

# REPORT ON MACHINERY.

No. 13939

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Date of writing Report 19 When handed in at Local Office 4/6/10. 10 Port of West Hartlepool

No. in Survey held at West Hartlepool Date, First Survey 1909 Dec 20<sup>th</sup> Last Survey 5<sup>th</sup> June 1910  
Reg. Book. on the Steel Screw Steamer "Harpagus" (Number of Visits 8)

Master Built at West Hartlepool By whom built W Gray & Co Ltd Tons {Gross Net} When built 1910

Engines made at West Hartlepool By whom made Central Marine & Wk when made 1910

Boilers made at West Hartlepool By whom made Central Marine & Wk when made 1910

Registered Horse Power Owners J & C Harrison Ltd. Port belonging to London

Horse Power as per Section 28 574 ✓ Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Compound No. of Cylinders Three No. of Cranks Three

of Cylinders 28" x 45" x 75" Length of Stroke 51" Revs. per minute 65 Dia. of Screw shaft 15.59" Material of screw shaft Steel

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

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

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

are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 67"

Dia. of Tunnel shaft 13.9" Dia. of Crank shaft journals 14.59" Dia. of Crank pin 15 1/4" Size of Crank webs 26 1/2" x 9 1/8" Dia. of thrust shaft under

screw 15 1/4" Dia. of screw 19:0" Pitch of Screw 17:6 No. of Blades 4 State whether moveable Yes Total surface 112 sq ft

Feed pumps Two Diameter of ditto 4 1/4" Stroke 30" Can one be overhauled while the other is at work Yes

Bilge pumps Two Diameter of ditto 5" Stroke 30" Can one be overhauled while the other is at work Yes

Donkey Engines Three Sizes of Pumps 5 1/2" x 6" x 5" x 1 1/2" x 10" No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room Three 3 1/2" one 3" in dry tank In Holds, &c. Eight 3 1/2" Tunnel 3 1/2"

Bilge Injections One size 6 1/2" Connected to condenser, or to circulating pump Blank Is a separate Donkey Suction fitted in Engine room & size Yes 3 1/2"

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

connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks both

are 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 above

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

pipes are carried through the bunkers Yes How are they protected Yes

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

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

of examination of completion of fitting of Sea Connections 7/4/10 of Stern Tube 27/4/10 Screw shaft and Propeller 10/5/10

Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from top platform.

ENGINES, &c.—(Letter for record R) Manufacturers of Steel J. Chance & Sons

Heating Surface of Boilers 7736 sq ft Forced Draft fitted Yes No. and Description of Boilers Three Single Ended

Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 6/4/10 No. of Certificate 3190

Can boiler be worked separately Yes Area of fire grate in each boiler 58 sq ft No. and Description of Safety Valves to

each boiler Two Spring Area of each valve 9.62 sq in Pressure to which they are adjusted 185 lb Are they fitted with easing gear Yes

distance between boilers or uptakes and bunkers or woodwork 4:2" Mean dia. of boilers 14:9" Length 12:0" Material of shell plates Steel

Range of tensile strength 27/30 Are the shell plates welded or flanged both Descrip. of riveting: cir. seams 3/16" dia

Diameter of rivet holes in long. seams 15/16" Pitch of rivets 9" Lap of plates or width of butt straps 19 1/4"

Working pressure of longitudinal joint 184 lb Working pressure of shell by rules 184 lb Size of manhole in shell 16" x 12"

Compensating ring 32" x 28" x 1 1/4" No. and Description of Furnaces in each boiler 3 Iron Material Steel Outside diameter 44 5/8"

Thickness of plates 17/32" Description of longitudinal joint welded No. of strengthening rings each

pressure of furnace by the rules 183 lb Combustion chamber plates: Material Steel Thickness: Sides 10/16" Back 10/16" Top 10/16" Bottom 10/16"

Stays to ditto: Sides 9:8" Back 9:8" Top 9:8" If stays are fitted with nuts or riveted heads Yes Working pressure by rules 181 lb

Diameter at smallest part 1 1/2" Area supported by each stay 9:8" Working pressure by rules 181 lb End plates in steam space:

Thickness 1 1/4" Pitch of stays 20:19" How are stays secured all nut Working pressure by rules 183 lb Material of stays Steel

Area supported by each stay 20:19" Working pressure by rules 182 lb Material of Front plates at bottom Steel

Material of Lower back plate Steel Thickness 3/16" Greatest pitch of stays 16 1/2" Working pressure of plate by rules 180 lb

Pitch of tubes 4" Material of tube plates Steel Thickness: Front 3/16" Back 12/16" Mean pitch of stays 8"

Working pressures by rules 190 lb Girders to Chamber tops: Material Steel Depth and

Distance apart 8 1/4" Length as per rule 10:0" Distance apart 8 1/4" Number and pitch of stays in each two 9"

Working pressure by rules 180 lb Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

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

End plates: Thickness How stayed

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

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*[Handwritten notes on the left margin, partially obscured and illegible.]*

*[Handwritten note in a circle on the right margin: "Blanket No. 77"]*



