

REPORT ON MACHINERY.

No. 22607

Port of Glasgow

Received at London Office 11th MAR 1905

No. in Survey held at Glasgow

Date, first Survey 6th Sept 02

Last Survey 2 March 1905

on the Steel Screw Steamer "Hazel Dollar"

(Number of Visits)

Built at Glasgow

By whom built Messrs A. Rodger & Co (383) When built 1905

Engines made at Glasgow

By whom made Messrs A. Rodger & Co (121) when made 1905

Boilers made at Glasgow

By whom made Messrs Lindsay, Barnet & Co (1001-2-3) when made 1905

Registered Horse Power

Owners Messrs Dollar & Co

Port belonging to

nom. Horse Power as per Section 28 394

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted No

GINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders Three

No. of Cranks Three

No. of Cylinders 25 1/2 : 42 : 70

Length of Stroke 48

Revs. per minute 70

Dia. of Screw shaft

as per rule 14 1/2

Material of Iron

the screw shaft fitted with a continuous liner the whole length of the stern tube Yes

Is the after end of the liner made water tight

the propeller boss Yes If the liner is in more than one length are the joints burned Yes

If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes

If two

axles are fitted, is the shaft lapped or protected between the liners Yes

Length of stern bush 5' 0"

Dia. of Tunnel shaft

as per rule 12 1/2

as fitted 13 1/8

Dia. of Crank shaft journals

as per rule 13 1/2

as fitted 13 3/4

Dia. of Crank pin

13 3/4

Size of Crank webs

20 1/2 x 8 1/2

Dia. of thrust shaft under

bars 13 3/4

Dia. of screw

14 1/8

Pitch of screw 18' 0"

No. of blades 4

State whether moveable Yes

Total surface

91 sq ft

No. of Feed pumps Two

Diameter of ditto 4"

Stroke 24"

Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two

Diameter of ditto 4"

Stroke 24"

Can one be overhauled while the other is at work Yes

No. of Donkey Engines Three

Sizes of Pumps

one 9 x 10 x 10 duplex ballast

two 7 x 5 x 8 " feed

No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room Four 3 1/2

In Holds, &c. Two 3 1/2 in each (three) hold.

No. of bilge injections 1

sizes 7"

Connected to condenser, or to circulating pump Yes

Is a separate donkey suction fitted in Engine room & size Yes 3 1/2"

Are all the bilge suction pipes fitted with roses Yes

Are the roses in Engine room always accessible Yes

Are the sluices on Engine room bulkheads always accessible None

Are all connections with the sea direct on the skin of the ship Yes

Are they Valves or Cocks Larger valves. Smaller cocks.

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

How are they protected Short bilge pipes in cross bunkers

How are they protected Wooden casings

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

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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock New vessel

Is the screw shaft tunnel watertight Yes

Is it fitted with a watertight door Yes

worked from Upper E. R. platform.

HEATERS, &c.— (Letter for record 3)

Total Heating Surface of Boilers 6402 sq ft

Is forced draft fitted No

No. and Description of Boilers Three Single-ended

Working Pressure 180 lbs

Tested by hydraulic pressure to 360

Can each boiler be worked separately Yes

Area of fire grate in each boiler 56 sq ft

No. and Description of safety valves to Two direct spring

Area of each valve 5.94 sq in

Pressure to which they are adjusted 185 lbs

Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 15"

Mean dia. of boilers 14' 6"

Length 11' 0"

Material of shell plates Steel

Thickness 1 3/16

Range of tensile strength 28-32

Are they welded or flanged No

Descrip. of riveting: cir. seams Stub: no: long: seams

Diameter of rivet holes in long. seams 1 1/4"

Pitch of rivets 8 15/16 + 4 15/32

Lap of plates or width of butt straps 1' 6 1/2" x 1 1/16" inside

Percentage of strength of longitudinal joint

rivets 85.00

plate 86.00

Working pressure of shell by rules 183

Size of manhole in shell 16 x 12

No. and Description of Furnaces in each boiler 3 "Deighton"

Material Steel

Outside diameter 9' 9 3/4"

Length of plain part

top 17'

bottom 17 1/2'

Thickness of plates

circumference 17 1/2'

Description of longitudinal joint welded

Working pressure of furnace by the rules 178

Combustion chamber plates: Material Steel

Thickness: Sides 2 1/32

Back 5/8"

Top 2 1/32"

Bottom 7/8"

No. of strengthening rings 1

Number of stays to ditto: Sides 8 1/2 x 8 1/2

Back 9 x 8 1/2

Top 8 1/2 x 8 1/2

Bottom 9 x 8 1/2

Material of stays Steel

Diameter at smallest part 1.725

Area supported by each stay 9 1/4 x 8 1/2

Working pressure by rules 180

End plates in steam space: 11 1/2 x 8 1/2 outside back.

Material Steel

Thickness 1 5/32

Pitch of stays 18 1/4 x 17 1/2

How are stays secured O. Nuts

Working pressure by rules 187

Material of stays Steel

Diameter at smallest part 5.8

Area supported by each stay 320

Working pressure by rules 180

Material of Front plates at bottom Steel

Thickness 1 3/16

Material of Lower back plate Steel

Thickness 3/4"

Greatest pitch of stays 14"

Working pressure of plate by rules 180

Diameter of tubes 3 1/2"

Pitch of tubes 4 3/4 x 4 11/16

Material of tube plates Steel

Thickness: Front 13/16

Back 13/16

Mean pitch of stays 11"

Distance across wide water spaces 14"

Working pressures by rules 180

Girders to Chamber tops: Material Steel

Depth and

thickness of girder at centre 8 x 1 3/4

Length as per rule 30 1/2

Distance apart 9"

Number and pitch of Stays in each Two at 8 1/2"

Working pressure by rules 183

Superheater or Steam chest; how connected to boiler Yes

Can the superheater be shut off and the boiler worked

separately Yes

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

Are they fitted 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



DONKEY BOILER— No. _____ Description None

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 boiler _____

enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____ Range of thickness _____

strength _____ Descrip. of riveting long. seams _____ Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____

Lap 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 _____ Descrip. 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:— 2 Crank pin bolts. 2 Cross head bolts. 2 Main bearing set coupling bolts. Lead & bilge pump valves. Assorted bolts & nuts & iron. 2 Propeller blades. 4 Lead check valves. 2 Bal. ORY valves. 1 Set Air & Air pump valves.

The foregoing is a correct description,
A. Hodger & Co. Manufacturer.

Dates of Survey while building { During progress of work in shops - 1905: Sep 6, 9, 10, Oct 3, 11, 17, 24, Nov 1, 7, 16, 17, 22, 29, Dec 13, 1905.
 { During erection on board vessel - 10, 12, 16, 20, 25, 26, 31, Feb 12, Mar 1, 2
 Total No. of visits 24 Is the approved plan of main boiler forwarded herewith " " " donkey " " "

General Remarks (State quality of workmanship, opinions as to class, &c.)
 These engines & boilers have been made & fitted under special survey, in accordance with the plans & the Rules. The steam pipes etc have been made as required. The machinery worked satisfactorily under steam.

The machinery in my opinion renders the vessel eligible for the notation & LMC 3.05 in the Register.

The boiler plan & seven certificates of shaft forgings are enclosed to

It is submitted that this vessel is eligible for THE RECORD L.M.C. 3.05.

EL
 21.3.05

Arthur L. Jones
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

The amount of Entry Fee . . . £ 3 : - :
 Special . . . £ 39 : 14 :
 Donkey Boiler Fee . . . £ : :
 Travelling Expenses (if any) £ : :

Committee's Minute Glasgow 20 MAR 1905

Assigned + L.M.C. 3.05.

When fee is paid



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Certificate (if required) to be sent to the Registrar of Shipping (The Surveyors are requested not to write on or below the space for Committee's Minutes.)