

REPORT ON MACHINERY.

Port of

Belfast

MON. DEC 17 1900

Received at London Office

No. in Survey held at
Reg. Book.Date, first Survey Oct 4th 1899 Last Survey Dec 11th 1900

(Number of Visits 45)

on the

S.S. "Indian"

Gross 9121
Net 5980

Master

Built at

Belfast

By whom built

Workman Clark & Co. Ltd. built 1900

Engines made at

Belfast

By whom made

Workman Clark & Co. Ltd. when made 1900

Boilers made at

By whom made

when made 1900

Registered Horse Power

Owners

~~West India & Pacific S. S. Co. Ltd.~~ Port belonging to Liverpool
Lloyd's & Co. Ltd. 1900

Horse Power as per Section 28

604

Is Electric Light fitted

Yes

MACHINES, &c.—Description of Engines

Screw. Simple Expansion

No. of Cylinders

No. of Cranks

Diameter of Cylinders 21"-35"-50" Length of Stroke 48" Revolutions per minute 76 Diameter of Screw shaft as per rule 11.97
Diameter of Tunnel shaft as fitted 13.0 Diameter of Crank shaft journals 13 1/4" Diameter of Crank pin 13 1/4" Size of Crank webs 24 1/2" x 9 1/2"
Diameter of screws 1 1/2"-6" Pitch of screws 18"-24" No. of blades 3 an each State whether moveable Yes Total surface 60 sq. ft. in each
No. of Feed pumps 2 an each engine Diameter of ditto 8 1/4" Stroke 21" Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 an each engine Diameter of ditto 4" Stroke 21" Can one be overhauled while the other is at work Yes
No. of Donkey Engines 4 Sizes of Pumps 10 1/2" x 8" x 24" 10" x 6" x 10" No. and size of Suctions connected to both Bilge and Donkey pumps
Engine Room 10 1/2" x 3 1/2" In Holds, &c. Fore Hold Suctions 12" and Three 8" to Tunnel Wells

No. of bilge injections 2 sizes 7" Connected to condenser, or to circulating pumps Pumps a separate donkey suction fitted in Engine room & size Yes
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 Yes
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 Both
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 Worth casing
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 Before launching the screw shaft tunnel watertight Stated & Co.
Is it fitted with a watertight doors Yes worked from Top platform Engine Room

BOILERS, &c.—

(Letter for record I)

Total Heating Surface of Boilers 10677 sq. ft.

Is forced draft fitted

No

No. and Description of Boilers Two D. Ended & one S. Ended Cyl. Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs
Date of test 20-9-00 Can each boiler be worked separately Yes Area of fire grate in each boiler 126 1/2 sq. ft. No. and Description of safety valves to
each boiler 2 Direct Spring Area of each valve 14.98 sq. in. Pressure to which they are adjusted 180 lbs Are they fitted
with easing gear Yes Smallest distance between boilers or uptakes and bunkers on woodwork 28" Mean diameter of boilers 15'-9"
Material of shell plates Steel Thickness 1 1/2" Description of riveting: circum. seams Lap Seams Butt Seams
Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 9 1/4" Lap of plates or width of butt straps 2 1/4"
Percentage of strength of longitudinal joint rivets 88.2 Working pressure of shell by rules 10 lbs Size of manhole in shell 16" x 12"
Size of compensating ring M. Neils No. and Description of Furnaces in each boiler 3 6" Bunsen Burners Material Steel Outside diameter 48 1/2"
Length of plain part top 4 1/2" Thickness of plates crown 5/8" Description of longitudinal joint Weld No. of strengthening rings 2 on each
bottom 4 1/2" Working pressure of furnace by the rules 226 lbs Combustion chamber plates: Material Steel Thickness: Sides 3/2" Back 3/2" Top 3/2" Bottom 3/2"
Pitch of stays to ditto: Sides 8 1/2" x 7 1/2" Back 8 1/2" x 7 1/2" If stays are fitted with nuts or riveted heads Nuts inside Working pressure by rules 204 lbs

Material of stays Steel Diameter at smallest part 8 1/2" x 7 1/2" supported by each stay 60 sq. Working pressure by rules 221 lbs End plates in steam space:
Material Steel Thickness 1 1/2" Pitch of stays 20 x 16 How are stays secured Nuts & Washers Working pressure by rules 194 lbs Material of stays Steel
Diameter at smallest part 2 1/2" x 3/4" Area supported by each stay 220 sq. Working pressure by rules 191 lbs Material of Front plates at bottom Steel
Thickness 1" Material of Lower back plate Steel Thickness 1 1/2" Greatest pitch of stays 14 1/4" Working pressure of plate by rules 208 lbs
Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plate Steel Thickness: Front 1 1/2" Back 1 1/2" Mean pitch of stays 11 1/2"
Pitch across wide water spaces 14 1/4" Working pressures by rules 261 lbs with 16 lbs to Chamber tops: Material Steel Depth and
Thickness of girder of centre 8 1/2" x 8 1/2" Length as per rule 28 1/2" Distance apart 8 1/2" Number and pitch of Stays in each 2 x 1 1/2"

Working pressure by rules 212 lbs Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked
separately 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
Stiffened 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—

Description

Cylindrical Single Ended.

Made at Belfast

By whom made

Workman Clark & Co. Ltd.

When made 1900

Where fixed

Main Deck

Working pressure 100 lbs. by hydraulic pressure to 200 lbs. No. of Certificate 298 Fire grate area 25 sq. ft. Description of safety valves Direct Spring

No. of safety valves Two Area of each 4 sq. ft. Pressure to which they are adjusted 100 lbs. If fitted with easing gear Yes If steam from main boilers

enter the donkey boiler No Diameter of donkey boiler 9'-0" Length 8'-0" Material of shell plates Steel Thickness 3/4"

Description of riveting long. seams Lap Rivet Diameter of rivet holes 7/8" Whether punched or drilled Drilled Pitch of rivets 4"

Lap of plating 6 1/2" Per centage of strength of joint Rivets 10-1 Thickness of shell plates 1" Radius of do. 16 1/2"

No. of stays 2 1/2 Diameter of furnace Top 14 1/2" Bottom 10" Length of furnace 5'-4" Thickness of furnace plates 3/4" Description

joint Weld Thickness of furnace plates 3/4" Stayed by 4 stays 9 ft. Working pressure of shell by rules 100

Working pressure of furnace by rules 22 1/2 lbs. Diameter of uptake 4" Thickness of uptake plates 3/4" Diameter of water tubes 4 1/2" 4

SPARE GEAR. State the articles supplied:—Length Crank Shafts: 1 propeller shaft—complete: 2 prop

Shafts: 1. 14-P. Slide valves & piston valves: 1 slide valve & spindle for 1. P. & 14-P. valves: 1 sec.

pulley & trap complete: air pump bucket, food, and delivery valve seats complete: 1

circulating centrif pump impeller, and bronze spindle: air pump rock: 3 half brasses for crank

pins: 2 pump for 14-P. & 1. P. pistons, set. and all gear

and requirements obtained.

The foregoing is a correct description,

FOR WORKMAN, CLARK & CO., LIMITED

Manufacturer.

M. H. Bell

Dates During progress of work in shops— 1899 Oct 4, 10, 14, 24 Nov 2, 4, 7, 9, 10, 21, 23 Dec 5, 13, 19

of Survey During erection on board vessel— 1900 Jan 9, 14, 22, 26, 29 Feb 12, 15, 23 Mar 1, 13, 22, 26, 31 Apr 4, 12, 23, 27 May 1, 4, 10, 22, 23, 30

building Total No. of visits June 5, 15, 19, 22, 26, 29 July 10, 20, 24, 27 Aug 3 Sep 5, 11, 18, 20, 24, 26, 28 Oct 1, 4, 12, 13, 16, 19, 23, 26, 30

General Remarks (State quality of workmanship, opinions as to class, &c.) TOTAL 45

ENGINES—Length of stern bush 5'-3" Diameter of crank shaft journals as per rule 11 1/4" Diameter of thrust shaft under collars 13 1/2"

BOILERS—Range of tensile strength 28-32 Are they welded or flanged No DONKEY BOILERS—No. 1 Range of tensile strength 28-

Is the approved plan of main boiler forwarded herewith Yes Is the approved plan of donkey boiler forwarded herewith Yes