

Lloyd's Register of Shipping.  
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker having <i>Joop. Bridge, Steel.</i>					Port of Survey <i>Newcastle-on-Tyne</i>
(Type of Superstructures.)					Date of Survey <i>23rd Sept. 1936</i>
Ship's Name <i>"STELLING"</i>	Nationality and Port of Registry <i>British London (7/5/40)</i>	Official Number <i>148082</i>	Gross Tonnage <i>2136</i> M.O.T. 23852	Date of Build <i>1924-8</i>	Name of Surveyor <i>A. Allen</i>
Moulded Dimensions: Length <i>249-5</i> ✓ Breadth <i>41-25</i> ✓ Depth <i>22-25</i> ✓					Particulars of Classification <i>+100. A-1.</i>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <i>4842</i> tons					
Coefficient of fineness for use with Tables <i>.777</i>					
Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth ... .. <i>22-25</i>		(a) Where D is greater than Table depth (D - Table depth) R = <i>(22-29-18-63) 2-150 = +7-87</i> ✓		Moulded Breadth (B) <i>41-25</i> ✓	
Stringer plate ... .. <i>.04</i>		(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <i>3-66</i> ✓		Standard Round of Beam = $\frac{B \times 12}{50} = 9-90$ ✓	
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$ ✓		If restricted by superstructures ✓		Ship's Round of Beam = <i>10</i> ✓	
Depth for Freeboard (D) = <i>22-29</i>				Difference <i>excess</i> = <i>.10</i>	
				Restricted to	
				Correction = $\frac{\text{Diff}^e}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.10}{4} \times .6493 = -.02$ ✓	

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed <i>equivalent</i>	<i>24-17</i> ✓	<i>24-17</i> ✓	<i>7-5</i> ✓	✓	<i>24-17</i> ✓	Standard Height of Superstructure <i>6-295</i> ✓
" overhang ...	-	-	<i>+2 1/2" SH</i>			" " R.Q.D. ✓
R.Q.D. enclosed	-	-				Deduction for complete superstructure <i>33-95</i> ✓
" overhang	-	-				Percentage covered $\frac{S}{L} = 35-78$ ✓
Bridge enclosed...	<i>48-58</i> ✓	<i>48-58</i> ✓	<i>7-25</i> ✓	✓	<i>48-58</i> ✓	" " $\frac{S_1}{L} = 35-07-37$
" overhang aft ...	-	-	<i>+2 1/2" SH</i>			" " $\frac{E}{L} = 35-07-37$
" overhang forward	<i>2-25</i> ✓	<i>1-12</i> ✓		✓	<i>1-12</i> ✓	Percentage from Table, Line A. <i>19-31-56</i>
F'cle enclosed <i>equivalent</i>	<i>23-30</i> ✓	<i>23-30</i> ✓	<i>7-25</i> ✓	✓	<i>23-30</i> ✓	(corrected for absence of forecastle (if required)) ✓
" overhang ...	<i>1-70</i> ✓	<i>.85</i> ✓		✓	<i>.85</i> ✓	Percentage from Table, Line B. <i>23-31-56</i>
Trunk aft ...	-	<i>1-70</i>				(corrected for absence of forecastle (if required))
" forward ...	-					Interpolation for bridge less than 2L (if required) = $19-31 + \left( 4 \times \frac{.1778}{.200} \right) = 23-12$
Tonnage opening aft ...	-					
" " forward	-					
Total ...	<i>100-00</i>	<i>98-02</i>			<i>98-02</i>	Deduction = $33-95 \times .8249 = 7-74-85$

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	<i>37-95</i> ✓	1		<i>37-95</i>	<i>66-75</i>	<i>66-75</i>	1		<i>66-75</i>	Mean actual sheer aft = <i>Excess</i> ✓
1/8 L from A.P. ...	<i>16-89</i>	4		<i>67-56</i>	<i>29-70</i>	<i>29-70</i>	4		<i>118-80</i>	Mean actual sheer forward = <i>Excess</i> ✓
1/4 L " ...	<i>4-17</i>	2		<i>8-34</i>	<i>7-34</i>	<i>7-34</i>	2		<i>14-68</i>	Mean standard sheer aft = <i>Excess</i> ✓
Amidships ...	-	4		-	-	-	4		-	Mean standard sheer forward = <i>Excess</i> ✓
1/4 L from F.P. ...	<i>8-35</i>	2		<i>16-70</i>	<i>9-50</i>	<i>9-50</i>	2		<i>19-00</i>	Length of enclosed superstructure forward of amidships = <i>.0868</i> L
1/8 L " ...	<i>33-77</i>	4		<i>135-08</i>	<i>37-25</i>	<i>37-25</i>	4		<i>149-00</i>	" " aft of " = <i>.0870</i> L
F.P. ...	<i>75-90</i>	1		<i>75-90</i>	<i>96-00</i>	<i>96-00</i>	1		<i>96-00</i>	
Total ...				<i>341-53</i>					<i>464-23</i>	

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{122-70}{18} \left( .75 - \frac{.1789}{.5711} \right) = -3-89$

If limited on account of midship superstructure.  $3-89 \times .869 = -3-38$ 

If limited to maximum allowance of 1 1/2 ins. per 100 ft. ✓

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)	
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{.777 + .68}{1-36} = \frac{1-457}{1-360}$	<i>38-59</i> ✓
<i>top of wood deck on</i>	$\Delta =$	Depth Correction ... .. <i>7-87</i>	<i>41-34</i> ✓
Depth to Freeboard Deck = <i>22-52</i>	Tons per inch immersion at summer load water line	Deduction for superstructures ... .. <i>-</i>	
Summer freeboard = <i>22-52</i>	T =	Sheer correction ... .. <i>-</i>	
Moulded draught (d) =	Deduction = $\frac{\Delta}{40T}$ inches	Round of Beam correction ... .. <i>-</i>	
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches =		Correction for Thickness of Deck amidships ... .. <i>2-75</i>	
Addition for Winter North Atlantic Freeboard (if required) =		Other corrections, scantlings, etc. ... .. <i>-</i>	
		10-62 11-14 - <i>.63</i>	
		Summer Freeboard = <i>40-82</i> = <i>3-4 3/4</i>	

## SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line. Wood, Steel, Deck:—

The existing freeboards, being more favourable than those computed under the Convention, have been reassigned.

Tropical Fresh Water Line above Centre of Disc ...	<i>.8 1/2"</i>
Fresh Water Line " " ...	<i>.5 1/2"</i>
Tropical Line " " ...	<i>.3"</i>
Winter Line below " " ...	<i>.3"</i>
Winter North Atlantic Line " " ...	<i>.5"</i>

Tropical Fresh Water Freeboard ...	<i>2' 6 1/2"</i>
Fresh Water " " ...	<i>2' 9 1/2"</i>
Tropical " " ...	<i>3' 0"</i>
Winter " " ...	<i>3' 6"</i>
Winter North Atlantic " " ...	<i>3' 8"</i>

-2 OCT 1936

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9
Dimensions of Hatchway	30' 11" x 25' 2"	31' 7" x 25' 2"	7' 4" x 28' 4"	30' 11" x 25' 2"	35' 2" x 25' 2" (Area)	1' 9" x 2' 6"	4' 5" x 2' 0"	2' 9" x 2' 6"	2' 9" x 2' 6"
COAMINGS									
Height above Deck	3' 6"	as	as	4' 6"	4' 6"	9' 0"	3' 0"	9' 0"	9' 0"
Thickness	5/16"	as	as	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"
Stiffeners	8' 0"	as	as	8' 0"	8' 0"	8' 0"	8' 0"	8' 0"	8' 0"
Brackets, Stays	2	as	as	2	2	2	2	2	2
HATCH BEAMS									
Number	5	as	as	5	5	5	5	5	5
Spacing	5' 2"	as	as	5' 2"	5' 2"	5' 2"	5' 2"	5' 2"	5' 2"
Scantling and Sketch	6" x 3" x 1/2"	as	as	as	as	as	as	as	as
Bearing Surface	5"	as	as	as	as	as	as	as	as
FORE AND AFTERS									
Number	1	as	as	1	1	1	1	1	1
Spacing	as	as	as	as	as	as	as	as	as
Unsupported Lengths	as	as	as	as	as	as	as	as	as
Scantling and Sketch	as	as	as	as	as	as	as	as	as
Bearing Surface	as	as	as	as	as	as	as	as	as
HATCH COVERS									
Material	W.P.	as	as	as	as	W.P.	W.P.	W.P.	W.P.
Thickness	2 1/2"	as	as	as	as	2 1/2"	2 1/2"	2 1/2"	2 1/2"
How fitted	3"	as	as	as	as	3"	3"	3"	3"
Bearing Surface	as	as	as	as	as	as	as	as	as
Spacing of Cleats	24"	as	as	as	as	24"	24"	24"	24"
Number of Tarpaulins	2	2	2	2	2	1	2	2	2

\*Are wood fore and afters steel shod at all bearing surfaces? *Yes.*  
 Are battens and wedges efficient and in good condition? *Yes.*  
 Are tarpaulins in good condition and in accordance with rule requirements? *Yes.*  
 Are lashings provided in accordance with rule requirements? *Yes.*

Particulars of fiddle, funnel and ventilator coamings:— *Stokehold gratings covered by strong steel hinged covers. Engine skylight of steel strongly constructed. Fiddle, funnel ventilators in efficient condition.*

Particulars of Flush Bunker Scuttles:— *None.*

Particulars of Companionways:— *On Bridge Deck (P.R.S.). In accommodation in steel casing. doors 1 1/2" thick, with 16" above work deck operated from both sides. On poop deck. 1 steel companion 5' 0" x 3' 0" x 6' 3" high. 1 1/2" thick door with 16" high. Doors operate both sides.*

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:— *Upper deck (forward). 1-12" dia. casing 11' 0" x 1/2" h. (Stays to Bridge). (aft) 1-15" - 9' 0" h. - Bridge deck. 11-6" dia. (M. Vent). casing top 6' high to Bridge. Poop deck. 5-5 1/2" dia. 3' high to poop. All vents (to access down h. v.) provided with wood plugs & canvas covers.*

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:— *Fore deck. 1-3" dia 6' high to fore peak. Bridge deck. 4-3 1/2" dia. 5 1/2" high to O.B. Upper deck (forward). 1-3 1/2" dia. 25' high to O.B. Poop deck. 1-3 1/2" - 6' - aft peak. (aft) 2-4 1/2" - 3' 6" - All air pipes provided with wood plugs for closing.*

Particulars of Gangway Cargo and Coaling Ports:— *None.*

Particulars of Scuppers and Sanitary Discharge Pipes:— *All discharges from Bridge & poop sections provided with storm valves on ship's side in tween deck spaces. Drainage from tween deck spaces through in bulkheads of sections.*

Particulars of Side Scuttles:— *Scuttles from Bridge & poop spaces of strong construction & fitted with hinged deadlights.*

Particulars of Guard Rails:— *Rails on poop bridge & fore deck. 3' 0" high, 2 rods in height. Stanchions about 5' 0" apart.*

Particulars of Gangways, Lifelines, etc.:—

NEWCASTLE-ON-TYNE, No. 28120  
 NEWCASTLE-ON-TYNE  
 Index No. ....

Rpt. C. 11 (Contd.)

## Lloyd's Register of Shipping.

Ship's Name *"STELLING"* Official No. ....

Memorandum of alterations reported since ship was surveyed for assignment of Load Lines in *The hinged steel door at poop bulkhead on port side has now been permanently blanked off. It was observed that the hinged steel door on starboard side had also been blanked off at some previous time.*

*A copy placed on board vessel.*

*H. Little*  
 7/12/48  
 SURVEYOR TO LLOYD'S REGISTER,  
 NEWCASTLE-ON-TYNE.

002114-002126-0068.1

Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Poop Bulkhead	<i>Hinged steel door to W.C. (P.R.S.) operates both sides.</i>
Raised Quarter Deck Bulkhead	<i>3' storm boards full height in channels riveted to bulkhead.</i>
Bridge, After Bulkhead	<i>No openings.</i>
Bridge, Forward Bulkhead	<i>3' storm boards full height in riveted channels. Hinged steel door to W.C. (P.R.S.) operates both sides.</i>
Forecastle Bulkhead	<i>Hinged steel doors operated both sides to Fiddle.</i>
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	<i>Hinged steel doors operated both sides to Engine room.</i>
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships	



Particulars of Scuppers and Sanitary Discharge Pipes:— All discharges from Bridge, poop sections provided with storm valves on ship's side in tween deck space.  
Drainage from tween deck spaces through in bulkheads of sections.

Particulars of Side Scuttles:— Scuttles from Bridge, poop spaces of strong construction, fitted with hinged deadlights.

Particulars of Guard Rails:— Rails on poop, bridge, & deck decks. 3'0 High, 2 rods in height, stanchions about 5'0 apart.

Particulars of Gangways, Lifelines, etc.:—

Lifelines fitted in fore & aft, for protection of crew, & carried over the hatchways.

#### 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 ...	88'4"	4'5"	3 @ 5'6" long 1 @ 6'0" —	4.	41.56 sq	17.6 sq
Forward Well ...	86'0"	4'4"	5'6" long	4.	40.56 sq	17.2 sq
State position of each freeing port ... After Well: — 3m Bridge and L. fore and = 15'9, 35'6, 55'9, 45'6. } Height (F. and A. position and height above deck edge) Forward Well: — 11'6, 21'6, 51'6, 41'3 } 15 above deck. State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: — 2 Horizontal Bars.						
Additional area where sheer is less than standard.						

#### Particulars of Superstructures, Trunks, Casings, Deckhouses.

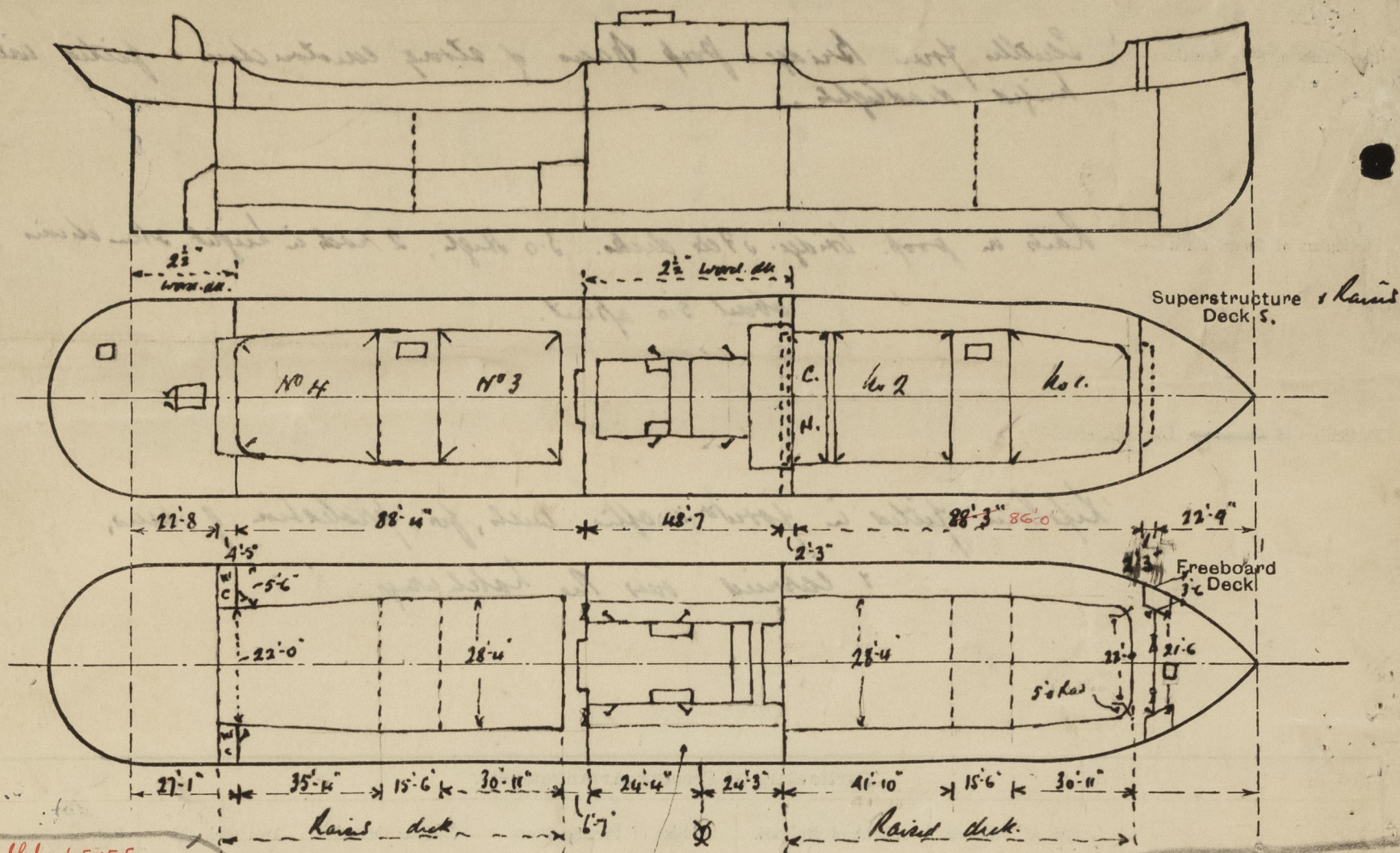
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ...	30	30	5 x 3 x 10 L	2'9"	Bolted to bulkhead			4'6" + 2'6" high.
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead ...	30	30	7 1/2 x 3 x 40 B.	3'10" with 8/16 L.		4'4" x 3'1"	18"	4'3" + 2'6" high.
Bridge, Forward Bulkhead ...	34	34	8 x 3 x 1/2 B.	30"	Bolted to bulkhead			4'3" + 2'6" high.
Forecastle Bulkhead ...	25	25	3 x 3 x 1/2 L	2'9"		4'2" x 3'1"	18"	4'3"
Trunk, Aft ...								
Trunk, Forward ...								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks ...	30	30	3 x 3 x 1/4	30"	Bolted to bulkhead	5'0" x 2'0"	15"	4'6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	30	30	3 x 3 x 1/4	30"		4'11" x 2'1"	18"	7'3"
Deckhouses on Flush Deck Ships ...								

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

Poop Bulkhead ...	Hinged steel doors to bulkhead (P.R.S.) operate both sides.
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead ...	3' storm boards full height in channels riveted to bulkhead.
Bridge, Forward Bulkhead ...	No openings.
Forecastle Bulkhead ...	3' storm boards full height in riveted channels. Hinged steel doors to bulkhead (P.R.S.) operate both sides.
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	
Exposed Machinery Casings on Superstructure Decks ...	Hinged steel doors, operated both sides, to Fiddle.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	Hinged steel doors, operated both sides, to Engine room.
Deckhouses on Flush Deck Ships ...	



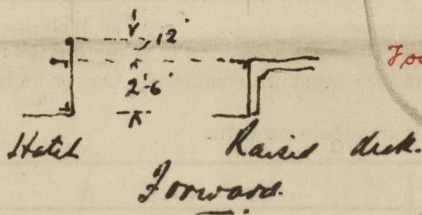
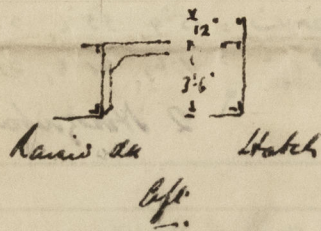
Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shewn on the following sketches:—



Roof equivalent bhd. =  $\frac{4 \cdot 5 \times 5 \cdot 5}{16 \cdot 5} = 1 \cdot 50$ .

Open enclosed length =  $1 \cdot 50 + 22 \cdot 67 = 24 \cdot 17$ .

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



Roof equivalent bhd.

$\frac{2 \cdot 25 \times 3 \cdot 5}{14 \cdot 25} = \cdot 55$

Roof enclosed length =  $22 \cdot 75$

$\frac{55}{23 \cdot 30}$

Roof overhang =  $2 \cdot 25 - \cdot 55 = 1 \cdot 70$ .

Vessel completing S. S. No 3.

Timber freeboards not required.

Displacement Particulars.

Extreme draught.

18' 0"

19' 0"

18' 6"

Extreme displacement.

14545 tons

14850 "

14980 "

Builder's name and yard number.

Smith, Durr & Co.

Names of sister ships.

Owners.

Shanks, S. S. & Co.

Fee £

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