

REPORT ON MACHINERY.

No. 5721

(Received at London Office, 1st JUNE, 82.)

No. in Survey held at
Reg. Book.

Dumbarton

Date, first Survey 11. 6. 81.

Last Survey 24. 5. 82 18

on the

Screw Steamer "Goorkha"

Tons 3943
2660

Master

Sharp

Built at

Dumbarton

When built

1882.

Engines made at

Dumbarton

By whom made

Denny & Co. when made 1882

Boilers made at

"

By whom made

" when made 1882

Registered Horse Power

500.

Owners

Brit. India S. R. Coy.

Port belonging to

Glasgow

ENGINES, &c.—

Description of Engines

Compound Inverted Direct Acting.

Diameter of Cylinders 50" & 86" Length of Stroke 54" No. of Rev. per minute 64 Point of Cut off, High Pressure $\frac{1}{10}$ Low Pressure $\frac{1}{10}$

Diameter of Screw shaft 15 $\frac{1}{2}$ " Diameter of Tunnel shaft 14 $\frac{1}{4}$ " Diameter of Crank shaft journals 15 $\frac{1}{2}$ " Diameter of Crank pin 15 $\frac{1}{2}$ " size of Crank webs 11 $\frac{1}{4}$ " x 11"

Diameter of screw 18'0" Pitch of screw 23'0" No. of blades 4 state whether moveable yes total surface 82'4" Per. 62'8"

No. of Feed pumps two diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work yes

No. of Bilge pumps two diameter of ditto 6" Stroke 24" Can one be overhauled while the other is at work yes

Where do they pump from All Compartments & Engine Room Bilges

No. of Donkey Engines One Size of Pumps 10 C.P. 10" Stroke Where do they pump from All Compartments

Engine Room Bilges, Sea & Hold

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 $\frac{1}{2}$ " Are they connected to condenser, or to circulating pump Circulating

How are the pumps worked by levers.

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 about level

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 Wood & Iron Casings

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The amount of Entry Fee £ 3 : 0 : 0 received by me,

Special £ 45 : 0 : 0

Certificate (if required) £ 0 : 0 : 0 3/5/1882

To be sent as per margin. £ 48 : 0 : 0

(Travelling Expenses, if any, £)

Committee's Minute

Friday 2nd June 1882

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

5721. 92.

Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $4\frac{3}{4}$ " thickness of tube plates, front $\frac{7}{16}$ " back $\frac{11}{16}$ "
How stayed *Stay tubes* pitch of stays $14\frac{1}{2} \times 16$ " width of water spaces 6 "
Diameter of Superheater or Steam chest $10'9\frac{1}{16}$ " length *Height* $4'11\frac{1}{2}$ "
Thickness of plates $\frac{1}{8}$ " description of longitudinal joint *lap. double* diameter of rivet holes $1\frac{3}{16}$ " pitch of rivets $3\frac{3}{4} \times 1\frac{1}{8}$ "
Working pressure of shell by rules 86.8 lbs. Diameter of flue $8'0$ " thickness of plates $\frac{5}{8}$ "
If stiffened with rings *No.* distance between rings *Stay, 18x19"* Working pressure by rules 85 lbs.
End plates of superheater, or steam chest; thickness $\frac{3}{4}$ " How stayed *None.*
Superheater or steam chest; how connected to boiler *by Copper pipes & Valves*

DONKEY BOILER— Description *Oral Steel Tubular.*
Made at *Dumbarton* By whom made *Jenny & Co.* when made *1892*
Where fixed *Remick* working pressure *80 lbs.* Tested by hydraulic *160 lbs* No. of Certificate *426*
Fire grate area *140 sq. ft.* Description of safety valves *direct spring* No. of safety valves *two* area of each *4" sq*
If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *No.*
Diameter of donkey boiler *4'9" x 4'6" x 4'6"* length *9'0" x 2"* description of riveting *double. lap*
thickness of shell plates $\frac{1}{2}$ " diameter of rivet holes $\frac{7}{8}$ " whether punched or drilled *drilled*
pitch of rivets $3\frac{1}{2} \times 1\frac{5}{8}$ " lap of plating $4\frac{3}{8}$ " per centage of strength of joint *43.* *plate outside*
thickness of crown plates *"* stayed by *Flat sides of shell stayed by 3" Stay pitched 14x16 & 1/2 double*
Diameter of furnace, top $3'3"$ bottom *"* length of furnace $6'6"$
thickness of plates $\frac{1}{2}$ " description of joint *double butt.*
thickness of furnace crown plates *"* stayed by *"*
Working pressure of shell by rules 85 lbs. working pressure of furnace by rules 90.7 lbs.
diameter of uptake *"* thickness of plates *"* thickness of water tubes *"*

The foregoing is a correct description,
Jenny & Co. Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The Engines & Boilers have*)
all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times *yes*
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 *Upper platform*

BOILERS, &c.— *See* Description *Cylindrical Single Ended Multitubular.*
Working Pressure 79 lbs. Tested by hydraulic pressure to 158 lbs. Date of test *6. 3. 81.*
Description of superheating apparatus or steam chest *Annular.*
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 54 sq. ft. Description of safety valves *direct spring*
No. to each boiler *two* area of each valve $14'19"$ Are they fitted with easing gear *yes*
No. of safety valves to superheater *one* area of each valve $4'04$ are they fitted with easing gear *yes*
Smallest distance between boilers and bunkers *on woodwork* $8"$
Diameter of boilers $13'0\frac{5}{8}$ " Length of boilers $10'2\frac{1}{2}$ " description of riveting of shell long. seams *buttl. lap* circum. seams *double. lap.*
Thickness of shell plates $\frac{5}{16}$ " diameter of rivet holes $1\frac{3}{16}$ " whether punched or drilled *drilled* pitch of rivets $4\frac{1}{2} \times 2\frac{1}{2}$ "
Lap of plating $8\frac{3}{4}$ " per centage of strength of longitudinal joint 73.6 & 78.8 working pressure of shell by rules 83.6 lbs.
Size of manholes in shell $14' \times 13'$ size of compensating rings $32' \times 30' \times \frac{5}{16}$ "
No. of Furnaces in each boiler *three* outside diameter $3'1"$ length, top $4'0"$ bottom $9'6\frac{1}{2}$ "
Thickness of plates $\frac{1}{2}$ " description of joint *double butt* if rings are fitted *T. joints* greatest length between rings $4'0"$
Working pressure of furnace by the rules 86.5 lbs.
Combustion chamber plating, thickness, sides $\frac{1}{2}$ " back $\frac{1}{2}$ " top $\frac{1}{2}$ "
Pitch of stays to ditto *"* sides $9' \times 8\frac{3}{4}$ " back $8' \times 8\frac{3}{4}$ " top $8' \times 9'$
If stays are fitted with nuts or riveted heads *nuts.* working pressure of plating by rules 95 lbs.
Diameter of stays at smallest part $1\frac{1}{4}$ " working pressure of ditto by rules 91.1 lbs.
End plates in steam space, thickness $\frac{3}{4}$ " pitch of stays to ditto $15' \times 15'$ how stays are secured *into structure*
Working pressure by rules 89.6 lbs. Diameter of stays at smallest part $2\frac{1}{4}$ " working pressure by rules 65 lbs.
Front plates at bottom, thickness $\frac{3}{4}$ " Back plates, thickness $\frac{5}{8}$ " greatest pitch of stays $15'$ working pressure by rules 65 lbs.

