

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Rec 17/9/77

Description *Inverted Compound Surface Condensing*
 Made by *Mr. John Dickinson*
 When *Sept* 18 *77* At *Sunderland*
 Diameter of cylinders *32 & 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 6*
 No. of blades *4* Total surface *54 sq. feet*
 No. of bilge pumps *2* and sizes *4 1/4 dia. x 19 stroke*
 Do they pump from each compartment *Off well, Engine room & fore hold.*

Are all the bilge suction pipes fitted with roses *yes*
 No. of feed pumps *2* and sizes *4 1/4 dia. x 19 stroke*
 What gauges are there attached to the engines and boilers ... *1 steam gauge on each boiler, 1 vacuum, common to both boilers*
 Description and size of Donkey Pumps ... *2 inverted, large one double acting 8 x 10 stroke, small one 4 1/2 dia. x 6 stroke, single acting*
 Where do they pump from ... *the large one from sea tanks & bilges of engine room, off well & fore hold. Small one from the sea, and hotwell.*
 No. of bilge injections *one* and sizes *4 dia.*
 Are they connected to air, or circulating pumps *to circulating pump*
 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 (from crew pipes)*

MAIN BOILERS.

Number *Two* Description *Cylindrical & Multitubular*
 Made by *Mr. John Dickinson*
 When *Sept* 18 *77* At *Sunderland*
 Working pressure *70 lbs per sq. inch*
 Tested by hydraulic pressure to *140 lbs*, Date *Aug 22/77*
 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 valves (see tracing) 3 1/2 dia. = 19.2 area*
 No. of square feet of fire-grate surface in each boiler *35.9*
 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 bilge suction) in fore hold.*

DONKEY BOILER.

Description *Upright, Cylindrical, with 3 cross tubes*
 Where fixed *in the stokehold*
 Working pressure *45 lbs*

Tested by hydraulic pressure to *105 lbs reported*, Date *Aug 22/77*
 Description and area of safety valves *1 loaded direct 3 1/2 = 9.6*
 No. of square feet of fire grate *1 1/2*

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, *Main & bilge discharges*
 How are they protected *in recess*
 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 *yes*

John Dickinson

Manufacturer.

Except of the Donkey Boiler

I was present when steam was raised Engines worked, and safety valves tested and adjusted. satisfactory R.A. Sept 11/77

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 *"Prudent"* owned by *James Westoll* of the Port of *Sunderland* of *924* 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., *September 13th* 18 *77* in good order and safe working condition.

Amount of Fee for Survey ... £ *7:10:*
 (Travelling Expenses, if any, £ *2:5:*)

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

Received 15/9/77 HW