Rpt. 4.

REPORT ON MACHINERY.

No. 236114

Date of writing Report Apr 18 1911 When handed in at Local Office 18·4·1911 Port of Hull.

Received at London Office WED. 3 MAY 1911

No. in Reg. Book 40244 Survey held at Hull. Date, First Survey Aug 27th Last Survey April 10th 1911 (Number of Visits 68)

on the S/Trawler DANE Tons Gross 346 Net 135

Master Built at Beverley By whom built Cook Welton & Gemmell When built 1911.

Engines made at Hull. By whom made Amos & Smith Ltd. when made 5

Boilers made at 5 By whom made 5 when made 5

Registered Horse Power ✓ Owners Imperial Steam Fishing Co Ltd Port belonging to Hull.

Nom. Horse Power as per Section 28 87 ✓ Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

ENGINES, &c.—Description of Engines Inverted triple expansion ✓ No. of Cylinders 3 ✓ No. of Cranks 3 ✓

Dia. of Cylinders 13 · 22½ · 37 ✓ Length of Stroke 24 ✓ Revs. per minute ✓ Dia. of Screw shaft as per rule 7·68 ✓ as fitted 8½ ✓ Material of screw shaft Iron ✓

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes. ✓ Is the after end of the liner made water tight in the propeller boss Yes. ✓ 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 liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 40 ✓

Dia. of Tunnel shaft as per rule 6·8 ✓ as fitted 7½ ✓ Dia. of Crank shaft journals as per rule 7·14 ✓ as fitted 7¾ ✓ Dia. of Crank pin 7¾ ✓ Size of Crank webs 15 × 4¾ ✓ Dia. of thrust shaft under collars 7¾ ✓ Dia. of screw 9'-6" ✓ Pitch of Screw 10'-10" ✓ No. of Blades 4 ✓ State whether moveable No. ✓ Total surface 34 ft. ✓

No. of Feed pumps one ✓ Diameter of ditto 3 ✓ Stroke 13 ✓ Can one be overhauled while the other is at work —

No. of Bilge pumps one ✓ Diameter of ditto 3 ✓ Stroke 13 ✓ Can one be overhauled while the other is at work —

No. of Donkey Engines Two ✓ Sizes of Pumps 6 × 3 × 6 ✓ — 5 × 5 × 5 ✓ No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 2-2" ✓ (For'd, Aft) 1-2" Stokehold ✓ In Holds, &c. 4-2" ✓ (Fore hold, ballast tank, main hold, after fish room) 2½ ✓ Ejector suction to all bilges with discharge on deck ✓

No. of Bilge Injections 1 ✓ sizes 3" ✓ Connected ~~to condenser, or~~ to circulating pump ~~Engines~~ ✓ a separate Donkey Suction fitted in Engine room & size 1-3" ✓

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 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 Yes. ✓

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 Hold Suction ✓ How are they protected Wood 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. ✓

Dates of examination of completion of fitting of Sea Connections 1. 2. 11 of Stern Tube 1. 2. 11 Screw shaft and Propeller 1. 2. 11

Is the Screw Shaft Tunnel watertight None ✓ Is it fitted with a watertight door — ✓ worked from —

BOILERS, &c.—(Letter for record S. ✓) Manufacturers of Steel Phoenix & Hoerde, Westphalia ✓

Total Heating Surface of Boilers 1476. ✓ Is Forced Draft fitted No. ✓ No. and Description of Boilers 1 S.E. Multitubular ✓

Working Pressure 200. ✓ Tested by hydraulic pressure to 400 lbs. ✓ Date of test 7. 2. 11. ✓ No. of Certificate 1788.

Can each boiler be worked separately ✓ Area of fire grate in each boiler 30·8 ft. ✓ No. and Description of Safety Valves to each boiler 2 Spring loaded. ✓ Area of each valve 4·9 ✓ Pressure to which they are adjusted 205 lbs. ✓ Are they fitted with easing gear Yes. ✓

Smallest distance between boilers or uptakes and bunkers or woodwork 6½ ✓ Mean dia. of boilers 13'-0" ✓ Length 10'-6" ✓ Material of shell plates Steel. ✓

Thickness 1" ✓ Range of tensile strength 29-33. ✓ Are the shell plates welded or flanged No. ✓ Descrip. of riveting: cir. seams D.R. Lap ✓

long. seams D.B.S. welt ✓ Diameter of rivet holes in long. seams 1 3/16" ✓ Pitch of rivets 8 7/16" ✓ ~~Lap of plates or~~ width of butt straps 17 3/4" ✓

Per centages of strength of longitudinal joint rivets 87 plate 85·9 Working pressure of shell by rules 200 lbs. Size of manhole in shell 16 × 12" ✓

Size of compensating ring 40 × 30 × 1" ✓ No. and Description of Furnaces in each boiler 3 plain ✓ Material Steel. ✓ Outside diameter 3'-2 9/16" ✓

Length of plain part top 6'-7 5/8" bottom 5'-9 5/8" ✓ Thickness of plates crown 25/32" ✓ bottom 25/32" ✓ Description of longitudinal joint welded ✓ No. of strengthening rings ✓

Working pressure of furnace by the rules 209. Combustion chamber plates: Material Steel. ✓ Thickness: Sides 11/16" ✓ Back 11/16" ✓ Top 11/16" ✓ Bottom 3/4" ✓

Pitch of stays to ditto: Sides 9½ × 8" ✓ Back 8¾ × 8⅜" ✓ Top 8½ × 9¼" ✓ If stays are fitted with nuts or riveted heads Nuts ✓ Working pressure by rules 212

Material of stays Steel. ✓ Diameter at smallest part 1 3/4 = 2·06 / 3/4 = 2·39 ✓ Area supported by each stay 76" ✓ Working pressure by rules 242 ✓ End plates in steam space: Stays screwed on plate

Material Steel. ✓ Thickness 1" ✓ Pitch of stays 17½ × 17" ✓ How are stays secured Nuts & Washers ✓ Working pressure by rules 201. ✓ Material of stays Steel. ✓

Diameter at smallest part (area) 3½ = 7·2 ✓ Area supported by each stay 298" ✓ Working pressure by rules 250 ✓ Material of Front plates at bottom Steel. ✓

Thickness 1/16" ✓ Material of Lower back plate Steel. ✓ Thickness 15/16" ✓ Greatest pitch of stays 14" × 8 3/4" ✓ Working pressure of plate by rules 225 ✓

Diameter of tubes 3½" ✓ Pitch of tubes 4 3/4" × 4 3/4" ✓ Material of tube plates Steel. ✓ Thickness: Front 1 1/16" ✓ Back 7/8" ✓ Mean pitch of stays 9½"

Pitch across wide water spaces 14" ✓ Working pressures by rules 201. ✓ Girders to Chamber tops: Material Steel. ✓ Depth and thickness of girder at centre 9½" × 2" × 1 3/4" ✓ Length as per rule 2'-10" ✓ Distance apart 9¼" ✓ Number and pitch of stays in each 3 @ 8½" ✓

Working pressure by rules 238 lbs. ✓ 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 —

If not, state whether, and when, one will be sent ?

VERTICAL DONKEY BOILER— *Manufacturers of Steel*

No. ..... *Description* .....

Made at ..... *By whom made* ..... *When made* ..... *Where fixed* .....

Working pressure ..... *tested by hydraulic pressure to* ..... *Date of test* ..... *No. of Certificate* ..... *Fire grate area* ..... *Description of Safety Valves* ..... *No. of Safety Valves* ..... *Area of each* ..... *Pressure to which they are adjusted* ..... *Date of adjustment* .....

If fitted with easing gear ..... *If steam from main boilers can enter the donkey boiler* ..... *Dia. of donkey boiler* ..... *Length* .....

Material of shell plates ..... *Thickness* ..... *Range of tensile strength* ..... *Descrip. of riveting long. seams* .....

Dia. of rivet holes ..... *Whether punched or drilled* ..... *Pitch of rivets* ..... *Lap of plating* ..... *Per centage of strength of joint* Rivets ..... Plates .....

Working pressure of shell by rules ..... *Thickness of shell crown plates* ..... *Radius of do.* ..... *No. of stays to do.* ..... *Dia. of stays* .....

Diameter of furnace Top ..... Bottom ..... *Length of furnace* ..... *Thickness of furnace plates* ..... *Description of joint* .....

Working pressure of furnace by rules ..... *Thickness of furnace crown plates* ..... *Radius of do.* ..... *Stayed by* .....

Diameter of uptake ..... *Thickness of uptake plates* ..... *Thickness of water tubes* ..... *Dates of survey* .....

SPARE GEAR. *State the articles supplied :—* Two top ✓ two bottom end connecting rod bolts complete ✓, two main bearing bolts complete ✓, one set of coupling bolts complete ✓, one set of feed & bilge pump valves ✓, one set of air & circulating pump valves one main & one donkey feed check valve. assorted bolts complete etc ✓.

The foregoing is a correct description,

FOR AMOS & SMITH LTD.

Manufacturer. W. S. Hide. Managing Director.

Dates of Survey while building

During progress of work in shops — 1910:- Apr 27. Aug 3. 8. 10. 14. 16. 17. 21. 26. Oct 3. 6. 8. 13. 14. 17. 18. 22. 27. 31. Nov 2. 5. 9. 10. 15. 17. 19. 22. 24.

During erection on board vessel — Nov 26. 29 Dec 2. 8. 13. 16. 20. 27. 30 1911:- Jan 5. 10. 12. 17. 21. 23. 25. 27 Feb 1. 4. 7. 9. 15. 17. 20. 24 Mar 2. 8. 17. Mar. 22, 23. 24. 25. 29. 30. 31. Apr 1. 4. 5. 8. 10.

Total No. of visits 68. *Is the approved plan of main boiler forwarded herewith* Yes ✓

" " " ~~donkey~~ " " "

***Dates of Examination of principal parts*—** *Cylinders* 13.12.10 *Slides* 15.2.11 *Covers* 13.12.10. *Pistons* 13.12.10 *Rods* 16.12.10

Connecting rods 10.1.11 *Crank shaft* 2.12.10 *Thrust shaft* 2.12.10. *Tunnel shafts* (INT) 2.12.10 *Screw shaft* 22.11.10. *Propeller* 22.11.10

Stern tube 22.10.10. *Steam pipes tested* 25.3.11 *Engine and boiler seatings* 1.2.11 *Engines holding down bolts* 23.3.11

Completion of pumping arrangements 10.4.11 *Boilers fixed* 22.3.11 *Engines tried under steam* 30.3.11

Main boiler safety valves adjusted 30.3.11 *Thickness of adjusting washers* F 5/16 A 1/4

Material of Crank shaft Steel. *Identification Mark on Do.* 684. 2.12.10 J.W.G. *Material of Thrust shaft* Steel *Identification Mark on Do.* 684 2.12.10 J.W.G.

Material of Tunnel shafts (INT) Steel. *Identification Marks on Do.* 684 2.12.10 J.W.G *Material of Screw shafts* Iron *Identification Marks on Do.* 684 22.11.10 J.W.G.

Material of Steam Pipes Solid drawn copper *Test pressure* 400 lb. ✓

General Remarks *(State quality of workmanship, opinions as to class, &c.* The machinery & boilers of this vessel have been constructed under Special Survey, are of good material & workmanship & have been fitted & secured on board in accordance with the Rules. They are now in good working condition & are respectfully submitted as being eligible in my opinion to have record of ✠ L.M.C. 4-11 in the Register Book.

Hull

Certificate (if required) to be sent to .....

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

It is submitted that this vessel is eligible for THE RECORD. ✠LMC 4.11.

J.W.G. 4/5/11

The amount of Entry Fee	£	1 : 0	0
Special	£	13 . 1	0
Donkey Boiler Fee	£	- : -	: -
Travelling Expenses (if any)	£	- : 2	0

When applied for, 26.4.11

When received, 28/4/11

John W. Goyne.

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

FRI. FEB. 16. 1912

Committee's Minute FRI. 5 MAY 1911

Assigned ✠LMC 4.11

MACHINERY CERTIFICATE WRITTEN