

REPORT ON MACHINERY.

No. 7975

Received at London Office

Survey Report 7th June 18th 1918 Which was held in at Local Office 10 Port of Belfast

Survey held at Belfast Date, First Survey 1-3-17 Last Survey 4-6-1918

on the H.M.S. "Windflower" (Number of Visits 143)

Built at Belfast By whom built Workman Clark & Co. When built 1918

made at Belfast By whom made - when made -

made at - By whom made - when made -

rated Horse Power 372 393 Owner The Admiralty Port belonging to -

Horse Power as per Section 28 372 393 Is Refrigerating Machinery fitted for cargo purposes - Is Electric Light fitted -

INES, &c.—Description of Engines 4 Cylinder Triple Expansion No. of Cylinders 4 No. of Cranks 4

of Cylinders 23"-37"-42"-42" Length of Stroke 30" Revs. per minute 170 Dia. of Screw shaft as per rule 10.99 Material of screw shaft as fitted 11.37 screw shaft

screw shaft fitted with a continuous liner the whole length of the stern tube Is the after end of the liner made water tight

propeller boss Is If the liner is in more than one length are the joints burned If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive If two

are fitted, is the shaft lapped or protected between the liners Length of stern bush 4'-6"

of Tunnel shaft as per rule 10.28 Dia. of Crank shaft journals as per rule 10.99 Dia. of Crank pin 11.37 Size of Crank web 20.75 Dia. of thrust shaft under

bars 11.37 Dia. of screw 9'-6" Pitch of Screw 12'-10 1/2 No. of Blades 4 State whether moveable 16 Total surface 38.29 sq. ft.

of Feed pumps } Diameter of ditto Stroke Can one be overhauled while the other is at work

of Bilge pumps } Diameter of ditto Stroke Can one be overhauled while the other is at work

of Donkey Engines See Sizes of Pumps on other sheet No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 8-3 1/2 In Holds, &c. 9-2 1/2

of Bilge Injections / sizes 8" Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size 2-3 1/2

all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible Are the sluices on Engine room bulkheads always accessible

all connections with the sea direct on the skin of the ship Are they Valves or Cocks Both

they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Discharge Pipes above or below the deep water line

they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

t pipes are carried through the bunker Suctions to Fore Compartment How are they protected Wood casing

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

screw Shaft Tunnel watertight Is it fitted with a watertight door No - Trunks from deck

CLERS, &c.—(Letter for record 3) Manufacturers of Steel Spencer & Sons Ltd

Heating Surface of Boilers 6884 sq. ft. Forced Draft fitted No. and Description of Boilers 2 Single End Cylindrical

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 11-10-17 No. of Certificate 572

each boiler be worked separately Area of fire grate in each boiler 86 sq. ft. No. and Description of Safety Valves to

boiler 2-Drum Spring Area of each valve 14'1" sq. Pressure to which they are adjusted 185 lbs Are they fitted with easing gear

least distance between boilers or uptakes and bunkers or woodwork about 14" Mean dia. of boilers 16'-6" Length 11'-6" Material of shell plates Steel

ness 1/32 Range of tensile strength 31 1/2 to 35 1/2 Are the shell plates welded or flanged No Descrip. of riveting: cir. seam Lap & J.

seams 1/16 Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 9 1/8 Lap of plates or width of butt straps 20 1/8

percentages of strength of longitudinal joint rivets 93.4 plate 85.0 Working pressure of shell by rules 208 lbs Size of manhole in shell 16"x12"

f compensating ring No. and Description of Furnaces in each boiler 4-Rectangular Material Steel Outside diameter 47 1/4

h of plain part top 4" bottom 9" Thickness of plates crown 3 3/4 bottom 3 1/4 Description of longitudinal joint Weld No. of strengthening rings

ing pressure of furnace by the rules 192 lbs Combustion chamber plates: Material Steel Thickness: Sides 4 3/4 Back 4 1/4 Top 4 3/4 Bottom 1 3/4

of stays to ditto: Sides 9 1/2 x 8 1/2 Back 9 1/2 x 9 1/2 Top 9 1/2 x 6 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 193 lbs

ial of stay Steel Area at smallest part 48 to 2 3/4 supported by each stay 8 1/2 Working pressure by rules 184 lbs End plates in steam space:

ial Steel Thickness 1/8 Pitch of stays 20 1/2 x 1 5/8 How are stays secured Nuts Working pressure by rules 181 lbs Material of stays Steel

at smallest part 5 9/16 x 6 1/4 supported by each stay 3 1/6 Working pressure by rules 202 lbs Material of Front plates at bottom Steel

ness 1/16 Material of Lower back plate Steel Thickness 3 3/4 Greatest pitch of stays 13 1/2 x 8 Working pressure of plate by rules 230 lbs

ter of tubes 2 1/2 Pitch of tubes 3 1/2 x 3 1/2 Material of tube plate Steel Thickness: Front 1 5/8 Back 3/4 Mean pitch of stays 10 1/2 x 1"

across wide water spaces 13 1/2 Working pressures by rules 185 lbs Girders to Chamber tops: Material Steel Depth and

ss of girder at center 7 1/2 x 6 3/4 x (3/4 x 2) Length as per rule 29 5/8 Distance apart 9 1/2 Number and pitch of stays in each 2-9"

ing pressure by rules 181 lbs Steam dome: description of joint to shell % of strength of joint

er Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

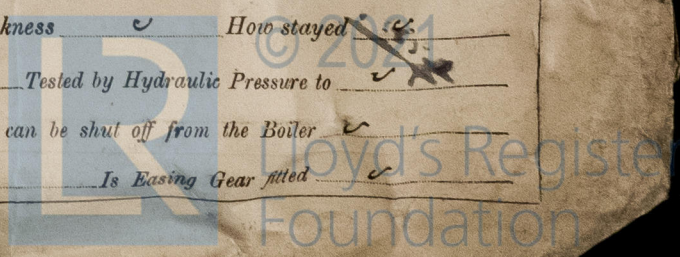
ucn of rivets Working pressure of shell by rules Crown plates Thickness How stayed

UPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

ate of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

meter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

1231-0158 1/2



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied:— *See other sheet*

The foregoing is a correct description,
FOR WORKMAN, CLARK & CO., LIMITED.

M. H. Bell

Manufacturer.

Dates of Survey while building
During progress of work in shops -- *1st March 1917 to 4th June 1918*
During erection on board vessel ---
Total No. of visits *143*

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

Dates of Examination of principal parts—Cylinders *13* Slides *—* Covers *17* Pistons *—* Rods *—*
Connecting rods *31* Crank shaft *31* Thrust shaft *8* Tunnel shafts *6* Screw shafts *31* Propeller *4-2*
Stern tube *4-2* Steam pipes tested *17-5-18* Engine and boiler seatings *8-5-17* Engines holding down bolts *8-5-17*
Completion of pumping arrangements *8-11-17* Boilers fixed *8-5-17* Engines tried under steam *30-5-18*
Completion of fitting sea connections *6-4-18* Stern tube *11-4-18* Screw shaft and propeller *11-4-18*
Main boiler safety valves adjusted *29-5-18* Thickness of adjusting washers *15-20*
Material of Crank shaft *Steel* Identification Mark on Do. *LLOYDS* Material of Thrust shaft *Steel* Identification Mark on Do. *LLOYDS*
Material of Tunnel shafts *Steel* Identification Marks on Do. *LLOYDS* Material of Screw shafts *Steel* Identification Marks on Do. *LLOYDS*
Material of Steam Pipes *Steel* Test pressure *600 lbs*

Is an installation fitted for burning oil fuel *No* Is the flash point of the oil to be used over 150° F. *✓*

Have the requirements of Section 49 of the Rules been complied with *✓*

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *H. M. S. "Springs"*

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

The machinery of this vessel has been constructed under Special Survey, and in accordance with the Rules; also to the approved Specification. The materials and the workmanship are of good description, and on trial in Belfast Lough the machinery worked satisfactorily, when the Horse Power required by the Specification was obtained.

In my opinion, it is eligible for record + L.M.C. 6-18, with notation "Forced Draft" + "Electric Light"

It is submitted that
this vessel is eligible for
THE RECORD + L.M.C. 6-18. F.D.

The amount of Entry Fee ... £ *Inclusive* When applied for, *6-11-1918*
As per *March* ... £ *19.00*
Special ... £ *19.00*
Donkey Boiler Fee ... £ *2.00* When received, *21/10*
Travelling Expenses (if any) £ *2.00*

Committee's Minute *TUE JUN. 25. 1918*

Assigned *+ L.M.C. 6-18 F.D.*

MACHINERY CERTIFICATE
WRITTEN

Rpt. 9a.

Port of *Belfast*

Continuation of Report No. *7975* dated *4th June 1918* on the

H. M. S. "Bendflower"

1 New's Mono Air Pump *15" x 28" x 15"*
2 - Main Feed *10 1/2" x 8" x 21"*
1 - Fuel *7" x 5" x 12"*
2 - Fire Blows *10" x 8" x 18"*
1 - Fuel *4 1/2" x 5" x 12"*
1 Centrifugal Circulating *13" suction pipe*

Spare Gear

1 Bronze Solid Propeller
1 Set top end braces & bolts
1 - Bottom *—*
1 pair main bearings *—*
1 eccentric rod & strap *—*
1 Set thrust collars
2 piston rods & clips
1 set lignum vitae strips, each size
1 Slide valve spindle, each size
36 Condenser tubes
2 Main stop valve discs
Set rings for each piston
Set braces for link motion
Set furnace beams for 1 boiler
1/2 - firebars
Set safety valve springs
24 plain tubes
2 Stay *—*
Complete set gear for each auxiliary engine
Set evaporator coils
Distiller coils, etc.
and all gear to Lloyd's Rules.

R. F. Benwell

R. F. Benwell
Engineer Surveyor to Lloyd's Register of Shipping.