

REPORT ON MACHINERY.

No. 402

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No. in Survey held at *Dundee & Arbroath* Date, first Survey *2nd February* Last Survey *8th July 1885*
 Reg. Book. *"Eagle"* (Number of Visits) *208*
 on the *Screw Lug Steamer* Tons *25*
 Master *J. H. [Signature]* Built at *Dundee* By whom built *Pearce Bros & Co.* When built *1885*
 Engines made at *Arbroath* By whom made *A. Shank & Son* when made *1885*
 Boilers made at *do* By whom made *do* when made *1885*
 Registered Horse Power *95* Owners *Huddart Parker & Co* Port belonging to *Dundee*

ENGINES, &c.—

Description of Engines *Compound, surface condensing, direct acting, inverted cylinders.*
 Diameter of Cylinders *23 1/2 x 47"* Length of Stroke *27"* No. of Rev. per minute *100* Point of Cut off, High Pressure *.5* Low Pressure *.5*
 Diameter of Screw shaft *8 1/4"* Diam. of Tunnel shaft *8 1/4"* Diam. of Crank shaft journals *8 1/4"* Diam. of Crank pin *8 1/4"* size of Crank webs *10" x 6 1/4"*
 Diameter of screw *9-5"* Pitch of screw *13-9"* No. of blades *3* state whether moveable *yes* total surface *24 ft*
 No. of Feed pumps *2* diameter of ditto *3 1/4"* Stroke *13 1/2"* Can one be overhauled while the other is at work *yes*
 No. of Bilge pumps *2* diameter of ditto *3 1/4"* Stroke *13 1/2"* Can one be overhauled while the other is at work *yes*
 Where do they pump from *Bilge & Sea & holdalls*
 No. of Donkey Engines *one* Size of Pumps *4"* Where do they pump from *all compartments, sea & holdalls*
 Are all the bilge suction pipes fitted with roses *yes* Are the roses always accessible *yes* Are the sluices on Engine room bulkheads always accessible *yes*
 No. of bilge injections *one* and sizes *1"* Are they connected to condenser, or to circulating pump *Circulating pump.*
 How are the pumps worked *Levers. Circulating centrifugal by separate engine.*
 Are all connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *Both*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates *yes* Are the discharge pipes above or below the deep water line *above*
 Are they each fitted with a discharge valve always accessible on the plating of the vessel *yes* Are the blow off cocks fitted with a spigot and brass covering plate *yes*
 What pipes are carried through the bunkers *none* How are they protected *—*
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times *yes*
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges *yes*
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock *while building.*
 Is the screw shaft tunnel watertight *yes* and fitted with a sluice door *yes* worked from *from main deck.*

BOILERS, &c.—

Number of Boilers *One* Description *Circular Multitubular* Whether Steel or Iron *Steel*
 Working Pressure *100 lbs* Tested by hydraulic pressure to *200 lbs* Date of test *26/5/85*
 Description of superheating apparatus or steam chest *none*
 Can each boiler be worked separately *—* Can the superheater be shut off and the boiler worked separately *—*
 No. of square feet of fire grate surface in each boiler *72 ft* Description of safety valves *Spring* No. to each boiler *2*
 Area of each valve *12.56* Are they fitted with easing gear *yes* No. of safety valves to superheater *—* area of each valve *—*
 Are they fitted with easing gear *—* Smallest distance between boilers and bunkers or woodwork *6"* Diameter of boilers *14'*
 Length of boilers *10-6"* description of riveting of shell long. seams *Stk. riv. Batt straps* circum. seams *Lap dbl. riv.* Thickness of shell plates *5/16*
 Diameter of rivet holes *1 1/16* whether punched or drilled *drilled* pitch of rivets *4 1/2"* Lap of plating *11 1/2"*
 Percentage of strength of longitudinal joint *73%* working pressure of shell by rules *104 lbs* size of manholes in shell *16" x 12"*
 Size of compensating rings *3 1/2 x 3 1/2 x 3/4* No. of Furnaces in each boiler *3*
 Outside diameter *44 1/2"* length, top *7'-6"* bottom *9'-9"* thickness of plates *7/16* description of joint *welded* if rings are fitted *corrugated*
 Greatest length between rings *—* working pressure of furnace by the rules *112 lbs* combustion chamber plating, thickness, sides *9/16* back *9/16* top *9/16*
 Pitch of stays to ditto, sides *9 1/4 x 9"* back *9"* top *8 1/2 x 8"* If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules *113* Diameter of stays at smallest part *1 3/8"* working pressure of ditto by rules *610 lb* end plates in steam space, thickness *5/16*
 Pitch of stays to ditto *14 x 16"* how stays are secured *thru ends & nuts* working pressure by rules *115 lbs* diameter of stays at smallest part *2 1/4"* working pressure by rules *69 x 4* Front plates at bottom, thickness *5/8* Back plates, thickness *5/8*
 Greatest pitch of stays *11 1/2 x 9"* working pressure by rules *4392* Diameter of tubes *3 1/2"* pitch of tubes *2 3/4"* thickness of tube plates, front *3/4"* back *3/4"* how stayed *stay tubes* pitch of stays *16"* width of water spaces *1 1/4"*
 Diameter of Superheater or Steam chest *none* length *—* thickness of plates *—* description of longitudinal joint *—* diam. of rivet holes *—*
 Pitch of rivets *—* working pressure of shell by rules *—* diameter of flue *—* thickness of plates *—* If stiffened with rings *—*
 Distance between rings *—* working pressure by rules *—* end plates of superheater, or steam chest; thickness *—* how stayed *—*
 Superheater or steam chest; how connected to boiler *—*

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DONKEY BOILER—

Description

Made at _____ by whom made _____ when made _____ where fixed _____
 Working pressure _____ tested by hydraulic pressure to _____ No. of Certificate _____ fire grate area _____ description of safety
 valves _____ No. of safety valves _____ area of each _____ if fitted with easing gear _____ if steam from main boilers can
 enter the donkey boiler _____ diameter of donkey boiler _____ length _____ description of riveting _____
 Thickness of shell plates _____ diameter of rivet holes _____ whether punched or drilled _____ pitch of rivets _____ lap of plating _____
 per centage of strength of joint _____ thickness of crown plates _____ stayed by _____
 Diameter of furnace, top _____ bottom _____ length of furnace _____ thickness of plates _____ description of joint _____
 Thickness of furnace crown plates _____ stayed by _____ working pressure of shell by rules _____
 Working pressure of furnace by rules _____ diameter of uptake _____ thickness of plates _____ thickness of water tubes _____

SPARE GEAR. State the articles supplied:— *Half crank shaft, 3 propeller blades, propeller shaft, one set of
 top and one set of bottom end connecting rod bolts, one set of coupling bolts.*

The foregoing is a correct description,

A. Shank & Son Manufacturers

General Remarks (State quality of workmanship, opinions as to class, &c.)

*The machinery of this vessel has been built under special Survey work-
 manship and materials good.*

The approved tracings and steel test certificates are sent herewith.

*The safety valves have been set under steam to a working pressure of 100 lbs
 per square inch.*

*It is submitted that
 this vessel is eligible to
 receive the notation*

*LMC 7-85
 22.7.85*

*The machinery of this vessel is now in good working order, and eligible, in
 my opinion, to be classed and marked, + LMC 7-85*

The amount of Entry Fee .. £ 1 : 0 : 0 received by me,
 Special £ 14 : 5 : 0
 Donkey Boiler Fee £ : :
 Certificate (if required) .. £ : : *14th July 1885*
 To be sent as per margin.
 (Travelling Expenses, if any, £ 1 - 1 - 0)

Committee's Minute

TUESDAY 21 JULY 1885

+ LMC

L. Darling
 Engineer/Surveyor to Lloyd's Register of British & Foreign Shipping.



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