

REPORT ON MACHINERY.

No. 17957

WED. FEB 8 1922

Date of writing Report 27 Feb 1922 When handed in at Local Office

2/2/ 1922.

Port of

Received at London Office

Grunwick

No. in Survey held at

Reg. Book.

Grunwick & Port Glasgow

Date, First Survey

19th January, 1920

Last Survey

1st Feb 1922

(Number of Visits 145)

on the

Screw Steamer. "KOHINUR"

Master

Built at Pt. Glasgow

By whom built

Lithgown & Co.

Engines made at

Grunwick

By whom made

Rankine and Blackmore Ltd.

Boilers made at

Grunwick

By whom made

Rankine and Blackmore Ltd.

Registered Horse Power

Owner

The Asiatic Steam Nav. Co. Ltd.

Port belonging to

London.

Nom. Horse Power as per Section 28

435

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

26"-42"-70"

Length of Stroke

48"

Revs. per minute

68

Dia. of Screw shaft

as per rule 14.40"

Material of

I.S.

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

No

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

Yes

If two

liners are fitted, is the shaft lapped or protected between the liners

Yes

Length of stern bush

61"

Dia. of Tunnel shaft

as per rule 12.97"

Dia. of Crank shaft journals

as per rule 13.62"

Dia. of Crank pin

13 5/8"

Size of Crank web

22 1/4 x 8 1/4"

Dia. of thrust shaft under

collars

13 5/8"

Dia. of screw

17'-6"

Pitch of Screw

17'-6"/18'-6"

No. of Blades

4

State whether moveable

Yes

Total surface

100 sq

No. of Feed pumps

2

Diameter of ditto

7"

Stroke

21"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

4 1/2"

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

3

Sizes of Pumps

6 x 21", 6 x 21", 12 x 12"

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4-3 1/2", Tunnel 1-2 1/2"

In Engine Room

4-3 1/2"

Tunnel

1-2 1/2"

In Holds, &c.

Forward Holds

4-3 1/2", Stow

Tank

2-3 1/2", Aft Holds

4-3 1/2"

No. of Bilge Injections

1

sizes

18"

Connected to condenser, or to circulating pump

C.P.

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

Both

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

None

How are they protected

-

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

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

Top Platform, E.R.

OILERS, &c.—(Letter for record)

S

Manufacturers of Steel

D. Christie & Son Ltd.

Glasgow, C.S. & Co.

Total Heating Surface of Boilers

6110 sq

Working Pressure

180 lb. sq.

Is Forced Draft fitted

Yes

No. and Description of Boilers

Two, Cyl. Single End.

Tested by hydraulic pressure to

320 lb. sq.

Date of test

14.10.21

No. of Certificate

1586

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

75 sq.

No. and Description of Safety Valves to

each boiler

Two Spring

Area of each valve

14.19 sq.

Pressure to which they are adjusted

185 lb. sq.

Are they fitted with easing gear

Yes

Smallest distance between boilers and bunkers

24"

Mean dia. of boilers

15'-6"

Length

11'-6"

Material of shell plates

S.

Thickness

1 5/16"

Range of tensile strength

28/32 Tons

Are the shell plates welded or flanged

No.

Descrip. of riveting: cir. seams

L.D.R.

mg. seams

DBS/7A

Diameter of rivet holes in long. seams

1 3/8"

Pitch of rivets

9 25/32"

Length of plates or width of butt straps

20 1/2"

Per centages of strength of longitudinal joint

rivets 86.0

plate 85.9

Working pressure of shell by rules

186 lb. sq.

Size of manhole in shell

16' x 12'

Size of compensating ring

30 1/2' x 26 1/2' x 1 5/16"

No. and Description of Furnaces in each boiler

4 Dighton

Material

S.

Outside diameter

44 1/4"

Length of plain part

top 17 1/2"

Thickness of plates

crown 17 1/2"

Description of longitudinal joint

Weld

No. of strengthening rings

-

Working pressure of furnace by the rules

185 lb. sq.

Combustion chamber plates: Material

S.

Thickness: Sides

5/8"

Back

5/8"

Top

5/8"

Bottom

1 1/16"

Pitch of stays to ditto: Sides

9 3/16" x 8"

Back

9 1/8" x 7 1/4"

Top

9 1/2" x 7 1/2"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

183 lb. sq.

Material of stays

S.

Area at smallest part

1.77 sq.

Area supported by each stay

73.5 sq.

Working pressure by rules

215 lb. sq.

End plates in steam space:

Material

S.

Thickness

1 3/16"

Pitch of stays

20 7/16" x 16 1/2"

How are stays secured

D.N.

Working pressure by rules

184 lb. sq.

Material of stays

S.

Area at smallest part

6.33 sq.

Area supported by each stay

340 sq.

Working pressure by rules

192 lb. sq.

Material of Front plates at bottom

S.

Thickness

7/8"

Material of Lower back plate

S.

Thickness

1 3/16"

Greatest pitch of stays

12 1/2" x 9 1/8"

Working pressure of plate by rules

200 lb. sq.

Diameter of tubes

2 1/2"

Pitch of tubes

3 23/32"

Material of tube plates

S.

Thickness: Front

3/4"

Back

3/4"

Mean pitch of stays

11 3/16" x 7 1/16"

Pitch across wide water spaces

13 1/4"

Working pressures by rules

287 lb. sq.

Girders to Chamber tops: Material

S.

Depth and

thickness of girder at centre

10 x 17 1/8"

Length as per rule

35 7/8"

Distance apart

9 1/2"

Number and pitch of stays in each

3 @ 7 1/2"

Working pressure by rules

183 lb. sq.

Steam dome: description of joint to shell

None.

% of strength of joint

-

Diameter

Thickness of shell plates

-

Material

-

Description of longitudinal joint

-

Diam. of rivet holes

-

Pitch of rivets

-

Working pressure of shell by rules

-

Crown plates

-

Thickness

-

How stayed

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR.

State the articles supplied:—

Yes *Yes*
 Two top and both end nuts, two bottom and
 nuts, two main bearing ditto, set of coupling bolts, spare valves for
 feed, air and bilge pumps, one propeller shaft, two propeller blades,
 one crank, one bottom and beam complete, one eccentric strap complete, one valve spindle

The foregoing is a correct description,

RANKIN & BLACKMORE, LTD.,

H. Morris.

Director.

Manufacturer.

Dates of Survey while building
 During progress of work in shops -- 1920 Jan 19-21-24-28 Feb 2 Mar 20 Apr 8-15 May 3 Jun 18 July 21-26-30 Aug 3-6-10-13-20 24-27 Sept 1-6-8-13-17-23
 During erection on board vessel -- 25-27-29 Oct 2-5-8-12-14-20-22-27-29 Nov 2-5-10-15-19-24-26-29 Dec 2-6-9-14-20-24-29 (1921) Jan 12-17-19-21-22-24-28
 Total No. of visits 145
 (1922) Jan 10-11-12-13-16-17-20-23-25-27-30 Feb 1

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

Dates of Examination of principal parts—Cylinders 22.3.21 Slides 1.2.20 Covers 22.3.21 Pistons 6.12.20 Rods 29.6.20
 Connecting rods 28.2.21 Crank shaft 14.2.21 Thrust shaft 3.5.21 Tunnel shafts 29.11.21 Screw shaft 28.7.21 Propeller 29.11.21
 Stern tube 29.11.21 Steam pipes tested 16.1.22 Engine and boiler seatings 27.12.21 Engines holding down bolts 23.1.22

Completion of pumping arrangements 30.12.21 Boilers fixed 20.1.22 Engines tried under steam 1.2.22

Completion of fitting sea connections 30.11.21 Stern tube 6.12.21 Screw shaft and propeller 9.12.21

Main boiler safety valves adjusted 25.1.22 Thickness of adjusting washers Port 3/8. 5/8. 7/8. 1 1/2. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 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