

## REPORT ON MACHINERY.

Port of

Belfast

Received at London Office SAT. 20 DEC 1902

No. in Survey held at  
Reg. Book.

Belfast

Date, first Survey 25<sup>th</sup> AprilLast Survey 10<sup>th</sup> Dec 1902

(Number of Visits 49)

on the

S.S. Frank

Master

Built at

Belfast

By whom built

Workman Clark &amp; Co. Ltd.

Engines made at

Belfast

By whom made

Workman Clark &amp; Co. Ltd.

Gross 8116

Net 5284

When built 1902

Boilers made at

By whom made

when made

Registered Horse Power

Owners

Frank S.S. Coy. Ltd.

Port belonging to

Liverpool

Nom. Horse Power as per Section 28

831

Is Refrigerating Machinery fitted

No

Is Electric Light fitted

Yes

## ENGINES, &amp;c.—Description of Engines

Twin Screw Triple Expansion

No. of Cylinders

6

No. of Cranks

6

Dia. of Cylinders

23-39-67

Length of Stroke

48

Revs. per minute

75

Dia. of Screw shaft

as per rule 13.6

Lgth. of stern bush

55

Dia. of Tunnel shaft

as per rule 12.6

Dia. of Crank shaft journals

as per rule 13.2

Dia. of Crank pin

as per rule 13.5

Size of Crank webs

94x25

Dia. of thrust shaft under

collars

132

Dia. of screw

16-6

Pitch of screw

20-0

No. of blades

3

State whether moveable

Yes

Total surface

66 sq. ft.

No. of Feed pumps

2

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

4

Diameter of ditto

Stroke

4

No. of Donkey Engines

4

SIZES OF PUMPS

2

Can one be overhauled while the other is at work

Yes

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room

Fourteen 3 1/2 &amp; Two 3

In Engine Room

Four-3 1/2

In Holds, &amp;c.

Fourteen 3 1/2 &amp; Two 3

No. of bilge injections

L sizes

8

Connected to condenser, or to circulating pump

Yes

Is a separate donkey suction fitted in Engine room &amp; size

Yes-3 1/2

Are all the bilge suction pipes fitted with roses

Yes

Are the roses in Engine room always accessible

Yes

Are the sluices in Engine room bulkheads always accessible

None

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

Below

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

Fore hold suction

How are they protected

Wood casings

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

4

Is the screw shaft tunnel watertight

Stated OK

Is it fitted with a watertight door

Yes

worked from

Middle Platform Engine Room

## BOILERS, &amp;c.—

(Letter for record)

Total Heating Surface of Boilers

14359 sq. ft.

Is forced draft fitted

No

No. and Description of Boilers

3

Double End. Cylind

Working Pressure

200 lbs

Tested by hydraulic pressure to

400 lbs

Date of test

29-10-02

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

130 sq. ft.

No. and Description of safety valves to

each boiler

3

Direct Spring

Area of each valve

15-9

Smallest distance between boilers or uptakes and bunkers or woodwork

About 5 ft.

Mean dia. of boilers

16-0

Length

18-0

Material of shell plates

Steel

Thickness

1/32

Range of tensile strength

29-33 tons

Are they welded or flanged

No

Descrip. of riveting: cir. seams

Lap &amp; Double seams

Butt

Double

Thickness

1/32

Diameter of rivet holes in long. seams

1/32

Pitch of rivets

10

Lap of plates or width of butt straps

22 1/2

Per centages of strength of longitudinal joint

rivets 93.4

plate 84.1

Working pressure of shell by rules

232 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

No. and Description of Furnaces in each boiler

8

Material

Steel

Outside diameter

43 1/2"

Length of plain part

top 5

Thickness of plates

crown 3/8

Description of longitudinal joint

Weld

No. of strengthening rings

5

Working pressure of furnace by the rules

232 lbs

Combustion chamber plates: Material

Steel

Pitch of stays to ditto: Sides

7/8 x 7/8

Back

7/8 x 7/8

Top

7/8 x 7/8

stays are fitted with nuts or riveted heads

None inside

Working pressure by rules

249 lbs

Material of stays

Steel

Material of stays

Steel

Diameter at smallest part

1/8"

Area supported by each stay

54 1/8"

Working pressure by rules

219 lbs

Material of plates in steam space:

Steel

Thickness

1/32"

Pitch of stays

18 1/2 x 16 1/2"

How are stays secured

W. nuts &amp; washers

Working pressure by rules

231 lbs

Material of stays

Steel

Diameter at smallest part

3/8"

Area supported by each stay

290 sq. in.

Working pressure by rules

249 lbs

Material of Front plates at bottom

Steel

Thickness

1"

Material of Lower back plate

Steel

Thickness

Greatest pitch of stays

Working pressure of plate by rules

232 lbs

Diameter of tubes

3/4"

Pitch of tubes

4 1/2 x 4 3/8"

Material of tube plates

Steel

Thickness: Front

1/8"

Back

1/16"

Mean pitch of stays

9 x 8 1/4"

Pitch across wide water spaces

14 1/4"

Working pressures by rules

204 lbs

Girders to Chamber tops: Material

Iron

Depth and thickness of girder at centre

7 1/2 x 2

Length as per rule

40 3/8"

Distance apart

8 1/2"

Working pressure by rules

249 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 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

Lloyd's Register Foundation



