

REPORT ON MACHINERY.

Port of *Copenhagen*Received at London Office *12 JUN 1902*

No. in Survey held at *Copenhagen* Date, first Survey *6th June 1901*. Last Survey *10th June 1902*.
 Reg. Book. *(Number of Visits 39)*
 in *Spec.* on the *Sul Se. Sr. Anamba.* (Yard *55*). Tons { Gross *1815.52*.
 Net *1158.45*.
 Master *J. Cortsen*. Built at *Hellerup*. By whom built *Hellerup Skibsværft & Maskinfabrik*. When built *1902*.
 Engines made at *Copenhagen* By whom made *Dansk Maskinfabrik, Helsingør, Høben & Skibsværft*. When made *1902*.
 Boilers made at *Copenhagen* By whom made *Høben & Skibsværft*. When made *1902*.
 Registered Horse Power *115 - 833 IHP*. Owners *Atthieskabet Det Internationale Kompagni*. Port belonging to *Copenhagen*.
 Nom. Horse Power as per Section 28 *161*. Is Refrigerating Machinery fitted *No*. Is Electric Light fitted *Yes*.

ENGINES, &c.—Description of Engines *Inverted triple expansion, surface condensing*. No. of Cylinders *3* No. of Cranks *3*
 Dia. of Cylinders *18", 29" & 48"* Length of Stroke *33"* Revs. per minute *about 80* Dia. of Screw shaft *as per rule 10 3/32"* Lgth. of stern bush *42"*
 Dia. of Tunnel shaft *as per rule 8 1/8"* Dia. of Crank shaft journals *as per rule 9 1/8"* Dia. of Crank pin *9 1/2"* Size of Crank webs *1/4" x 6 1/4"* Dia. of thrust shaft under
 collars *9 1/4"* Dia. of screw *13 1/2"* Pitch of screw *12 1/2"* No. of blades *4* State whether moveable *no* Total surface *580'*
 No. of Feed pumps *2* Diameter of ditto *3"* Stroke *22 1/2"* Can one be overhauled while the other is at work *Yes* One & Four Evaporator
 No. of Bilge pumps *2* Diameter of ditto *3"* Stroke *22 1/2"* Can one be overhauled while the other is at work *Yes*
 No. of Donkey Engines *3 off* *double Worthington* Sizes of Pumps *6" steam up 8 1/2" water up 6" strokes* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *3 off 2 1/2" each*. In dry tank under Boilers *one off 2 1/2"* In Holds, &c. In Forehold *2 off 2 1/2"*. In Afterhold *2 off 2 1/2"*. In
 Forewell *1 off 3"*. Suctions: Main pipe *6"*. In DB tanks *4" each*. From FPT *2 1/2"*. From APT *3"*.
 No. of bilge injections *one size 4"* Connected to condenser, or to circulating pump *to circulating pump*. Is a separate donkey suction fitted in Engine room & size *1 1/4" 2 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 *has none*
 Are all connections with the sea direct on the skin of the ship *Yes, except suction for sanitary pump, which is fitted on double bottom* Are they Valves or Cocks *3 injection valves & 1 blow off cock*
 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 *above*
 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 *Suctions from FPT & Forehold* How are they protected *By strong wooden boxes*
 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 *while building* Is the screw shaft tunnel watertight *Yes*
 Is it fitted with a watertight door *Yes* worked from *Upper deck*.

BOILERS, &c.— (Letter for record *(S)*) Total Heating Surface of Boilers *2820* ^{sq} feet Is forced draft fitted *no*
 No. and Description of Boilers *2 off, single ended horizontal return tubular* Working Pressure *165 lbs* Tested by hydraulic pressure to *330 lbs*.
 Date of test *9/4.02*. Can each boiler be worked separately *Yes* Area of fire grate in each boiler *32.5* ^{sq} feet No. and Description of safety valves to
 each boiler *2 spring loaded (Adams patent)* Area of each valve *12.5664* ^{sq} inches Pressure to which they are adjusted *165 lbs* Are they fitted with easing gear *Yes*
 Smallest distance between boilers or uptakes and bunkers or woodwork *12"* Mean dia. of boilers *12'0"* Length *10'6"* Material of shell plates *SB Steel*.
 Thickness *1"* Range of tensile strength *27-32 tons* Are they welded or flanged *no* Descrip. of riveting: cir. seams *lap joint* double riveted long. seams *dbl. butt straps* full riveted.
 Diameter of rivet holes in long. seams *1 1/16"* Pitch of rivets *7 1/2"* ~~Gap of plates or~~ width of butt straps *16"*
 Percentages of strength of longitudinal joint rivets *87.15%* Working pressure of shell by rules *175.2 lbs* Size of manhole in shell *12" x 16"*
 Area of compensating ring *flanged ring 32" x 37" x 1"* No. and Description of Furnaces in each boiler *2 off, light Adams patent* Material *SB Steel* Outside diameter *3'7 1/4"*
 Length of plain part *top 1' bottom 1' 1/2"* Thickness of plates *crown 1/2" bottom 1/2"* Description of longitudinal joint *welded* No. of strengthening rings *✓*
 Working pressure of furnace by the rules *174.66 lbs* Combustion chamber plates: Material *SB Steel* Thickness: Sides *9/16"* Back *1 1/32"* Top *5/8"* Bottom *9/16"*
 Length of stays to ditto: Sides *7 3/4" x 7"* Back *6 3/4" x 7 1/2"* Top *9 1/2" x 7"* If stays are fitted with nuts or riveted heads *Muts in comb. chamber riveted outside, except the bottom, which rows fitted with nuts* Working pressure by rules *169.94 lbs*.
 Material of stays *Steel* Diameter at smallest part *1.259"* Area supported by each stay *66.5* ^{sq} inches Working pressure by rules *180.45 lbs* End plates in steam space:
 Material *SB Steel* Thickness *1"* Pitch of stays *19" x 16"* How are stays secured *all nuts riveted all strips outside* Working pressure by rules *165.96 lbs* Material of stays *Steel*
 Diameter at smallest part *2.634"* Area supported by each stay *304* ^{sq} inches Working pressure by rules *177.43 lbs* Material of Front plates at bottom *SB Steel*
 Thickness *3/4"* Material of Lower back plate *SB Steel* Thickness *3/4"* Greatest pitch of stays *15"* Working pressure of plate by rules *178.3 lbs*.
 Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2" x 4 1/2"* Material of tube plates *SB Steel* Thickness: Front *3/4"* Back *3/4"* Mean pitch of stays *12 1/4"*
 Length across wide water spaces *15"* Working pressures by rules *169.4 lbs* Girders to Chamber tops: Material *Steel* Depth and
 thickness of girder at centre *7 1/2" x 3 1/4" x 2"* Length as per rule *26"* Distance apart *9 1/2"* Number and pitch of Stays in each *2 off 7 pitch*.
 Working pressure by rules *178 lbs* Superheater or Steam chest; how connected to boiler *has 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
 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

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Foundation

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