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feed; and the pumping arrangements tested by pumping out.

The two dynamo driving engines, the fan engine, the steering engine and the windlass.

The steam pipes examined and a selected number over 3" bore, hydraulically tested to twice the working pressure, as required by the Rules, and found efficient.

Boilers:- The three main boilers, examined internally and externally, together with their superheaters, safety valves, mountings, manholes, doors and fastenings.

The safety valves adjusted under steam at above stated pressure.

Wear and Tear Repairs.

Main engine crankshaft, which had at some previous time been running hard against the after sides of the main bearing shells, was found badly scored and with traces of fused metal on the forward sides of the forward webs of each crank, in way of journal shrinks. Deflection and wear down readings were found to be excessive.

The crankshaft was lifted out of the vessel and forwarded to Messrs. Geo. Clark (1938) Ltd., Sunderland, to be tried in lathe and repaired as found necessary.

Extract from Sunderland Surveyor's letter dated 26th April, 1950; reports repairs effected to crankshaft, as follows:-

"Crankshaft cut adrift.

Old dowel holes in webs welded up and webs re-bored for pins and journals.

All journals and pins renewed, re-shrunk in old webs and finished complete.

Old coupling bolts re-conditioned and refitted." (See Sunderland Forgings Cert. N° F14077.)

Crankshaft subsequently returned to Messrs. Smiths Dock Co. Ltd., North Shields, and re-installed.

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all crankshaft main bearings now re-metalled, crankshaft bedded down in true alignment, top half bearings adjusted and closed up, all in good order.

Sea valves, chests cleaned out and coated, spindles freed and repacked, valves ground in and all closed up in good order.

H.P. valve chamber now re-bored and fitted with new set of rings, due to wear.

M.P. piston rod machined, due to wear.

H.P. piston rod machined, due to wear.

H.P., M.P., L.P., valve rods machined, found scored.

H.P. top end pins, found worn, now machined and bearings re-metalled.

Thrust block and shaft (found scored on collar faces) removed ashore and forwarded to Messrs. Michell Bearings Ltd, and totally overhauled and placed in good condition and refitted to place in true alignment.

Main condenser cleaned on steam and water sides, water ends and doors coated, tubes re-packed with "cranes" packing at owner's request.

aux. condenser cleaned on steam and water sides and water ends and doors coated. Water end division plate, wasted, now renewed.

Attached air pump, bucket grooves worn out on one side, now recut; head valve plate, found eroded in way of seats, now machined and new valves (Kingham type) fitted.

Attached bilge pump, delivery valve and seat worn and fitted, seat now machined and valve renewed; ram (worn) now machined.

Attached G.S. pump, suction valve and seat, found worn, seat machined and lid renewed.

Main circulating pump, engine cylinder re-bored and fitted with new piston, crankshaft journals machined and bearings re-metalled and refitted, all due to wear.

Ballast pump, piston and bucket rings renewed and S. & D. valves renewed and seats machined, all due to wear.

General service pump, found holed in way of water end chest and now fitted with

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complete new water end.

Port main feed pump, water end liner, found worn and now renewed.

Starboard main feed pump, chamber liner worn and now bored out and new bucket rings fitted, valve seat landings found wasted and now bored out and fitted with lantern seats.

Port dynamo engine, cylinder bored out and fitted with new piston and rings, piston and valve rods renewed, top end pin renewed and bottom end bearing retalled, all due to wear.

Starboard dynamo engine, piston valve chamber bored out and new piston valve fitted, valve rod renewed, top end pin renewed, crankshaft journals machined and bearings retalled and refitted, all due to wear.

7 an engine, piston valve spindle found worn, now renewed, and end pedestal bearing found excessively worn down and shaft scored, bearing now retalled, shaft journal dressed and shaft and bearings adjusted in true alignment.

Steering engine, control valve liner and starboard piston valve liner both now renewed due to erosion across bottom port edges, both piston rods (worn) now machined and top end pins dressed and brasses adjusted, due to wear.

Windlass, valve rods found worn were now renewed and wear ridges on valve faces ground off, piston rings renewed and bearings and guides adjusted.

For other repairs to Windlass, see report 8, accompanying this report.

Main injection pipe to main circulating pump, was found fractured, in way of branch piece, pipe now removed ashore rebrazed where fractured, and subsequently examined under hydraulic test of 50 lbs/sq. in, seen to be satisfactory and refitted to place.

Boilers. Upon examination of each boiler found a large number of plain and stay tubes and a number of screwstays, defective due to corrosion wastage on water sides. Some of

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the tubes were also found to be thin, at combustion chamber ends, and leaking. Cold seams were also found to be leaking.

The following renewals and repairs were now effected:-

PORT BOILER.

In port chamber - 24 stay tubes and 71 plain tubes renewed and 6 combustion chamber screw stays renewed.

In centre chamber - 21 stay tubes and 69 plain tubes renewed and 4 chamber back screwstays renewed.

In starbd. chamber - 24 stay tubes and 71 plain tubes renewed and 4 chamber back screwstays renewed.

On shell - front circumferential seam re-caulked where leaking and one bridal stay on front plate, re-caulked and nut rejointed.

CENTRE BOILER.

In port chamber - 20 stay tubes and 71 plain tubes renewed; 2 chamber back screwstay nuts and 1 blower housing tube nut, found burned, now renewed.

In centre chamber - 21 stay tubes and 69 plain tubes renewed.

In Starbd. Chamber - 22 stay tubes and 71 plain tubes renewed and 2 burned screwstay nuts renewed.

STARBOARD BOILER.

In port chamber - 17 stay tubes and 71 plain tubes renewed and 4 chamber back screwstays renewed.

In centre chamber - 32 stay tubes and 69 plain tubes renewed and 8 chamber back screwstays renewed.

In Starbd. chamber - 15 stay tubes and 71 plain tubes renewed and 7 chamber back screwstays and one nut, now renewed.

On shell - boiler back cross seam inboard corner, found leaking and now seal welded.

All furnaces gauged (slight distortions) copy of readings here with Mountings, of each boiler, cleaned, overhauled as found necessary, minor repairs effected and all left in good condition.

On completion of the above mentioned boiler repairs, each boiler was subjected to a hydrostatic test of 220 lbs/sq. in, examined under pressure and found tight and satisfactory.

For repair and tests of superheater elements,

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see certificate N° C 32519, herewith.

Oil Fuel Conversion:-

The three boilers, furnaces & fronts modified to burn oil fuel, duplex oil fuel unit, transfer pump, oil fuel pressure, filling, tank and oily bilge lines and valves, oily water separator, tank pneumatic gauges, steam smothering system under boilers, extended controls to deck, all tested and installed in accordance with the requirements of the Rules and the approved plans.

In this connection the following additional auxiliaries have been fitted:-

Duplex oil fuel unit, N° F1625 made by Messrs Wallsend Slipway & Engr. Co. Ltd. (See Certificate N° C 32621 attached herewith)

auxiliary lighting up set N° F1625, made by Messrs Wallsend Slipway & Engr. Co. Ltd. (See Certificate N° 32620 attached herewith)

Two, O.F. unit pumps, made by Messrs. G. & J. Weir, Ltd. N°s 237631 & 238844.

One "Duplex" O.F. Transfer pump, made by Messrs. Lamont & Co. Ltd. N° 21861. Size 6" x 6" x 6".

One, "Victor" type, Oily water Separator, made by Messrs. Gowan & Silley Weir & Co. Ltd, Low-Down. N° 662.

Copy of approved plan of "Oil Fuel Pipe Arrangement," herewith.

On completion, the main boilers were tested for accumulation and found satisfactory.

The oil burning arrangements were examined under working conditions and found satisfactory.

The steam smothering was tried and fire fighting equipment examined in place, and found efficient.

All extended controls examined in place and seen to be efficient.

R. W. Skinner

SURVEYOR TO LLOYD'S REGISTER,
NEWCASTLE-ON-TYNE.



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"S.S. OAKBY"

SURVEY OF ELECTRICAL INSTALLATION.

FIRST SURVEY 6/4/50

LAST SURVEY 9/5/50

No. OF VISITS 5

No in Reg. Bk 20683

NAME OF VESSEL

Capacity of Installation K.W 2-15KW

Nature of Survey L.M.C. & REPAIRS

No. of Visits 4.5

Where Surveyed NORTH SHIELDS

THE ELECTRICAL INSTALLATION EXAMINED UNDER WORKING CONDITIONS. GENERATORS, CABLES AND ALL FITTINGS EXAMINED, AND THE FOLLOWING REPAIRS CARRIED OUT :- GENERATORS CLEANED AND OVERHAULED, BOTH GENERATOR ARMATURES STAVED. MAIN SWITCHBOARD CLEANED AND OVERHAULED. ENGINE ROOM LIGHTING WIRING AND FITTINGS OVERHAULED. ENGINEERS ACCOMMODATION, MIDSHIPS ACCOMMODATION AND CREWS ACCOMMODATION WIRING AND LIGHTING FITTINGS OVERHAULED. NAVIGATION LIGHTS WIRING OVERHAULED. CARGO CONNECTION BOXES, CLUSTERS AND WIRING ALL OVERHAULED. DECK LIGHT FITTINGS OVERHAULED AND WIRING RENEWED AS FOUND NECESSARY. FLOODLIGHT FITTINGS AND WIRING OVERHAULED.

ON COMPLETION OF REPAIRS ALL CIRCUITS TESTED FOR INSULATION RESISTANCE. GENERATORS TESTED FOR GOVERNING AND COMPOUNDING. ALL FOUND SATISFACTORY.

P. Storey
18th May 1950.

SURVEYOR TO LLOYD'S REGISTER,
NEWCASTLE-ON-TYNE



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