," arriving at Aden on 1st September 1919.

The vessel remained at Aden repairing until 28th October, when she proceeded on voyage, arriving Grimsby roads 18th December 1919, and docked King George Dock, Hull, on 20th December.
On the 2nd January the cargo in No. 2 hold was observed to be very hot and smoking; a hole was cut in the harbour deck (vessel is a trunk steamer) to get to port forward end of hold, and hose used to cool same.

Cargo continued in a very heated state, and at 5.55 a.m. on the 5th January 1920 burst into flames at after end starboard side of No. 2 hold.

Hoses were used and the fire brigade 'phoned for, two engines arriving about 6.45 a.m.

The flames were subdued and fire engines left at 10.30 p.m. same day, the tug "Hutton" standing by with salvage pumps rigged.

Cargo continues smouldering, occasionally bursting into flame, officer on watch continually, and hose used as necessary.

No. 2 hold is separated from the boiler-room bulkhead by temporary cross bunker, length about 10 feet.

The whole of the cargo in upper part of holds was in a very heated condition and quite brown, although the fire was confined to No. 2 hold.

It seems to be a clear case of spontaneous combustion, arising through cargo being in the vessel for such a long period under most unfavourable conditions.

I am, Sir,

Your obedient Servant,

The Principal Officer, Hull. (Signed) G. F. WILLIAMSON,
Surveyor.

Report on fire which occurred at Cadiz on 4th February 1920.

Board of Trade Surveyors' Office,
Dundee,

SIR, 10th March 1920.

I HAVE visited this vessel with respect to a fire reported to have occurred during a voyage from Bombay to the United Kingdom, and ascertained the following particulars.

The vessel is a single deck steamer of 5,241 gross and 3,200 net tonnage.

She left Bombay on the 6th December 1919, bound for Dundee and Middlesbrough, with a cargo of 5,300 tons of cotton seed and 2,100 tons of manganese ore; the cotton seed being in bags and stowed above the manganese ore.

Heavy weather was experienced during the passage, and the vessel put into Cadiz on the 5th January 1920, having lost two blades of the propeller. Part of the cargo was discharged and the vessel placed in dry dock, where a new propeller which had been sent out from the United Kingdom was fitted.

On reloading the discharged cargo it was found that part of the cargo of cotton seed in the after end of No. 2 hold had heated, and on removing the cargo in the vicinity it was found that a number of bags of cotton seed were charred. In all about 80 to 90 tons of cotton seed were damaged by the heating, but there was no actual fire.

The trouble is attributed to spontaneous combustion due to a leakage through the deck at that part, and probably aggravated by the prolonged nature of the voyage.

There was no structural damage to the vessel, and the voyage was completed without any further difficulty—the vessel arriving at Dundee on 27th February 1920.

I am, Sir,

Your obedient Servant,

The Principal Officer,
Eastern Coast of Scotland.

No. 51.—S.S. "CANADA." O.N. 106806. Gross tonnage, 9,415.
Report on fire which occurred at Liverpool on 16th January 1920.

Board of Trade Surveyors' Office,
Canning Place, Liverpool,

SIR, 6th February 1920.

I BEG to report that a fire occurred on board this vessel in Canada Dock on the 16th ultimo; the fire was discovered at 10.15 p.m. in No. 3 'tween deck, known as C section, in the 3rd class accommodation.
The space is divided into a number of rooms by means of portable fittings. In four of these rooms about 200 wood fibre beds and a considerable number of kapok life-belts were stowed, and it is stated that it was in these rooms that the fire originated.

I am informed that painters were at work in the space where the fire occurred until 9 p.m., and that candles were used for lighting purposes. The fire is supposed to have been caused by a candle being left burning after the men ceased work or by someone smoking.

The damage consisted of five strakes of deck plates buckled, partly renewed, others faired and replaced. Four beams between No. 2 hatch and ship's side removed, faired and replaced. Four beams aft of this hatch cropped and part renewed, and about 22 feet of channel girder renewed. The wood deck and portable wood fittings also require to be renewed.

The vessel is at present in Liverpool.

I am, Sir,
Your obedient Servant,
The Principal Officer, Liverpool. (Signed) ROBERT STEVENSON, A.C.L.

No. 52.—S.S. "PORT LINCOLN." O.N. 132733. Gross tonnage, 7,243.

Report on fire which occurred at East India Dock on 22nd January 1920.

Board of Trade Surveyors' Office, 79, Mark Lane, E.C.,

Sir,

I beg to report that I visited the above-named vessel in the East India Dock on the 28th instant. She is a single screw cargo vessel of 7,243 tons gross, built on the Tyne in 1912. It appears that at about 6 p.m. on the 22nd instant a fire occurred in the main engine room, due to the ignition of a bale of cocoanut fibre. There were six of these bales of loose fibre, used as medium in feed filters, each weighing half cwt., placed on the middle grating at back of main engines. Immediately under this fibre a workman was rejointing a pipe flange and inadvertently hung a lighted candle under the fibre.

The fire was quickly extinguished by the second engineer by means of the engine-room cooling hose. About 1½ cwts. of the fibre were damaged.

I am, Sir,
Your obedient Servant,
The Principal Officer, London District. (Signed) R. J. BERRY, Engineer and Ship Surveyor.

FIRES IN BUNKERS.

No. 53.—S.S. "GLEDOH." O.N. 98913. Gross tonnage, 2,661.

Report on fire which occurred at Buenos Ayres on 9th July 1919.

Board of Trade Surveyors' Office, 79, Mark Lane, E.C.,

Sir,

With reference to the inquiry regarding a fire which occurred on the S.S. "Gledhow," of London, at Buenos Aires on the 9th July 1919, I beg to report that I was informed by the master that this occurred in the bunkers and was probably caused by spontaneous combustion in coal which had been lying on board for some time.

The vessel left London for Hull on December 20th, 1919, and is now named "City of Versailles," O.N. 98913.

I am, Sir,
Your obedient Servant,
The Principal Officer, London District. (Signed) CHAS. C. CARTWRIGHT, Nautical Surveyor.
The master, mate, and engineers who were on the vessel at the time of the fire have all left. The following information was obtained from the present chief engineer.

Before taking bunkers in the Tyne, 10 tons remained in the starboard reserve bunker. No information could be obtained as to when and where this coal was shipped. 638 tons of bunkers were shipped in Tyne, and vessel started the outward voyage on 14th May 1919. On arrival at Oran about 370 tons of bunkers remained in vessel. After taking 600 tons of North Country coal the vessel proceeded from Oran towards Buenos Ayres on the 10th June 1919. The fire occurred on the 9th July 1919 and originated in the starboard reserve bunker.

The fire appears to have been the result of spontaneous combustion, caused by the 10 tons of coal being left in the starboard reserve bunker, and may have been there for a considerable period, the reserve bunker had not been worked out during this voyage.

(Signed) J. P. THOMPSON.
9th April 1920.

No. 54.—S.S. "PORT MACQUARIE." O.N. 135132. Gross tonnage, 7,236.

Report on fire which occurred at Victoria Dock on 10th September 1919.

Board of Trade Surveyors' Office,
79, Mark Lane, E.C.,
12th May 1920.

SIR,

WHILE lying at Victoria Dock on 10th September last; at 12.30 a.m. the watchman reported fire in the starboard side of shelter deck amidships; flames were issuing from the samson post on starboard side amidships.

The fire brigade was called and the crew got to work to get the fire under control; subsequently three brigades and two firefloats arrived and extinguished the fire about 6 a.m.

The shelter deck was stowed with scoured wool in bales, and had taken fire in way of a coal shoot. The weather was hot and the coal in the shoot, which had been on fire after leaving Durban and cooled down, was again heating up.

The coal, loaded into a clear shoot, was from Newcastle, N.S.W., and had been in the ship about two months.

It is thought that the wool had been smouldering some time previously, due to the hot weather and heat from the coal shoot, and that the draught, which had been caused by opening Nos. 2 and 4 hatches to discharge the cargo from the shelter deck, had caused the fire to break out.

Only slight local damage was caused to the ship's structure, this has been made good.

I am, Sir,
Your obedient Servant,
(Signed) C. W. LIMPRIGHT WREN,
Surveyor.

The Principal Officer,
Board of Trade, London District.


Report on fire which occurred at Calcutta on 26th November 1919.

Board of Trade Surveyors' Office,
79, Mark Lane, London, E.C. 3,
26th March 1920.

SIR,

As instructed, I have made an inquiry into the cause of the fire in the bunkers on the above vessel.

This vessel was German, and stated to have been taken over as a prize after laying at Penang for a number of years.

The bunker coal was found to be of a nature liable to spontaneous combustion, and fires occurred in the 'tween deck bunkers on passage to Calcutta.
About 40 tons of this coal was left in the port forward pocket bunker, and the bunker filled up with coal at Calcutta. The fire occurred in this bunker just previous to leaving the port.

The death of the trimmers being due to gas fumes; they were working in the bilges under the bunker that fired, and the collapse of the men was the first indication that there was a fire.

This fire, from the information received, appears to be entirely due to the nature of the coal.

The origin of the coal is not known, but it is assumed to be Australian and Javanese.

I am, Sir,
Your obedient Servant,
(Signed) E. VIE,
The Principal Officer, London District. Engineer and Ship Surveyor.

No. 56.—S.S. "HALIARTUS." O.N. 142832. Gross tonnage, 5294.
Report on fire which occurred in the North Atlantic on 2nd December 1919.

SIR,

On making inquiry into this case, we are informed that fire broke out in the starboard wing bunker of 'tween decks on 2nd December 1919 and burned intermittently until the 19th December 1919.

The chief engineer stated that the ship bunkered at London on the 31st October 1919, the coal being inferior quality, unscreened Northumberland coal from Hastings colliery. Fire is thought to have been due to spontaneous combustion. From dates given this coal had been on board about five weeks.

The ship had sailed before a visit could be arranged. Owners' representative states that there is a cowl ventilator fitted at fore end of the compartment, and he has arranged to fit additional ones at after end on ship's return.

(Signed) P. LOWE,
The Principal Officer, Liverpool.
19th April 1920.

Report on fire which occurred at Shanghai on 2nd October 1919.

SIR,

This vessel is a steel screw steamer of the shelter deck type, built at Port Glasgow in 1909, and is 405 feet by 52 feet by 25·7 feet, 4,714 tons gross and 2,988 tons net.

She is employed in the foreign-going cargo trade.

The machinery is fitted amidships in the usual way, and forward of the stokehold there is a cross bunker about 30 feet long, the lower portion of which has capacity for 586 tons of coal. This bunker is separated from the No. 2 hold by means of a non-W.T. steel bulkhead, and is ventilated by means of two cowl ventilators, 20 inches diameter to the 'tween decks and 12 inches diameter to the lower holds, placed port and starboard and near to the after end or stokehold bulkhead. There is also a large hatchway, 13 feet by 16 feet, which, I am informed, is kept open as much as possible. The No. 2 hold has large hatchways, and has two cowl ventilators at each end of similar dimensions to the bunker vents.

At Liverpool, on the 10th July 1919, the lower cross bulkhead above referred to was filled with ordinary Lancashire and Yorkshire steam coal, and the vessel proceeded to New York where she loaded for Shanghai, the cargo at the after end of No. 2 lower hold consisting of machinery in wooden cases, small barrels of wire nails filling in broken stowage, and one tier of hogshead casks of tobacco on the top.

The coal used from the cross bunker on the passage from Liverpool, and at New York, was made good by a supply of American "Pardee" coal at New York, and, so far as I can gather, this coal would come close up to the forward bulkhead at the wings, port and starboard, as only about 200 tons of the Yorkshire and Lancashire
coal remained in the bunker when the American coal was put on board, and according to the engineer's statement it was in the middle.

The American "Pardee" coal put on board at New York is said to have been very small, damp and sticky.

The vessel left New York on the 8th August 1919 for Shanghai, and at Panama took into the cross bunker about 100 tons of American "Pocohontas" coal which was small and dry; also at San Francisco took into the same bunker about 100 tons of "Comax" coal, medium size and dry, and on arrival at Shanghai there remained in the bunker over 300 tons.

During the voyage from San Francisco to Shanghai the maximum temperature recorded in the stokehold was 86 degrees, and in the cross bunker 85 degrees.

The vessel had been at Shanghai for five days, and part of the 'tween deck cargo had been discharged, when, on the 2nd October 1919, at 3 a.m., it was observed that the fire had broken out at the after end on the starboard side of the No. 2 lower hold. Holes were cut in the steel bulkhead so that water could be applied, and by 11 a.m. the same day the fire was well under control, and by 8 p.m. was completely extinguished.

Although at first it was thought the fire was in the hold only, it was found immediately afterwards that the coal in the cross bunker was also in a state of combustion, and after the fire in the hold had been extinguished, the coal was discharged from the bunker, when it was found that there was a burning portion at each wing right at the bottom and against the forward bulkhead.

The actual damage to cargo by fire was slight, being confined practically to the charring of the wooden cases, and the burning portions of the coal were comparatively small, from 40 to 50 square feet in area by about 2 feet deep. Under the burning coal the covering boards on tank top were burned away.

In my opinion the fire originated in the bunker, due to the gradual heating up of the "Pardee" coal put on board at New York. The starboard corner had first reached the temperature of combustion, and, transmitting heat through the bulkhead to the wood of the cases containing machinery in the hold, caused this timber to take fire.

It would appear that the rise of temperature was not caused by any inadequate ventilation of the bunker, as during part of the time the temperature on deck was higher than that in the bunker, also there was usually a draught from the bunker to the stokehold, neither had the temperature of the stokehold any bearing on the cause, but in my opinion, the rise of temperature in the coal was due to natural causes inherent in the coal itself, its condition when put on board, and the time (over 2½ months) during which it had been lying under conditions suitable to the generation of heat.

I am, Sir,
Your obedient Servant,
The Principal Officer, Leith.
(Signed) J. EDMOND.

Report on fire which occurred in the South Atlantic Ocean on 5th February 1920.

Board of Trade Surveyors' Office,
Canning Place, Liverpool,
15th April 1920.

SIR,

I have the honour to report that in accordance with M. 14974/19, and instructions, I visited the above vessel in the Huskisson Dock on the 9th instant, and found as follows:

The vessel had left Cape Town on her homeward voyage, when on February 5th last an outbreak of fire was discovered in No. 3 hold; the vessel was put back to Cape Town and fire finally subdued after arrival on the 9th of February.

After discharge it was discovered that the fire originated at the fore-end of No. 3 lower hold in some American bunker coal which was stored there.

This coal was taken in at Newport News, U.S.A., during August of last year, being "New River" mixed. Additional coal was taken at Sydney, this being "South Balamba," also at Durban "Natal Navigation." It was found that about 260 tons of the American coal remained in the bottom and fore end of No. 3 lower hold before the Durban coal was taken in, during February of this year.

I have found during my sea experience that American coal is liable to spontaneous combustion if allowed to remain in one position for a considerable period, especially if under pressure.

As the fire was found to have originated amongst this particular coal, it would appear to be a case of spontaneous combustion, and I am of opinion that in future coal of this class should be moved to such a position that it will be first used on continuing the voyage and not left for an indefinite period in the underneath position.

It will be noted that fresh air and uptake is supplied by two trunks having low coamings only on the weather deck, no cowls being fitted. In view of the fact that the company state that this space will always be used for coal, and the fact proved in this case that the coal is not promptly worked out, I have notified owners that coal ventilators should be fitted to comply with Circular 1197/09, as the space in question cannot come under the heading of "present use" bunkers.

I am, Sir,

Your obedient Servant,

(Signed) THos. E. THOMPSON.

The Principal Officer, Liverpool.

15th April 1920.


Report on fire which occurred in the Indian Ocean on 18th February 1920.

SIR,

In accordance with M. 14974/19, I visited the above-named vessel to make inquiries regarding a fire which took place on a voyage from Freemantle to Durban. The following information was obtained.

The vessel was British built in 1915 and was originally of Russian ownership, but is now managed by the Royal Mail Steam Packet Company, Limited. Particulars of the coal contained in the bunker, in which the fire took place, are as follows:

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<td>655</td>
<td>Freemantle</td>
<td>Collie</td>
<td>Mixed but mostly small</td>
<td>13.2.20.</td>
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The coal appeared fairly dry when taken on board. The vessel finished bunkering at Freemantle on the 13th February 1920 and sailed the same day.

The fire took place in the lower cross bunker, which was nearly full with coal, but was not well trimmed and contained about 655 tons.

All the coal in this space was new coal, the bunker having been cleaned out thoroughly, as it was at first intended to carry cargo in it. This space was bounded
by the stokehold bulkhead aft, and about 32 feet forward of this, by a wooden bulkhead separating the bunkers from the cargo. See sketch on other side.

The fire was discovered about 9.30 a.m. on 18th February 1920, being five days after the vessel left port. The bunker hatch covers were off and smoke was seen issuing from the hatchway. By this time approximately 200 tons had been used out of the bunker, the trunkway being just empty. The fire was discovered to be about 6 to 10 feet below the surface of the coal, and in patches across the bunker, about 8 feet from the wooden bulkhead. Steps were taken to extinguish the fire by digging out the affected parts and using the fire hose as necessary. This work was carried on continuously until 9.20 on the 20th, when there was no further appearance of fire. Again on the 28th February 1920 at 10 p.m. a fire was discovered in the same space; it was extinguished by 1 a.m. on the 29th February 1920, after which no further trouble was experienced. At 9 p.m. on the 22nd February 1920, a fire was discovered in the saddle back hatchway; it was very slight, the coal affected was close to the surface and was extinguished in about half an hour with the fire hose. No further signs of fire were seen in this place.

The above sketch shows the lower cross bunker and arrangement of ventilation. When I visited the vessel no particulars were available of the temperatures recorded for stokehold and bunkers, the log books having been sent to the Company's offices.

The ships' officers stated that they had experienced fires with Australian coal on previous occasions and expressed opinions that the fire in question was not an extraordinary occurrence. In my opinion, the fire was not caused by heat from the boiler room as the seat of the fire was some 24 feet from the stokehold bulkhead, and under the circumstances I think it should be set down to spontaneous combustion of the coal.

The cargo was all bagged grain and no damage was caused by the fire, either to the cargo or to the ship.

I am, Sir,

Your obedient Servant,

The Principal Officer, North Shields.

(Signed) T. D. Ferrier.

No. 60.—S.S. "Stephan." O.N. 143365. Gross tonnage, 4,635.

Report on fire which occurred near Alexandria on 18th February 1920.

Board of Trade Surveyors' Office,

79, Mark Lane, E.C. 3,

19th March 1920.

SIR,

In accordance with your instructions, inquiries were made on board this vessel, now lying in London, regarding the cause of a bunker fire which occurred during her last voyage.
This vessel is employed as a cable ship and she coaled in London on January 30th. The bunkers in question (after cross) were filled with North Country (Durham) and were completely emptied before the new coal was put in.

Fire was discovered on the 18th February at sea, and on 23rd February, when in Alexandria, nearly all the coal had been worked out and the seat of fire discovered at nearly the bottom of the bunkers, it being then extinguished.

No damage was caused to the ship, and the fire is attributed to spontaneous combustion.

I am, Sir,
Your obedient Servant,
Principal Officer,
London District.

No. 61.—S.S. "WADDON." O.N. 118483. Gross tonnage, 3,381.

Report on fire which occurred in the Indian Ocean on 21st February 1920.

I beg to report I investigated the case of fire which occurred on the above steamer. Vessel was on passage from Mauritius to St. Nazaire via Port Said and Malta loaded with sugar. Vessel left Mauritius on 19th February, and on 21st February at 9 a.m. the chief engineer reported fire in port lower side bunker. Deck hose was placed in bunker and water played on the coal until 12.30 p.m., when fire was apparently extinguished. On the 23rd smoke was noticed issuing from the bunker again and water was again played on the coal. From the log book it appears that from day to day the hose was played on the fire at various intervals, but fire never developed seriously. When nearing Malta the crew was started to shovel the remaining coal and cinders in bunker into the stokehold, and the bunker was empty by the time the vessel arrived at Malta on the 15th March. At Malta Lloyd's surveyor examined the bunker and the damage sustained therein. Vessel then took in bunkers and sailed on the 17th for St. Nazaire, duly arriving there, discharging, and proceeded to Port Talbot to load. At Port Talbot the damage was repaired to Lloyd's requirements.

Nature of coal.—Welsh.
Where stowed.—Port lower side bunker.
Large or small.—Small.
Where obtained.—Barry.
How long on board.—2½ months.
Whether new coal had been loaded on top of old.—Bunker was empty when coal was shipped.

The bunker coal consisted of:
150 tons Hood's, Merthyr;
550 tons Ferndale; and
100 tons Graham's Navigation,
and was fresh wrought.

I am, Sir,
Your obedient Servant,
The Principal Officer,
South Wales District.

FIRES IN HOLDS.


Report on fire which occurred at Tilbury Dock on 17th August 1919.

This fire occurred about 4.30 a.m. on Sunday, August 17th, in No. 1 lower hold, which was about half discharged, and the hatches on which were battened down at noon of the previous day when the stevedores stopped work.
The cargo in the hold was hides, oil cake, and paraffin wax, all loaded at Rangoon. The wax was at one end of the hold, and was discharged to a much lower level than the hides, which were at the other end.

The fire was detected through smoke coming up the ventilators and penetrating the men's quarters forward.

When the hatches were removed the hatchway was full of smoke, but no flame or fire could be seen.

The ship's fire appliances were brought into use, and subsequently the Tilbury Fire Brigade assisted, the fire being extinguished about 7.30 a.m., there being then 11 feet of water in the hold.

All the cargo was charred or burned, also the cargo battens on the starboard side, and the ceiling had to be renewed on the tank top where the wax was stowed.

No definite reason can be assigned for the outbreak, but it is assumed that a lighted cigarette or match had been allowed to fall amongst the cargo on Saturday, and that it had smouldered until discovered on the Sunday morning.

I remain, Sir,
Your obedient Servant,
The Principal Officer, (Signed) P. MCNEIL.

Board of Trade, London District.

Report on fire which occurred in the Mediterranean on 14th September 1919.

Board of Trade Surveyors' Office, Market Place, Hull, 27th July 1920.

SIR,
The above fire occurred at about 6.50 p.m. on 14th September 1919, the vessel having sailed from Port Said at 4 p.m.
The outbreak was in and confined to the stokehold, and was caused by the joint of one of the oil fuel pipes blowing out.
The S.O.S. call was sent out, but cancelled when it was found that the fire was not serious; it was extinguished with the ship's appliances, and out by 7.25 p.m. same date.

I am, Sir,
Your obedient Servant,
The Principal Officer, Hull. (Signed) G. A. WILLIAMSON.

No. 64.—S.S. "COMMONWEALTH." O.N. 115903. Gross tonnage, 6,616.

SIR,
A fire occurred on this steamer while lying in Royal Albert Dock, London, in September last, the ship being then refitting. The sailors' forecastle was found on fire about midnight, and as it was burning fiercely the fire brigade was called. After some time the fire was overcame and it was then discovered that the forecastle on the starboard side was gutted, the forecastle deck being burnt through and the upper deck charred, all the bunks and the fore and after bulkhead were destroyed; the forecastle deck stringer plate and several other deck plates were buckled.
The fire also penetrated to the forecastle on the port side where some bunks and fittings were burnt. The damage was made good before the ship left London. The cause of the outbreak was not ascertained. No one was sleeping in the forecastle at the time as the ship was in the hands of the repairers.

I am, Sir,
Your obedient Servant,
The Principal Officer, (Signed) C. W. LIMPRICHT WREN.

London District.
No. 65.—S.S. "CLAN MURRAY." O.N. 141894. Gross tonnage, 5,926.

Report on fire which occurred at Piraeus on 27th September 1919.

SIR,

I BEG to report having inspected this steamer at Avonmouth yesterday and made inquiries as to an outbreak of fire which took place in September of last year in the 'tween decks.

The vessel loaded a general cargo in August 1919 at New York for Piraeus, a quantity of nitrate in bags being carried in the forward 'tween decks, the amount being approximately 100 tons. In the same compartment was stowed iron pipes, bars, steel plates, and general case goods.

The vessel arrived safely at Piraeus, and there was no signs of heating or smoke—during the passage—arising from the cargo.

During the process of the discharge of the nitrate, and when about one-fourth had been removed, a bag in the action of slinging suddenly burst into flame. The flame rapidly spread to the dunnage and remaining portion of the nitrate, the hatches to lower hold being also burnt, and the deck plating, beams and frames in the vicinity being buckled by the heat. The compartment in which the fire occurred was efficiently ventilated by four large annular ventilators which kept the air in circulation during the voyage.

The master of the vessel and the mate are quite unable to account for the sudden outbreak of fire in this bag of nitrate, as no undue friction was set up during the process of slinging, and this particular bag appeared to be in the same normal condition as those forming the remainder of the parcel. I understand the nitrate was shipped and also discharged in dry and warm weather.

I am personally unable to offer any explanation as to cause.

A rough sketch of the fore part of the vessel is attached to this report.

I am, Sir,

Your obedient Servant,

The Principal Officer, South Wales.

(Signed) RICH. BLAKE.

Plan of fore part of vessel showing position of the parcel of nitrate in which the fire occurred 27th September 1919, and the nature of cargo carried in 'tween deck and adjacent compartments.
No. 56.—S.S. "CITY OF CHESTER." O.N. 128046. Gross tonnage, 5,413.

Report on fire which occurred in the Mediterranean on 10th October 1919.

London,

7th April 1920.

SIR,

In accordance with instructions, I visited the above-named vessel in the West India Docks, London, on the 31st ultimo, inquired into the circumstances attending a fire which occurred on board on the 10th October last, and now beg to report as follows.

The "City of Chester" is a steel single-screw cargo vessel of 5,413 tons gross, built by Messrs. Barclay, Curle and Co., Glasgow, in 1910. She has six cargo holds, and the fire occurred in No. 6 (after hold).

In addition to the usual fire extinguishing appliances, each cargo and bunker compartment in the vessel is fitted with piping for the conveyance of steam from the main boilers for the purpose of extinguishing fire.

It appears that on the 10th October last, when the vessel was about 450 miles east of Malta, on a voyage from Bombay to Liverpool, via Malta, with a general cargo, smoke was observed issuing from the ventilator at starboard side on forward end of poop. The ventilators were then plugged, and the hold (No. 6) was battened down as near air-tight as possible. Steam was then turned into the hold and allowed to blow, off and on, until the vessel arrived at Malta two days afterwards. The fire, which at no time burst into flames, was, however, still smouldering, and before the cargo could be discharged it was necessary to flood the hold to a depth of 14 feet. When the cargo was discharged it was observed that the fire originated in the centre of a quantity of oil-cake, and was due presumably to spontaneous combustion. It is also stated that this oil-cake after being completely submerged for about 20 hours, again heated up and smouldered after the water was pumped out of the hold.

I am, Sir,

Your obedient Servant,

The Principal Officer,
London District.

(Signed) R. J. BERRY,
Engineer and Ship Surveyor.


Report on fire which occurred in the North Atlantic on 15th December 1919.

Board of Trade Surveyors' Office,
79, Mark Lane, London, E.C.

3rd May 1920.

SIR,

This vessel was visited on the 30th April and inquiry was made into the circumstances attending this outbreak. From the logs of both the chief engineer and the master it appears that the fire was first noticed in the after hold on December 15th, three days after leaving New York with general cargo for Buenos Ayres. The hatches were lifted and the fire located in a large packing-case containing a motor car in the after shelter deck space, midway between the two after hatches and close to the ship's side, and a hose was played in that vicinity, which appeared to quench the fire. Shortly afterwards a separate outbreak was discovered in the 'tween deck space almost directly below the first fire. This time the centre of the conflagration appeared to be a packing-case containing a piano. Notwithstanding the use of a hose the fire appeared to continue, and the hatches were battened down and the steam extinguishers opened to the after hold. This was continued, with occasional attempts to bring hoses to bear and with the playing of hoses on the iron weather deck, until the vessel reached Barbadoes at midnight on December 19th. Here the whole of the cargo in the after holds was discharged into lighters and the undamaged portion reloaded, after which the vessel proceeded to Buenos Ayres. The senior officers of the ship were of the opinion that the fire was caused by incendiary action, and the supposition is supported by the facts that—

(1) There were two distinct sources of origin separated by a steel deck.
(2) Both outbreaks occurred at points the most remote from the hatches.
(3) Both fires started in large packing-cases.

It is further stated that several similar fires have been reported recently in vessels leaving New York.

The vessel's structure has not been materially affected. The area of the fire was inspected and found to be in a seaworthy condition; a slight buckling of one
beam and of some deck plates were the only results apparent. As the steam appeared to have a smothering effect and as the "Hydaspes" does not carry a passenger certificate, no further action was taken after the inspection had been completed.

I am, Sir,
Your obedient Servant,
(Signed) W. E. McConnell,
Engineer and Ship Surveyor.

The Principal Officer,
Board of Trade, London District.

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Report on fire which occurred in the N. Atlantic on 16th December 1919.
Board of Trade Surveyors' Office,
79, Mark Lane, E.C.,
5th July 1920.

SIR,
I have made inquiries regarding this fire and obtained the following particulars. The vessel left Antwerp for New York on the 2nd December 1919, and at 10.30 a.m. on the 16th fire was discovered in No. 1 lower hold; the cargo consisted of linseed oil in barrels, case goods, colours, and bales of rags.

The steam fire-extinguishers were turned on, hatches battened down, and all air spaces caulked.

At 5 p.m. same date the orlop deck was very hot and arrangements were made for flooding No. 1 hold.

At 1.30 p.m. on the 17th the fire was increasing and there was considerable smoke and fumes; water was pumped into the lower hold through a ventilator.

At 1 a.m. on the 18th the lower hold was full of water and the fire dead, no smoke, but fumes bad. Commenced to pump water out of hold, but at 10.15 a.m. the engine-room pumps were choked.

Owing to weather conditions the course was altered for Halifax, arriving at 6 p.m. with 13 feet of water in the hold.

Discharged cargo in No. 1 hold at Halifax and made repairs and proceeded for New York on the 27th.

The crew behaved well and worked night and day.

It was impossible to ascertain the cause of the fire or to state which part of the cargo was first ignited.

I remain, Sir,
The Principal Officer,
Board of Trade, London District.

(Signed) P. McNeil.

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Report on fire which occurred in the N. Pacific on 20th December 1919.
Board of Trade Surveyors’ Office,
Canning Place, Liverpool,
25th March 1920.

SIR,
I have the honour to report that I visited the above vessel on the 23rd instant with regard to M. 14974/19.

A fire broke out in the fore end of No. 1 between deck and lower hold when the vessel was at sea in latitude 9° 40' N. and longitude 79° W. at 7.30 a.m. on the 20th December 1919.

Stowage Plan, No. 1 Between Deck and Lower Hold.

<table>
<thead>
<tr>
<th>Fore end</th>
<th>No. 1</th>
<th>After end.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X Fire commenced here.</td>
<td>Hatch.</td>
<td>20°</td>
</tr>
</tbody>
</table>

Sketch showing Ventilation

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20° 0

No. 1 Hatch 20° 0
The vessel arrived at Colon, Central America, at 1 p.m. on the 20th December and the fire was extinguished by the Colon Fire Brigade, and the vessel proceeded through the Canal.

A second fire occurred in the fore end of No. 4 lower hold at 10.20 p.m. on the 1st January 1920, when the vessel was at sea in latitude 25° N. and longitude 113° W. This fire was finally extinguished on her arrival at San Pedro, California, on the 4th of January, by the fire brigade, the cargo and ventilation being the same as in No. 1 hold.

In my opinion, in both cases the cause of the fire was owing to the bales of rags, which were damp and in a very dirty condition when shipped in Liverpool on the 15th November 1919 and Glasgow on the 2nd December 1919, becoming heated, with subsequent spontaneous combustion. This opinion coincides with that expressed by the officers of the ship.

Fire Appliances.—Two 60-feet lengths of 2½-inch canvas hose. At Colon a patent rubber steam jet hose, 90 feet by 1½ inches, was placed on board, which was found to be of great service in extinguishing the second outbreak of fire.

I have the honour to be, Sir,
Your obedient Servant,
The Principal Officer, (Signed) HENRY J. TEMPERLEY GREY.
Liverpool.

No. 70.—S.S. "SELLASIA." O.N. 113495. Gross Tonnage, 3,474.

Report on fire which occurred at West Hartepool on 1st February 1920.

Sir,

I beg respectfully to report that the fire reported upon in this case occurred at about 7.30 a.m. on Sunday morning the 1st instant. The vessel was then (and still is) in the Middleton Dry Dock undergoing very extensive repairs.

The master states that when he left the vessel on Saturday the 31st ultimo about mid-day the saloon fire was out, and when leaving locked the saloon, leaving the key in a well-known spot. The 3rd mate, Thomas Callaghan, who was acting as watchman, being the only man on board, relit the saloon fire, but states that it died out on the Saturday night at about 10 p.m.

He again lit the fire at about 6 a.m. on Sunday morning the 1st instant, and after being out of the saloon and returning at 7 a.m. he noticed a blister on the upper bridge deck forming the roof of the saloon, and, feeling same, found it to be very hot.

He then went up on the upper bridge and on opening the wheel-house door flames burst out enveloping the chart and wheel-house. The saloon fire funnel passes through the wheel-house, being fitted with an outer pass casing with an air space between the two. The watchman then went up to Gatehouse and Messrs. Irvine's men brought down hoses, &c., and the fire was soon extinguished. There was a high wind blowing at the time and the whole of the contents of the wheel-house were destroyed by the fire, a hole being burnt in the deck above the wheel-house. The deck around this house was also charred.

The fire, I am of the opinion, probably originated through the overheating of the funnel where it passed through the deck above the wheel-house, but I could not find any portion of the deck plate among the débris. The navigation lights and brass fittings in connection with the steering gear in the wheel-house were all practically destroyed by the fire.

Attention has been called to the necessity of providing a safeguard in fitting an iron or steel plate in the decks where the funnel passes through the decks.

Repairs are now in progress and the fire would have been reported up in due course. The repairs to the hull due to the vessel having grounded on Seaton Sands will occupy a considerable time yet.

I am, Sir,
Your obedient Servant,
(Signed) ARTHUR B. BULL.

The watchman, Thomas Callaghan, has been discharged.
The Principal Officer,
North Shields.

Report on fire which occurred at West Hartlepool on 1st February 1920.

Board of Trade Surveyors' Office,
West Hartlepool,
9th February 1920.

SIR,

I beg respectfully to report that the above-quoted vessel was destroyed by fire, which originated in the motors, and sunk in 19 fathoms of water off the breakwater at this port on the night of February 1st.

It appears from the statements of the master and motorman that the cutter left the dock head about 5.30 p.m. with four pilots to board a Dutch steamer "Markelo" approaching the port. At about 5.45 p.m. the dinghy, which was in tow, was hauled alongside and the pilots got into it to board the incoming steamer. The cutter then continued to tow the dinghy, and almost immediately the driver (or motorman) reported that the motors were on fire. The statement of the latter is to the effect that the vessel was proceeding about half speed, and he was standing at the vice in the after part of the motor-room, when a sudden blaze lit up the motor-room, and on turning round he saw that the second cylinder from the forward end was a blaze of fire. He tried to shut off the paraffin tanks at the forward end of the motor-room, but could not do so owing to the fire. He used the Pyrene fire-extinguisher and also about half a sack of sand, but could not subdue the fire, and he was driven from the motor-room. The fire gaining complete mastery of the vessel, which is built of wood, the master and motorman got into the dinghy, which had been brought alongside, and the burning vessel was abandoned. The fire continued to burn until about 8 p.m., when the vessel sank.

The dimensions of the vessel were 59'9 x 13'9 x 7'4, and the propelling machinery consisted of one set of four Gardiner type paraffin motors, the diameter of the cylinders being 8 inches and the stroke 9 inches.

With this type of motors a lamp is kept burning under the space below the inlet valve, the motors being of the four-cycle type, and the lamp forming part of the motor. The function of the lamp is to vapourise the paraffin before being admitted to the passage leading to the top of the cylinder and where the charge is fired by the sparking plug.

The lamps are fitted in an enclosed box, and it was from the place where the lamp was fitted on the second motor from the forward end that the fire originated. The paraffin tanks were fitted at the forward end of the motor-room, and it is said about 200 gallons were in them at the time of the outbreak of fire.

I have never seen these motors and cannot therefore discuss the question of accessibility to the cocks on the paraffin tanks. Further, as the vessel has sunk and there is no possibility of inspecting the motors; but I am inclined to think that possibly the cast-iron casing over the lamp, which has a Bunsen flame, may have failed and the vapourised paraffin thus was fired by the lamp. This is a theory only, for these motors are said never to have given any trouble.

I am, Sir,
Your obedient Servant,

The Principal Officer,
North Shields.

(Signed) ARTHUR B. BULL.

No. 72.—S.S. "NAVASOTA." O.N. 135702. Gross tonnage, 8,799.


Board of Trade Surveyors' Office,
79, Mark Lane, London, E.C.3.,
6th February 1920.

SIR,

About 11.20 a.m. on 2nd February fire was reported in No. 2 lower hold ; it is stated that the fire when first noticed was slight, and that buckets of water were passed down the hold to the stevedores who were discharging the ship.

The cargo was frozen meat (beef) in jute shirts, and had been discharged down to a depth of three tiers from the bottom of the hold, except in the port wing, where the beef was stowed close up to the underside of the deck.
Buckets of water failing to put out the fire, two of Walker's Extincteurs were passed down and four hoses were brought to bear on the seat of the fire, which was on the port side aft. The fire becoming worse, a brigade call was issued and three fire-engines arrived; three tugs were also brought alongside with eight additional hoses, resulting in the extinction of the fire shortly after 1 p.m.

I examined the hold the following day and found that the remaining carcasses had been discharged, and the hold was pumped dry.

The wooden gratings over the brine grids on the after bulkhead portside, at a height of 5 feet from the ceiling and upwards, were charred, and in some instances burnt through, the insulation in way of them being charred. There was considerable charring on the port side at the upper part of the hold, extending from a height of 5 feet at the after end to 1 foot at a point 24 feet forward of the after bulkhead.

A thermometer tube is fitted 7 ft. 6 ins. from the port side and 7 feet from the after bulkhead; in way of this and extending to within 2 ft. 6 ins. of the after bulkhead the ceiling was charred, and the dunnage on which the beef had been stowed was burnt.

The fire was local and was apparently caused by the dropping of a naked light between the shanks of the carcasses to the bottom of the hold.

I am, Sir,
Your obedient Servant,
The Principal Officer, (Signed) C. W. LIMPRIEHT WREN, Engineer and Ship Surveyor.
London District.

No. 73.—S.S. "SEA HAWK." O.N. 108428. Gross tonnage, 169.

Report on fire which occurred at Grimsby on 2nd February 1920.

The outbreak of fire in this case occurred in the after (underdeck) cabin on board the "Sea Hawk" while she was laid in dock, and was evidently caused by overheating of the stove and lower part of its funnel. The stove was situated in a recess in a wooden partition forming the forward bulkhead of the cabin, the lower half of the back part of the recess being protected with sheet-iron. The aperture for the funnel was in the back of the stove, the funnel extending horizontally through the sheet-iron lined part of the partition to below the cabin ladder and diagonally upwards in the ladder recess. The damage caused by the fire was confined to the woodwork forming the recess in which the stove was situated, part of the bulkhead on each side of the recess, and part of the cabin ladder; the damage to the body of the cabin being confined to scorching of the paint.

It appears that about 6 a.m. on the 6th inst. one of the dock police observed smoke issuing from the deck-house forming the galley and the entrance to engine-room and after cabin. The fire brigade was turned out and found the after cabin to be on fire. A hose was inserted through the skylight and brought to bear on the fire, which was quickly subdued. When entrance to the cabin was gained, the bodies of two men were found laid on the seats. Afterwards identified as the watchman of the "Sea Hawk" and a fisherman who did not belong to the vessel and had no right to be on board. The watchman on board a trawler laid alongside stated he was on deck about 4 a.m. and at that hour there was no appearance of smoke or anything wrong on board the "Sea Hawk." He also stated that he had several times acted as watchman on board of her, and had found when the after cabin stove was in use if both parts of the door in the front of the stove were closed, the back of the stove and the lower part of its funnel soon became nearly white-hot; this he further stated was well known to the deceased watchman. The morning of the 6th instant was very cold here, and probably the strange fisherman who was on board awoke feeling cold, put more coal on the stove, closed the doors and went to sleep again. The stove and lower part of the funnel becoming overheated, ignited the wooden partition, which no doubt would be dry as tinder.

At the inquest on the bodies of the two men found dead in the cabin, the verdict was "Accidental Death" due to asphyxia.

I visited the "Sea Hawk" on the morning of the 7th instant, and again during the afternoon when I met the managing owner and called his attention to the apparent inefficient means which had been provided against the risk of fire, and the unsafe lead of the funnel, and suggested that more efficient means be provided for that purpose, which he promised would be done.
I visited the vessel on the 21st instant, and again on the 23rd, and found that greatly improved means had been provided to guard against fire. A new stove had been provided with the funnel aperture on the top of the stove and the funnel led vertically upward through the deck. The lower half of the recess in which the stove is placed lined with stone slabs about 2 inches thick with asbestos between the stones and the wooden partition, the stones extending above the top of the stove, and the upper part of the back of the recess lined with sheet-iron, and with asbestos between the sheet-iron and the wood.

(Signed) J. McEwan,
28th June 1920.


Report on fire which occurred at Gravesend on 4th February 1920.

Board of Trade Surveyors' Office,
79, Mark Lane, London, E.C.3,
14th April 1920.

SIR,

I HAVE made inquiries into the cause of the fire on the above-named vessel and beg to report as follows.

This is a wooden motor-launch about 40 feet long, and is owned by Etheredge's Transport and Shipping Agency, Ltd., Limehouse, E. It is used by the owners for the purpose of attending on vessels lying in the River Thames in the vicinity of Gravesend.

The vessel is propelled by a 26 H.P. Kelvin four-cylinder four-cycle paraffin motor, and uses petrol for starting up. The paraffin was carried in two cylindrical tanks, 11 inches in diameter by 6 feet long, there being one tank on each side of the machinery space, which is amidships. A small petrol tank was also carried. The tanks were made of galvanised steel, the seams being double hook joints. There were three openings in each tank, one at the bottom for taking away the fuel to the engine, and two on the top, one of these being 1 inch diameter, which took the filling cap, and the other \( \frac{3}{8} \) inch diameter, which received the pipe from the air pump, the engine operating on the pressure feed system. This air pipe connection was about 1 inch from the after end of the tank.

At the time of the fire the launch was laid at the Terrace Pier, Gravesend, having earlier in the day been at work on the river. The air pipe nipple on the starboard paraffin tank having worked loose, the engine-driver of the launch asked a youth named Potter, an employee of the company, to refasten the nipple on the tank, the engine-driver then proceeding home to dinner.

Potter pulled the nipple off the tank, and removed the solder from it by heating with a blow lamp. As a certain amount of solder adhered to the tank, he intended to remove this also by heating and wiping off, although he knew that the tank was nearly full of paraffin. He applied the blow lamp to the tank when there was immediately a report, and paraffin rushed from the forward end of the tank and immediately burst into flames.

Potter promptly played on the fire with a Pyrene extinguisher. His efforts in this respect being unsuccessful, he was joined in about two minutes by another employee of the company who assisted with another Pyrene extinguisher. A strong wind was blowing at the time which fanned the flames, and in spite of the men's efforts the fire spread.

A tug lying near by then commenced playing on the fire with one hose, this would be about three minutes after the fire started. There was a very low pressure of water in the hose and its effect was small.

About four minutes after the fire started, another tug, the "Sun VI," commenced to play on the fire with one hose. A very good pressure of water was available and this soon extinguished the flames.

The vessel had a light wooden erection over the machinery space amidships; this was badly burnt, but neither the hull of the vessel or the machinery was injured. No injury was done to any person.

It is evident that there was a considerable quantity of petrol mixed with the paraffin in the tank which burst. The vessel had been obtained from the Royal Air
Force about a fortnight before the accident. The R.A.W. used petrol for fuel, and when the vessel was turned over at Gravesend to the new owners the starboard fuel tank was about half full of petrol. This was filled up with paraffin before the launch went on service and a few gallons of paraffin was subsequently added, but the evidence shows that there would be a certain amount of petrol mixed with the paraffin in this tank at the time of the fire.

The repairs to the fuel tanks and machinery of the launches owned by this Company are usually done by their mechanic, Mr. Dowling. Mr. Dowling was not available at the time when the fire occurred as he was engaged in taking the Board of Trade launch “Etheredge IV” round the coast from London to North Shields.

I am, Sir,
Your obedient Servant,
(Signed) W. L. WATSON,
The Principal Officer, Engineer and Ship Surveyor.
London District.

Opening formed by explosion shown by heavy lines.

Section through fuel tank.

Report on fire which occurred at Leith on 10th February 1920.

SIR,

IN accordance with M. 14974/19 I respectfully submit the following report.

The “Sissie West” is an ordinary fishing vessel registered under Part 4 of the Act, with an auxiliary motor. The principal dimensions are 39 feet by 12 feet by 4 feet, and tonnage 8 1-2. The boat is seven years old and is owned by John Sontar, of 12, Sea Town, Lossiemouth, and two relatives who engage in line fishing in fine weather during the daytime.

A Kelvin motor of 12 H.P. with two cylinders (enclosed splash system of lubrication) was installed in June 1917.

The fuel used is Scotch paraffin oil and the motor is started up on petrol, no blow lamp being fitted. The motor is situated aft and both petrol and paraffin tanks are situated in the hold outside the motor-room. The lubricating oil used is known as “Kelvol.”

On Tuesday 10th of February 1920, shortly after stopping the engine one of the hands opened the crank case door to ascertain the amount of lubricating oil remaining. In order to see better he struck a match and inserted it, with the result that an explosion occurred and a fire ensued. This was extinguished with the aid of chemical apparatus and it was found that no material damage had been caused.

The man admitted ignorance of any danger of explosion attendant upon his action and professed having done it before without anything happening.

There is not any notice fixed on the engine giving warning of this danger of explosion without ventilating the interior of the crank chamber, though no doubt the precaution would be taken by one with more knowledge than the individual in question, who does not appear to be other than a fisherman. It is not the custom for this type of vessel to carry a skilled attendant.
The fire extinguisher belonging to the boat is of the Minimax type and on this occasion it proved to be inoperative, presumably owing to being improperly assembled after recharging. It has been returned to the makers.

I am, Sir,
Your obedient Servant,
The Principal Officer, Leith.

(Signed) J. H. FERGUSON.

No. 76.—S.S. "RHEINLAND." O.N. 144524. Gross tonnage, 6,588.

Report on fire which occurred off the Island of Socotra on the 12th February 1920.

Board of Trade Surveyors' Office,
79, Mark Lane, E.C.,
3rd May 1920.

SIR, I have made inquiries regarding this fire and obtained the following particulars from the chief officer.

The cargo in No. 5 hold was loaded at Singapore about the middle of January and consisted of oil, cocoa-nut fibre, coffee, ratans, gum, copra and pepper.

The hatch was opened at Colombo and a small additional quantity of cargo loaded. There was then no sign of heating or fire.

On the 12th February the vessel was off the Island of Socotra, smoke was observed coming from the ventilators of No. 5 hold and later from Nos. 4 and 6 holds.

The vessel is fitted with steam jets in all holds for extinguishing fire, and the steam valves in holds 4, 5 and 6 were opened, but as this did not extinguish the fire holes were cut in the hatches to admit fire hose, also the non-return valves were removed from the bilge boxes in the engine-room, and water was run into No. 5 hold from the sea through the bilge pipes.

It was learned by then that the smoke from the ventilators of Nos. 4 and 6 holds was coming from No. 5 through the wood bulkheads in the 'tween decks.

On the 16th 21 feet of water was in the hold and the hatches were removed; the hatchway was full of smoke, but almost immediately flame broke out on the port side in way of the hatch where the gum was stowed. The fire was then overcome without much difficulty with the vessel's fire hose. On discharging No. 4 hold it was found that a bag of copra had been on fire in that hold and had charred the wood covering of the insulation on the bulkhead.

It is assumed that this took place just previous to the steam jet being turned on and was then extinguished, there being a jet about 2 feet from the burnt bag.

No serious damage is done to the hull of the vessel. The cause of the fire cannot be definitely stated; the chief officer thinks it was due to incendiarism, probably caused by phosphorus being deposited amongst the cargo, but he had no proof whatever to support this assumption.

I remain, Sir,
Your obedient Servant,
The Principal Officer, Board of Trade,
London District.

(Signed) P. McNIEL.

No. 77.—S.S. "CAESAREA." O.N. 131763. Gross tonnage, 1,500.

Report on fire which occurred at Leith on 14th February 1920.

SIR, This vessel is at present lying at this port undergoing repairs and being reconditioned prior to being handed over to the owners, Messrs. The London and South Western Railway Company.

A fire occurred in the after starboard fan-room at 10 a.m. on the 14th February, causing damage to the fan impeller, casings and air ducts to the stokehold.
The fire was caused by ignition of oil and soot in the fan-room, but how this took place is not known. As several hundred workmen were on board at the time it may have been due to carelessness on the part of one or several of these men.

The fire was of small extent and was readily extinguished by means of fire-extinguishers and water passed over the side in buckets.

I am, Sir,

Your obedient Servant,

The Principal Officer, Leith.

(Signed) J. GRAHAM.


Report on fire which occurred at West India Dock, London, on 14th February 1920.

Board of Trade Surveyors' Office,

79, Mark Lane, E.C.,

19th February 1920.

Sir,

In accordance with instructions, I visited the above-named vessel in the India Docks on the 17th inst. and ascertained that a small fire occurred at about 7.30 a.m. on the 14th inst., in a two-berth cabin starboard side amidships. It appears that the vessel has been laid up for a considerable time, and that the cabin in question had been used as a store room for bed mattresses, cushions and lifejackets. Three days previous to the outbreak of fire, workmen were overhauling the engine-room telegraph wires which pass through the cabin, and it is assumed that a cigarette end was carelessly thrown amongst the mattresses which smouldered away and finally set alight to a matchboarding bulkhead. Three or four of the mattresses and a small portion of the bulkhead was charred.

I am, Sir,

Your obedient Servant,

(Signed) R. J. BERRY,

The Principal Office, Board of Trade, Engineer and Ship Surveyor.

London District.

No. 79.—S.S. "EDINDOUNE" of Banff. B.F. 1118. Gross tonnage, 57.

Report on fire which occurred at Scapa Flow on 14th February 1920.

Board of Trade Surveyors' Office,

Aberdeen,

15th April 1920.

Sir,

In accordance with instructions given on M. 14974/19, dated 22nd March 1920, I respectfully submit the following report.

The "Edindoune" was a fishing boat registered under Part. IV of the Act, length about 80 feet, and owned by three brothers Flett, of Findochty, and John Flett was the skipper.

She was propelled by an 80 H.P. internal combustion motor of a two-stroke cycle with two cylinders and hot bulb ignition, made by Messrs. Woodward of Keighley. It was installed in October 1919 and was fitted aft of the fish hold and forward of the crew's quarters.

The vessel was proceeding under sail from St. Mary's Holme to Stromness on 14th February, and the engine was being heated previous to starting, when one of the lighted blow lamps fell into the bilges and set fire to the woodwork, which was impregnated with oil. The fire spread rapidly and forced the crew to abandon the ship, which eventually sank about 2 miles S.W. from the lighted buoy at Scapa, after an explosion occurred in the engine-room.

The fuel tanks were situated aft in the engine-room and contained over 400 gallons of paraffin. Both tanks had a draw-off cock fitted, but there does not appear to have been any vent led to the deck on either.

The bilges under the engine were cemented out to within 4 inches of the floors, but there was not any tray under the engine or under the fuel tanks. The arrangement
appear to have been such that all the used lubricating oil (daily consumption 4 gallons) was allowed to run away to the bilges before being pumped overboard.

I am, Sir,
Your obedient Servant,
(Signed) J. H. FERGUSON,
Surveyor.

The Principal Officer, Leith.

No. 80.—S.S. "RADNORSHIRE." O.N. 143441. Gross tonnage, 6,650.
Report on fire which occurred at Havre on 17th February 1920.

Board of Trade Surveyor's Office,
Canning Place, Liverpool,
29th April 1920.

SIR,

WITH reference to the above, I have visited this vessel to-day, and beg to report as follows.

The fire occurred whilst discharging cargo at Havre in No. 4 lower hold, after end; this hold is immediately abaft the engine-room, the position of the fire being 40 feet abaft the engine-room bulkhead and immediately under the 'tween decks.

The cargo in this hold consisted of bales of cotton and bags of coffee. Four 24-inch cowl ventilators lead into the hold, two at each end.

From information it would appear that no sign of fire or heat was observed prior to the outbreak, and a watch was kept by the ship's officers to prevent smoking amongst the stevedores, but ship repairers were at work on deck immediately above the position of the fire, removing and replacing a heavy eyebolt which is riveted to the deck to take one of the mainmast stays. Oxy-acetylene gas was being used to cut out the rivets, and heated rivets were used to re-rivet the eyebolt into its new position a few feet away.

As this work was done before the fire occurred, and the 'tween decks were empty, and an open feeder 'tween deck hatchway was immediately below the riveting, making a clear way for sparks to penetrate into the hold, there is no doubt in my mind that this was how the fire originated, a spark got amongst the combustible cotton, and smouldering commenced. No damage was done to the ship, and only a few bales of cotton were scorched.

I am, Sir,
Your obedient Servant,
The Principal Office, Liverpool.
(Signed) D. SMITH.

No. 81.—S.S. "INVINCIBLE" (Storeship).
Report on fire which occurred off Peel Island on 28th February 1920.

SIR,

I BEG to report that I have inquired into the circumstances attending the outbreak of fire on board the above-named vessel, and ascertained the following particulars from the managers of the North of Ireland Marine Salvage Company, who is in complete charge of the operations.

The "Invincible," which was a sailing vessel fitted with an auxiliary motor, was formerly a fishing boat and was registered as such, and has been owned by the North of Ireland Steam Salvage Company for about 2½ years.

It has been used as a store ship, pumps and gear required in salvage work being kept on board.

This Salvage Company are Trinity House contractors, and are engaged in dispersing the wreck of the Canadian Pacific Company's vessel "Montreal," which sunk as a result of a collision about four years ago, and also the wreck of the "Vedra," an oil carrier which grounded off Walney Island and was destroyed by fire.
The contract is for a sum of money and the salved material becomes the property of the contractors.

Two other vessels belonging to the company were also at this port at the time of the casualty, one being named the "Star of Hope," was anchored at Peel, and the other, "Bouncer," was in Ramsden Dock. Both vessels are small steamships, the latter being a twin-screw vessel, while the former was formerly a steam drifter.

The "Invincible" came here on the 17th December last and brought stores and other gear from the vicinity of Belfast. The vessel had a crew of five on arrival, but all except one member subsequently left, and this man is now employed on one of the other boats. The man, William Ellison, who was drowned as a result of the casualty, was engaged as a watchman on board the "Invincible," and he also acted as storekeeper. The stores consisted of heavy lifting blocks, wires and oil. No explosives were then on board. The oil was stored in barrels and in storage tanks on board. One tank had a capacity of 60 and one of 80 gallons. These stores were served out as required to the other vessels and also to a small motor-boat.

One of the vessels, "Bouncer," arrived at this port after the "Invincible" and brought one barrel of paraffin, two barrels of engine oil and other gear. The paraffin and engine oil were transferred to the "Invincible."

At the time of the fire it was stated that there were on board one barrel of paraffin, besides about 120 gallons of paraffin in the tanks, and two barrels of engine oil, besides about 100 low-tension fire detonators, which were placed on board on the 26th February. The barrel of paraffin and the barrels of engine oil were in the hold, whilst the tanks containing paraffin were in the engine-room, a wooden bulkhead separating that space from the hold. Between the date of arrival at this port and the casualty explosives had been stored on board. In December, on the arrival of the "Invincible," a consignment of explosives, "Tonite," which had previously been stored on shore, was put on board, the quantity being about two tons. This explosive was used as required in connection with the dispersal of the wrecks mentioned. Further consignments of explosives, "Tonite," were stored in a magazine at the military barracks on Walney Island.

Various quantities of this explosive were taken from the "Invincible," the weight on each occasion varying from 200 to 1,000 lbs., and on the 26th February, it was stated, the last parcel of 600 lbs. was removed, and no explosives were placed on board between that occasion and the outbreak of fire, although a fresh consignment was expected.

It was not, however, the practice to store detonators on board when explosives were carried, and the detonators mentioned were only put on board on the 26th February after the last quantity of explosives was taken out. It was stated that the detonators were stored in a tin box which was placed in a wooden box and laid in the hold of the vessel.

The vessel was anchored with two anchors about 300 to 500 yards from the shore at Peel.

It appears that Mr. Philpott, an assistant manager, was on board on the 27th February and left in the ship's boat between 6 and 7 p.m., the boat being left on the shore for the night. On that evening the vessel, which could be easily seen, appeared to be all right. Next morning he observed the fore part of the vessel on fire, but the riding light was not then in place, the red light alone showing at that time. The fire appeared to run along the lug sail, which was stored on a spar which extended forward of the mast, the height of the flames appearing to be about 12 inches. He at once told an assistant that the vessel was on fire, and at once went into the small boat. On getting to within 150 yards from the ship he called for the watchman, but no response was made, and hearing his assistant call that he heard a voice calling for help, he went in search of the watchman, but after searching for about 40 minutes he could find no trace of him. He then returned to within 50 feet of the burning ship, but the fire had spread so far that nothing could be done. The weather was hazy at the time.

The watchman's body was subsequently found on the shore, and it was stated that a life-jacket was securely fastened to his body. I have inspected the life-jacket and found that it was an overhead Fosberry jacket, and one time an approved type. It was in good condition although the covering was broken at the corners and in places.

No definite evidence was obtained to account for the origin of the fire.

As stated, it was observed that the riding light was not in place when the fire was first noticed, and it was suggested that the watchman may have upset the lamp.
when attempting to put it out, and the paraffin spilt on the sail may have immediately ignited through coming into contact with the flame of the lamp. A fire of that kind, however, could probably be put out at once by immediate vigorous action. It appears that the sail itself had been dressed with oil last November by Mr. Tedford, Corporation Street, Belfast, but it was not known if the dressing used was particularly inflammable.

I asked the manager if he could account for the apparent hurried manner in which the watchman left the ship by jumping overboard, but he could give no reason. I suggested that he may have thought explosives were on board, but he replied that he, the watchman, kept the record of the stores on board, and must have known that all the explosives had been removed.

He may possibly have feared an explosion from the detonators. There did not appear to be any urgent need for the man to jump overboard.

Signalling apparatus were available and arrangements made for signalling if required.

The man, however, was an experienced watchman on oil carriers, and had been regularly employed by the Anglo-American Company's vessels when at this port.

It was stated that the ship subsequently blew up, and the presence of the paraffin on board would probably account for an explosion. It was, I think, obvious that no high explosives were on board at the time of the fire.

The ship's boat appeared to have been used by the assistant manager the previous night, and was left on shore for use again in the morning, but it is very probable that if the boat had been alongside that vessel, and available for the use of the watchman, there would not have been any loss of life.

It was stated that the vessel and gear were not insured.

This report has been kept open pending the return to Barrow of Mr. Philpott, the assistant manager, but he has not so far indicated any intention to return. He left Barrow on a visit to his home in Belfast on account of the illness of his wife.

I have learned, however, that he was considered a very careful man and gave Ellison, the watchman, instructions from time to time as regards precautions and also as to signalling to the shore, and was attentive to see that he had all he required in the way of foodstuffs on board.

I have also ascertained that he, Mr. Philpott, was put on board on the evening of the 27th by means of a private yacht, which, however, did not wait to put him ashore, and consequently he used the ship's boat in returning to the shore.

There was a strong tide running at the time of the casualty, and Ellison appeared to have been carried away with the tide current.

It was also stated that the man did not wear a belt or braces on his overalls, and when the body was found the trousers of the overalls had dropped to the feet, which were held tight in a bound condition.

I might also state that Ellison was cautioned the day prior to the fire against placing the lamps on the box containing the detonators whilst lighting them, and this caution may have led him to think that they were particularly dangerous.

The ship's store-book was lost as a result of the fire.

I am, Sir,
Your obedient Servant,

The Principal Officer, Liverpool.

(Signed) W. L. MacGregor.

No. 82.—S.S. "Luceric." O.N. 142768. Gross tonnage, 6,672.

Report on fire which occurred in the South Pacific Ocean in February 1920.

Board of Trade Surveyors' Office,
79, Mark Lane, London, E.C.,

Sir,

In reference to the accompanying letter, I to-day saw Mr. McBride, superintending engineer, who informed me that he did not know the precise nature of the acid carried, but there was only a small quantity, contained in steel drums, which were stowed by themselves on the shelter deck, around which there is merely a guard rail.
When the vessel encountered heavy weather the drums appear to have become damaged, and, on seeing fumes arising therefrom, the master considered it prudent to throw all the drums overboard, which was accordingly done. So far as is known, no damage to the vessel was effected.

I am, Sir,

Your obedient Servant,

(Signed) CHARLES W. ROBERTS,

Senior Engineer Surveyor.

The Principal Officer, London.

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No. 83.—S.S. "ERENEMORE." O.N. 137059. Gross tonnage, 4,593.


Board of Trade Surveyors’ Office,

73, Robertson Street, Glasgow,

13th April 1920.

SIR,

I beg respectfully to report that on making inquiries on board of this vessel I found that the fire, though not serious in its effects, was evidently due to spontaneous combustion, and might have endangered the safety of the ship and crew had the voyage been of longer duration.

The following is an extract from the chief officer’s log relating thereto:—


11.30 a.m.

Two bales of rags hove out of No. 5 hold slightly smouldering, same immediately opened out to prevent fire."

The chief officer informed me that the smouldering bales were of old rope and not of rags as above stated.

These bales of old rope were shipped in a damp condition in wet weather and were not compressed after the manner of bales of cotton or wool, but banded together with a portion of their contents. They were, however, stowed in the ground tier and consequently subjected to compression by the cargo stowed over them, and evidently generated heat owing to such compression and their damp condition. The adjacent cargo consisted of bales of paper, marble slabs in cases and small bags of lead shot, uncharged. On further inquiries I learned that these bales of old rope are not treated with any preparation, inflammable or otherwise, so that combustion was not due to any such cause, but solely to those above indicated acting on the natural oil contained in the rope.

I have impressed on the owners the advisability of stowing such cargo in the ’tween decks well clear of engine and stokehold bulkheads, and they have promised to adopt this method of stowage with any future consignments.

I am, Sir,

Your obedient Servant,

The Principal Officer, Glasgow.

(Signed) M. C. CORRANCE.

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No. 84.—S.S. "HERRING HO." O.N. 137590. Gross tonnage, 85.

Report on fire which occurred in Scarborough Harbour on 12th March 1920.

Board of Trade Surveyors’ Office,

Market Place, Hull,

22nd March 1920.

SIR,

I visited this vessel on Saturday last when at Scarbro’ and found the wood beams and deck burnt in the after cabin. The fire took place whilst the vessel was in Scarbro’ Harbour, and, it would appear, was caused purely accidentally although the actual cause cannot be stated, but it appeared to originate in the after cabin and might have been caused by fire falling out of the stove, or some other accidental means of origin. There is no evidence available that it was wilfully caused and the
men on the drifter naturally suffer from the vessel being laid aside for awhile during repair, and only the fishermen on board would have access to the after cabin. The work connected with the permanent repairs will be carried out at Grimsby—temporary repairs are being effected to enable the vessel to proceed to that port.

I am, Sir,
Your obedient Servant,
The Principal Officer,
East Coast of England.

(Signed) Thos. Skinner.

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Report on fire which occurred at Portgordon on 23rd March 1920.

Board of Trade Surveyors' Office,
Aberdeen,

SIR,

IN accordance with instructions given on M.14974/19, dated 27th March 1920, I respectfully submit the following report.

The "Vesper" was a fishing boat registered under Part IV. of the Act, about 67 feet long, and registered tonnage 40, and owned by A. Reid, of Portgordon. The skipper was R. Ness, also of Portgordon.

She was propelled by a four-cylinder Kelvin motor, started on petrol, and using paraffin as fuel, and had a vertical boiler for the use of the capstan fitted forward of the fish hold. The motor was situated aft, and the fuel tanks in separate compartments alongside it, and the crew's quarters were also aft.

The vessel was in Portgordon on 23rd March discharging her catch of fish, and the boiler was in use from 9.30 a.m. until 4 p.m., at which hour the fires were drawn. The crew then left the ship.

Shortly after 11 p.m. flames were seen issuing from the forepart of the vessel, and the skipper states that when he arrived at midnight the forepart was enveloped in flames. The fire travelled aft and reached the engine-room, where the paraffin increased its intensity and the ship was burned to the water's edge.

The cause of the outbreak is obscure, though the owner states that he had had trouble previously with the deck catching fire at the point where the boiler-funnel passes through, and this would appear to be a not uncommon occurrence, for in several other craft fitted with a boiler in a similar position the deck beams are well charred from a lack of proper lagging around the boiler uptake.

I am, Sir,
Your obedient Servant,
The Principal Officer, Leith.

(Signed) J. H. Ferguson,
Surveyor.

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Report on fire which occurred at Sunderland on 27th March 1920.

Board of Trade Surveyors' Office,
Sunderland,

SIR,

THE above vessel has been at Messrs. Austin's yard in this port for over two months undergoing extensive overhaul and repairs. She left the repairers' yard at 7 p.m. on Friday, the 26th March, and was towed to the South Dock to take in bunker coal. No loading berth being available, she was made fast to the buoys at about 8.15 p.m. None of Messrs. Austin's workmen were on board when the vessel left their yard, but some boiler-coverers were then still at work and did not leave the ship until about 8.30 p.m. The men who had taken the ship down to the docks also left about this time, followed shortly afterwards by the First and Second Engineers
who had been working on board the whole of the time the vessel was undergoing repairs. The only man now remaining on board was the watchman, who afterwards stated that he went all round the ship about 1 a.m. on the 27th and found no indication of anything wrong. However, at about 2 a.m. flames were seen by someone on an adjoining vessel issuing from the engine-room skylight of the “Dallington.” An alarm was given, and the Wear Commissioner’s fire-boat, the “Fire Queen,” was soon alongside, and succeeded in putting out the fire at about 5 a.m. In this she received valuable assistance from an adjoining Swedish vessel, pumping water on the flames through her wash-deck service pipes. The fire undoubtedly originated in the engine-room store, which was situated on the starboard side of the engine-room, between the starboard bunker and the E.R. bulkhead. This store was divided into two, about the middle of its height, and the floors, fronts, and doors of each space were of wood. In addition to a lot of spare gear, tools, packing, and miscellaneous stores, there was stored in the lower compartment a quantity of waste, and in the upper one the following paints and oils: 10 gals. of cylinder oil, 15 gals. of paint oil, 10 cwt.s. of various paints, 3 gals. of turpentine, and 2 gals. of varnish. I have been unable to find out how the fire originated, but it is assumed that it must have been caused by someone throwing a match or cigarette end on the waste in the lower store where it would be smouldering for some time before bursting into flame. There was about 10 tons of coal in the adjoining bunker. During the repairs this coal had all been removed from the bunker, stowed on the quay, and replaced the day before the vessel left the yard. There was no evidence of any fire having occurred in the bunker. The damage caused by the fire was extensive. No damage appears to have been done to the machinery, and, fortunately, the tanks in which the engine oil and petroleum are stored were on the other side of the engine-room and escaped injury.

I am, Sir, Your obedient Servant, (Signed) THOMAS W. WRAY.

The Principal Officer, North Shields.

No. 87.—S.S. “Restless Ocean.” INS 533. Gross tonnage, 44.

Report on fire which occurred at Lossiemouth on 27th March 1920.

Board of Trade Surveyors’ Office, Aberdeen, 15th April 1920.

Sir, In accordance with instructions given on M. 14974/19, dated 31st March, I respectfully submit the following report.

The “Restless Ocean” is a fishing boat, registered under Part IV. of the Act, principal dimensions are 68'0 by 20'0 by 7'2, register tonnage 44'06, and is owned by several persons, D. Gault and Andrew Cormack, of Lossiemouth, being the principals. A. Cormack is the skipper. She is fitted with a three-cylinder Gardiner motor of 65 H.P., and uses paraffin only. The machinery is situated forward and the crew’s quarters are aft. A vertical boiler is also fitted forward beside the engine-room, and the paraffin tank, holding 300 gallons, is situated on the starboard side of the engine, but separated by a wooden bulkhead.

While the vessel was in Lossiemouth Harbour, laid up for repairs, fire was noticed on board at 10.15 p.m. on Saturday, 27th March, and the superintendent of police, who was first on the scene, states that it was located in the engine-room. It, however, spread to the hold, and before being subdued by fire hose the starboard side and deck of the ship was practically destroyed.

On the day that the fire occurred the skipper had emptied the fuel tank into barrels on shore by means of a hand pump and hose led from the bottom cock in order to allow of an inspection of the damaged ships-timbers behind the tank. He finished at 1.30 p.m., and states that he left everything in order before going ashore. Two members of the crew are known to have visited the vessel about 4 p.m., and they state that they stowed an empty barrel in the hold.
The cause of the fire is not known, but although those who were on board state that they did not use any light it is a common practice amongst the fishermen to smoke on these boats.

A peculiar feature of this case is that the fire continued smouldering under the forecastle flooring for two days before it was noticed again.

The vessel is considered to be a wreck.

I am, Sir,
Your obedient Servant,
(Signed) J. H. FERGUSON,
Principal Officer, Leith.

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Report on fire which occurred at Baltimore, Co. Cork, on 31st March 1920.

Sir,

I beg respectfully to report as follows:—The “Spring Flower” is a motor fishing boat of the following dimensions, 60.5 by 17.2 by 8.1; a 26 H.P. Kelvin paraffin motor is installed.

At the time of the accident the boat, with others, was lying alongside the quay at Baltimore when, according to the motor-driver, a flash was seen in the engine-room, the woodwork took fire, the extinguisher was burnt—it was hanging in the engine-room and could not be reached on account of the flames.

The deck above the motor was broken up and the motor space was flooded and the fire extinguished.

If the engine-driver’s statement can be relied on, it is difficult to explain the cause of the fire: he was not smoking nor was he using a light, the engine was stationary.

I can only suggest that a cinder from the stove funnel must have fallen into the motor space and ignited the oil-saturated wood.

I am, Sir,
Your obedient Servant,
(Signed) GEO. MACFARLANE GRAY,
The Principal Officer, Ireland.

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Report on fire which occurred off Mizen Head on 2nd April 1920.

Sir,

I beg respectfully to report as follows:—The “St. Finbar” is a motor fishing boat of the following dimensions, 58.0 by 16.0 by 6.5; a 50 H.P. “Gardiner” paraffin motor had recently been installed, and at the time of the fire the boat was on her first trip of the season.

They had reached the fishing ground and were ready to make the return passage, the engine was being started up.

According to the man in charge of the motor he had some difficulty in starting the motor and when working at it a back-fire took place at the air inlet on the engine, the woodwork took fire and the boat was soon in flames.

The crew got away in their punt, the fishing boat was a total loss.

The conditions in which these engine-rooms are kept is a great danger in case of fire, the woodwork is generally saturated with paraffin and lubricating oil, and the men are extremely careless.

I am, Sir,
Your obedient Servant,
(Signed) GEO. MACFARLANE GRAY,
The Principal Officer, Ireland.

Report on fire which occurred at Liverpool on 3rd April 1920.

Board of Trade Surveyors' Office,
Canning Place, Liverpool,

SIR,

I have the honour to report that I visited the above vessel on the 27th instant with regard to M. 14974.

A fire broke out on April 3rd, 1920, at 9 a.m. in the upper engineers' store (situated on the port side of the engine-room) which contained coir mats, ash bags, bales of fibre, &c. The fire was extinguished by the dock fire brigade at 11 a.m. and the vessel proceeded to sea.

The fire was reported to have originated by either a spark from a hand lamp, or a lighted match being dropped by one of the stokehold hands.

Fire Appliances on Board:—

- In engine-room: 1 length 50 ft. 2½ ins. canvas hose.
- On deck: 2 lengths 60 ft. 2½ ins.
- 2 patent fire extinguishers.
- 2 smoke masks.

I have the honour to be
Your obedient Servant,

(Signed) HENRY J. TEMPERLEY GREY.

Liverpool.

No. 91.—S.S. "HECLA." O.N. 104140. Gross tonnage, 60.

Report on fire which occurred at Aberdeen on 4th April 1920.

Board of Trade Surveyor's Office,
Aberdeen,

SIR,

I beg to report that a fire occurred on board the above vessel on Sunday, 4th April, about 10 p.m.

The Hecla is a trawler converted from a steam yacht and is owned by Thelma Ltd., 7, North Street, David Street, Edinburgh. Her principal dimensions are 80-3 by 15'-0 by 8'-3, and register tonnage is 28'-85.

The vessel grounded aft alongside the quay and listed to starboard. Water found an entrance by the open bunker scuttle on deck, and, as the tide rose, the storage tank for calcium carbide became submerged and gas was generated within. The lid of this tank, though jointed, had not been tightened down.

The insurance company's surveyor states that he was alongside in a boat before the fire was noticed, and that flames came through the engine-room skylight but that there was not any explosion. The engineman had lighted and banked the boiler fires at midday and states that he did not leave any other light on board. The watchman appointed to look after the vessel was not on board at the time, and appears to have been absent when the ship grounded.

The gas from the storage tank for calcium carbide became ignited and burned the deck above, the engine-room skylight and the engine cylinder cleading before it was put out by the fire brigade.

Although the banked boiler fires might be disturbed by the vessel heeling over it is more likely that the gas became ignited by a lamp left burning, possibly at the water gauge, than from a point so far away from the tank as the furnaces are.

I am, Sir,
Your obedient Servant,

(Signed) J. H. FERGUSON,
Surveyor.

The Principal Officer, Leith.

Report on fire which occurred at Karachi on 5th April 1920.

Board of Trade Surveyors' Office,
Canning Place, Liverpool,
29th May 1920.

SIR,

I am informed by the chief officer that a fire occurred on board the above vessel in No. 4 lower hold at Karachi on 5th April 1920. In accordance with M. 14974/19 I have made inquiries into the circumstances attending the casualty.

No. 4 hold is situated immediately abaft the engine-room bulkhead. It is stated that at the time of the fire the bottom of No. 4 lower hold contained manganese ore stowed in bulk to a depth of about 5 feet. Bags of oil cake and bales of cotton were stowed on top of the ore at the forward end, and bags of bone meal and bales of hides were stowed at the after end of the hold. The vessel had been partly loaded at Bombay, the loading being continued at Karachi. Work had been stopped at 3.30 a.m. on 5th April 1920; at 4.5 a.m. smoke was seen to issue from No. 4 lower hold, and it was found necessary to flood the hold at 7 a.m. The fire apparently started about 20 feet abaft the engine-room bulkhead, where the oil cakes were stowed. The fire was probably caused by the native stevedores smoking in the hold.

I am, Sir,
Your obedient Servant,
The Principal Officer, Liverpool.
(Signed) H. CRANWELL.


Report on fire which occurred in the North Sea on 5th April 1920.

Copy of letter from B.N. Steam Trawling Co.

Board of Trade Surveyors' Office,
79, Mark Lane, E.C.3,
10th April 1920.

"May Baby."

DEAR SIR,

In reply to yours of the 9th instant—
(1) We have been unable to ascertain the cause of the fire.
(2) The fuel oil we use was crude oil supplied by the Anglo-American Oil Co.
(3) The fuel oil was stored in four circular fixed tanks in engine-room.

The ship was sunk by a destroyer.

Yours faithfully,
per pro

B.N. Steam Trawling Co.,
(Signed) E. G. NEWBY.

No. 94.—S.S. "PATMOS." O.N. 143403. Gross tonnage, 1,907.

Report on fire which occurred at Leith on 6th April 1920.

SIR,

This vessel is one of the ex-German ships, and on visiting her I find the cause of the fire to be overheating of the cabin chimney.

The cabin is a deck house, and the stove, which is of the usual ship's type, is placed as per rough sketch:—
The grate surface is 9½ inches by 9 inches by 6 inches deep to top of vertical front bars, and the waste gases are carried away by means of an iron funnel 5 inches diameter. This funnel enters an ordinary deck plate, and from thence is led up to the side of the steering engine-house, which is above the cabin. The cabin ceiling is panelled, and the fire started between the panelling and the deck above, owing to the woodwork being inadequately protected.

The deck and panelling was badly charred and is being renewed.

The Principal Officer, Leith.  
(Signed) J. EDMOND,  
8th April 1920.

No. 95.—S.S. "KURMARK." O.N. 139049. Gross tonnage, 5,137.  
Report on fire which occurred at Birkenhead on 12th April 1920.  
Board of Trade Surveyor's Office,  
Canning Place, Liverpool,  
29th April 1920.  

SIR,  
I BEG to report that this fire occurred whilst the vessel was discharging at Birkenhead, and originated in the fore end of No. 1 'tween decks, close to No. 1 bulkhead.  
The cargo in this compartment consisted of bales of cotton stowed in the ordinary manner. When the fire broke out, ship repairers were at work repairing bow damage immediately on the fore side of No. 1 bulkhead, under the forecastle head; oxy-acetylene gas was being used to cut out damaged frames, &c., and the cement in the waterways adjacent to the fire had been broken away, leaving small apertures in the deck around two of the hold frames.  
In my opinion the fire originated through sparks or hot rivets finding their way through the apertures into the hold and igniting the cotton.  
The hold was ventilated four 24-inch cowl ventilators, two at each end, and the cargo showed no signs of firing when the discharging commenced.  
I am, Sir,  
Your obedient Servant,  
The Principal Officer, Liverpool.  
(Signed) D. SMITH.

Report on fire which occurred at Liverpool on 12th April 1920.  
Board of Trade Surveyors' Office,  
Canning Place, Liverpool,  
27th April 1920.  

SIR,  
I HAVE the honour to report that I visited the above vessel on the 19th instant, and again on the completion of discharge of cargo in No. 1 hold on the 26th instant.
On April 12th at 4.30 a.m. when the vessel was lying alongside the quay in the Brocklebank Branch Dock smoke was observed issuing from the starboard after ventilator of No. 1 hold. The hatches of the hold had not been removed since the vessel left Cienfuegos, Cuba, on the 17th of March. The fore peak bulkhead and forecastle were examined and there was no sign of heating.

The fire brigade arrived within a few minutes of being called and removed all the hatches, and after some 600 bags of sugar had been discharged from No. 1 between deck the smoke became too dense for the men to continue, and the hold was flooded. The fire originated in No. 1 hold on the port side abreast the forward end of the orlop hatchway, and spread aft along the orlop deck. The master and officers of the vessel could assign no reason for the outbreak. I could form no opinion as to the origin of the fire but would observe that the gunny bags appeared to have accelerated the combustion.

Fire Appliances.—Two 60-feet lengths of 2½-inch canvas hose. Steel hoses for connecting to steam pipes on deck.

Ventilation.—Four 20-inch cowls, two forward and two aft.

I have the honour to be, Sir,

Your obedient Servant,

The Principal Officer, Liverpool,

(Signed) HENRY J. T. GREY.

No. 97.—"KHIVA." O.N. 135533. Gross tonnage, 9,017.

Report on fire which occurred at Singapore on 22nd April 1920.

Board of Trade Surveyors' Office,

79, Mark Lane, London, E.C.3,

29th June 1920.

SIR,

In accordance with instructions I have visited the above-named vessel to inquire into the circumstances attending the recent fire which occurred on board.

The vessel arrived at Singapore from Hong Kong at about 5 a.m. on 22nd April 1920, and shortly afterwards commenced discharging local cargo. Amongst the coastwise cargo to be discharged was about 150 tons of Chinese goods which had been shipped at Hong Kong on the way down the coast. This portion of the cargo was stowed at the after end of what is known as the upper orlop deck in No. 3 hold, and consisted of lard, dried seaweed and other similar miscellaneous Chinese goods. No. 3 hold is the hold just forward of the boiler-room. It would appear that the discharging of the Chinese cargo proceeded satisfactorily until about 10.40 p.m. on the same day (22nd April) when some of the goods suddenly took fire. The fire spread among this cargo very rapidly and the coolies working it were immediately driven to the upper deck. Hoses were at once got to work playing on the fire and the hatch covers put on. Later the Singapore Fire Brigade and fire-float arrived, and being supplied with right-angled nozzles were able to play direct on the fire from the hatchway and to extinguish it. The fire occurred near the bulkhead separating the No. 3 upper orlop deck from the "reserve" 'tween deck in which was stowed some cases of camphor. The heat passed through this bulkhead and fired some of the cases of camphor, which were, however, soon extinguished.

It is suggested that the fire was caused by some coolie smoking while working the cargo, and I think this theory is probably correct.

Repairs were made to the damaged portion of the vessel at Singapore to make her seaworthy and permanent repairs have been executed in London.

I am, Sir,

Your obedient Servant,

The Principal Officer,

London District.

(Signed) W. L. WATSON.
No. 98.—Motor fishing vessel "HYACINTH." F.R. 171. Gross tonnage, 36.

Report on fire which occurred in the North Sea on 28th April 1920.

Board of Trade Surveyors' Office,
Aberdeen,

SIR,

In accordance with instructions given on M. 14974/19, dated 10th May 1920, I respectfully submit the following report.

The "Hyacinth" was a wooden fishing vessel owned and manned by John Buchan and three sons, of St. Combs, Fraserburgh. She was about 18 years old, 69 feet in length and 35.5 tons gross.

The vessel was twin-screw, propelled by a 4-cylinder Kelvin motor of 60 H.P., started on petrol, and a 3-cylinder hot bulb Gardner motor, both running on ordinary paraffin and having been installed since 1917.

The "Hyacinth" left Oban pier on Wednesday, 28th April, at 1.15 p.m., and the engine-driver states that 20 minutes later a joint gave out on the paraffin feed system of the Gardner motor, and the escaping fuel, pouring over the cylinders, became ignited by the blow-lamps which in this type of engine are always in use. This set fire to the flooring and timbers of the ship which were impregnated with oil. The fire spread with such rapidity that the chemical extinguisher was of no avail, and the vessel had to be abandoned. She was eventually beached by the harbour authorities and allowed to burn to the water's edge.

The machinery in this vessel was situated forward of the fish-hold and the crew's quarters were aft. Fuel was carried in three tanks, fitted in the motor-room, of an aggregate capacity of 500 gallons, and a 2-gallon tank of petrol was fitted in the fish-hold outside the machinery compartment. A further 80 gallons of paraffin was being carried at the time in barrels.

The joint which failed was annular in shape, made of cork and tightened by a flange against one of the mountings of the motor, and as it would appear to have been within a foot from the hot bulb it is probable that this material had deteriorated with the heat.

There does not seem to have been any provision made to prevent oil from getting in the bilges nor from spreading about the ship when once there. The Gardner engine was not provided with a metal tray around it nor had the bilges been cemented out.

It is a common practice in this type of vessel, with machinery forward, to neglect the placing of cement under the motors on account of trim, and to fail to isolate properly the engine-room bilges from the remainder of the ship.

I am, Sir,

Your obedient Servant,

The Principal Officer, Leith.

(Signed) J. H. FERGUSON.

No. 99.—S.S. "NOVIAN." O.N. 135542. Gross tonnage, 6,368.

Report on fire which occurred in the N. Atlantic on 3rd May 1920.

Board of Trade Surveyors' Office,
Canning Place,
Liverpool,

SIR,

I have the honour to report that I visited this vessel on the 17th instant with regard to the above Minute.

A fire broke out at 9.30 p.m. in No. 3 lower hold on the 3rd instant when the vessel was at sea some 200 miles west of Fastnet. The fire originated amongst the cotton stowed in the lower hold beneath the orlop deck hatchway, and spread upwards. The steam jets were immediately turned on and the fire kept under control until the vessel arrived in Liverpool on May 6th, but on the hatches being removed it broke out again with renewed vigour.
The orlop deck cargo was discharged and the lower hold flooded on the 10th, May, when the fire was finally extinguished. No reason was expressed by the officers of the vessel as to the cause of the outbreak, but I formed the opinion that it may have been due to friction. Plan of stowage of cargo and ventilation is attached.

Fire appliances on Board:
- Steam jets to all holds.
- Two smoke helmets.
- Four patent fire extinguishers.
- Two 60-foot lengths 2 1/2 canvas hose.

I have the honour to be, Sir,
Your obedient Servant,
The Principal Officer, Liverpool. (Signed) HENRY J. TEMPERLEY GREY.

S.S. "Novian."

STOWAGE PLAN OF CARGO.

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<tr>
<th>Bunkers</th>
<th>Casks of Sugar.</th>
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<td>Coal all used before fire occurred.</td>
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<td>Recess.</td>
<td>Cotton.</td>
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<th>Casks of Extract.</th>
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Report on fire which occurred at Buckie on 5th May 1920.

Board of Trade Surveyors' Office,
Regent Quay, Aberdeen,
15th May 1920.

Sir,

A fire occurred on board the above vessel at Buckie on Wednesday, 5th May, and I respectfully submit the following report.

The "Maggie" is a wooden fishing vessel about 16 years old, registered under Part IV. of the Act, and her principal dimensions are 81.0 feet by 20.5 feet by 7.5 feet, and tonnage 55.5 register. She is owned by James Cowie, George Cowie, 25, Mid Street, Buckie, and David Reid, Buckie, and is propelled by two Kelvin motors, each of 30 H.P., four cylinders, started on petrol and running on paraffin.

There had been a breakdown on the port motor and the contracting engineers' fitter carrying out the repair tried to start up after assembling the engine. A backfire occurred, setting alight the carburettor, which in turn set fire to an accumulation of oil in the bilges.

The motors are situated forward of the fish-hold and on account of the effect on the trim the bilges under the motors had not been cemented out; however, a metal tray is fitted under each motor, but it is rendered somewhat ineffective as a hole 1 1/2 inch in diameter is pierced in the after end.
Two fuel tanks of 110 gallons each are fitted in the motor-room, and two petrol tanks of 2 gallons each were in the fish-hold aft of the motor-room. Provision had not been made to collect any dripping from the fuel tank connections. At the time of the fire the tanks were about empty.

The cause of the back-fire from the motor may be that as the engine had been recently dismantled, it is probable that there was faulty adjustment in the valve gear or ignition timing when re-assembled.

I am, Sir,
Your obedient Servant,
The Principal Officer, Leith.

(Signed) J. H. FERGUSON.

No. 101.—S.S. "MESABA." O.N. 142695. Gross tonnage, 8,002.

Report on fire which occurred at New York on 5th May 1920.

Board of Trade Surveyors' Office,
79, Mark Lane, E.C.,

SIR, 10th July 1920.

I HAVE made inquiries regarding the fire on this steamer and obtained the following particulars. On the 5th May 1920 the vessel was at New York and bags of sugar were being loaded in No. 6 hold. The hatch opening was covered when the stevedores completed work for the day, and at 9.45 p.m. smoke was seen issuing from a ventilator for No. 6 hold. The hatch covers were removed and on investigating a fire was discovered amongst bags of sugar No. 6 orlop deck.

The fire-hose was brought into use, the crew being employed shifting bags of sugar to get at the seat of the fire, which was quite extinguished at 10.45 p.m.

It is presumed that stevedores had been smoking in the hold before finishing work and had dropped either a lighted match or a cigarette end amongst the cargo.

I remain, Sir,
Your obedient Servant,
The Principal Officer, Board of Trade, London District.

P. McNEILL

No. 102.—S.S. "ARZILA." O.N. 124097. Gross tonnage, 2,737.

Report on fire which occurred in East India Docks, London, on 6th May 1920.

Board of Trade Surveyors' Office,
79, Mark Lane, E.C.,

SIR, 31st July 1920.

WHILE the ship was lying in the East India Dock, London, on 6th May last, smoke was observed issuing from No. 1 'tween-deck about 3.40 a.m.; the ship's hoses were got to work and fire brigade telephoned for; three arrived, and with assistance of P.L.A. float extinguished the fire at 5.30 a.m.

The fire had apparently originated in a pile of dunnage wood and ignited No. 1 hold. It appears that work had ceased in the hold at 7 p.m. the previous evening, sailors and painters having been at work there; the officer in charge had made his rounds at 10 p.m., and reported no naked lights burning.

The damage was considerable, necessitating the renewal of 1,200 feet of hold ceiling and limber boards, the removal and resetting of three deck beams, the renewal of centre plate in No. 1 bulkhead, and the releasing and fairing of other plates in the bulkhead.

The main deck post stringer plate was released and faired in place, and three plates renewed. The ship was placed in dry dock, and several plates in way of damage taken off, faired, and refitted.

The cause of the fire was not ascertained, but as the vessel was in the repairer's hands and had no cargo stowed, it is assumed that the men employed were responsible.

I am, Sir,
Your obedient Servant,
The Principal Officer, London District.

(Signed) C. W. LIMPRICHT WREN.

Report on fire which occurred in Mediterranean Sea on 12th May 1920.

Board of Trade Surveyors' Office,
Canning Place, Liverpool,

SIR,

I have the honour to report that I visited the above vessel on the 4th instant with regard to M. 14974/19.

The fire broke out in the forward end of No. 3 between deck on the port side when the vessel was at sea in latitude 31° 54' N., longitude 28° E., on the 12th instant, at 6.45 a.m., the vessel having left Alexandria the previous day.

Cargo consisted of cotton in the lower hold and between deck, with onions in the shelter deck.

The hatches were removed, the onions discharged, and with the aid of smoke helmets the seat of the fire was reached, the burning bales of cotton were landed on deck and extinguished. It was observed that the fire originated amongst the bales of cotton which were stowed on end.

The officers were of the opinion that the outbreak was due to friction.

Fire Appliances on Board.—Three 90-feet lengths of 2½-inch canvas hose.
Five patent fire-extinguishers.
Two smoke helmets.

Plan of stowage of cargo and ventilation attached.

I have the honour to be, Sir,

Your obedient Servant,

The Principal Officer, Liverpool. (Signed) HENRY J. TEMPERLEY GREY.

"KARNAK." O.N. 123,991.

Report on fire which occurred at Lowestoft on 20th May 1920.

Board of Trade Surveyors’ Office,
Great Yarmouth,

SIR.

25th May 1920.

In accordance with your request, I beg to report that I have to-day visited this vessel with reference to the fire which occurred on board on the 20th instant.

The fire, which emanated, without doubt, at the sides of the wooden stairway where the flue pipe from the cabin stove passes through horizontally at the height of the stove—about 20–24 inches above cabin floor—and then passes up in a right-angle bend and through the deck above.

The flue pipe was lagged with sheet asbestos, but this must have deteriorated and the woodwork stairway took fire through the flue pipe becoming overheated.

The damage was not so extensive as it might have been, but the staircase was burned away and the skipper’s berth was also practically burnt out. The remainder of the damage was confined to badly scorched paint work in the whole after part.

I am, Sir,
Your obedient Servant,
The Principal Officer,
London District.

(Signed) S. M. NEWCOMBE.

No. 105.—S.S. “SARDINIA.” O.N. 115696. Gross tonnage, 6,580.

Report on fire which occurred at Marseilles on 20th May 1920.

Board of Trade Surveyors’ Office,
79, Mark Lane, E.C.,

7th July 1920.

SIR,

On inquiring into the cause of this fire, I find from the vessel’s log-book that she was loaded with jute and hemp in the hold affected, and that the fire broke out whilst the vessel was lying at her berth in Marseilles. The hatch was open and a cargo cluster was being used, the wire being laid across the jute. This wire fused and the jute immediately caught fire and soon obtained a good hold in the ‘tween decks, the volume of smoke preventing the hatch from being battened down. Eventually a salvage steamer was moored alongside and filled the hold with water to a height of 2 feet above the upper deck, thereby extinguishing the fire. No. 1 hold was full to the hatches with jute and hemp, and No. 3 full to the height of the lower deck beams with coal.

When No. 2 hold was filled by the salvage steamer, it was found that in No. 1 hold there was 10 feet of water and in No. 3 hold 6 feet.

On examining the affected parts of the vessel, I find that the damage is slight. The main deck plating is buckled each side of No. 2 hatch and can be taken off, faired and replaced. Four main deck beams are cracked at the throat of the knee, but can be repaired in place. The wood upper deck is charred in way of the hatch and a portion is being renewed. The bulkheads at each end of No. 2 hold were found to be generally in good condition, being untouched by fire, but the vertical stiffener heel brackets on the tank top had some of the rivets sheared. These brackets are all being replaced by larger ones to take two more rivets on each arm. The vertical stiffeners of these bulkheads are slightly buckled, but can be faired in place and are being additionally strengthened by fitting a 7 ins. by 3½ ins. by ½ in. angle from deck to deck and alternate stiffeners riveted to them and to the bulkhead. The deflection of the bulkheads appears to have been slight owing to the cargo in the adjacent holds partly taking the load. No appreciable deflection is now visible, and the riveting and caulking appears sound. The water that was discovered in
Nos. 1 and 3 holds appears to have found its way there through the 'tween deck W.T. doors which have perished rubber joints. The deflection of the main and upper decks, due to expansion of the jute in the 'tween decks, is not at the greatest more than $\frac{3}{4}$ inch.

The vessel is now under survey for renewal of load-line certificates, and all necessary repairs and renewals are being dealt with.

I am, Sir,

Your obedient Servant,

(Signed) W. J. WRAGGE,

The Principal Officer, Board of Trade,

London District.

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Report on fire which occurred at London on 21st May 1920.

Board of Trade Surveyors' Office,

SIR,

I VISITED this steamer to-day and obtained the following information from the master.

A full cargo of sugar in bags was loaded at Sagua la Grande, Cuba, and the vessel left for London about the 7th of April last, arriving in London and was moored at the Charlton buoys on the 21st May last.

When smoke was seen issuing from the cross bunker vents, the hatches were removed from the cross bunker hatch (No. 3) and the cargo was found to be on fire on top and in way of the hatch. One hose from the ship and two from the adjoining vessels were turned on to the fire and it was extinguished in about half an hour.

The fire was discovered at 9 a.m. and the spot was quite cold in less than 1$\frac{1}{2}$ hours.

From 50 to 60 bags of sugar were damaged (water). There was slight damage to the wood cross bunker bulkhead and to the hatches. This was repaired in London.

I inspected the hold and found no damage. The cross bunker was well ventilated by one 17-inch and two 14-inch cowl vents.

I inspected the life-saving appliances and the lights and fog signals, and found all in good order.

(Signed) F. W. DANIEL.

The Principal Officer,

London District.

24th June 1920.

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Report on fire which occurred at Rosario on 25th May 1920.

Board of Trade Surveyors' Office,

SIR,

In accordance with my instructions I have made an inquiry into a fire which occurred on the above vessel whilst discharging cargo at Rosario on 25th May 1920, and now I beg to report as follows:

Working of the cargo was discontinued at 5 p.m. on the above date, and nothing occurred until 1 a.m. on the 26th May, when smoke was observed issuing from No. 3 hatch. The hatches were removed and the ship's fire-hoses brought to bear upon the fire, which was completely extinguished by 6 a.m.

The fire had originated apparently amongst a quantity of straw which had been used in storing the cargo, the remainder of which consisted of sheets of galvanised iron, the resulting damage being confined to the destruction of a portion of the hold ceiling.
From all the information available it can only be presumed that the fire was caused by the careless throwing away of a lighted cigarette end or wax vesta by one of the men working the cargo before the closing of the hatch.

I am, Sir,
Your obedient Servant,
(Signed) J. E. MAXWELL,
The Principal Officer, Engineer and Ship Surveyor.
London District.

Report on fire which occurred in Palermo Harbour on 9th June 1920.
Board of Trade Surveyor's Office, Canning Place, Liverpool.

SIR,
I have the honour to report visiting the above vessel yesterday, and after a conversation with the captain, I came to the conclusion that the cause of the fire might be attributed to spontaneous combustion.

It was found to have originated among some bales of hemp, which had been shipped at Leghorn some 12 days previously. This hemp was stowed well down in No. 4 hold and was clear of ventilators, the fire therefore could not have been caused by a match or a spark, &c., going down any air shaft or open hatchway.

I do not think there could be any idea of incendiarism at the port of loading, as so many days had elapsed before the outbreak was noted; at the same time I was given to understand that British ships in some of the Italian ports at the present time are subjected to attacks of various kinds, especially if the master has been instrumental in prosecuting any thieves or others at these ports. It would appear, therefore, advisable to warn masters of vessels sailing for Italian ports to be on their guard in this direction, especially if they are strangers to the trade.

I found the hold in question to have four large cowl ventilators, one at each corner, serving both the 'tween decks and lower hold. No damage appears to have been done to the vessel. The fire appliances appeared to be ample to cope with any ordinary outbreak of fire, the deck water service being used for this purpose.

I am, Sir,
Your obedient Servant,
(Signed) THOS. E. THOMPSON.
The Principal Officer, Liverpool. 27th July 1920.

Report on fire which occurred at Findochty on 11th June 1920.
Board of Trade Surveyors' Office, Aberdeen.

SIR,
In accordance with instructions on M. 14974/19, I respectfully submit the following report.

The "Phalarope" is a wooden fishing vessel owned and manned by James Sutherland and three of his brothers, all of Findochty. She is about 18 years old and her principal dimensions are 80·0 × 25·0 × 7·85, tonnage, 58·39 gross and 48·43 net. The vessel is propelled by a four-cylinder Gardner motor of 75 B.H.P., running on ordinary paraffin with electric ignition, installed in 1917.

The machinery is situated aft of the fish-hold on two hardwood bearers and the bilges are cemented out to within an inch of the flywheel, extending from the fish-hold sump right aft to the stern. The engine-room bilge, drained through a limber
hole to the sump, whence the steam bilge pump discharged it overboard. The living quarters are also aft and contain the cooking stove. The fuel tank, in the engine-room, is of a capacity of 330 gallons, and contained some 200 gallons when the fire occurred.

The machinery was under repair and one cylinder dismantled while the vessel was lying in Findochty harbour, and early on Friday morning, 11th June, about 1.30, it was noticed that fire had broken out on board. Assistance was rendered by all the fisher folk near by as the rest of the wooden craft around were in danger of being burnt. Large quantities of sand were thrown on to the flames and this prevented them from spreading about the bilges. Water from a hydrant ashore was eventually procured and the burning woodwork extinguished.

It is not known how the fire originated, but it is stated that it was at first concentrated below the dismantled engine, which formed a funnel for the flames to be directed on to the deck above. It would appear to have been confined to the bilge between the engine bearers on account of its being well cemented out. The flooring on each side of the engine is undamaged and the ship’s floors very little burnt.

The fire had broken through to the hold and was coming out on deck when first observed and it subsequently spread to the cabin aft and reached the stern before being put out by cutting holes in the deck and directing the fire-hose through to below.

The remarkable feature of this case is that the fire was practically confined to the engine bilge and the deck, beams, and upper parts of the vessel. The bulkheads remain for about half their height, and the cabin fittings are not destroyed below the height of 3 feet or so all round. The fuel tank has the paint scorched off the upper half, leaving it only blistered below, though this may have been protected by the sand thrown into the engine-room. The paraffin in the tank has evaporated to some extent through the deck pipe, which was uncovered to avoid the risk of bursting.

The contracting engineers had two employees working on the motor in the afternoon of the Thursday until 5 p.m., at which time the members of the crew also left the vessel. Later on that evening the foreman fitter of the firm came from Buckie to see what progress was being made and he left the vessel about 10.30 p.m., after seeing the fish-hold hatch covered with the tarpaulin and the motor-room companion closed. He states that he was careful with the light he used and did not leave any trace of fire behind, nor did he smell anything smouldering.

It would seem that there was a considerable amount of oil in the engine bilge, the crank case being fractured, and a certain quantity of oily waste lying about.

The damage extends from right aft in the cabin to a quarter of the length of the fish-hold.

The stove in the crews’ quarters had not been in use for a long period.

I am, Sir,

Your obedient Servant,

The Principal Officer, Leith.

(Signed) J. H. FERGUSON.


Report of fire which occurred on 26th June 1920.

Board of Trade Surveyors’ Office, Canning Place, Liverpool.

SIR,

IN accordance with M. 14974 of 9th July 1920, I beg to report that the S.S. “Campus” of Cardiff was visited by me in Liverpool on 12th July 1920. The chief officer informs me that smoke was first noticed coming from ventilators of No. 3 hold at 6.0 a.m. on 26th June 1920, and the fire was reached by removing cargo in way of hatch, and extinguished by the ship’s fire-hose. The position of seat of fire was given at a point about 6 feet below uppermost tier of bags of sugar on the after and starboard side of No. 3 hold, which was full of sugar.
The hold is divided by a wooden bulkhead forward of No. 3 hatch and is ventilated on the after end by two 10-inch cowl ventilators 3 feet high on bridge deck, and unprotected by gauze from sparks and matches.

There is also a hatch over the point of outbreak of fire in bridge space for trimming coal into this hold, which is at times used as a reserve bunker and a door from boiler-room casing into bridge space, which I understand was empty.

There would appear to be no definite cause for this fire, but it is possible for it to have been due to a match or spark through the starboard after ventilator or to someone gaining access to hold through trimming hatch for the purpose of pilfering the sugar.

The ship's fire-extinguishing appliances consist of four chemical fire-extinguishers and two 45-foot lengths of 3-inch canvas hose attached to salt water supply. These in my opinion are ample to cope with any ordinary outbreak of fire, but spark gauze might be fitted to hold ventilators when cargo of this description is carried. It was suggested to the ship's people that the two ventilators on bridge deck leading into No. 3 hold should be protected by gauze wire.

I am, Sir,

Your obedient Servant,

(Signed) GEO. DAVEY,

Surveyor.

The Principal Officer, Liverpool.

28th July 1920.
I am, Sir,
Your obedient Servant,

The Principal Officer,
Dublin.

WM. C. WARD,
Engineer and Ship Surveyor.


Report on fire which occurred at Rosehearty on 15th July 1920.

Sir,

Inquiry has been made with regard to the explosion, and it is found that the torch referred to in the account of the casualty list, para. 35, was a hand-lamp of the form shown in the sketch below.

The “Artistic” was formerly a wooden fishing vessel, converted for carrying cargo in December 1919, and was propelled by two sets of Gleniffer motors of 18-20 B.H.P. each, using paraffin and starting on petrol.

The machinery was situated forward of the hold, the arrangement being somewhat as shown in the attached sketch.

Paraffin was carried in two cylindrical tanks of 150 gallons each, stowed in the motor-room, and a four-gallon tank was provided on deck for petrol. The remainder of the petrol on board was carried in tins forward.

The “Artistic” arrived at Fraserburgh on July 14th with coal from Dysart, discharging it the same day. The vessel was beached for inspection that afternoon, at the same time being drained of water, and on the following day she proceeded to Rosehearty, four miles west of Fraserburgh, for the convenience of the crew, arriving at 2.30 p.m.

Preparations were being made to leave for Methil in a light condition at 6.30 p.m., and the engineman, George Wiseman, states that he went below and replenished the engine crank chambers with lubricating oil, using the filling pipe for the purpose. He lighted the hand-lamp after this, and was reaching across the flywheel of the port motor to see into the well below when the explosion occurred.

The skipper states that he was on the breakwater alongside at the time, and he noticed that the force of the explosion had burst up the ceiling in the hold, exposing the timbers and floors to view. It would thus appear that there was an accumulation of gas below the engine-room flooring and below the ceiling of the hold, and the act of the engineman placing the naked light at the opening for the flywheel would result in an explosion in this confined space.
The arrangement of the bulkheads was such that they were gastight above the ceiling, as sheet lead was fitted all round where they joined the ship side, deck, and ceiling, and the fact of the bilges being quite dry would allow any gas present under the flooring of the engine-room to penetrate by way of the limber holes to the bilges under the hold ceiling.

The fuel tanks had been filled up at Fraserburgh, but this was done in an admittedly unsatisfactory manner, being filled by hose from a tank, and a gallon or so of the paraffin was spilled in the process and drained down to the bilge.

The working conditions in the engine-room were such that the temperature was very high, in spite of two ventilators 6 inches diameter, and it was on this account that the hand-lamp was used for illumination, as the ordinary pattern of bulkhead lamp would not remain alight in such an atmosphere.

The engine-room was still very warm when the engineman went below, and it is possible that the spilled fuel and oily woodwork had given off vapour owing to the excessive temperature.

There was not an installation of acetylene gas plant on board.

(Signed) J. H. Fergusson,
Aberdeen,
18th August 1920.

Report on fire which occurred off Galle, Ceylon, on 15th November 1919.
Board of Trade Surveyors' Office,
79, Mark Lane, London, E.C.3,

Sir,

I beg to report that I visited the above-named vessel on the 7th instant in the East India Dock, and I interviewed the chief engineer, who apparently is the only officer remaining on board of the crew at the time of the fire in November 1919. I was unable to get times and date, but learnt from the chief engineer that the vessel left Calcutta bound for Colombo and the fire originated in the deep tank, which was loaded with jute. As the bulkheads of the deep tank were found to be red hot it was deemed advisable to flood the tank, which was done.

Some time afterwards fire broke out on the port side in the forward bunkers. This was put out by turning the coal over, and it was then discovered that the bulkhead was badly buckled. There is no question that the bunker coal ignited from the hot bulkhead which forms the after side of the tank.

The vessel put into Point Galle, remained one night, and then proceeded to Colombo, where the deep tank was pumped out and the jute discharged.

No explanation could be given as to how the jute ignited.

The ship has just completed an extensive overhaul at Antwerp, when the deep tank was practically renewed under the supervision of Lloyds' surveyors.

I am, Sir,

Your obedient Servant,

The Principal Officer,
London District.

(Signed) W. H. Whittle,
Nautical Surveyor.

Report on fire which occurred during voyage from Bombay to Antwerp on 11th April 1920.
Board of Trade Surveyors' Office,
Cardiff,

Sir,

I beg to report that I have visited this vessel in reference to the fire which occurred on board during the voyage from Bombay to Antwerp. The cargo consisted of manganese ore, bales of cotton and hemp, bags of myrabolans, and cases of camphor and sultanas.

The position of the vessel on 11th April, 10 a.m., when smoke was first seen issuing out of No. 2 hold ventilator, was latitude 35° 16' N., longitude 19° 1' E., about 200 miles east of Malta.
Immediate steps were taken to unbatten the hatchway; the crew were mustered, and it was proposed to remove the cargo within the hatchway in order to locate the seat of fire, but as this could not be done owing to the dense smoke arising, it was decided to re-batten the hatchway, unship the No. 2 cowl ventilator, plug the coaming, and insert the deck steam pipe into it in order to inject steam into the hold; this was continued until the vessel's arrival at Malta and until the hold was ultimately filled with water.

At Malta the vessel was beached on the south side of Sliema Creek after a consultation with the Admiral of the Dockyard and Lloyds' surveyor.

It appears that about nine days previous to the smoke being seen, the cargo derricks had been unshipped from their sockets at the moving end and placed on main rail to have the old paint burnt off them. When this was being done, the master, knowing the nature of the cargo, was emphatic in stating that every precaution had been taken to prevent sparks entering the mouths of the cowl ventilators. The master was questioned in detail, and he was quite frank in his statements. It appears to me that there was no dereliction of duty on the part of the master in his efforts to put the fire out.

I beg to attach the survey report of Lloyds' surveyor at Malta for the Board's information.

The Principal Officer, South Wales District. (Signed) H. LLOYD JENKINS.
## APPENDIX.

### (ANALYSIS OF CASES BY THE ENGINEER SURVEYOR IN CHIEF.)

#### COAL FIRES.

##### FIRES IN COAL BUNKERS OR HOLDS.

<table>
<thead>
<tr>
<th>Name of Ship</th>
<th>Description of Coal</th>
<th>Length of Time on Board or Position of Ship</th>
<th>Part of Ship in which Fire occurred</th>
<th>Cause of Fire</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anglesca</td>
<td>Yorkshire</td>
<td>Not stated</td>
<td>Starboard bridge bunkers</td>
<td>Spontaneous combustion</td>
<td>Fire originated through hot ashes.</td>
</tr>
<tr>
<td>Arabian Prince</td>
<td>Probably American</td>
<td>About two months</td>
<td>Cross bunker</td>
<td>Probably spontaneous combustion</td>
<td>Do. do.</td>
</tr>
<tr>
<td>Ashanti</td>
<td>American, Penn. Coal Co. (Purdue)</td>
<td>Three weeks. Vessel in Dakar.</td>
<td>Bunkers, fore part of bridge.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Australind</td>
<td>American</td>
<td>Two Months. Vessel in Sydney.</td>
<td>Port reserve bunker</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Australind</td>
<td>Natal</td>
<td>Cape Town and Durban, Lat. 32° 36' N.</td>
<td>Port side bunker</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Bassano</td>
<td>Shipped in Japan and Colombo.</td>
<td>Vessel in Red Sea</td>
<td>Bunkers</td>
<td>Do. do.</td>
<td></td>
</tr>
<tr>
<td>Berwick Castle</td>
<td>South African</td>
<td>Vessel at Kilindini, R.E. Africa.</td>
<td>Permanent bunker</td>
<td>Do. do.</td>
<td></td>
</tr>
<tr>
<td>Buckleigh</td>
<td>Welsh. Supplied at Barry.</td>
<td>Vessel at Rosario</td>
<td>Port and starboard bunkers</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Burmese Prince</td>
<td>American. Shipped at New York.</td>
<td>4 days after leaving</td>
<td>Forward part of No. 2 hold.</td>
<td>-</td>
<td>Not clear whether cargo (general) or coal took fire.</td>
</tr>
<tr>
<td>Cap Verde</td>
<td>Yorkshire, shipped 21st July, and Welsh, shipped 28th October, American and Yorkshire.</td>
<td>1 month 7 days after last shipment.</td>
<td>Reserve hold</td>
<td>Spontaneous combustion</td>
<td>Do. do.</td>
</tr>
<tr>
<td>City of Rangoon</td>
<td>Vessel in Indian and Atlantic Ocean. Burning from 31st October to 3rd December.</td>
<td>3 to 4 months</td>
<td>Reserve bunkers</td>
<td>Do. do.</td>
<td></td>
</tr>
<tr>
<td>Clan Macmillan</td>
<td>Scotch, Indian, and Transvaal.</td>
<td>3 months</td>
<td>Bunkers</td>
<td>Do. do.</td>
<td></td>
</tr>
<tr>
<td>Clan Macvicar</td>
<td>Scotch and Bengal. Cape Breton. Yorkshire, and Durham.</td>
<td>2 months 11 days</td>
<td>Vessel in Atlantic Ocean.</td>
<td>No. 3 hold bunker</td>
<td>Starboard bunkers</td>
</tr>
<tr>
<td>Cordoba</td>
<td>German, Welsh, North country, and Indian.</td>
<td></td>
<td></td>
<td>Main bunker</td>
<td>Do. do.</td>
</tr>
<tr>
<td>Creasington Court.</td>
<td>Durham</td>
<td>At Rosario</td>
<td>Bunkers</td>
<td>Probably spontaneous combustion</td>
<td>Do. do.</td>
</tr>
<tr>
<td>Danier</td>
<td>Tyne</td>
<td>Marseilles</td>
<td>Do.</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Eastwood</td>
<td>American, Berwind</td>
<td>Off Cuban Coast</td>
<td>Do.</td>
<td>Do. do.</td>
<td></td>
</tr>
<tr>
<td>Edmund - Hugo Stinnes</td>
<td>Welsh</td>
<td>Bay of Biscay</td>
<td>Deep tank bunker</td>
<td>Do. do.</td>
<td></td>
</tr>
<tr>
<td>Egremont Castle</td>
<td>American. New York</td>
<td>Mandori Straits, 121° 43' E.</td>
<td>Port and starboard reserve bunkers.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fernfield</td>
<td>Yorkshire</td>
<td>Antwerp</td>
<td>Starboard bunker</td>
<td>Spontaneous combustion.</td>
<td>Do. do.</td>
</tr>
<tr>
<td>Gascouier</td>
<td>Yorkshire</td>
<td>New York</td>
<td>Starboard after bunker.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hakan</td>
<td>Tyne</td>
<td>Spurn Point</td>
<td>Cargo on fire</td>
<td>Do. do.</td>
<td></td>
</tr>
</tbody>
</table>

---

*Finding the cause of fires in coal bunkers or holds.*

- From the table, we can observe a variety of coal types, durations, and parts of the ship where fires originated.
- Some fires were spontaneous combustion, while others were due to direct causes like accidental exposure to hot ashes.
- The table provides a detailed analysis of the fires, including the length of time the ship was at sea, the part of the ship where the fire occurred, and the cause of the fire.

*For a more comprehensive understanding, see the source material.*
<table>
<thead>
<tr>
<th>Name of Ship</th>
<th>Description of Coal</th>
<th>Length of Time on Board or Position of Ship</th>
<th>Part of Ship in which Fire occurred</th>
<th>Cause of Fire</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
</tr>
<tr>
<td>Hannington Court. Highland Heather</td>
<td>Welsh</td>
<td>At Freemantle -</td>
<td>Cross bunker and bridge space.</td>
<td>Do. do.</td>
<td></td>
</tr>
<tr>
<td>Hilarus</td>
<td>Welsh</td>
<td>Buenos Ayres -</td>
<td>Bunker -</td>
<td>Do. do.</td>
<td></td>
</tr>
<tr>
<td>Hilton</td>
<td>American</td>
<td>Do. do.</td>
<td>Hold -</td>
<td>Do. do.</td>
<td></td>
</tr>
<tr>
<td>Kamenitz-Podolak.</td>
<td>Australian</td>
<td>5 days. Indian Ocean.</td>
<td>Lower cross bunker</td>
<td>Do. do.</td>
<td></td>
</tr>
<tr>
<td>Kandahar</td>
<td>American</td>
<td>Suez.</td>
<td>Bunkers -</td>
<td>Do. do.</td>
<td></td>
</tr>
<tr>
<td>Karamea</td>
<td>Durham</td>
<td>22 days. 500 miles south of Teneriffe.</td>
<td>Starboard lower bunkers.</td>
<td>Probably spontaneous combustion.</td>
<td></td>
</tr>
<tr>
<td>Laristan</td>
<td>Welsh</td>
<td>After leaving Monte Video.</td>
<td>Port bunker</td>
<td>Do. do.</td>
<td></td>
</tr>
<tr>
<td>Lubeck</td>
<td>American</td>
<td>In N. Atlantic and Buenos Ayres.</td>
<td>Port side and No. 3 hold.</td>
<td>Do. do.</td>
<td></td>
</tr>
<tr>
<td>Oakfield</td>
<td>Tyre, unscreened</td>
<td>Rosario</td>
<td>Starboard engine-room bunkers.</td>
<td>Do. do.</td>
<td></td>
</tr>
<tr>
<td>Plassen</td>
<td>Welsh</td>
<td>Southern Ocean, 36° 47' S., 132° 2' E.</td>
<td>Port bunkers.</td>
<td>Do. do.</td>
<td></td>
</tr>
<tr>
<td>Port Elliot</td>
<td>American, New York</td>
<td>Indian Ocean</td>
<td>9 weeks. No. 3 hold bunkers.</td>
<td>Spontaneous combustion.</td>
<td>Investigation held</td>
</tr>
<tr>
<td>Queen Margaret</td>
<td>Welsh (presumed), Gilloponds.</td>
<td>Atlantic, 35° 44' N., 36° 50' W.</td>
<td>Cross bunker</td>
<td>Spontaneous combustion.</td>
<td></td>
</tr>
<tr>
<td>Roath</td>
<td>American</td>
<td>Atlantic, return voyage to America.</td>
<td>Starboard reserve bunker.</td>
<td>Spontaneous combustion.</td>
<td></td>
</tr>
<tr>
<td>Rudelsburg</td>
<td>American, New York</td>
<td>7 weeks -</td>
<td>Starboard reserve bunker.</td>
<td>Spontaneous combustion.</td>
<td></td>
</tr>
<tr>
<td>Shropshire</td>
<td>-</td>
<td>In Irish Sea, Manchester to Adelaide.</td>
<td>Forward cross bunker.</td>
<td>Spontaneous combustion.</td>
<td></td>
</tr>
<tr>
<td>Stephen</td>
<td>Durham</td>
<td>19 days. Near Adelaide.</td>
<td>After cross bunker</td>
<td>Do. do.</td>
<td></td>
</tr>
<tr>
<td>Strathern</td>
<td>British</td>
<td>North Atlantic</td>
<td>Bunkers -</td>
<td>Probably spontaneous combustion.</td>
<td></td>
</tr>
<tr>
<td>Syria</td>
<td>-</td>
<td>Box Sea -</td>
<td>Lower reserve</td>
<td>Probably spontaneous combustion.</td>
<td></td>
</tr>
<tr>
<td>Tennyson</td>
<td>American bituminous</td>
<td>Para to Barbados</td>
<td>Cross bunkers</td>
<td>Spontaneous combustion.</td>
<td></td>
</tr>
<tr>
<td>Tropic</td>
<td>American</td>
<td>6 months</td>
<td>No. 3 hold, fore end.</td>
<td>Do. do.</td>
<td></td>
</tr>
<tr>
<td>Tudor Prince</td>
<td>Lancashire and Welsh, 81 months. American, 11 weeks</td>
<td>Buenos Ayres -</td>
<td>Port bunkers</td>
<td>Do. do.</td>
<td></td>
</tr>
<tr>
<td>Twilight</td>
<td>-</td>
<td>Malaga to London</td>
<td>Starboard wing bunker.</td>
<td>Do. do.</td>
<td></td>
</tr>
</tbody>
</table>
### COAL FIRES. (UNUSUAL CASES.)
#### FIRES IN BUNKERS AND HOLDS.

<table>
<thead>
<tr>
<th>Name of Ship</th>
<th>Description of Coal</th>
<th>Length of Time on Board or Position of Ship</th>
<th>Part of Ship in which Fire occurred</th>
<th>Cause of Fire</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clan Macmaster</td>
<td>Yorkshire</td>
<td>4 days first fire.</td>
<td>Forward cross bunker.</td>
<td></td>
<td>Bunker had been swept out before the coal was taken on board.</td>
</tr>
<tr>
<td>Hakan</td>
<td>Tyne</td>
<td>Vessel on short voyage from Newcastle to Southampton.</td>
<td>Cargo of gas coal in hold.</td>
<td></td>
<td>Not stated how long coal had been on board, but possibly a short time.</td>
</tr>
<tr>
<td>Vestris</td>
<td>American</td>
<td></td>
<td>Lower cross bunker.</td>
<td>Supposed incendiarism.</td>
<td>Vessel had not finished bunkering when fire occurred.</td>
</tr>
</tbody>
</table>

### COAL GAS EXPLOSIONS.

<table>
<thead>
<tr>
<th>Clan Macclaren</th>
<th>8. Africa</th>
<th>Lobita Bay</th>
<th>No. 3 hold</th>
<th>Explosion</th>
<th>Man killed.</th>
</tr>
</thead>
</table>

The actual cause of the fire is not stated in every case. But there is no reason to think that it was other than spontaneous combustion, except in the case of the "Clan Macclaren" and, possibly, the cases of the "Boonah," "Clan Macmaster," "Vestris," and "Hakan." In the case of the "Clan Macclaren," an explosion of coal gas occurred, generally due to lack of surface ventilation. The "Clan Macmaster," "Hakan," and "Vestris" are referred to later.

There appears to be evidence that, where partly empty bunkers are filled with coal, the coal which has been left in the bunker is liable to become overheated and to fire. Nearly all the fires occurred in the bunkers. These are situated near the stokehold and are exposed to the heat of the stokehold, which would naturally hasten the process of spontaneous combustion.

Some coal appears specially liable to spontaneous combustion, as exemplified by the fires on the "Ashanti" and "Nembe." The coal in both cases was from the same source. The coal which fired on the "Siberian Prince" and on the "Vestris" was, likewise, from one source.

In the case of the "Luneburg," steam was used to extinguish the fire and a succession of explosions occurred. Explosions also occurred on board the "Clan Skene," in which case there is no mention of steam having been used for extinguishing purposes. Explosions have occurred when fires have taken place on board ship in which no steam has been used. These have been due to the distillation of coal gas, by heat, which, mixing with the proper proportion of air, has exploded on contact with fire.

### DESCRIPTION OF COAL IN WHICH FIRES OCCURRED.

<table>
<thead>
<tr>
<th>American</th>
<th>- - - 22 Canadian</th>
<th>2 Scotch</th>
<th>-</th>
<th>2</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>South African</td>
<td>- - - 8 Welsh</td>
<td>15 Asiatic</td>
<td>-</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>English</td>
<td>- - - 21 Australian</td>
<td>4 German</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Note.—Where coal from different sources has been in the bunkers when fires have occurred and no mention is made of the coal that actually fired, all the various kinds are included in this list.

In the "Luneburg" and "Sydney," both originally German steamers, the coal had been in the bunkers some years; the next longest period the coal had been on board was six months (War Halifax). Otherwise, the period of heating until fire actually occurred appears to have been between three weeks and three and a half months. There are exceptional cases, however, viz., the "Clan Macmaster," in which the bunkers were coal-fired for about six weeks, and a fire broke out in one bunker in four days' time and in another bunker a few days afterwards; the "Vestris," in which the fire occurred whilst the vessel was still in Hoboken, the coaling port; and the case of the fire on the "Hakan," in which the cargo of gas coal took fire on the short voyage from Newcastle to Southampton.
Bunkers should be tight, to prevent air from passing through the coal and thus providing oxygen, the absorption of which is attended with overheating (see Reports Nos. 15 and 59). Unless the heat of absorption can be carried off as quickly as it is generated, overheating will occur. Coal remaining in bunkers should be moved to where it can be used first. Small coal is more liable to spontaneous combustion than large coal. Water is the best medium for extinguishing coal fires.

FIRES DUE TO SPONTANEOUS COMBUSTION OR PROBABLE SPONTANEOUS COMBUSTION.
(VARIOUS CARGOES.)

<table>
<thead>
<tr>
<th>Name of Ship</th>
<th>Description of Cargo on Fire</th>
<th>Part of Ship in which Fire occurred</th>
<th>Position of Ship at time of Outbreak</th>
<th>Cause of Fire</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alaveno</td>
<td>Hemp in bales</td>
<td>No. 4 lower hold</td>
<td>Palermo</td>
<td>Spontaneous combustion</td>
<td>Hemp shipped at Leghorn 12 days previously.</td>
</tr>
<tr>
<td>Benaldier</td>
<td>Copra in bags</td>
<td>After hold</td>
<td>At Antwerp</td>
<td>Spontaneous combustion or lighted match</td>
<td>The copra was in a highly inflammable condition. It burst into flames floating on the water.</td>
</tr>
<tr>
<td>Bovic</td>
<td>Sugar in bags</td>
<td>No. 2 hold</td>
<td>Manchester Ship Canal charging</td>
<td>-</td>
<td>A bag in the action of slinging burst into flames and set fire to the remaining nitrate.</td>
</tr>
<tr>
<td>Caledonian</td>
<td>Oil and cotton waste</td>
<td>Under poop deck</td>
<td>Off Halifax</td>
<td>Spontaneous combustion</td>
<td>Loaded at Calcutta for London.</td>
</tr>
<tr>
<td>Campus</td>
<td>Sugar in bags</td>
<td>No. 3 hold</td>
<td>Liverpool</td>
<td>-</td>
<td>Vessel abandoned.</td>
</tr>
<tr>
<td>City of Chester</td>
<td>Oil cakes</td>
<td>No. 6 hold</td>
<td>450 miles E. of Malta</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Clan Murdock</td>
<td>Coal bagging and bales of coal</td>
<td>No. 5 hold</td>
<td>Atlantic, 37 N., 67-15 W.</td>
<td>Do. do.</td>
<td>-</td>
</tr>
<tr>
<td>Clan Murray</td>
<td>Nitrate in bags</td>
<td>No. 1 hold</td>
<td>Piraeus Harbour</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Crewe Hall</td>
<td>Jute and hemp</td>
<td>No. 1 hold</td>
<td>Off Point de Galle</td>
<td>Spontaneous combustion</td>
<td>-</td>
</tr>
<tr>
<td>Crown of Galicia</td>
<td>Rags in bales</td>
<td>No. 1 and 4 holds</td>
<td>Colon and N. Pacific Ocean</td>
<td>Do. do.</td>
<td>-</td>
</tr>
<tr>
<td>Cyprian Prince</td>
<td>Bales of wood</td>
<td>No. 2 hold</td>
<td>In Mediterranean</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cypric Prince</td>
<td>Bales and packages of coin</td>
<td>No. 2 hold</td>
<td>Reserve bunker</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Engineer</td>
<td>Nitrate of soda</td>
<td>No. 2 lower hold</td>
<td>Delago Bay</td>
<td>Spontaneous combustion</td>
<td>-</td>
</tr>
<tr>
<td>Ernemore</td>
<td>Bales of old rope</td>
<td>No. 5 hold</td>
<td>Boston, U.S.A.</td>
<td>Do. do.</td>
<td>-</td>
</tr>
<tr>
<td>Ethelhilda</td>
<td>Sugar in bags</td>
<td>No. 3 cross-bunker hatch</td>
<td>Thames from Cuba</td>
<td>Do. do.</td>
<td>-</td>
</tr>
<tr>
<td>Fawo</td>
<td>Bags of lime and straw</td>
<td>On deck</td>
<td>Guernsey</td>
<td>Do. do.</td>
<td>-</td>
</tr>
<tr>
<td>Foucher</td>
<td>Jute</td>
<td>No. 1 lower hold</td>
<td>Shanghai</td>
<td>Probably spontaneous combustion</td>
<td>-</td>
</tr>
<tr>
<td>Glenluce</td>
<td>General</td>
<td>Hold</td>
<td>Kobe, Japan</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Heathside</td>
<td>Cotton bales</td>
<td>No. 2 hold</td>
<td>Eastern Mediterranean. (From Bombay to Antwerp.)</td>
<td>Spontaneous combustion</td>
<td>Fire started 20 feet below main deck.</td>
</tr>
<tr>
<td>Ixion</td>
<td>Hemp bales</td>
<td>No. 7 hold</td>
<td>Hong Kong</td>
<td>Cause not stated.</td>
<td>-</td>
</tr>
<tr>
<td>Jeno</td>
<td>Rags</td>
<td>No. 3 hold</td>
<td>Hull</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Karmack</td>
<td>Cotton, bales of</td>
<td>No. 3 tweem decks</td>
<td>Mediterranean Sea, near Alexandria.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Knight Templar</td>
<td>Bags of fish quano</td>
<td>Deep tank</td>
<td>Kobe</td>
<td>-</td>
<td>Bags were smoulder- ing.</td>
</tr>
<tr>
<td>Lancastrian</td>
<td>Linseed oil, bags of rags, &amp;c.</td>
<td>No. 1 lower hold</td>
<td>400 miles E. of Halifax</td>
<td>-</td>
<td>Whole of cargo in upper part of holds was heated and brown.</td>
</tr>
<tr>
<td>Lowmoor</td>
<td>Cotton seed in bags</td>
<td>No. 2 hold</td>
<td>At Hall</td>
<td>Spontaneous combustion</td>
<td>-</td>
</tr>
<tr>
<td>Mount Berwyn</td>
<td>Oil cakes</td>
<td>No. 2 hold</td>
<td>Near Dover. From Hall to New Orleans</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Muttah</td>
<td>Bales of hemp mostly</td>
<td>No. 3 lower hold</td>
<td>At Naples, Liverpool</td>
<td>Possibly spontaneous combustion</td>
<td>-</td>
</tr>
<tr>
<td>Mytilis</td>
<td>Bales of sheepskins</td>
<td>No. 1 hold</td>
<td>At Naples</td>
<td>Spontaneous combustion</td>
<td>-</td>
</tr>
<tr>
<td>Nigistian</td>
<td>Sugar</td>
<td>No. 3 hold</td>
<td>At Clonfuegos</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Novian</td>
<td>Cotton, bales of</td>
<td>No. 3 hold</td>
<td>200 miles W. of Fastnet.</td>
<td>Spontaneous combustion</td>
<td>-</td>
</tr>
<tr>
<td>Rassay</td>
<td>Bags of ground nuts and cotton seed</td>
<td>No. 1 hold</td>
<td>Hall</td>
<td>-</td>
<td>Stowed in bags.</td>
</tr>
<tr>
<td>Name of Ship</td>
<td>Description of Cargo on Fire</td>
<td>Part of Ship in which Fire occurred</td>
<td>Position of Ship at time of Outbreak</td>
<td>Cause of Fire</td>
<td>Remarks</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------------------</td>
<td>-------------------------------------</td>
<td>-------------------------------------</td>
<td>---------------</td>
<td>---------</td>
</tr>
<tr>
<td>Bolingen</td>
<td>Sugar in bags</td>
<td>No. 1 hold</td>
<td>Liverpool after arrival from Cuba.</td>
<td>Probably spontaneous combustion.</td>
<td>Stowed in gunny bags.</td>
</tr>
<tr>
<td>Swakopmund</td>
<td>Corns in bags</td>
<td>No. 3 hold</td>
<td>R.A.D., London</td>
<td>Plumbers had dropped a candle.</td>
<td>Fire very fierce, and in other hold not on fire, cargo was found to be heated.</td>
</tr>
<tr>
<td>Swazi</td>
<td>Bags and flax waste</td>
<td>No. 4 hold and No. 5 afterwards.</td>
<td>Atlantic, 9 days from Hull, Colombo.</td>
<td>Probably spontaneous combustion.</td>
<td>Three fires in same kind of cargo.</td>
</tr>
<tr>
<td>Swazi</td>
<td>Hemp</td>
<td>No. 3 'tween decks</td>
<td>Penang to London.</td>
<td>Spontaneous combustion.</td>
<td></td>
</tr>
<tr>
<td>Taransay</td>
<td>Cotton seed in bags</td>
<td>No. 2 hold</td>
<td>At Cadiz from Bombay.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turcoman</td>
<td>Sugar in gunny bags</td>
<td>No. 4 hold</td>
<td>5 days from Montreal.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>War Isla</td>
<td>Oil cake</td>
<td>No. 2 hold</td>
<td>At Seca from Bombay.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yu Sang</td>
<td>Jute</td>
<td>Fore hold</td>
<td>Loading at Shanghai.</td>
<td>Thought to be spontaneous combustion.</td>
<td></td>
</tr>
</tbody>
</table>

**Table of Commodities in which Spontaneous Combustion occurred or is supposed to have occurred.**

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Number of Fires</th>
<th>Commodity</th>
<th>Number of Fires</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copra</td>
<td>2</td>
<td>Nitrate</td>
<td>2</td>
</tr>
<tr>
<td>Sugar in Bags</td>
<td>6</td>
<td>Lime and Straw</td>
<td>1</td>
</tr>
<tr>
<td>Cotton Waste</td>
<td>1</td>
<td>Hemp and Jute</td>
<td>7</td>
</tr>
<tr>
<td>Cotton Bales</td>
<td>4</td>
<td>Old rope in bales</td>
<td>1</td>
</tr>
<tr>
<td>Cotton Seed</td>
<td>2</td>
<td>Rags and Flax Waste</td>
<td>3</td>
</tr>
<tr>
<td>Cotton Seed and Ground Nuts</td>
<td>1</td>
<td>Rags and Linseed Oil</td>
<td>1</td>
</tr>
<tr>
<td>Coir</td>
<td>3</td>
<td>Sheepskins in Bales in Bags</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Fish Guano</td>
<td>1</td>
</tr>
</tbody>
</table>

All the different commodities in this Table appear to require care in the condition in which they are shipped, in the manner in which they are bagged, and in the stowage. If stowed near heat, spontaneous combustion is accelerated.

Rags, hemp, jute, sheepskins, and cotton waste, if compressed and in oily or greasy condition, as some of the above cargoes were, may be expected to fire spontaneously.

Fire occurred in twenty-six of these vessels when they were either loading or discharging, or in a port of call, and thirteen occurred while the vessels were at sea.

In some cases the cargo had been on board a longer period than usual owing to breakdown of the vessel's machinery or delay in discharging in dock. The longer such cargo is kept on board, the greater is the probability of fire.

**Fires due to Ascertained or Supposed Carelessness.**

<table>
<thead>
<tr>
<th>Name of Ship</th>
<th>Position of Ship</th>
<th>Substance on Fire</th>
<th>Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambassador</td>
<td>West Hartlepool under repair.</td>
<td>Screen bulkhead in engine room.</td>
<td>Candle or lamp.</td>
</tr>
<tr>
<td>Azila</td>
<td>East India Dock, London.</td>
<td>Dunnage wood</td>
<td>Shipundergoing repairs. Workmen assumed to be responsible.</td>
</tr>
<tr>
<td>Caesarea</td>
<td>Dundee</td>
<td>Oil and soot in fan room</td>
<td>Vessel being re-conditioned. May have been due to carelessness of workmen.</td>
</tr>
<tr>
<td>Canada</td>
<td>Canada Docks, Liverpool.</td>
<td>Wood fibre beds and kapok life-belts.</td>
<td>Painters working. Fire caused by candle left burning or men smoking.</td>
</tr>
<tr>
<td>City of Poona</td>
<td>Karachi</td>
<td>Bags of oil-cake</td>
<td>Supposed natives smoking in hold.</td>
</tr>
<tr>
<td>Name of Ship</td>
<td>Position of Ship,</td>
<td>Substance on Fire,</td>
<td>Cause.</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------------</td>
<td>------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Clan Colquhoun</td>
<td>At wharf, Dundee</td>
<td>Jute</td>
<td>Smoking or using matches searching for tea amongst bales of jute.</td>
</tr>
<tr>
<td>Dallington</td>
<td>Sunderland</td>
<td>Stores in engine room</td>
<td>Supposed dropping of match or cigarette.</td>
</tr>
<tr>
<td>Douro</td>
<td>Quay in Venice</td>
<td>Strong room</td>
<td>Supposed match down ventilator.</td>
</tr>
<tr>
<td>Dredgwell</td>
<td>West India Dock, London.</td>
<td>Mattresses stowed in cabin.</td>
<td>Supposed smoking by workmen.</td>
</tr>
<tr>
<td>Ellerie</td>
<td>Quay in Glasgow, loading.</td>
<td>Bale goods and packages</td>
<td>Supposed smoking.</td>
</tr>
<tr>
<td>Herefordshire</td>
<td>Tilbury Dock</td>
<td>Oliecake, paraffin wax and hides.</td>
<td>Supposed smoking in hold.</td>
</tr>
<tr>
<td>Hollinside</td>
<td>In dock at Hull</td>
<td>Oliecake</td>
<td>Supposed smoking by coolie.</td>
</tr>
<tr>
<td>Khiva</td>
<td>Singapore</td>
<td>Lard, dried seaweed and other Chinese goods.</td>
<td>Do. do. Supposed smoking by coolie.</td>
</tr>
<tr>
<td>Konings-Luise</td>
<td>Birkenhead</td>
<td>Copra</td>
<td>Do. do. Workmen using oxy-acetylene flame repairing ship.</td>
</tr>
<tr>
<td>Curmark</td>
<td>-</td>
<td>Bales of cotton</td>
<td>In close contact with stove funnel.</td>
</tr>
<tr>
<td>Lochness</td>
<td>Near Ballachullish Pier</td>
<td>Furniture on deck</td>
<td>Supposed lighted candles left by trimmers.</td>
</tr>
<tr>
<td>Locksley</td>
<td>Donaghadee</td>
<td>Coal</td>
<td>Supposed lamp upset.</td>
</tr>
<tr>
<td>Lynton</td>
<td>Penarth</td>
<td>Engine-room store</td>
<td>Match or cigarette down vent.</td>
</tr>
<tr>
<td>Malatian</td>
<td>Liverpool, loading cargo</td>
<td>Nitrate and cotton goods</td>
<td>Supposed spark or match down vent. Cargo cool.</td>
</tr>
<tr>
<td>Mary Smythurst</td>
<td>Arbroath Harbour</td>
<td>Sails in forecastle</td>
<td>Naked light dropped among carcasses.</td>
</tr>
<tr>
<td>Mesaba</td>
<td>New York</td>
<td>Bags of sugar</td>
<td>Supposed match or cigarette.</td>
</tr>
<tr>
<td>Oakland's Grange</td>
<td>Buenos Aires</td>
<td>Ham and middlings</td>
<td>Cigar end carelessly thrown down by stevedores.</td>
</tr>
<tr>
<td>Othero</td>
<td>Suez Canal</td>
<td>Linseed, mowrie seed and cotton seed.</td>
<td>Workman lighting a candle.</td>
</tr>
<tr>
<td>Port Lincoln</td>
<td>East India Docks, London.</td>
<td>Waste and coir mats in engine room.</td>
<td>Matches found in personal effects.</td>
</tr>
<tr>
<td>Prince Rupert</td>
<td>Near Vancouver</td>
<td>-</td>
<td>Supposed naked light in hold.</td>
</tr>
<tr>
<td>Quilpue</td>
<td>West India Docks, London.</td>
<td>In hold which had been full of rum and sugar.</td>
<td>Sparks from oxy-acetylene gas used by workmen. Probably smoking.</td>
</tr>
<tr>
<td>Radnorshire</td>
<td>Havre</td>
<td>Bales of cotton, &amp;c.</td>
<td>Spark from lamp or lighted match dropped by stokehold hand.</td>
</tr>
<tr>
<td>Ravens Point</td>
<td>Laughton Dock, Liverpool.</td>
<td>Sulphur</td>
<td>Hot rivet dropped on bags.</td>
</tr>
<tr>
<td>Salaga</td>
<td>Liverpool</td>
<td>Engineers’ stores</td>
<td>Supposed careless use of matches.</td>
</tr>
<tr>
<td>Scottish Monarch</td>
<td>Victoria Dock, London</td>
<td>Bags of dunnage in poop</td>
<td>Supposed lighted match or cigarette by stevedores.</td>
</tr>
<tr>
<td>Sea Serpent</td>
<td>At Fiume</td>
<td>General cargo. Cigarettes on fire.</td>
<td>Deck lamp, hung on bulkhead.</td>
</tr>
<tr>
<td>Sicily</td>
<td>At Rosario</td>
<td>Straw used as dunnage</td>
<td>Charred box of matches found.</td>
</tr>
<tr>
<td>Start Point</td>
<td>Near Wilmington, U.S.A.</td>
<td>Temporary wooden bunker bulkhead.</td>
<td>Supposed lighted cigarette carelessly or maliciously dropped.</td>
</tr>
<tr>
<td>Te Anau</td>
<td>Lyttleton Harbour, New Zealand.</td>
<td>-</td>
<td>Hot ashes against wooden framework.</td>
</tr>
<tr>
<td>Vestries</td>
<td>Five days from New York, bound for Barbados and Brazil.</td>
<td>Timber and bales of tarred twine.</td>
<td>Supposed smoking in hold.</td>
</tr>
<tr>
<td>War Yukon</td>
<td>Vessel put into Swannes</td>
<td>Fire under starboard boilers</td>
<td></td>
</tr>
<tr>
<td>York</td>
<td>Dunkirk, loading cargo</td>
<td>Bales of rags</td>
<td></td>
</tr>
</tbody>
</table>

Thirty-six of these vessels were in port loading, discharging, or laid up, when fire occurred. They do not include cases of carelessness where oil has taken fire. These are included in the section “Oil Fires.”

Note.—Some of the above commodities are liable to fire spontaneously, and the fire may possibly have been due to that cause.
## MISCELLANEOUS FIRES.

<table>
<thead>
<tr>
<th>Name of Ship</th>
<th>Position of Ship</th>
<th>Description of Cargo on Fire</th>
<th>Part of Ship where Outbreak occurred</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albenania (schooner)</td>
<td>Auckland, New Zealand</td>
<td>General cargo</td>
<td>Store room</td>
<td>No information as to cause.</td>
</tr>
<tr>
<td>Anglin</td>
<td>Bengal to Tuttentoin</td>
<td>Cargo of grain and flour</td>
<td>No. 3 hold</td>
<td>No definite information.</td>
</tr>
<tr>
<td>B.L. Refuse (sailing)</td>
<td>Hull, N. Atlantic</td>
<td>Four bags of rice in</td>
<td>Room containing engines for hoisting sails</td>
<td>No definite information.</td>
</tr>
<tr>
<td>Betty</td>
<td>New York</td>
<td>Loading bag and sugar</td>
<td>No. 2 hold</td>
<td>Vessel destroyed; ship quite empty.</td>
</tr>
<tr>
<td>Cardigan</td>
<td>New Zealand</td>
<td>General cargo</td>
<td>Fire in cabin</td>
<td>Vessel laid up.</td>
</tr>
<tr>
<td>Charlotte Penwick</td>
<td>Hawkesbury, N.S., Wales</td>
<td>General cargo</td>
<td>Engine room and spread to No. 2 hold</td>
<td>Fire caused by sparks from exhaust pipe. Slight damage.</td>
</tr>
<tr>
<td>Chevalier</td>
<td>Greencock</td>
<td>General cargo</td>
<td>Hold</td>
<td>No information as to cause of fire.</td>
</tr>
<tr>
<td>Echo</td>
<td>Napier to Wairora, New Zealand</td>
<td>General cargo</td>
<td>Deck, near cabin stove</td>
<td>Fire broke out in the night. Vessel total loss. Motor launch. No engine in her when fire occurred; burnt to water's edge.</td>
</tr>
<tr>
<td>El Kahira</td>
<td>Algiers Harbour</td>
<td>General cargo</td>
<td>Deck, near cabin stove</td>
<td>Vessel alongside quay; water obtained access through opening. Fire falling out of stove.</td>
</tr>
<tr>
<td>Gae</td>
<td>Auckland, New Zealand</td>
<td>General cargo</td>
<td>No. 2 lower 'tween decks</td>
<td>Explosion and vessel blown up.</td>
</tr>
<tr>
<td>Gairlochy</td>
<td>Fort Augustus</td>
<td>General cargo</td>
<td>After store room</td>
<td>Information not definite.</td>
</tr>
<tr>
<td>Gannet</td>
<td>New Westminster, B.C.</td>
<td>General cargo</td>
<td>Engine room</td>
<td>Caught fire from two blazing lights which fouled her when at anchor. Ship destroyed. No further information.</td>
</tr>
<tr>
<td>Glenville</td>
<td>Surrey Commercial Docks</td>
<td>Calcium carbide</td>
<td>After cabin</td>
<td>Vessel overboard.</td>
</tr>
<tr>
<td>Hecla</td>
<td>Aberdeen</td>
<td>General cargo</td>
<td>General stores for salvage work</td>
<td>Drums damaged in heavy weather and admittet water.</td>
</tr>
<tr>
<td>Herring Hoe</td>
<td>Barrow</td>
<td>General cargo</td>
<td>Sails on deck; lamp probably upset</td>
<td>Vessel laid up. Burnt to water's edge.</td>
</tr>
<tr>
<td>Invincible</td>
<td>Off Peel Island, Barklow</td>
<td>General cargo</td>
<td>No. 2 'tween decks</td>
<td>Stove chimney overboarded.</td>
</tr>
<tr>
<td>Kalyan</td>
<td>Tilbury</td>
<td>General cargo</td>
<td>Forespeak and forecastle</td>
<td>Fishing vessel.</td>
</tr>
<tr>
<td>Kemmel</td>
<td>St. Vincent, C.V.</td>
<td>General cargo</td>
<td>Engine room</td>
<td>Cause not known.</td>
</tr>
<tr>
<td>Kunn Sang</td>
<td>Kobe</td>
<td>General cargo</td>
<td>Engine room</td>
<td>Do.</td>
</tr>
<tr>
<td>Lubbie</td>
<td>Victoria Harbour, B.C.</td>
<td>General cargo</td>
<td>Engine room</td>
<td>Total loss.</td>
</tr>
<tr>
<td>Loch Hourn</td>
<td>Lowestoft</td>
<td>General cargo</td>
<td>Engine room</td>
<td>Overheated stove-pipe.</td>
</tr>
<tr>
<td>Lucerne</td>
<td>S. Pacific, San Francisco to Kobe</td>
<td>General cargo</td>
<td>Deck, near cabin stove</td>
<td>Overheated chimney from saloon fire. Cause not stated.</td>
</tr>
<tr>
<td>Malava</td>
<td>Brooklyn</td>
<td>General cargo</td>
<td>Deck, near cabin stove</td>
<td>Ditto.</td>
</tr>
<tr>
<td>Marian W.</td>
<td>Montreal</td>
<td>General cargo</td>
<td>Deck, near cabin stove</td>
<td>Total loss. Cause not stated.</td>
</tr>
<tr>
<td>Mercia</td>
<td>N. Atlantic, 45° 50' S, 53° 45' W</td>
<td>General cargo</td>
<td>Deck, near cabin stove</td>
<td>Ship sank.</td>
</tr>
<tr>
<td>Moriner</td>
<td>Buenos Ayres</td>
<td>General cargo</td>
<td>Deck, near cabin stove</td>
<td>Cause not stated.</td>
</tr>
<tr>
<td>Patnos</td>
<td>Leith</td>
<td>General cargo</td>
<td>Deck, near cabin stove</td>
<td>Cause not stated.</td>
</tr>
<tr>
<td>Phyllis Belman</td>
<td>Off Ungolfroof, Iceland</td>
<td>Acetylene gas explosion</td>
<td>Chart room and wheel house</td>
<td>Cause not known.</td>
</tr>
<tr>
<td>Rupehu</td>
<td>Lyttelton Harbour, N.Z.</td>
<td>Straw packing</td>
<td>No. 4 'tween decks</td>
<td>Do.</td>
</tr>
<tr>
<td>Salerno</td>
<td>Constantineople</td>
<td>Sugar</td>
<td>No. 3 hold</td>
<td>Total loss.</td>
</tr>
<tr>
<td>Samuel Courteny</td>
<td>Gibraltar</td>
<td>General cargo</td>
<td>Deck, near cabin stove</td>
<td>Overheated stove-pipe.</td>
</tr>
<tr>
<td>Sea Hawk</td>
<td>Grimsby</td>
<td>General cargo</td>
<td>Deck, near cabin stove</td>
<td>Overheated chimney from saloon fire. Cause not stated.</td>
</tr>
<tr>
<td>Sellasia</td>
<td>Dry dock, West Hartlepool</td>
<td>General cargo</td>
<td>Deck, near cabin stove</td>
<td>Cause not stated.</td>
</tr>
<tr>
<td>Servian Prince</td>
<td>N. Atlantic</td>
<td>General cargo</td>
<td>Deck, near cabin stove</td>
<td>Cause not stated.</td>
</tr>
<tr>
<td>Teutonic</td>
<td>Liverpool</td>
<td>General cargo</td>
<td>Deck, near cabin stove</td>
<td>Cause not stated.</td>
</tr>
<tr>
<td>War Casco</td>
<td>Gibraltar Bay</td>
<td>Iron ore</td>
<td>Deck, near cabin stove</td>
<td>Cause not stated.</td>
</tr>
<tr>
<td>War Pike</td>
<td>Novorossisk</td>
<td>Ammunition</td>
<td>Deck, near cabin stove</td>
<td>Ship sank.</td>
</tr>
<tr>
<td>War Tulip</td>
<td>In River Danube</td>
<td>Consumable stores</td>
<td>Deck, near cabin stove</td>
<td>Cause not stated.</td>
</tr>
</tbody>
</table>
**OIL FIRES.**

<table>
<thead>
<tr>
<th>Name of Ship</th>
<th>Position of Ship</th>
<th>Part of Ship where Outbreak occurred</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artistic</td>
<td>Rosehearty</td>
<td>In motor engine room</td>
<td>Paraffin fuel. Naked lamp in engine room caused explosion of gas.</td>
</tr>
<tr>
<td>Camillo</td>
<td>Near Port Said</td>
<td>Boiler room</td>
<td>Joint in oil-fuel pipe to burners leaked.</td>
</tr>
<tr>
<td><em>Ethereedge</em></td>
<td>Gravesend</td>
<td>Do. -</td>
<td>Workmen using blow lamp to repair petrol and paraffin tank.</td>
</tr>
<tr>
<td>Fannie</td>
<td>Whanganos, New Zealand</td>
<td>Do. -</td>
<td>Recklessness.</td>
</tr>
<tr>
<td><em>Gudrun</em></td>
<td>At anchor in Margate Roads</td>
<td>Engine room</td>
<td>Paraffin oil tank ablaze. Fierce fire. Bursting a steam pipe. Probably due to carelessness through lamp being too near paraffin tank.</td>
</tr>
<tr>
<td>Margaret Haney</td>
<td>Baltic Sea</td>
<td>Motor room</td>
<td>Oil stove overturned by swell from passing ship. Oil caught fire. Not, apparently, oil fuel. Cover of oil-burner valve became detached and escaping oil took fire.</td>
</tr>
<tr>
<td>Maggie</td>
<td>Buckie</td>
<td>Do. -</td>
<td>Paraffin fuel. Vessel under repair. Fire started in bilges after workmen had left the vessel. Cause not ascertained.</td>
</tr>
<tr>
<td>May Baby</td>
<td>North Sea</td>
<td>Steam capstan boiler room</td>
<td>Paraffin fuel. Vessel on fire. Fireman, drawing oil, upset hand lamp into oil measure. Fierce fire. Engine-room pump out of operation due to area of fire.</td>
</tr>
<tr>
<td>Mounteagle</td>
<td>In dock at Hong Kong</td>
<td>Engine room</td>
<td>Paraffin tank on fire. Fireman, drawing oil, upset hand lamp into oil measure. Fierce fire. Engine-room pump out of operation due to area of fire.</td>
</tr>
<tr>
<td>Olympic</td>
<td>Belfast</td>
<td>Forward stokelive</td>
<td>Paraffin fuel. Vessel on fire. Fireman, drawing oil, upset hand lamp into oil measure. Fierce fire. Engine-room pump out of operation due to area of fire.</td>
</tr>
<tr>
<td>Phalarope</td>
<td>Findochity</td>
<td>Motor room</td>
<td>Paraffin fuel. Vessel on fire. Fireman, drawing oil, upset hand lamp into oil measure. Fierce fire. Engine-room pump out of operation due to area of fire.</td>
</tr>
<tr>
<td>Queen Maude</td>
<td>Hull</td>
<td>Engine room</td>
<td>Paraffin fuel. Vessel on fire. Fireman, drawing oil, upset hand lamp into oil measure. Fierce fire. Engine-room pump out of operation due to area of fire.</td>
</tr>
<tr>
<td>Restless Ocean</td>
<td>Lossiemouth</td>
<td>Motor room</td>
<td>Paraffin fuel. Vessel on fire. Fireman, drawing oil, upset hand lamp into oil measure. Fierce fire. Engine-room pump out of operation due to area of fire.</td>
</tr>
<tr>
<td>Saint Maurice (sailing ship)</td>
<td>Off Cuba</td>
<td>-</td>
<td>Soon after fire was seen, gasolene tank burst. Total loss.</td>
</tr>
<tr>
<td>Shipmate</td>
<td>Lowestoft</td>
<td>Cabin</td>
<td>Paraffin lamp left burning.</td>
</tr>
<tr>
<td><em>Sissie West</em></td>
<td>Leith</td>
<td>Motor room</td>
<td>Attendant opened crank case and struck a match. Carelessness.</td>
</tr>
<tr>
<td>Speedonia (sailing ship)</td>
<td>Indian Ocean</td>
<td>Cabin</td>
<td>Explosion of petrol gas. Serious damage to ship and loss of life. Cause not known; suggested spark from stove.</td>
</tr>
<tr>
<td>Spring Flower</td>
<td>Baltimore (Ireland)</td>
<td>Motor room</td>
<td></td>
</tr>
</tbody>
</table>

* Four of these fires were due to recklessness or carelessness.
**FIRES DUE TO SUPPOSED INCENDIARISM.**

<table>
<thead>
<tr>
<th>Name of Ship</th>
<th>Position of Ship</th>
<th>Description of Cargo</th>
<th>Part of Ship where Outbreak occurred</th>
<th>Cause</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydaspes</td>
<td>Three days from New York</td>
<td>Case containing motor car, and afterwards case containing piano.</td>
<td>After shelter deck and afterwards 'tween deck, below.</td>
<td>Suggested incendiarism.</td>
<td>Compiled from a report received later. Steam used to keep fire in check. Carbon dioxide gas was used, but supply ran out. Steam was then injected and the fire was kept under control until arrival at Halifax.</td>
</tr>
<tr>
<td>Francisco</td>
<td>1,000 miles E. of New York</td>
<td>Ship carried general cargo: sugar, rags, hemp, machinery, &amp;c. The sugar was on fire.</td>
<td>No. 6 hold</td>
<td>Supposed incendiarism.</td>
<td></td>
</tr>
<tr>
<td>Rheinland</td>
<td>Off Socotra from Singapore</td>
<td>General cargo, including copra.</td>
<td>No. 4 hold</td>
<td>Do. do.</td>
<td></td>
</tr>
</tbody>
</table>

There is no proof of incendiarism in any of these cases, and the fires may have been due to other causes, including spontaneous combustion.

**FIRES CAUSED BY SHORT-CIRCUITING OF ELECTRIC WIRES.**

<table>
<thead>
<tr>
<th>Name of Ship</th>
<th>Position of Ship</th>
<th>Substance on Fire</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchoria</td>
<td>Tilbury Dock</td>
<td>Bales of jute</td>
<td>One sling, containing 6 bales, fouled and broke the electric light cable and set fire to the jute.</td>
</tr>
<tr>
<td>Cap Horn</td>
<td>Surrey Commercial Docks</td>
<td>Electric light plant in engine room, wooden floor on fire.</td>
<td>Electric wire fused.</td>
</tr>
<tr>
<td>Cawdor Castle</td>
<td>East India Dock, London</td>
<td>Woodwork in passage-way to saloon and in staircase.</td>
<td>Short-circuit.</td>
</tr>
<tr>
<td>Las Palmas</td>
<td>Surrey Commercial Docks, London</td>
<td>Fire in after peak hatch.</td>
<td>Fusing of electric wire to stern light.</td>
</tr>
<tr>
<td>Sardinia</td>
<td>Marseilles</td>
<td>Jute</td>
<td>Electric cable fused.</td>
</tr>
<tr>
<td>Sutherland Grange</td>
<td>At Las Palmas</td>
<td>No. 1 hold. Meat cargo.</td>
<td>Fusing of electric lamp.</td>
</tr>
</tbody>
</table>

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