

# REPORT ON MACHINERY.

No. 3024

No. in Survey held at

New castle

Date, first Survey 8<sup>th</sup> Jan

Last Survey 18<sup>th</sup> May 1880

514

on the

Iron Screw Steamer "Holmside"

Tons

514

515

Master

R. Searge

Built at

South Shields

When built

1841

Engines made at

South Shields

By whom made

Readhead, Telford

when made

1871

Boilers made at

New castle

By whom made

R & W Hawthorn

when made

1880

Registered Horse Power

98

Owners

Mr. Harrison & Co

Port belonging to

London

## ENGINES, &c.—

Description of Engines

Inverted, Compound, Surface condensing.

Diameter of Cylinders

25" & 49"

Length of Stroke

32"

No. of Rev. per minute

70

Point of Cut off, High Pressure

Half

Low Pressure

Half

Diameter of Screw shaft

9"

Diameter of Tunnel shaft

8"

Diameter of Crank shaft journals

8 1/2"

Diameter of Crank pin

8 1/2"

size of Crank webs 10 1/2 x 6 1/2"

Diameter of screw

13 1/4" - 9"

Pitch of screw

14 ft

No. of blades

4

state whether moveable

No

total surface

40 Sq ft

No. of Feed pumps

2

diameter of ditto

3 1/4"

Stroke

18"

Can one be overhauled while the other is at work

No

No. of Bilge pumps

2

diameter of ditto

3 1/4"

Stroke

18"

Can one be overhauled while the other is at work

No

Where do they pump from

Engine room 3 bilge suction, aft well, 1 suction, fore peak (11)

No. of Donkey Engines

1

Size of Pumps

1

Where do they pump from

Engine room.

fore peak, Tanks, Sea.

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

1

and sizes

3" dia

Are they connected to condenser, or to circulating pump

circ

How are the pumps worked

Lever over condenser

Are all connections with the sea direct on the skin of the ship

yes

Are they Valves or Cocks

Valves & Cocks

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

at line

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

—

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

14<sup>th</sup> May 1880.

Is the screw shaft tunnel watertight

yes

and fitted with a sluice door

yes

worked from

Engine room platform

## BOILERS, &c.—

Number of Boilers

Two

Description

Cylindrical, return tubes.

Working Pressure

70 lb

Tested by hydraulic pressure to

140 lb

Date of test

27<sup>th</sup> March 1880

Description of superheating apparatus or steam chest

Cylindrical between the boilers

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

33

Description of safety valves

Spring

No. to each boiler

Two

area of each valve

25"

Are they fitted with easing gear

yes

No. of safety valves to superheater

—

area of each valve

—

are they fitted with easing gear

—

Smallest distance between boilers and bunkers or woodwork

13 inches

Diameter of boilers

10' 0"

Length of boilers

10' 6"

description of riveting of shell long. seams

Welded

circum. seams

Laps (double)

Thickness of shell plates

7/8"

diameter of rivet holes

circ 1 1/16"

whether punched or drilled

drilled

pitch of rivets

circ 3"

Lap of plating

circ 4 3/4"

per centage of strength of longitudinal joint

75%

working pressure of shell by rules

70 lb

Size of manholes in shell

none

size of compensating rings

—

No. of Furnaces in each boiler

2

outside diameter

37"

length, top

7' 4 1/2"

bottom

9 ft - 9 in

Thickness of plates

7/16" & 7/32"

description of joint

butt. Single Strap

rings are fitted

no

greatest length between rings

—

Working pressure of furnace by the rules

71 lb

Combustion chamber plating, thickness, sides

7/16"

back

7/16"

top

7/16"

Pitch of stays to ditto

sides

7 3/4" x 7 3/4"

back

8 3/4" x 8 3/4"

top

curved

If stays are fitted with nuts or riveted heads

nuts

working pressure of plating by rules

535 lb = 78"

Diameter of stays at smallest part

1 1/8" off

working pressure of ditto by rules

70 lb

End plates in steam space, thickness

2 3/32"

pitch of stays to ditto

15" x 15"

how stays are secured

2 nuts & washers

Working pressure by rules

72 lb

diameter of stays at smallest part

1 7/8"

working pressure by rules

5830 lb = 72 lb

Front plates at bottom, thickness

9/16"

Back plates, thickness

7/8"

greatest pitch of stays

13"

working pressure by rules

94 lb

120293-0037



Diameter of tubes  $3\frac{1}{2}$ " pitch of tubes  $4\frac{3}{4} \times 4\frac{3}{4}$ " thickness of tube plates, front  $5\frac{1}{8}$ " back  $1\frac{1}{16}$ "  
 How stayed Tubes pitch of stays  $14\frac{1}{4} \times 9\frac{1}{2}$ " width of water spaces  $10\frac{1}{2}$ "  
 Diameter of Superheater or Steam chest  $4\frac{1}{2}$ " length  $8\frac{1}{2}$  ft 0 in  
 Thickness of plates  $7\frac{1}{16}$ " description of longitudinal joint 2 Lap diameter of rivet holes  $3\frac{1}{4}$ " pitch of rivets  $2\frac{5}{8}$ "  
 Working pressure of shell by rules  $84\frac{1}{2}$  lbs Diameter of flue — thickness of plates —  
 If stiffened with rings — distance between rings — Working pressure by rules —  
 End plates of ~~superheater~~ or steam chest; thickness  $1\frac{1}{16}$ " How stayed disks to 4 ft radius & central flue  
~~Superheater~~ or steam chest; how connected to boiler Stop valves  
**DONKEY BOILER**— Description Upright Cylindrical  
 Made at Gateshead By whom made Clarke Chapman & Co when made 25<sup>th</sup> March 1880.  
 Where fixed Storehold working pressure 60 lbs loaded to 44 lbs Tested by hydraulic pressure to 120 No. of Certificate 371  
 Fire grate area 12 Sq feet Description of safety valves dead weight No. of safety valves one  $2\frac{5}{8}$ " area of each 4.5"  
 If fitted with casing gear yes If steam from main boilers can enter the donkey boiler no  
 Diameter of donkey boiler  $4\frac{1}{2}$ " length  $10\frac{1}{2}$ " description of riveting Lap. Long double. Cur. Long  
 thickness of shell plates  $3\frac{1}{8}$ " diameter of rivet holes  $3\frac{1}{4}$ " whether punched or drilled punched  
 pitch of rivets Long 3" Cur 2" lap of plating Long 12" Cur 9" per centage of strength of joint 75 per cent  
 thickness of crown plates  $7\frac{1}{16}$ " stayed by uptake & disks to 5 ft radius  
 Diameter of furnace, top  $3\frac{1}{2}$ " bottom  $3\frac{1}{2}$ " length of furnace 5 ft 0 in  
 thickness of plates  $7\frac{1}{16}$ " description of joint Single riveted Lap  
 thickness of furnace crown plates  $7\frac{1}{16}$ " stayed by uptake & disks to 5 ft 0 in  
 Working pressure of shell by rules  $84\frac{1}{2}$  lbs working pressure of furnace by rules  $73\frac{1}{2}$  lbs  
 diameter of uptake  $13\frac{1}{2}$ " thickness of plates  $3\frac{1}{8}$ " thickness of water tubes  $3\frac{1}{8}$ "

The foregoing is a correct description,

W. H. Hawthorn Manufacturer. but not as required. Donkey Boiler

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel

has been examined for Special Survey No 2.

Two new main boilers have been fitted on board, which were examined during construction, and satisfactorily tested to the Society's requirements.

new Donkey boiler has been fitted and tested satisfactorily to the Society's requirements.

Sluice valves in engine room bulkheads made accessible, and two extra bilge suction fittings fitted in engine space.

new Tanks and bilge pipes fitted throughout vessel.

Sea cocks removed from flat of bottom up turn of bilge.

Engines thoroughly overhauled, crank shafts satisfactory, and new Stem Length fitted, also new ligament bits fitted into stern bush.

The machinery of this vessel is now in good order and safe condition and eligible in my opinion to have the notation

Lloyds M.C. in red in the Society's Register book.

The amount of Entry Fee .. £ 2 : - : - received by me,

Special .. £ 4 : 10 : -

Certificate (if required) .. £ - : 2 : 6 26<sup>th</sup> May 1880

To be sent as per margin.

(Travelling Expenses, if any, £ — )

Committee's Minute