

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Rec 16/7/77

Report (if any) on Hull of Vessel. Port Hamburg No. 206.

Description *Compound direct acting, inverted*
 Made by *John Dickinson*
 When *1873* At *Sunderland*
 Diameter of cylinder *29' x 54'* Length of stroke *3'-0"*
 No. of revolutions per minute *56 mean*
 Point of cut off *21"*
 Diameter of screw shaft *10"*
 Diameter of crank shaft journals *10"*
 Diameter of screw, or of paddle wheel *13'-6"*
 Pitch of screw *13'-0"*
 No. of blades, *4* Total surface *~*
 No. of bilge pumps *2* and sizes *3 5/8" x 19 1/2" stroke*
 Do they pump from each compartment *Engine & Boiler room*

Are all the bilge suction pipes fitted with roses *yes*
 No. of feed pumps *2* and sizes *3 5/8" dia x 19 1/2" stroke*
 What gauges are there attached to the engines and boilers ... *Bourdon's system*
 Description and size of Donkey Pumps ... *2 direct acting, inverted Cyl. 8" dia x 6" stroke*
1 pump plunger dia 4 1/2" x 6" do
1 larger donkey steam cyl 12" x 16" do
1 pump double acting 7 3/4" x 10" do
 Where do they pump from ... *from tanks & from each compartment*
 No. of bilge injections *1* and sizes *4 5/8" inlet dia*
 Are they connected to air, or circulating pumps *to the latter*
 Is there a hand pump in the engine room *yes*
 Can it be worked by the main engines *yes*
 Is there a deck hose of sufficient length to reach to any part of the vessel *yes*

MAIN BOILERS.

Number *2* Description *cylindrical tubular each with steam down*
 Made by *John Dickinson*
 When *1873* At *Sunderland*
 Working pressure *58 lbs*
 Tested by hydraulic pressure to *98 lbs*, Date *27/5.76*
at Copenhagen
 Description of super-heating apparatus *none*
 Can each boiler be worked separately *yes*

Can the super-heater be shut off and the boilers worked separately *~*
 Description and area of safety valves on each boiler *2 lever loaded each 4" dia total area 25.12 sq"*
 No. of square feet of fire-grate surface in each boiler *27.75 sq feet*
 Are there separate blow off and brine cocks on each boiler, independent of those on the vessel's skin *yes*
 Are all pipes, cocks, roses, and pumps in connection with the machinery accessible at all times *yes*

DONKEY BOILER.

Description *Cylindrical vertical, uptake through steam space, 2 galloway cross tubes.*
 Where fixed *in forward stoke hole*
 Working pressure *38 lbs*

Tested by hydraulic pressure to *75 lbs*, Date *31/5.76*
at Copenhagen
 Description and area of safety valves *1 lever loaded, 8, 29.12" area*
 No. of square feet of fire grate *14 sq feet*

PIPES, COCKS, AND CONNECTIONS.

Are all connections with the sea direct on the skin of the ship *yes*
 Are they Kingston valves or common cocks ... *screw valves & common cocks*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates *no*
 Are the discharge pipes above or below the deep water line *slightly below when deeply laden*
 Are they each fitted with a discharge valve on the plating of the vessel *yes*

What pipes are carried through the bunkers *none*
 How are they protected *~*
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *11/7.77*
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilge *yes*
 Is the screw shaft-tunnel water tight and fitted with a sluice door on bulkhead *yes*

Manufacturer.

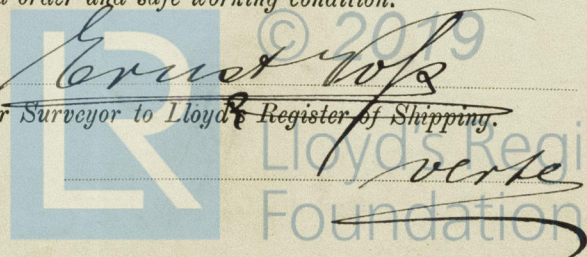
I hereby certify that the whole of the above are correct particulars of the Machinery and Boilers of the Iron (or Wood) Screw (or Paddle) Steam Vessel "*Nordstjern*" owned by *the Steamship Co. "Norden"* of the Port of *Copenhagen* of *795* Tons Register, and *120* Registered Horse Power, and that they have been carefully inspected and examined by me at *Hamburg* and found to be at this date, viz., *12 July* 18 *77* in good order and safe working condition.

Amount of Fee for Survey ... £ *6-0-0*.

(Travelling Expenses, if any, £ *~*)

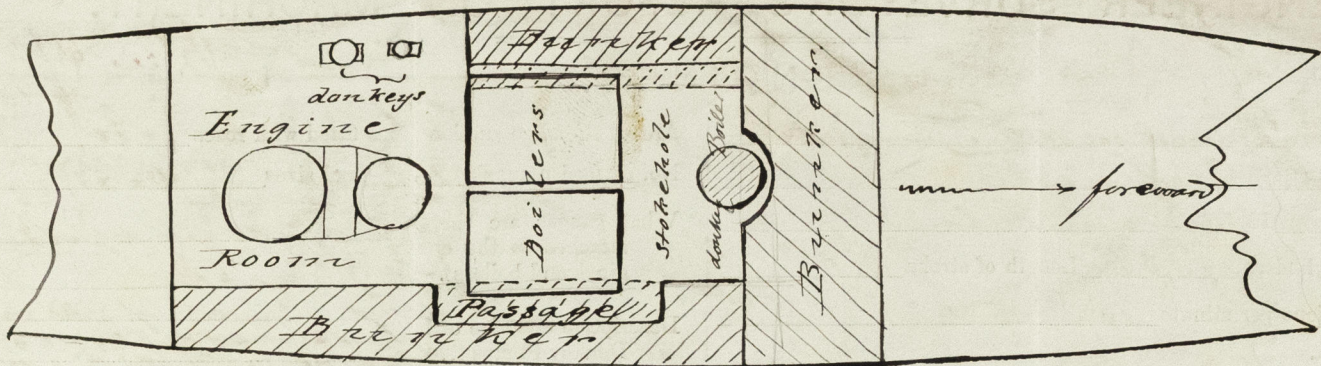
(1000/31/7/76.)

Engineer Surveyor to Lloyd's Register of Shipping.



IRON 472-0538

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Arrangement of Bunkers