

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER - SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Description *compound inverted*
 Made by *J Key*
 When *1873* At *Kinghorn*
 Diameter of cylinder *38 x 70* Length of stroke *48"*
 No. of revolutions per minute *58*
 Point of cut off *35"*
 Diameter of screw shaft *12 1/2"*
 Diameter of crank shaft journals *—*
 Diameter of screw, or of paddle wheel *—*
 Pitch of screw *10 to 22*
 No. of blades, *—* Total surface *—*
 No. of bilge pumps *2* and sizes *5 x 16*
 Do they pump from each compartment *Yes*

Are all the bilge suction pipes fitted with roses *Yes*
 No. of feed pumps *2* and sizes *5 x 16*
 What gauges are there attached to the engines and boilers ... *2 steam*
1 vacuum
 Description and size of Donkey Pumps ... *Joint action*
 Where do they pump from ... *Bilge, Sea*
 No. of bilge injections *one* and sizes *3" pipe*
 Are they connected to air, or circulating pumps *air*
 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 *four* Description *2 furnaces in each*
 Made by *J Key*
 When *1873* At *Kinghorn*
 Working pressure *60 lbs*
 Tested by hydraulic pressure to *—*, Date *—*
 Description of super-heating apparatus *Annular*
 Can each boiler be worked separately *Yes*

Can the super-heater be shut off and the boilers worked separately *Yes*
 Description and area of safety valves on each boiler *Adams's*
 No. of square feet of fire-grate 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 *—*
 Where fixed *—*
 Working pressure *—*

Tested by hydraulic pressure to *—*, Date *—*
 Description and area of safety valves *—*
 No. of square feet of fire grate *—*

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 ... *Kingston*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates *No*
 Are the discharge pipes above or below the deep water line *below*
 Are they each fitted with a discharge valve on the plating of the vessel *Yes*
 Manufacturer. *—*

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 *Nov: 1877*
 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*

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 *"African"* owned by *Union S. S. Co*
 of the Port of *Southampton* of *1258* Tons Register, and *280* Registered Horse Power,
 and that they have been carefully inspected and examined by me at *Southampton*
 and found to be at this date, viz., *26th November 1877* in good order and safe working condition.

Amount of Fee for Survey ... £ *3 : 3 -* Paid to Son ap
 (Travelling Expenses, if any, £ *1-16-3*) per Son Rep: 1834

William Pailter
 Engineer Surveyor to Lloyd's Register of Shipping.
London