

REPORT ON MACHINERY.

No. 6128

No. in Survey held at
Reg. Book.

Glasgow

Date, first Survey Oct-31-82 Last Survey 29 May 1883

on the

Steam Vessel "Pathan"

(Number of Visits)

2628
Tons 1762

Master

J. Howley

Built at

Glasgow

When built

1883

Engines made at

Glasgow

By whom made J. & S. Thomson when made

Boilers made at

"

By whom made " when made

Registered Horse Power

350

Owners

Gillally, Haughey, & Co. Ltd.

Port belonging to

Glasgow

ENGINES, &c.—

Description of Engines

Compound Inverted Surface Condensing

Diameter of Cylinders 43" & 45" Length of Stroke 51 No. of Rev. per minute 60 Point of Cut off, High Pressure 7/10 Low Pressure 7/10

Diameter of Screw shaft 13 3/4" Diameter of Tunnel shaft 13" Diameter of Crank shaft journals 14" Diameter of Crank pin 14" size of Crank webs 16" x 10"

Diameter of screw 1 1/2" Pitch of screw 22" No. of blades 4 state whether moveable Yes total surface 84 sq. ft.

No. of Feed pumps Two diameter of ditto 4 1/2" Stroke 25 1/2" Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two diameter of ditto 4 1/2" Stroke 25 1/2" Can one be overhauled while the other is at work Yes

Where do they pump from Bilges of Engine Room and all Compartments

No. of Donkey Engines One Size of Pumps 5" x 9 1/2" Where do they pump from Sea, Bilges, Holdalls

all Compartments of Vessel and through Condenser

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 6" Are they connected to condenser, or to circulating pump Circulating

How are the pumps worked By Levers Attached to Bulkhead

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 Cold Suction Pipes How are they protected Wood Lining

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 Before Launching

Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from Top Platform

BOILERS, &c.—

Number of Boilers

Two

Description

Cylindrical & Multitubular (Horizontal)

Working Pressure

80 lbs

Tested by hydraulic pressure to

160 lbs

Date of test

March 15-83

Description of superheating apparatus or steam chest

Horizontal Steam Recirculator

Can each boiler be worked separately

Yes

Can the superheater be shut off and the boiler worked separately

No

No. of square feet of fire grate surface in each boiler

125 ft

Description of safety valves

Direct Spring

No. to each boiler

Two

area of each valve

30.6 sq. in

Are they fitted with easing gear

Yes

No. of safety valves to superheater

one

area of each valve

7.99 sq. in

are they fitted with easing gear

No

Smallest distance between boilers and bunkers or woodwork

12 inches

Diameter of boilers 13' 6" Length of boilers 17' 0" description of riveting of shell long. seams Double Butt circum. seams Double Lap

Thickness of shell plates 1" diameter of rivet holes 1 1/8" whether punched or drilled drilled pitch of rivets 4 1/2"

Lap of plating 12 inches per centage of strength of longitudinal joint 70% working pressure of shell by rules 98 lbs

Size of manholes in shell 15 1/2" x 12 1/2" size of compensating rings Angle Iron 3' x 3' x 1/2"

No. of Furnaces in each boiler

6

outside diameter

3' 4"

length, top

6' 6"

bottom

8' 6"

Thickness of plates

1 1/32"

description of joint

Double Butt

if rings are fitted

Angle Iron

greatest length between rings

Working pressure of furnace by the rules

94 lbs

Combustion chamber plating, thickness, sides

1/2"

back

top

1 1/2"

Pitch of stays to ditto, sides

8" x 4 3/4"

back

top

8" x 8"

If stays are fitted with nuts or riveted heads

Nuts

working pressure of plating by rules

120 lbs

Diameter of stays at smallest part

1 1/8"

working pressure of ditto by rules

93 lbs

End plates in steam space, thickness

2 1/32"

pitch of stays to ditto

16" x 16"

how stays are secured Nuts & Washers

Working pressure by rules

99 lbs

diameter of stays at smallest part

2 3/8"

working pressure by rules

103 lbs

Front plates at bottom, thickness

1 1/16"

Back plates, thickness

greatest pitch of stays

working pressure by rules

6128 Gls

Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $4\frac{3}{4} \times 4\frac{3}{4}$ " thickness of tube plates, front $\frac{1}{16}$ " back $\frac{5}{8}$ "
How stayed *Substay* pitch of stays $14\frac{1}{4} \times 9\frac{1}{2}$ " width of water spaces 6"
Diameter of Superheater or Steam chest 5'0" length 22'9"0"
Thickness of plates $\frac{9}{16}$ " description of longitudinal joint *Lap dr* diameter of rivet holes $\frac{7}{8}$ " pitch of rivets $3\frac{1}{4}$ "
Working pressure of shell by rules 100 lb 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 $\frac{1}{16}$ " How stayed *H bar stays $3\frac{1}{8}$ " Effective dia*
Superheater or steam chest; how connected to boiler *Stop valves Copper Pipe*
DONKEY BOILER— Description *Circular Top & Bottom. Flat sided.*
Made at *Glasgow* By whom made *J & S. Thomson* when made 1883
Where fixed *on deck* working pressure 50 lb Tested by hydraulic pressure to 100 lb No. of Certificate 1000
Fire grate area 18.7 ft² Description of safety valves *direct spring* No. of safety valves 2 area of each 7' sq in
If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no*
Diameter of donkey boiler 5'0" length $4\frac{1}{2}$ ft $4\frac{1}{2} \times 9\frac{1}{2}$ ft description of riveting *double riveted Lap*
thickness of shell plates $\frac{1}{2}$ " diameter of rivet holes $\frac{7}{8}$ " whether punched or drilled *punched*
pitch of rivets $3\frac{1}{4}$ " lap of plating 4" per centage of strength of joint 40%
thickness of ~~end~~ plates $\frac{1}{2}$ " stayed by *bar stays $1\frac{1}{2}$ " dia*
Diameter of furnace, top $3\frac{1}{2}$ ft bottom $3\frac{1}{2}$ ft length of furnace 5'0"
thickness of plates $\frac{7}{16} \times 8\frac{1}{16}$ " description of joint *double butt straps single riveted*
thickness of *combustion chamber* plates $\frac{7}{16}$ " stayed by *round stays $1\frac{1}{2}$ " dia pitch 9×9 "*
Working pressure of shell by rules 90 lb working pressure of furnace by rules 46 lb
diameter of uptake *---* thickness of plates *---* thickness of water tubes *---*

The foregoing is a correct description,
John James Thomson Manufacturer.

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

The above Engines and Boilers have been constructed under special survey. The material and workmanship are of good quality and were found to be good and efficient when tested under steam. And are in my opinion eligible for the Notification
Lloyd's M.C. 5.83 in the Society Register Book

*Not submitted to the
Committee for the
Notification of the
M.C.*
31/5/83

The amount of Entry Fee £ 3 : 0 : 0 received by me,
Special £ 34 : 10 : 0
Certificate (if required) £ *Gratis* 29/5/1883
To be sent as per margin.
(Travelling Expenses, if any, £)

Committee's Minute FRIDAY 1 JUNE 1883 18
+ M.C. 5.83

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

Lloyd's District
Lloyd's Register Foundation