

REPORT ON MACHINERY.

Boiler for tug

No. 5540

8328

THURS. 27 OCT 1892

Port of Hull

Received at London Office

18

No. in Survey held at Newark T. Reg. Book.

Date, first Survey Mar. 19th

Last Survey Jul 5th 1892

(Number of Visits 5)

on the ~~Boat~~ classed Tug "Bee"

Tons } Gross 54.69
Net 1.24

Master Purse Built at Gloucester By whom built Summers & Scott

When built 1892

Engines made at Gloucester By whom made Summers & Scott

when made 1892

Boilers made at Newark By whom made Abbott & Co

when made 1892

Registered Horse Power 35

Owners Summers Scott

Port belonging to Gloucester

Nom. Horse Power as per Section 28 ✓

ENGINES, &c.— Description of Engines No. of Cylinders

Diameter of Cylinders Length of Stroke Revolutions per minute Diameter of Screw shaft as per rule as fitted

Diameter of Tunnel shaft as per rule as fitted Diameter of Crank shaft journals Diameter of Crank pin Size of Crank webs

Diameter of screw Pitch of screw No. of blades State whether moveable Total surface

No. of Feed pumps Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Bilge pumps Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Donkey Engines Sizes of Pumps No. and size of Suctions connected to both Bilge and Donkey pumps in Engine Room In Holds, &c.

No. of bilge injections sizes Connected to condenser, or to circulating pump Is a separate donkey suction fitted in Engine room & size

Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible Are the sluices on Engine room bulkheads always accessible

Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the discharge pipes above or below the deep water line

Are they each fitted with a discharge valve always accessible on the plating of the vessel Are the blow off cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers How are they protected

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges

When were stern tube, propeller, screw shaft, and all connections examined in dry dock Is the screw shaft tunnel watertight

Is it fitted with a watertight door worked from

OILERS, &c.— (Letter for record S) Total Heating Surface of Boilers

No. and Description of Boilers Cylindrical Multitubular Working Pressure 100 lb. Tested by hydraulic pressure to

Date of test Can each boiler be worked separately Area of fire grate in each boiler No. and Description of safety valves to each boiler

Area of each valve Pressure to which they are adjusted Are they fitted with easing gear Smallest distance between boilers or uptakes and bunkers or woodwork Mean diameter of boilers 10'0"

Length 9'0" Material of shell plates Steel Thickness 23/32 Description of riveting: circum. seams dble in lap long. seams 3ble in lap

Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 4 1/4" & 4 1/8" Lap of plates or width of butt straps 7 3/4"

Per centages of strength of longitudinal joint rivets 76.5 Working pressure of shell by rules 100 lb. Size of manhole in shell 16" x 12"

plate 74.2

Size of compensating ring Inceuil ring No. and Description of Furnaces in each boiler two Material Steel Outside diameter 37"

Length of plain part top 6'0" crown 17/32" Description of longitudinal joint No. of strengthening rings - bottom 6'0" bottom 17/32"

Working pressure of furnace by the rules 114 lb. Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 9/16"

Pitch of stays to ditto: Sides 10" x 10 1/4" Back 10" Top 10 1/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 104 lb.

Material of stays Steel Diameter at smallest part 1 3/8" Area supported by each stay 10" x 10" Working pressure by rules 120 lb. End plates in steam space:

Material Steel Thickness 1 3/16" Pitch of stays 19 1/4" How are stays secured dble nuts on nuts Working pressure by rules 100 lb. Material of stays Steel

Diameter at smallest part 2.53 Area supported by each stay 19 1/4" x 14 3/4" Working pressure by rules 160 lb. Material of Front plates at bottom Steel

Thickness 1 1/16" Material of Lower back plate Steel Thickness 1 1/16" Greatest pitch of stays 12 3/4" Working pressure of plate by rules 100 lb.

Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" Material of tube plates Steel Thickness: Front 1/16" Back 1/16" Mean pitch of stays 9 1/2"

Pitch across wide water spaces 12" Working pressures by rules 134 lb. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 5 1/4" x 1 1/2" Length as per rule 24" Distance apart 10 1/4" Number and pitch of Stays in each two 8 1/2"

Working pressure by rules 107 lb. Superheater or Steam chest; how connected to boiler ✓ Can the superheater be shut off and the boiler worked separately

Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

BRS82-0128

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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 _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____
 Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____
 Description of riveting long. seams _____ Diameter of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____
 Lay of plating _____ Per centage of strength of joint _____ Rivets _____ Thickness of shell crown plates _____ Radius of do. _____ No. of Stays to do. _____
 Dia. of stays. _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace 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 uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

Manufacturer.

Abbott & Co

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

Workmanship Good

This main boiler has been put together at Newark in accordance with the approved drawing and is now forwarded to Gloucester where it will be completed and tested by hydraulic pressure.

Certificate (if required) to be sent to

The amount of Entry Fee..	£	✓	:	:	When applied for,
Special	£	4	:	-	15/7/92
Donkey Boiler Fee	£	-	:	-	When received,
Travelling Expenses (if any)	£	2	:	10/9	10/7

James Innes
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **FRI 20 OCT 1892**

Assigned



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The Surveys are required not to write on or below the space for Committee's Minute.