

REPORT ON MACHINERY.

Port of *Newcastle*

WED. 14 FEB 1894

No. in Survey held at *Newcastle*
Reg. Book. *Supplement*Date, first Survey *5th Oct. 93*

Received at London Office

Last Survey *Jan 30 1894*(Number of Visits *25*)14 on the *Steel Screw Steamer Newark*Master *J. M. M. M.* Built at *Newcastle* By whom built *Messrs Palmers Coy*Tons { Gross 1028
Net 649.8
When built 1894Engines made at *Newcastle* By whom made *Messrs Palmers Coy* when made 1894Boilers made at *Do* By whom made *Do* when made 1894Registered Horse Power 120 Owners *Newcastle S. S. Coy (Limited)* Port belonging to *Newcastle*Nom. Horse Power as per Section 28 150 *J. J. & C. M. Forster - Managers*

ENGINES, &c.— Description of Engines *Triple Expansion* No. of Cylinders 3

Diameter of Cylinders *19-3 1/2 - 5 1/2* Length of Stroke 33" Revolutions per minute 70 Diameter of Screw shaft as per rule *9 1/4*

Diameter of Tunnel shaft as fitted *8 3/4* Diameter of Crank shaft journals *9 1/4* Diameter of Crank pin *9 1/4* Size of Crank webs *6 1/2 X 12 1/2*

Diameter of screw *13 0* Pitch of screw *14 6* No. of blades 4 State whether moveable *No* Total surface *46 sq*

No. of Feed pumps 2 Diameter of ditto 3 Stroke 16 1/2 Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps 2 Diameter of ditto 3 Stroke 16 1/2 Can one be overhauled while the other is at work *Yes*

No. of Donkey Engines *Two* Sizes of Pumps *11 X 11 X 12 5 1/2 X 3 1/2 X 5* No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *Four 2 1/2* Tunnel well one 2 1/2 In Holds, &c. *Main hold two 2 1/2 - After*

No. of bilge injections *Three* sizes *3 3/4* Connected to condenser, or to circulating pump *Circ pump* Is a separate donkey suction fitted in Engine room & size *Yes 3*

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 *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 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 *✓* Is the screw shaft tunnel watertight *Yes*

Is it fitted with a watertight door *Yes* worked from *top platform*

BOILERS, &c.— (Letter for record *S.*) Total Heating Surface of Boilers *2220 sq*

No. and Description of Boilers *One Multitubular Single ended* Working Pressure *160 lb* Tested by hydraulic pressure to *320 lb*

Date of test *22/12/93* Can each boiler be worked separately *✓* Area of fire grate in each boiler *50.5 sq* No. and Description of safety valves to each boiler *2 Spring*

Area of each valve *7.07* Pressure to which they are adjusted *165 lb* Are they fitted with easing gear *Yes* Smallest distance between boilers or uptakes and bunkers or woodwork *18"* Mean diameter of boilers *15.6"*

Length *10' 0"* Material of shell plates *Steel* Thickness *1 1/2* Description of riveting: circum. seams *Lap double* long. seams *D. B. Triple*

Diameter of rivet holes in long. seams *1 1/2* Pitch of rivets *8 1/4* Lap of plates or width of butt straps *17 3/4*

Per centages of strength of longitudinal joint rivets *86.3* Working pressure of shell by rules *160 lb* Size of manhole in shell *16 X 12*

Size of compensating ring *Flanged* No. and Description of Furnaces in each boiler *4 plain* Material *Steel* Outside diameter *39 1/2*

Length of plain part *5.9* Thickness of plates *1 1/2* Description of longitudinal joint *D. B. Single* No. of strengthening rings *2 ring*

Working pressure of furnace by the rules *161 lb* Combustion chamber plates: Material *Steel* Thickness: Sides *9/16* Back *9/16* Top *9/16* Bottom *1 1/2*

Pitch of stays to ditto: Sides *8 X 8* Back *8 1/2 X 8 1/2* Top *8 X 8* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *161 lb*

Material of stays *Steel* Diameter at smallest part *1 1/2* Area supported by each stay *79"* Working pressure by rules *179 lb* End plates in steam space:

Material *Steel* Thickness *1 1/2* Pitch of stays *16 X 17 1/2* How are stays secured *Don't know* Working pressure by rules *165 lb* Material of stays *Steel*

Diameter at smallest part *2 1/2* Area supported by each stay *280"* Working pressure by rules *169 lb* Material of Front plates at bottom *Steel*

Thickness *1 1/2* Material of Lower back plate *Steel* Thickness *1 1/2* Greatest pitch of stays *15 1/2* Working pressure of plate by rules *160 lb*

Diameter of tubes *3 1/4* Pitch of tubes *4 1/2* Material of tube plates *Steel* Thickness: Front *3/4* Back *3/4* Mean pitch of stays *11 1/4*

Pitch across wide water spaces *14 1/2* Working pressures by rules *200 lb* Girders to Chamber tops: Material *Iron* Depth and thickness of girder at centre *✓* Length as per rule *✓* Distance apart *✓* Number and pitch of Stays in each *✓*

Working pressure by rules *✓* Superheater or Steam chest; how connected to boiler *None* 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 holes *✓*

Pitch of rivets *✓* Working pressure of shell by rules *✓* Diameter of flue *✓* Material of flue plates *✓* Thickness *✓*

If 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 *Vertical with 3 cross water tubes*
Made at *Stockton* By whom made *J. Sutton & Co. Ltd* When made *29/1/93* Where fixed *Stockton*
Working pressure *80 lb* tested by hydraulic pressure to *110 lb* No. of Certificate *750* Fire grate area *23 sq ft* Description of safety valves *Spring*
No. of safety valves *One* Area of each *11.04* Pressure to which they are adjusted *80 lb* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Diameter of donkey boiler *6' 9"* Length *12' 9"* Material of shell plates *Steel* Thickness *7/8"*
Description of riveting long. seams *Lap Double* Diameter of rivet holes *1 3/16"* Whether punched or drilled *punched* Pitch of rivets *2 3/4"*
Lap of plating *4 1/2"* Per centage of strength of joint Rivets *73.4* Plates *70.4* Thickness of shell crown plates *1 1/2"* Radius of do. *5' 9"* No. of Stays to do. *7*
Dia. of stays. *1 3/4"* Diameter of furnace Top *5' 4"* Bottom *6' 1"* Length of furnace *5' 9"* Thickness of furnace plates *5/8"* Description of joint *Lap single* Thickness of furnace crown plates *9/16"* Stayed by *7 stays & dished to 5' 9"* Working pressure of shell by rules *80.4 lb*
Working pressure of furnace by rules *80 lb* Diameter of uptake *15"* Thickness of uptake plates *7/8"* Thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied *2 Top end bolts & nuts, 2 bottom end bolts & nuts, 2 main bearing bolts, one set of coupling bolts & nuts, 1 set of feed & bilge pump valves & seats, one feed check valve & seat, 1 spare propeller, one set H.P. piston springs - Bolts & nuts assorted.*

The foregoing is a correct description,

Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been constructed under special survey the materials and workmanship are sound & good & eligible in my opinion to be classed + L.M.C. 1.94. in the Register Book of the Society*

It is submitted that
this vessel is eligible for
THE RECORD + L.M.C. 1.94
R. L.
14/2/94.

Certificate (if required) to be sent to

The amount of Entry Fee.. £ 2 : : : When applied for.
Special £ 22 : 0 : : 13. 2. 18. 94.
Donkey Boiler Fee £ : : :
Travelling Expenses (if any) £ : : : 31/5/94

Committee's Minute

Assigned

FRI 16 FEB 1894

+ L.M.C. 1.94

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

FRI 3 JUN 1894



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