

REPORT ON MACHINERY.

No. 910

FRIDAY 6 JULY 1883
(Received at London Office)

No. in Survey held at *Sunderland*
Reg. Book.

Date, first Survey *July 24th 1882* Last Survey *June 7th 1883*

on the *S.S. "Anglo Indian"*

Tons *1342*
2123

Master *C H Hillcoat*

Built at *Newcastle*

When built *1883*

Engines made at *Sunderland*

By whom made *N. E. M. & Co. L^{td}* when made *1883*

Boilers made at *Sunderland*

By whom made *N. E. M. & Co. L^{td}* when made *1883*

Registered Horse Power *240*

Owners *C H Hillcoat & Co*

Port belonging to *Liverpool*

Report made 26/7/83 sent to Lm 57/83

ENGINES, &c.—

Description of Engines *Compound, surface condensing, direct-acting*
 Diameter of Cylinders *34" & 64"* Length of Stroke *45"* No. of Rev. per minute *58* Point of Cut off, High Pressure *1/2 stroke* Low Pressure *1/2 stroke*
 Diameter of Screw shaft *11 3/4"* Diameter of Tunnel shaft *11"* Diameter of Crank shaft journals *11 3/4"* Diameter of Crank pin *11 3/4"* size of Crank webs *13 1/2" x 8 3/4"*
 Diameter of screw *15-0"* Pitch of screw *20-0"* No. of blades *4* state whether moveable *not* total surface *54-0"*
 No. of Feed pumps *2* diameter of ditto *3 3/4"* Stroke *45"* Can one be overhauled while the other is at work *yes*
 No. of Bilge pumps *2* diameter of ditto *3 3/4"* Stroke *45"* Can one be overhauled while the other is at work *yes*
 Where do they pump from *Fore, main, and after tanks, engine room & after wells*
 No. of Donkey Engines *2* Size of Pumps *6 x 9"* Where do they pump from *Tanks, engine room, sea and after wells*
4 x 6"

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 *4"* Are they connected to condenser, or to circulating pump *Circulating pump* *yes*
 How are the pumps worked *Direct from cross heads*
 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 *New vessel*
 Is the screw shaft tunnel watertight *yes* and fitted with a sluice door *yes* worked from *top platform of engine room*

BOILERS, &c.—

Number of Boilers *2* Description *Cylindrical, multitubular, iron*
 Working Pressure *80 lbs* Tested by hydraulic pressure to *160 lbs* Date of test *4-5-83*
 Description of superheating apparatus or steam chest *Vertical dome*
 Can each boiler be worked separately *yes* Can the superheater be shut off and the boiler worked separately *no superheater*
 No. of square feet of fire grate surface in each boiler *3 1/2 sq ft* Description of safety valves *Direct spring valves*
 No. to each boiler *2* area of each valve *12.56'* Are they fitted with casing gear *yes*
 No. of safety valves to superheater *—* area of each valve *—* are they fitted with casing gear *—*
 Smallest distance between boilers and bunkers or woodwork *12"*
 Diameter of boilers *13-9"* Length of boilers *10-10 1/2"* description of riveting of shell long. seams *Treble lap* circum. seams *Double lap*
 Thickness of shell plates *1"* diameter of rivet holes *1 5/32"* whether punched or drilled *drilled* pitch of rivets *4 3/4"*
 Lap of plating *8"* per centage of strength of longitudinal joint *43%* working pressure of shell by rules *84 lbs*
 Size of manholes in shell *16" x 12"* size of compensating rings *6" x 1"*
 No. of Furnaces in each boiler *3* outside diameter *3-2 1/2"* length, top *4-6"* bottom *6-6"*
 Thickness of plates *1/2"* description of joint *Double butt* if rings are fitted *1/2 ring* greatest length between rings *6-0"*
 Working pressure of furnace by the rules *83 lbs*
 Combustion chamber plating, thickness, sides *1/2"* back *1/2"* top *1/2"*
 Pitch of stays to ditto sides *9 3/4"* back *9 3/4"* top *radius of 3-0"*
 If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules *80 lbs*
 Diameter of stays at smallest part *1 1/8"* working pressure of ditto by rules *93 lbs*
 End plates in steam space, thickness *1 1/8"* pitch of stays to ditto *14"* how stays are secured *double nuts*
 Working pressure by rules *81 lbs* diameter of stays at smallest part *2 1/4"* working pressure by rules *82 lbs*
 Front plates at bottom, thickness *5/8"* Back plates, thickness *5/8"* greatest pitch of stays *12 x 9 3/4"* working pressure by rules *—*

Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $5\frac{1}{2} \times 14\frac{3}{4}$ " thickness of tube plates, front $\frac{3}{4}$ " back $\frac{3}{4}$ "
 How stayed stay tubes pitch of stays $15\frac{1}{2} \times 14\frac{3}{4}$ " width of water spaces $12\frac{1}{4} \times 6\frac{1}{2}$ "
 Diameter of ~~Superheater~~ Steam chest $4-0$ " length $4-0$ "
 Thickness of plates $\frac{1}{2}$ " description of longitudinal joint lap double riveted diameter of rivet holes $\frac{1}{8}$ " pitch of rivets $2\frac{3}{4}$ "
 Working pressure of shell by rules 109 lbs Diameter of flue --- thickness of plates ---
 If stiffened with rings --- distance between rings --- Working pressure by rules ---
 End plates of ~~superheater~~ steam chest; thickness $\frac{3}{8}$ " How stayed no stays Dish'd to a radius of $5-0$ "
 Superheater or steam chest; how connected to boiler a neck 18" diam. $\times \frac{3}{4}$ "

DONKEY

Made at *Ge*
 Where fixed *S*
 Fire grate area *S*
 If fitted with *S*
 Diameter of do *S*
 thickness of sh *S*
 pitch of rivets *S*
 thickness of cr *S*
 Diameter of furnace, *S*
 thickness of plates $\frac{1}{2}$
 thickness of furnace crown $\frac{1}{2}$
 Working pressure of shell by rules *S*
 diameter of uptake 15 " thickness *S*

KEY BOILER.
7 to Indian
same Patent
Black Stephenson's Patent
 When made 4-5-83 Where fixed *S* working pressure. *S* Tested by hydraulic pressure to 160 lbs
 No. of Certificate 1239 Fire grate area $20\frac{1}{2}$ Description of safety valves. *S* No. of safety valves 1 area of each 12.50
 If fitted with easing gear. *S* If steam from main boilers can enter the donkey boiler *S* dia. of donkey boiler $6-0$ Length $14-0$
 description of riveting *S* description of shell plates. $\frac{7}{16}$
 dia. of rivet holes $\frac{1}{16}$ Whether punched or drilled $\frac{7}{16}$ pitch of rivets. $5\frac{3}{8}$
 Lap of plating $4\frac{5}{8}$ per centage of strength of joint $72\frac{1}{2}$
 Thickness of crown plates. *S* stayed by *S* per cent of $5\frac{1}{2}$ \times 6 rivets
 dia. of furnace, top $27\frac{1}{2}$ dia. 6.3 length of furnace $\frac{12}{32}$
 Thickness of plates $\frac{9}{16}$ description of joint. *S* stayed by *S*
 Thickness of furnace crown plates $\frac{9}{16}$ stayed by *S*
 working pressure of shell by rules 96 Working pressure of furnace by rules 79.7 dia. of uptake 20×16 Thickness of plates $\frac{7}{16}$ thickness of water tubes. $\frac{7}{16}$

John Powell
 Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

to 12.39
 12.5
 NWCT85-0214

The foregoing is a correct description.
 J. N. K. M. Eng. Co. Ltd. *S*

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The machinery of this vessel has been specially surveyed during construction. The material and workmanship are good and efficient and the engines when tried under steam worked satisfactory.
 In my opinion the machinery of this vessel is eligible for the distinguishing mark in the Register Book viz; **LLYD'S M.C. 6-83**

It is submitted that this vessel is eligible to have the distinguishing mark + L.M. & C. 6-83 recorded.
 R. P.
 7/7/83

The amount of Entry Fee .. £ 20 : 0 : 0 received by me,
 Special .. £ 32 : 0 : 0
 Certificate (if required) .. £ *S* 5th July 1883
 To be sent as per margin.

Committee's Minute .. TUESDAY 10 JULY 1883 18
S

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

