

16th 66 Iron
Rec'd 5/17/76

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

No. 13219
Port Newcastle
Report (if any) on Hull of Vessel.

Description *Compound - Inverted - Surface Condensing* Are all the bilge suction pipes fitted with roses *Yes*
 Made by *Messrs Thompson & Co.* No. of feed pumps *2* and sizes *3 1/2 dia x 18 stroke Single acting*
 When *May 1876* At *Newcastle on Tyne* What gauges are there attached to the engines and boilers ... } *3 Steam*
 Diameter of cylinder *one 32" x one 60"* Length of stroke *36"* } *1 Vacuum*
 No. of revolutions per minute *About 63* Description and size of Donkey Pumps ... } *Double Acting*
 Point of cut off *7/8 High pressure 3/8 Low pressure* } *Pump 6 1/2 dia x 10" stroke*
 Diameter of screw shaft *10" dia of inner shaft 9 1/4"* Where do they pump from } *Ballast tanks sea, & bilges*
 Diameter of crank shaft journals *10"* No. of bilge injections *1* and sizes *3" diameter*
 Diameter of screw, or of paddle wheel *13" 0"* Are they connected to air, or circulating pumps *Art Pump*
 Pitch of screw *from 14" 0" to 18" 6"* Is there a hand pump in the engine room *No Donkey can be used as such*
 No. of blades, *4* Total surface *6 1/2 sq feet* Can it be worked by the main engines *No*
 No. of bilge pumps *2* and sizes *3 1/2 dia x 18 stroke Single Acting* Is there a deck hose of sufficient length to reach to any part of the vessel } *Yes*
 Do they pump from each compartment } *from after well and engine room*

MAIN BOILERS.

Number *Two* Description *Round Horizontal, Multitubular* Can the super-heater be shut off and the boilers worked separately } *No Superheaters*
 Made by *Messrs Thompson & Co.* Description and area of safety valves on each boiler } *Adams Spring Two on each boiler*
 When *New 1876* At *Newcastle on Tyne* } *each boiler. Area of two 23.58 sq in*
 Working pressure *65 lbs* No. of square feet of fire-grate surface in each boiler } *45 sq ft*
 Tested by hydraulic pressure to *135 lbs*, Date *Feb 1876* Are there separate blow off and brine cocks on each boiler, independent of those on the vessel's skin } *Yes*
 Description of super-heating apparatus } *None* Are all pipes, cocks, roses, and pumps in connection with the machinery accessible at all times. } *Suction pipes in hold not accessible when vessel is loaded*
 Can each boiler be worked separately } *Yes*

DONKEY BOILER.

Description *Vertical Water tubes in furnace* Tested by hydraulic pressure to *Reported to 85 lbs*, Date *Mar 1876*
 Where fixed *In stokehold* Description and area of safety valves *Direct weight 8.29 sq in*
 Working pressure *40 lbs* No. of square feet of fire grate *15.9 sq feet*

PIPES, COCKS, AND CONNECTIONS.

Are all connections with the sea direct on the skin of the ship } *Yes* What pipes are carried through the bunkers } *Suction pipe to forehold*
 Are they Kingston valves or common cocks ... } *Stop valves and Common cocks* How are they protected } *Wood casing*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates } *Yes. Portable ladders over cocks in engine room* When were the stern tube, propeller, screw shaft, and all connections examined in dry dock } *New 1876*
 Are the discharge pipes above or below the deep water line } *About level* Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilge } *Yes*
 Are they each fitted with a discharge valve on the plating of the vessel } *Yes* Is the screw shaft-tunnel water tight and fitted with a sluice door on bulkhead } *Yes*

Thompson & Co 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 *Widgeon* owned by *The General Steam Navigation Coy* of the Port of *London* of *503.42* Tons Register, and *160* Registered Horse Power, and that they have been carefully inspected and examined by me at *Low Walker on Tyne* and found to be at this date, viz., *May 9th 1876* in good order and safe-working condition.

Survey fee *£3-3-0*
 Certificate *5-0*
£3-8-0

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

Received at Shields by *T. Young* 2/6/76