

3 JUN 1932

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Index. No. 34187
(For London Office only.)Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.GRK. REPORT N^o 19415.Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Poop, Bridge & Fore (disconnected).Port of Survey Glasgow.Date of Survey While buildingName of Surveyor R. R. R. R.Particulars of Classification * 100 A 1
(CONTINGENT).

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
"HARMANTEH"	BRITISH LONDON.	162723	5444.77	BUILDING.
Moulded Dimensions: Length <u>426'0"</u> ✓ Breadth <u>56'0"</u> ✓ Depth <u>28'75"</u> ✓				
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>12484</u> tons				
Coefficient of fineness for use with Tables <u>.750</u>				

Depth for Freeboard (D)				
Moulded depth	...	...	...	<u>28'9"</u>
Stringer plate	...	...	...	<u>0.55</u> <u>.04</u>
Sheathing on exposed deck	...	...	...	✓
$T \left(\frac{L-S}{L} \right) = \text{Nil.}$				
Depth for Freeboard (D) = <u>28.79</u>				

Depth correction	
(a) Where D is greater than Table depth (D - Table depth) R =	$(28.79 - 28.40) 3 = +1.17$
(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	✓
If restricted by superstructures ✓	

Round of Beam correction	
Moulded Breadth (B)	<u>56'0"</u>
Standard Round of Beam = $\frac{B \times 12}{50}$	$= 13.44$
Ship's Round of Beam	$= 14$ ✓
Difference	<u>0.56</u>
Restricted to	$\frac{1814}{4} = 453.5$
Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L})$	$= \frac{.56}{4} \times (1 - \frac{8186}{4200}) = -.03$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<u>40.66</u>	<u>40.66</u>	<u>8'6"</u>	✓	<u>40.66</u>
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	<u>270.2</u>	<u>270.20</u>	<u>9'0"</u>	✓	<u>270.20</u>
" overhang aft ...					
" overhang forward ...					
F'cle enclosed ...	<u>37.88</u>	<u>37.88</u>	<u>8'6"</u>	✓	<u>37.88</u>
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	<u>348.74</u>	<u>348.74</u>			<u>348.74</u>

Standard Height of Superstructure 7.50

" " R.Q.D.	✓
Deduction for complete superstructure	<u>42.00</u>
Percentage covered $\frac{S}{L} =$	<u>81.86%</u>
" $\frac{S_1}{L} =$	<u>81.86%</u>
" $\frac{E}{L} =$	<u>81.86%</u>

Percentage from Table, Line A. ✓
(corrected for absence of forecastle (if required)) ✓
Percentage from Table, Line B. 77.61%
(corrected for absence of forecastle (if required)) ✓
Interpolation for bridge less than 2L (if required) ✓
Deduction = $42.00 \times .7761 = -32.59$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<u>52.60</u>	1		<u>52.60</u>	<u>66.0</u>	<u>66.00</u>	1		<u>66.00</u>
$\frac{1}{4}$ L from A.P. ...	<u>23.41</u>	4		<u>93.64</u>	<u>29.25</u>	<u>29.25</u>	4		<u>117.00</u>
$\frac{2}{4}$ L " ...	<u>5.79</u>	2		<u>11.58</u>	<u>7.25</u>	<u>7.25</u>	2		<u>14.50</u>
Amidships ...	✓	4		✓	0	✓	4		✓
$\frac{3}{4}$ L from F.P. ...	<u>11.57</u>	2		<u>23.14</u>	<u>14.5</u>	<u>14.50</u>	2		<u>29.00</u>
$\frac{1}{4}$ L " ...	<u>46.81</u>	4		<u>187.24</u>	<u>58.0</u>	<u>58.00</u>	4		<u>232.00</u>
F.P. ...	<u>105.20</u>	1		<u>105.20</u>	<u>132.0</u>	<u>132.00</u>	1		<u>132.00</u>
Total ...				<u>473.40</u>					<u>590.50</u>

Mean actual sheer aft = Excess
Mean standard sheer aftMean actual sheer forward = Excess
Mean standard sheer forward

Length of enclosed superstructure forward of amidships = .327
" " aft of " = .308

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{117.10}{18} \times (.75 - .4093) = -2.22$
If limited on account of midship superstructure.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 28.79
Summer freeboard = 4.17
Moulded draught (d) = 24.62

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 6.15 = 6 1/4

Addition for Winter North Atlantic Freeboard (if required =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 12719$

Tons per inch immersion at summer load water line

 $T = 47.37$ Deduction = $\frac{\Delta}{40T}$ inches $= \frac{12719}{40 \times 47.37} = 6.71 = 6 3/4$

Full Displacement (SW) T.P.1

24F³ DRAFT 12257 47.1725F¹ " 12226 47.42

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.750 + .68}{1.36} = \frac{1.430}{1.36}$

	+	-
Depth Correction	<u>1.17</u>	✓
Deduction for superstructures	✓	<u>32.59</u>
Sheer correction		<u>2.22</u>
Round of Beam correction		<u>.03</u>
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc.		
	<u>1.17</u>	<u>34.84</u>

Summer Freeboard = 50.09

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-

Tropical Fresh Water Line above Centre of Disc	<u>13"</u>
Fresh Water Line	<u>6 3/4"</u>
Tropical Line	<u>6 1/4"</u>
Winter Line below	<u>6 1/4"</u>
Winter North Atlantic Line	✓

Tropical Fresh Water Freeboard	<u>4'2"</u>
Fresh Water	<u>3'1"</u>
Tropical	<u>3'7 1/4"</u>
Winter	<u>3'7 3/4"</u>
Winter North Atlantic	<u>4'8 1/4"</u>

MARKING FORM

30 OCT 1935

RECEIVED

MARKING FORM

RECEIVED 14 JUN 1937

W523-0200 1/2

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
UPPER DECK										
BRIDGE DECK										
Description of Hatchway	Nº1 HATCH	Nº2 HATCH	Nº3 HATCH (DIVIDED)	Nº4 HATCH	Nº5 HATCH	Nº6 HATCH	Nº7 HATCH (DIVIDED)	Nº8 HATCH	COALING HATCH AT FORE END OF BRIDGE CASING	HATCH ON POOP DECK
Dimensions of Hatchway	29'3" x 24'0"	32'1" x 24'0"	14'0" x 24'0"	36'8" x 24'0"	32'1" x 24'0"	32'1" x 24'0"	14'0" x 24'0"	36'8" x 24'0"	4'0" x 18'0"	4'0" x 3'0"
COAMINGS	Height above Deck	4'6"	12'3" x 5'0"	12'3" x 5'0"	4'6"	3'6"	3'6"	3'6"	3'6"	3'0"
	Thickness	4'4"	4'4"	4'4"	4'4"	4'4"	4'4"	4'4"	4'4"	3'6"
	Sides	4'4"	4'4"	4'4"	4'4"	4'4"	4'4"	4'4"	4'4"	3'6"
	Stiffeners	9 x 3 1/2 x 40	9 x 3 1/2 x 40	9 x 3 1/2 x 40	9 x 3 1/2 x 40	9 x 3 1/2 x 40	9 x 3 1/2 x 40	9 x 3 1/2 x 40	9 x 3 1/2 x 40	3' Heavy Cover
HATCH BEAMS	Brackets, Stays	2 x 2 1/2 x 40	2 x 2 1/2 x 40	2 x 2 1/2 x 40	2 x 2 1/2 x 40	2 x 2 1/2 x 40	2 x 2 1/2 x 40	2 x 2 1/2 x 40	2 x 2 1/2 x 40	3' Heavy Cover
	Number	6	6	1 in each HATCH	7	6	7	6	7	HATCH UNDER
	Spacing	4'2"	4'7"	5'1 1/2 x 4'7"	4'7"	4'7"	4'7"	4'7"	4'7"	1 in each SPACE
	Scantling and Sketch	PLATE 17 1/2 x 36	19 1/2 x 38	12 1/2 x 39	19 1/2 x 39	18 1/2 x 37	13 x 32	15 1/2 x 34	13 x 32	COAMING 4'0" x 3'0"
FORE AND AFTERS	Bearing Surface	5 x 3 1/2 x 46	5 x 3 1/2 x 46	5 x 3 1/2 x 46	5 x 3 1/2 x 46	5 x 3 1/2 x 46	4 x 3 x 44	4 x 3 x 44	4 x 3 x 44	COAMING 4'0" x 3'0"
	Number	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3' Heavy Cover
	Spacing	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3' Heavy Cover
	Unsupported Lengths	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3' Heavy Cover
HATCH COVERS	Scantling and Sketch	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3' Heavy Cover
	Bearing Surface	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3' Heavy Cover
	Material	3" SOLID WOOD COVERS FITTED FORE & AFT.	3" SOLID WOOD COVERS FITTED FORE & AFT.	3" SOLID WOOD COVERS FITTED FORE & AFT.	3" SOLID WOOD COVERS FITTED FORE & AFT.	3" SOLID WOOD COVERS FITTED FORE & AFT.	3" SOLID WOOD COVERS FITTED FORE & AFT.	3" SOLID WOOD COVERS FITTED FORE & AFT.	3" SOLID WOOD COVERS FITTED FORE & AFT.	3" SOLID WOOD COVERS FITTED FORE & AFT.
	Thickness	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2
Spacing of Cleats	Number of Tarpaulins	24	24	24	24	24	24	24	24	24 x 18
	Number of Tarpaulins	2	2	2	2	2	2	2	2	2

Particulars of fiddle, funnel and ventilator coamings:—

Fidley, Funnel & Ventilators in efficient condition ✓
 Fiddle gratings protected by linged steel covers ✓
 Engine Room Skylight of steel strongly constructed ✓

Particulars of Flush Bunker Scuttles:—

None. ✓

Particulars of Companionways:—

Steel House on Poop Deck with 1 1/2" Solid Wood Door P.S. ✓
 & having 18" sill. Door workable from both sides. ✓

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—

Fore 10" Vent 10" Dia., beamings 36" high x 32" to fore peak store; ✓
 also 8" Vent 8" Dia., beamings 36" high x 40" to holdo; ✓
 Bridge 10" 2 Vents 27" Dia. & 2 Vents 21" Dia. with beamings 30" high x 40" to holdo; ✓
 4 Vents 12" Dia., beamings 30" high x 34" to lower & tween deck bunkers; ✓
 4 Vents 12" Dia., beamings 30" high x 34" to lower bunkers; ✓
 Poop 10" 2 Vents 12" Dia., beamings 30" high x 34" to tunnel escape & poop; ✓
 4 Vents 9" Dia., beamings 30" high x 32" to crew quarters. ✓
 All ventilators constructed in accordance with the Rules & beamings closed with wood plugs & canvas covers. ✓

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—

Fore 1" Air Pipe 18" x 3 1/2" dia. to Fore Peak Tank; ✓
 1" Air Pipe (P) 18" x 2" dia. to S. B. Cofferdam; ✓
 1" Air Pipe 18" x 6" dia. to S. B. Tank; ✓
 Bridge 1" Air Pipe 18" x 5" dia. to S. B. Tank P.S.; ✓
 1" Air Pipe 18" x 3 1/2" dia. to S. B. Tank P.S.; ✓
 1" Air Pipe 18" x 2" dia. to S. B. Cofferdam P.S.; ✓
 Poop 1" Air Pipe 18" x 3 1/2" dia. to After Peak Tank P.S. ✓
 All air pipes to oil fuel S. B. Tanks fitted with gauge; elsewhere canvas covers fitted; ✓

Particulars of Gangway Cargo and Coaling Ports:—

None. ✓

Particulars of Scuppers and Sanitary Discharge Pipes:—

Scuppers from Poop, Bridge & Fore Space fitted with storm valves & wood plugs on inner ends. ✓
 Discharges from Baths, W.C.'s & Wash Basins in Midship House & in Poop Space fitted with storm valves & having traps on inner ends. ✓
 Scuppers from insulated store in Bridge Space fitted with storm valve & having screw cap on inner end. ✓

Particulars of Side Scuttles:—

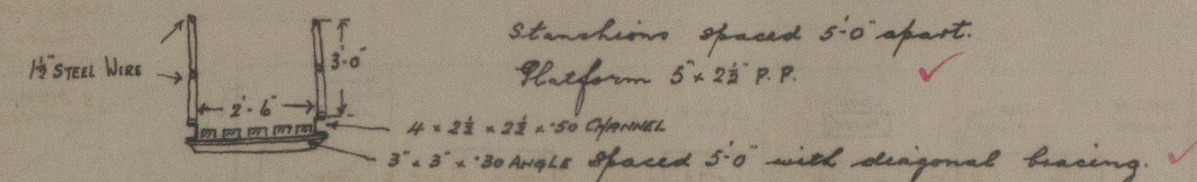
No side scuttles below Freeboard Deck. ✓
 No side scuttles in Bridge Space. ✓
 Side Scuttles in Poop & in Fore strongly constructed & fitted with deadlights. ✓

Particulars of Guard Rails:—

Fore Deck. 3'3" High with 2 rods, & stanchions spaced 5'0" apart. ✓
 Bridge Deck. 4'0" High with 3 rods, & stanchions spaced 5'0" apart at fore end & after end; with Bulwark amidships 4'0" High having 3 Freeing Ports each side 3'6" x 1'6" (18") with bar fitted (Rule 44). ✓
 Poop Deck. 3'3" High with 2 rods, & stanchions spaced 5'0" apart. ✓

Particulars of Gangways, Lifelines, etc.:—

Gangway Aft from Bridge Deck to Poop Deck.



Particulars of Freeing Arrangements.

	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	41' - 3"	4' - 0"	4' - 6" x 9"	4	12'0" ✓	10'63" ✓
Forward Well	36' - 0"	4' - 0"	4' - 6" x 9"	3	10'12" ✓	10'1" ✓

State position of each freeing port ... After Well:— 12'4", 17'10", 24'0", 30'0" from Bridge Deck Aft to fore end of openings } 13' above deck.
 (F. and A. position and height above deck edge) Forward Well:— 9'0", 14'5", 20'8" from Bridge Deck Aft to fore end of openings }
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— ✓
 Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

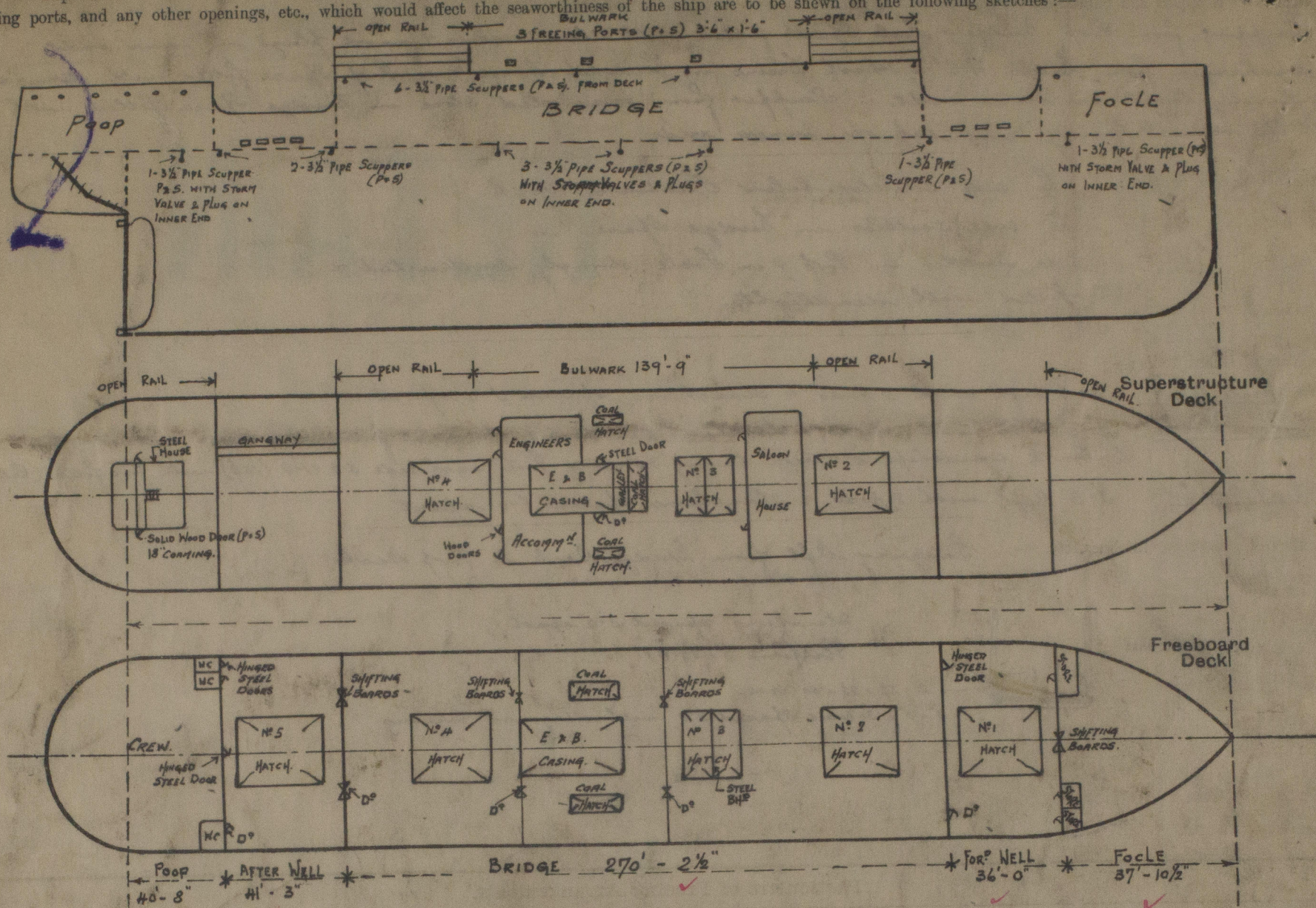
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	38 ✓	38 ✓	7 x 3 x 38 ✓	2'5" ✓	Luqg 20 4 - 3/4 R ✓	5'0" x 2'0" ✓	18" ✓	8'6" ✓
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead	30 ✓	30 ✓	4 x 3 x 32 ✓	2'6" ✓	✓	5'0" x 4'0" ✓	18" ✓	9'0" ✓
Bridge, Forward Bulkhead	44 ✓	44 ✓	9 1/2 x 3 1/2 x 46 ✓	2'6" ✓	Luqg 20 5 - 3/4 R ✓	4'6" x 3'3" ✓	18" ✓	9'0" ✓
Forecastle Bulkhead	30 ✓	30 ✓	4 x 3 x 32 ✓	2'3" to 3'0" ✓	✓	5'0" x 2'0" ✓	18" ✓	8'6" ✓
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks								
Exposed Machinery Casings on Superstructure Decks	34 ✓	30 ✓	3 x 3 x 30 ✓	2'6" ✓	✓	5'0" x 2'0" ✓	18" ✓	8'0" ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	30 ✓	26 ✓	3 x 3 x 30 ✓	2'6" ✓	✓	5'0" x 2'0" ✓	18" ✓	9'0" ✓
Deckhouses on Flush Deck Ships								

Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead	4 Hinged steel doors, workable from both sides. Door at centre line fitted with clips. ✓
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	3 Shifting boards full height of opening, fitted in channels riveted to bulkhead. ✓
Bridge, Forward Bulkhead	Hinged steel doors, secured with clips & workable from both sides. ✓
Forecastle Bulkhead	3 Shifting boards full height of opening, fitted in channels riveted to bulkhead, at 1" line. ✓
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	2 Solid wood hinged doors, & 1 steel hinged door, workable from both sides. ✓
Exposed Machinery Casings on Superstructure Decks	Hinged steel doors, workable from both sides. ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Hinged steel doors, workable from both sides. ✓
Deckhouses on Flush Deck Ships	

Harmatris

Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shown on the following sketches:—



State any special features in the construction of the ship:—

This vessel has been built in accordance with the approved Plans, & in general conformity with the Society's Rules for the class contemplated. ✓
 The approved Plans of Midship Section, Profile & Decks, & Hatches are forwarded for reference.
 Freeboard Request attached.

Builder's name and yard number *Lithgow Limited* *Nº 85H*

Names of sister ships *"HARMATRIS"*

Owners *J & C. Harrison & Co Ltd*

Fee £ *16* : *0* : *0* Received by me *See J.C. Report*



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