

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Rev 29/1/77

Description *Inverted, Compound, Surface Condensing.*
 Made by *Mr. John Dickinson.*
 When *Jan 7* 18 *77* At *Sunderland*
 Diameter of cylinder $\text{\textcircled{S}} \text{ } 32 \times 60$ Length of stroke *36*.
 No. of revolutions per minute *about 60.*
 Point of cut off *1/2 stroke.*
 Diameter of screw shaft *10 1/2*.
 Diameter of crank shaft journals *10 1/4*.
 Diameter of screw, or of paddle wheel *14 0*.
 Pitch of screw *17 0*.
 No. of blades, *4* Total surface *54 square feet.*
 No. of bilge pumps *2* and sizes *4 1/2 dia" x 19 stroke.*
 Do they pump from each compartment *from engine room, aft well, & fore hold.*

Are all the bilge suction pipes fitted with roses *yes*
 No. of feed pumps *2* and sizes *4 1/2 dia" x 19 stroke.*
 What gauges are there attached to the engines and boilers ... *1 steam gauge on each boiler in stokehole & 1 in engine room. 1 vacuum.*
 Description and size of Donkey Pumps ... *2 inverted double acting 8 diam. x 10 stroke & one single acting 4 1/2 x 6 stroke. The barge one from the sea, tanks, & c.*
 Where do they pump from ... *denser, and bilges of aft well, engine room & for hold. Small one from sea & hold.*
 No. of bilge injections *one* and sizes *4" diameter.*
 Are they connected to air, or circulating pumps *to circulating.*
 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. & 1/2 in pipe to suit.*

MAIN BOILERS.

Number *Two* Description *Cylindrical & Multitubular.*
 Made by *Mr. John Dickinson*
 When *Jan 7* 18 *77* At *Sunderland.*
 Working pressure *75 lbs per square inch*
 Tested by hydraulic pressure to *150 lbs*, Date *Nov 24/76*
 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 spring safety valves 3 1/2 dia = 19.2 sq. inches.*
 No. of square feet of fire-grate surface in each boiler *39.*
 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 except the bilge suction in fore hold when filled.*

DONKEY BOILER.

Description *Upright Cyl. with 4 Cross tubes*
 Where fixed *in the stokehole.*
 Working pressure *65 lbs per sq. inch.*
n.a.

Tested by hydraulic pressure to *150 lbs*, Date *Dec 18/76*
 Description and area of safety valves *one loaded direct 3 1/4 = 8.2 area*
 No. of square feet of fire grate *16.*

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 ... *stop valves & cocks.*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates ... *yes.*
 Are the discharge pipes above or below the deep water line *above.*
 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 *new.*
 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 *sluice. Coupled. and sluice door fitted.*

John Dickinson

Manufacturer *Except of the Donkey Boiler*

I was present on Dec 16th when the steam was raised, the safety valves tested, and the engines worked. steam 75 lbs per sq. inch. revolved 80. all worked satisfactory. W. A.

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 *"Rossend Castle"* owned by *A. J. Mawson*, of the Port of *Newcastle* of *1126.5* Tons Register, and *150* Registered Horse Power, and that they have been carefully inspected and examined by me at *Sunderland*, and found to be at this date, viz., *January 26th 18 77.* in good order and safe working condition.

Amount of Fee for Survey ... £ *7:10:*

(Travelling Expenses, if any, £ *Certificate 0:5*)
Received at Sunderland
by H.W. 27/1/77

William Allison
 Engineer Surveyor to Lloyd's Register of Shipping.