

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Description *Compound inverted direct acting*
 Made by *Richardson & Sons*
 When *1872* At *Hartlepool*
 Diameter of cylinders *33" & 61"* Length of stroke *33"*
 No. of revolutions per minute *60*
 Point of cut off *half stroke*
 Diameter of screw shaft *11"*
 Diameter of crank shaft journals *11"*
 Diameter of screw, or of paddle wheel *13'-3"*
 Pitch of screw *15'-6"*
 No. of blades, *4* Total surface
 No. of bilge pumps *2* and sizes *7" dia. x 8"*
 Do they pump from each compartment *yes & from ballast tanks*

Are all the bilge suction pipes fitted with roses *yes*
 No. of feed pumps *2* and sizes *3 9/16" dia x stroke 25 1/2"*
 What gauges are there attached to the engines and boilers ... *Bourdon's & Gable's systems.*
 Description and size of *2 off. steam cylinders 11" dia & 6 1/2" dia*
 Donkey Pumps ... *9" stroke & 7" stroke*
run on double acting 8 1/2" dia & 4 1/2" dia
 Where do they pump *from each hold & from*
 from ... *ballast tanks.*
 No. of bilge injections *1* and sizes *4 3/4" interl. 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 *no*
 Is there a deck hose of sufficient length to reach to any part of the vessel *yes*

MAIN BOILERS.

Number *1* Description *cyl: double ended, tubular*
 Made by *Richardson & Sons*
 When *1872* At *Hartlepool*
 Working pressure *60 lbs*
 Tested by hydraulic pressure to *120 lbs*, Date *1873*
 Description of super-heating apparatus *none*
 Can each boiler be worked separately

Can the super-heater be shut off and the boilers worked separately
 Description and area of *two direct loaded,*
 safety valves on each *each 5 1/2" dia, total area:*
 boiler ... *11 47.51 sq. in.*
 No. of square feet of fire-grate *83 sq. feet*
 surface in each boiler
 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 *cyl: vertical with 3 Galloway tubes, smoke pipe through*
stoke hole
 Where fixed *in foreward stoke hole*
 Working pressure *30 lbs*

Tested by hydraulic pressure to *60 lbs*, Date *1873*

Description and area of safety valves *two off direct loaded*
1 lever each 2 1/4" dia, total area 7.95
 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 *screw valve for fire pump*
 or common cocks ... *others common cocks*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates *In the engine room yes*
in stoke hole no
 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*

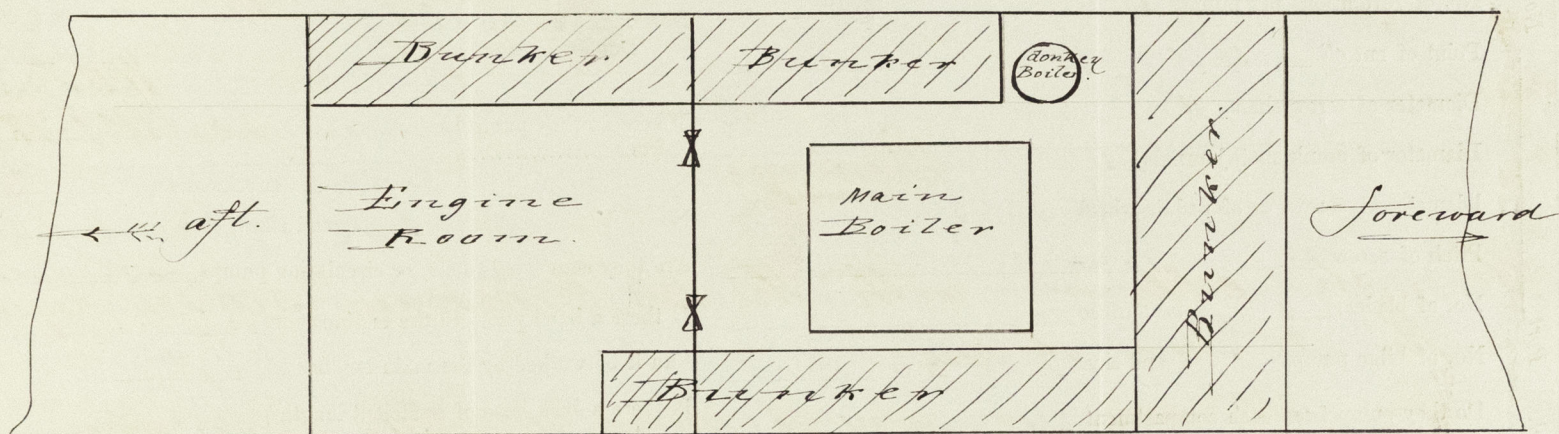
What pipes are carried through the bunkers *none*
 How are they protected
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock *3rd & 4th August 1876.*
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the 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 "*Memphis*" owned by the "*Kosmos*" Steam Ship Co. of the Port of *Hamburg* of *946* Tons Register, and *150* Registered Horse Power, and that they have been carefully inspected and examined by me at *Hamburg* and found to be at this date, viz., *the 8th August 1876* in good order and safe working condition.

Ernest Voss
 Engineer Surveyor to Lloyd's Register of Shipping.

16772 Iron



Arrangement of Bunkers.