

Report of Survey for Repairs of Engines and Boilers.

No. *100*

No. in Reg. Book. Survey held at *New York*

Date, first Survey *Dec 27th* Last Survey *Jan 10th 1878*

276 on the *Iron Screw Steamer, "Bengal,"* Master *Hutton*

Tons *1673*

Owners *Glover Bros* Port belonging to *London*

Classed

Years assigned.

Character in Register Book.

90 A 1

6.77

YEAR.

Diameter of Cylinder *30 1/2" x 61" - 34"*

Length of Stroke *39 inches*

Engines made at *Stockton on Tees,*

When made *1874*

Pressure of Steam *84 pounds*

By whom made *Blair & Co., Limited,*

Registered Horse Power *140*

Particulars of Repairs and Examination By report of the Consignee of the above Steamer, Mr. John M. Decker of New York, I proceeded to that City, on the 26th ultimo, went on board the Bengal, on the morning of the 27th ult and found that when this vessel had been out from Gibraltar, bound to New York, the Port end of main "Cross head" of high pressure cylinder, piston rod, of which it was a part and also included the slipper to work between guide, had broken short off between cross head journal and slipper, during two upper strokes, and carried away H.P. upper cylinder head and stuffing box, piston and follower (on lower ring) and crushed the I iron and aft hatch beam, (for handling cylinder heads &c, on the piston descent it broke the stuffing box, gland and bush, on lower cylinder head, six stud bolts on slipper guide, two main cross head bolts, two oil boxes and platforms and railing above crank pit, On the 28th we succeeded in removing enough of the broken piston follower, so as to make a thorough examination internally and externally of H.P. cylinder and found it unimpaired, I then decided upon the amount of repairs required and the contract was awarded to Messrs. Handson & Ripley, Engineers of New York, who agreed to work night and day until completed, I then, with the Chief Engineer of the Ship, carefully examined all the principal parts of both high and low pressure engines, and found them apparently safe and in good condition,

The cause of the break down was evident to have occurred from the very inferior quality (originally) of the iron forgings as shown by the fracture of the broken parts, on

The Amount of Fee ... £ 18 : 00 : 00 received by me,

Certificate (if required) ... £ x : x : Jan 14th 1878

(Travelling Expenses, if any, £ 10.00.00)

Committee's Minute

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

Saml. Archibald

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as about one third of the interior showed largely crystalline and no fibres, and the remaining part black, probably no strength.

I advised the Captain to carry back with him the fractured forgings, so that the Owners could call the attention of the Builders to the subject.

I also carefully examined the Boilers and other appendages, and found them in good condition; there had been ^{repaired} ~~repaired~~ put on (in the East Indies) on the crown sheet of one furnace in the Port Boiler, and a hole cut under it of about six inches in diameter, this had arose from improper put welding and lamination of the plate at that point, but no alteration was required in Plate.

One of the furnace sheets the Starboard boiler showed lamination and I had it cut out and removed to solid iron for a diameter of 2 inches, no patch was required.

On the 10th inst the repairs were completed and Engines run, (Ship at wharf under my own observation and every thing found in good order and condition. In the afternoon the Ship proceeded to Sea, loaded with grain and bound to Glasgow.

Thos. Ansholtz

Chief Surveyor