

16286 *Sub No 4139*
Oct 22 *Recd 24/11/75*

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S CERTIFICATE & REPORT.

ENGINES.

Recd 24/11/75

No. 4139
Port Glasgow
Report (if any) on Hull of Vessel.

Description *Compound, Inverted, Direct acting*
 Made by *A. & S. Inglis*
 In the year *1845*
 Present condition *New*
 Diameter of cylinders *One 2 1/2" & One 50"*
 Length of stroke *30"*
 No. of revolutions per minute *80*
 Point of cut off *1/2 stroke*
 Paddle, or Screw *Screw*
 Nominal Horse Power *100*
 Diameter of screw, ~~about 13 ft~~ *about 13 ft* *Made by Owners*
 Pitch of screw *about 18 ft*
 No. of blades, *4* total surface
 No. of bilge pumps *2* and size *One 3" x 30" stroke*
 Do they pump from each compartment *Yes*
 Is there provision made for pumping from the wings of the stoke hold *pumps from Engine Room side*

Are all the bilge suction pipes fitted with roses *Yes*
 What vacuum and steam gauges are there attached to the engines and boilers... *One Vacuum One Steam and One Compound Gauge in Engine Room & One to each Boiler in stoke hold*
 No. of feed pumps *2* and sizes *One 3" x 30" stroke*
 Description and size of Donkey Engine... *Inverted double acting 3" x 6" stroke*
 Will it feed the boilers, pump from the bilges, and pump on deck... *Yes*
 Can it be driven by steam from a separate boiler *Yes*
 No. of bilge injections *One* and sizes *3" connected to circulating pump*
 Are they fitted with non return valves *Yes*
 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*

CONNECTIONS ON HULL.

Are all connections with the sea direct on the skin of the ship *All except Kingston valve to circulating pump*
 Are they Kingston valves or common cocks *One Kingston. The others screw down valves & bolts*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates... *Yes. They are all fitted above turn of bilge*
 Are the discharge pipes above or below the deep water line *Air pump Discharge above the others are below*
 Are they each fitted with a discharge valve on the plating of the vessel *Yes*

Are any pipes carried through the bunkers *Yes. Bilge pipe to stoke hold*
 If so state how protected *Encased with strong wood*
 When was the stern tube, propeller, screw shaft, and all connections examined in dry dock *On ship while being fitted*
 How are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilge *Donkey sea & bilge suction cock is open at bottom and has single port inside of plating*
 Have the bilge suction non-return valves fitted or not *No*

BOILERS.

Number *Two*
 Description *Two, Round, Horizontal, with two furnaces in each fired from forward*
 Made by *A. & S. Inglis*
 In the year *1845*
 Present condition *New*
 When last extensively repaired *—*
 Working pressure *40 lbs*
 When tested by hydraulic pressure *Sept 23rd 1845*
 To what pressure tested *140*
 Any super-heating apparatus *Yes*
 Describe it *Round, Vertical with single flue*
 Can each boiler be worked separately *Yes*
 Is each boiler fitted with a separate steam gauge *Yes*

Can the super-heater be shut off and the boilers worked separately *No*
 No. of safety valves on each boiler *Two*
 Description and area of each safety valve *Direct Spring 14:18 area*
 No. of square feet of fire-grate surface in each boiler *38 ft²*
 Is there a separate blow off and brine cock on each boiler, independent of those on the vessel's skin *Yes*
 Is the screw shaft tunnel water tight and fitted with a sluice door on bulkhead *The tunnel is not watertight. No door fitted on Bulkhead*
 Are all pipes, cocks, and roses in connection with these boilers accessible to the engineer at all times *Yes*

A. & S. Inglis
Ld^{rs} In Welch
Manufacturer.

I hereby certify that the whole of the above Machinery and Boilers of the Iron ~~(or Wood)~~ Screw ~~(or Paddle)~~ Steam Vessel *S.S. "Leeds"* owned by *Manchester, Sheffield & Lincolnshire Railway* of the Port of *Grimby* of *100* Tons Register, and *100* Nominal Horse Power, have been carefully inspected and examined by *me* at *Glasgow* and found to be at this date, viz., *Nov 16th* 18 *45* in good order and safe working condition.

See paid £ 5.5.0

James Morrison
Engineer Surveyor to Lloyd's Register of Shipping.

