

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S CERTIFICATE & REPORT.

ENGINES.

Rev 24/11/75

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

1139
Port Glasgow
Report (if any) on Hull of Vessel.

Description *Compound, Inverted, Direct acting*
Made by *A. & L. 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 13ft~~ *about 13ft* Made by *Owners*
Pitch of screw *about 18ft*
No. of blades, *4* total surface
No. of bilge pumps *2* and size *One 3" x 30" stroke*
Do they pump from each compartment *One 5 1/2" x 6" "*
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 *No*
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 *The Kingston. The other screw down valves & cocks*
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 in side of plug*
Have the bilge suction non-return valves fitted or not *No*

BOILERS.

Number *Two, Round, Horizontal, with two*
Description *surfaces in each fired from forward*
Made by *A & L. 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 ft*
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. & L. Inglis
Lead 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.-

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