

# REPORT ON MACHINERY.

Port of Belfast

FRI, 14 OCT 1898

Received at London Office 18

No. in Survey held at Belfast Date, first Survey 13<sup>th</sup> January 97 Last Survey October 6 - 1898  
 Reg. Book. "Hippingham Grange" (Number of Visits.....)  
 on the "Hippingham Grange" Tons } Gross 5789  
 Master J. Bennett Built at Belfast By whom built Wokman Clark & Co. Ltd When built 1898  
 Engines made at Belfast By whom made Wokman Clark & Co. Ltd when made 1898  
 Boilers made at Belfast By whom made Wokman Clark & Co. Ltd when made 1898  
 Registered Horse Power 650 Owners Houlder Bros Port belonging to London  
 Nom. Horse Power as per Section 28 513

ENGINES, &c.— Description of Engines Triple Expansion No. of Cylinders Three  
 Diameter of Cylinders 27" - 44 1/2" - 74" Length of Stroke 54" Revolutions per minute 73 Diameter of Screw shaft as per rule 13 9/16"  
 Diameter of Tunnel shaft as per rule 13 1/2" as fitted 14 5/8" Diameter of Crank shaft journals 14 1/2" Diameter of Crank pin 14 1/2" Size of Crank webs 19 3/4" x 10"  
 Diameter of screw 18" - 0" Pitch of screw 18" - 6" No. of blades Four State whether moveable Yes Total surface 92 sq ft  
 No. of Feed pumps Two Diameter of ditto 4 1/2" Stroke 29" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps Two Diameter of ditto 5" Stroke 27" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines Two Sizes of Pumps 6" x 4 1/2" x 6" General No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Three - 3 1/2" In Holds, &c. Nine - 8 1/2" Two - 2 1/2"

No. of bilge injections Two sizes 8" Connected to condenser, or to circulating pump Pumps Is a separate donkey suction fitted in Engine room & 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 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 None  
 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 Forward Suctions 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  
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock Before launching the screw shaft tunnel watertight Stated to be  
 Is it fitted with a watertight door Yes worked from Engine Room Top Platform on 4<sup>th</sup> October 1898

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 7176 sq ft  
 No. and Description of Boilers Three Single Ended, Cylind<sup>r</sup> Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs  
 Date of test 21-7-98 Can each boiler be worked separately Yes Area of fire grate in each boiler 56 sq ft No. and Description of safety valves to  
 each boiler Three - Direct Spring Area of each valve 8.29 sq Pressure to which they are adjusted 180 lbs Are they fitted  
 with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 3ft Mean diameter of boilers 41" - 9"  
 Length 11' - 8" Material of shell plates Steel Thickness 1 1/2" Description of riveting: circum. seams Double long. seams Butts Double Riv  
 Diameter of rivet holes in long. seams 1 1/32" Pitch of rivets 10" Lap of plates or width of butt straps 2 1/2"  
 Percentages of strength of longitudinal joint rivets 89.6 Working pressure of shell by rules 207 lbs Size of manhole in shell 16" x 12"  
 Size of compensating ring 2' 8" x 2' 4" x 1 1/2" No. and Description of Furnaces in each boiler Two - Morrison Material Steel Outside diameter 45 1/8"  
 Length of plain part top 1' 6" bottom 1' 6" Thickness of plates crown 3/16" Description of longitudinal joint Weld No. of strengthening rings 1  
 Working pressure of furnace by the rules 195 lbs Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 3/4"  
 Pitch of stays to ditto: Sides 7 3/4" x 7 1/2" Back 7 3/4" x 7 1/2" Top 7 3/4" x 7 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 82 lbs  
 Material of stays Steel Diameter at smallest part 1 3/8" Area supported by each stay 60 sq Working pressure by rules 197 lbs End plates in steam space:  
 Material Steel Thickness 1 1/4" Pitch of stays Various How are stays secured Nuts & Washers Working pressure by rules 213 lbs Material of stays Steel  
 Diameter at smallest part 4 1/8" Area supported by each stay 228 sq Working pressure by rules 180 lbs Material of Front plates at bottom Steel  
 Thickness 1" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays As appears Working pressure of plate by rules 180 lbs  
 Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 5/8" Material of tube plates Steel Thickness: Front 3/32" Back 3/4" Mean pitch of stays 7 1/2"  
 Pitch across wide water spaces 13 1/2" Working pressures by rules 180 lbs Girders to Chamber tops: Material Steel Depth and  
 Thickness of girder at centre 9 1/2" (3/2 x 2) Length as per rule 32 3/4" Distance apart 7 1/2" Number and pitch of Stays in each Three - 7 1/2"  
 Working pressure by rules 200 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  
 \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Diameter of flue \_\_\_\_\_ Material of flue plates \_\_\_\_\_ Thickness \_\_\_\_\_  
 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 \_\_\_\_\_

