

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

No 12857.

Computation of Freeboard for Steamer, ~~Sailing Ship~~ Tanker
having POOP - BRIDGE - FORECASTLE

(Type of Superstructures.)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<u>S/BELLASCO</u>	<u>British</u> <u>Hull</u>	<u>146432</u>	<u>2494</u>	<u>1912-2</u>

Moulded Dimensions: Length 299-0 Breadth 43-5 Depth 24-5 1/2
Moulded displacement at moulded draught = 85 per cent. of moulded depth 6065 tons
Coefficient of fineness for use with Tables .785

Port of Survey Bristol
Date of Survey Feb. 20-23 1933
Name of Surveyor John L. Gwynne
Particulars of Classification + 100 A 1
S.S. Gls. No. 2-31

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>24.46</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>24.50 - 19.93 = + 10.51</u>	Moulded Breadth (B) <u>43.50</u>
Stringer plate <u>44</u> <u>56</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <u>4.57</u>	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{43.50 \times 12}{50} = 10.44$
Sheathing on exposed deck T $\left(\frac{L-S}{L}\right) =$ <u>✓</u>	If restricted by superstructures	Ship's Round of Beam = <u>10.75</u>
Depth for Freeboard (D) = <u>24.50</u>		Difference <u>.31</u> <i>inches</i>
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{.31}{4} \times .5214 = -.04$

DEDUCTION FOR SUPERSTRUCTURES.

Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	Standard Height of Superstructure
Poop enclosed <u>28.16</u>	<u>28.16</u>	<u>7.5</u>		<u>28.16</u>	<u>6.49</u>
" overhang <u>None</u>					" " R.Q.D.
R.Q.D. enclosed <u>✓</u>					Deduction for complete superstructure <u>35.27</u>
" overhang <u>80.35</u>					Percentage covered $\frac{S}{L} = \frac{48.33}{100}$
Bridge enclosed <u>80.35</u>	<u>80.35</u>	<u>7.0</u>		<u>80.35</u>	" " $\frac{S_1}{L} = \frac{47.86}{100}$
" overhang aft <u>2.26</u>	<u>.55</u>			<u>.55</u>	" " $\frac{E}{L} = \frac{47.86}{100}$
" overhang forward <u>2.26</u>	<u>1.08</u>			<u>1.08</u>	Percentage from Table, Line A.
F'cle enclosed <u>32.85</u>	<u>32.85</u>	<u>7.0</u>		<u>32.85</u>	(corrected for absence of forecastle (if required))
" overhang <u>3.25</u>	<u>.12</u>			<u>.12</u>	Percentage from Table, Line B. <u>34.18</u>
Trunk aft <u>✓</u>					(corrected for absence of forecastle (if required))
" forward <u>✓</u>					Interpolation for bridge less than .2L (if required)
Tonnage opening aft <u>✓</u>					Deduction = <u>-12.05</u>
" " forward <u>✓</u>					
Total <u>144.51</u>	<u>143.11</u>			<u>143.11</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product	Mean actual shear aft =
A.P.	<u>39.90</u>	<u>1</u>	<u>39.90</u>	<u>24.0</u>	<u>24.0</u>	<u>1</u>	<u>24.00</u>	Deficient
1/4 L from A.P.	<u>17.75</u>	<u>4</u>	<u>71.00</u>	<u>2.5</u>	<u>1.0</u>	<u>4</u>	<u>4.00</u>	Deficient
3/4 L "	<u>4.39</u>	<u>2</u>	<u>8.78</u>	<u>.64</u>	<u>0</u>	<u>2</u>	<u>0</u>	
Amidships		<u>4</u>			<u>0</u>	<u>4</u>	<u>0</u>	
1/4 L from F.P.	<u>8.78</u>	<u>2</u>	<u>17.56</u>	<u>3.39</u>	<u>0</u>	<u>2</u>	<u>0</u>	
3/4 L "	<u>35.51</u>	<u>4</u>	<u>142.04</u>	<u>13.6</u>	<u>6.75</u>	<u>4</u>	<u>27.00</u>	
F.P.	<u>79.80</u>	<u>1</u>	<u>79.80</u>	<u>72.0</u>	<u>72.0</u>	<u>1</u>	<u>72.00</u>	
Total			<u>359.08</u>				<u>127.00</u>	

Mean actual shear aft = Deficient
Mean standard shear aft = Deficient
Mean actual shear forward = Deficient
Mean standard shear forward = Deficient
Length of enclosed superstructure forward of amidships = Deficient
" " aft of " = Deficient

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{-232.08}{18} \left(\frac{.75 - .2416}{1} \right) = + 6.55$$

If limited on account of midship superstructure.

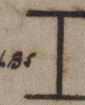
If limited to maximum allowance of 1 1/2 ins. per 100 ft.

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 $\frac{.785 + .68}{1.36} = \frac{1.465}{1.36}$
Depth to Freeboard Deck = <u>24.50</u>	$\Delta =$	Depth Correction <u>10.51</u>
Summer freeboard = <u>4.29</u>	Tons per inch immersion at summer load water line	Deduction for superstructures <u>2.05</u>
Moulded draught (d) = <u>20.21</u>	T =	Sheer correction <u>6.55</u>
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>5.05</u> : <u>5</u>	Deduction = $\frac{\Delta}{40T}$ inches	Round of Beam correction <u>.04</u>
Addition for Winter North Atlantic Freeboard (if required) = <u>2</u>		Correction for Thickness of Deck amidships <u>✓</u>
		Other corrections, scantlings, etc. <u>✓</u>
		Summer Freeboard = <u>51.46</u>

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :- 4' 3 1/2"

Tropical Fresh Water Line above Centre of Disc	Tropical Fresh Water Freeboard
Fresh Water Line " "	Fresh Water " "
Tropical Line " "	Tropical " "
Winter Line below " " <u>5</u>	Winter " " <u>4</u>
Winter North Atlantic Line " " <u>7</u>	Winter North Atlantic " " <u>4</u>

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	N°1	N°2	N°3	N°4	HATCHES ON BRIDGE DECK		HATCHES ON FREEBOARD DECK		
Dimensions of Hatchway	3'11" x 2'3"	3'2" x 2'5"	3'11" x 2'3"	3'11" x 2'5"	10'0" x 4'6"	5'4" x 2'4"	13'1" x 3'0"	6'1" x 3'0"	
COAMINGS	Height above Deck	36"	—	as N°1	18"	18"	10'3"4	10'3"4	
	Thickness	4 1/4"	—	—	40"	40"	40"	40"	
	Sides	7'3" x 3'1"	—	—	—	—	—	—	
	Stiffeners	3	—	—	—	—	—	—	
HATCH BEAMS	Number	6	4'8"	4'6"	4'6"	—	—	—	
	Spacing	4'6"	—	—	—	—	—	—	
	Scantling and Sketch					None	None	None	
	Bearing Surface	3 1/2"	as N°1	—	—	—	—	—	
FORE AND AFTERS	Number	—	—	—	—	—	—	—	
	Spacing	—	—	—	—	—	—	—	
	Unsupported Lengths	—	—	—	—	—	—	—	
	Scantling* and Sketch	None	—	—	None	None	None	None	
HATCH COVERS	Material	Pine	—	—	Pine	Pine	Pine	Pine	
	Thickness	3/4"	as N°1	—	3/4"	3/4"	3/4"	3/4"	
	How fitted	3	—	—	3	3	3	3	
	Bearing Surface	—	—	—	—	—	—	—	
Spacing of Cleats	24"	—	—	—	24"	24"	24"	24"	
Number of Tarpaulins	3	—	—	—	3	3	3	3	

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

None
Yes
Yes
Yes

All the hatches on the superstructure & fore and afters complete with lashing cleats, battens, tarpaulins etc.

Particulars of fiddle, funnel and ventilator coamings:—

Stokehold gratings covered by strong steel hinged covers
Fiddle & funnel vents in efficient condition
Engine skylights of steel strongly constructed

Particulars of Flush Bunker Scuttles:—

None

Particulars of Companionways:—

One strong steel deck house on poop 12'0" x 15'0" x 6'9" high leading to enclosed crew quarters. One of steel with steel 14" high. One operated from both sides

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

6 vents on fore mast and 16 on coamings 36" x 36" led to tops
2 vents on fore mast on bridge deck led to tops
2 vents on fore mast on bridge deck 30" led to tops
2 vents on bridge deck 9" coamings 30" led to tops
1 vent on after well 22" dia coaming 36" x 36" led to funnel
All ventilators constructed in accordance with Rules coamings closed with cork plugs & canvas covers

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

One 2 1/2" air pipe on foremast and 2 1/2" high led to fore peak W.I.
6 3/4" C.I. — fore well — 12" — I.B. tanks
2 2 1/2" W.I. — — — — —
2 2 1/2" — — — — —
2 2 1/2" — — — — —
All air pipes closed with canvas covers

Particulars of Gangway Cargo and Coaling Ports:—

None

Particulars of Scuppers and Sanitary Discharge Pipes:—

Sanitary discharges from the Captain's & Officers Quarters below the foremast and funnels with trans storm valves
In crew quarters on poop discharging above the foremast and funnels with non-return valves

Particulars of Side Scuttles:—

No side scuttles below the foremast and side scuttles to crew spaces in poop fitted with hinges and lights

Particulars of Guard Rails:—

Guard rails on poop 3'6" high on bridge foremast 2'3" high having three rows of stanchions spaced 4'6" apart

Particulars of Gangways, Lifelines, etc.:—

No gangways. Lifelines fitted on each side from bridge to poop (over the hatches).

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	79' 0" 77' 24"	3' 0"	5'0" x 10'5"	4	17' 4" 4' 37"	15' 45"
Forward Well	79' 0" 77' 25"	3' 6"	5'0" x 10'5"	4	17' 4" 4' 37"	15' 45"

State position of each freeing port ... After Well: 17' from bridge bulkhead & 1' from poop. 12' above deck.
(F. and A. position and height above deck edge) Forward Well: 19' from bridge fore & 15' from foremast, 14' from stern and 13' from stern
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: open with roller

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' x 37'	30	6 x 3 x 3/16	30"	None	None	—	7'5"
Raised Quarter Deck Bulkhead	—	—	—	—	—	—	—	—
Bridge, After Bulkhead	—	30	3 x 3 x 3/16	30"	None	4'6" x 3'6"	—	7'0"
Bridge, Forward Bulkhead	27' x 40'	32	8 x 3 x 1/2 BA	30"	Bracket top & bottom	3'6" x 4'9"	24"	7'0"
Forecastle Bulkhead	—	30	3 x 3 x 3/16	29'36"	None	4'8" x 3'6"	23"	7'0"
Trunk, Aft	—	—	—	—	—	—	—	—
Trunk, Forward	—	—	—	—	—	—	—	—
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	—	—	—	—	—	—	—	—
Exposed Machinery Casings on Superstructure Decks	—	30	3 x 3 x 3/16	26"	None	5'4" x 2'1"	18"	7'6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	—	30	3 x 3 x 3/16	26"	—	None	—	7'0"
Deckhouses on Flush Deck Ships	—	—	—	—	—	—	—	—

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

Poop Bulkhead	No openings
Raised Quarter Deck Bulkhead	—
Bridge, After Bulkhead	3" shipping brace full height in metal channel permanently attached to the bulkhead
Bridge, Forward Bulkhead	Hinged steel door, braced & jammed to bulkhead (operated from inside)
Forecastle Bulkhead	3" shipping brace full height in metal channel permanently attached to the bulkhead
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	—
Exposed Machinery Casings on Superstructure Decks	Steel hinged door operated from both sides
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	—
Deckhouses on Flush Deck Ships	—

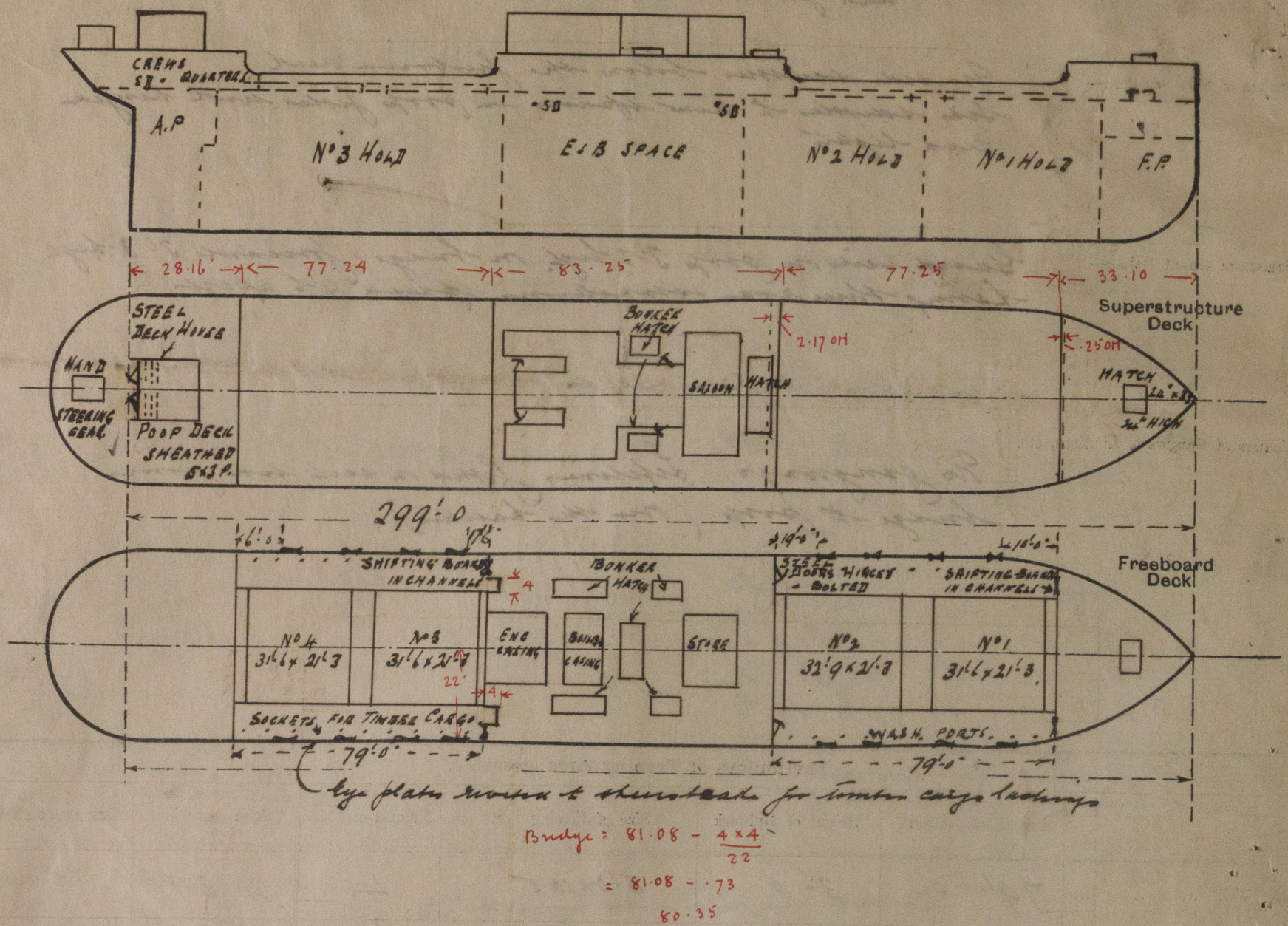


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Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the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



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

This survey has been held afloat & is therefore confined to the means for closing the openings in the deck & sides of the vessel.

Subsequently placed in dry dock & damage repairs effected to the hull for carrying timber cargo. Double bottom tanks sub-divided.

Builder's name and yard number *John. J. Thornycroft & Co.*

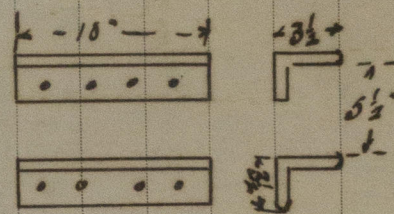
Names of sister ships.

Owners *Beu Line L^d. (J. Beu & Co. Mgrs.)*

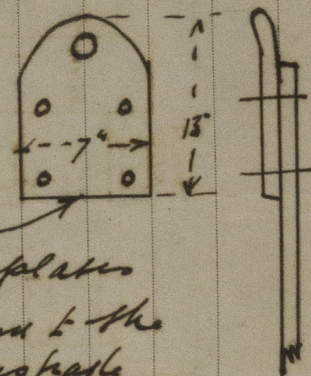
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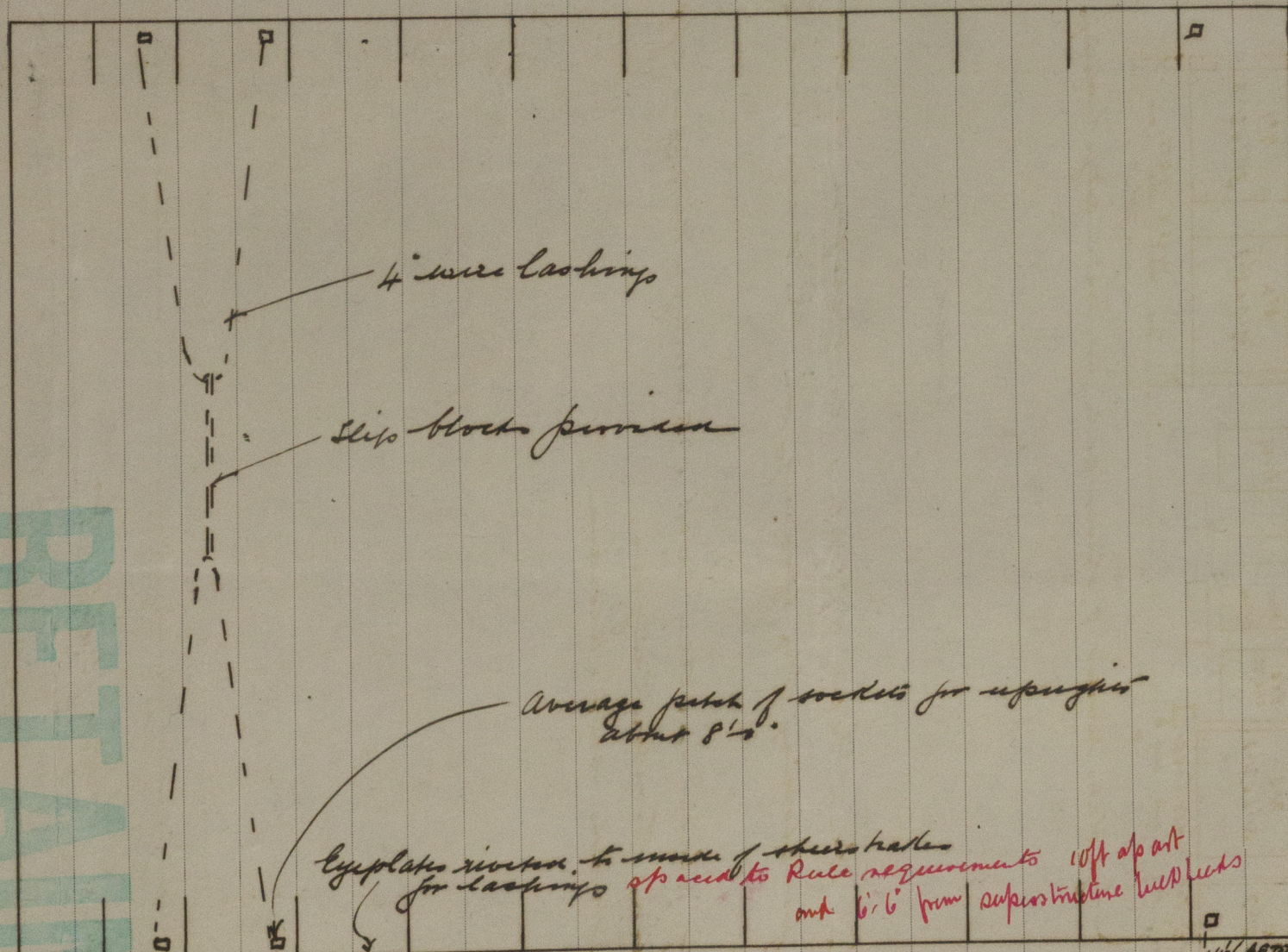
RETAIN



5/8 angles riveted to the stringer plate to take uprights



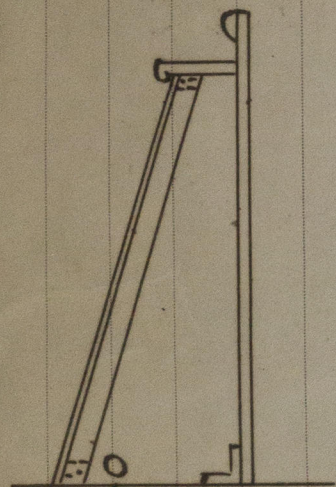
3/4 eyeplate riveted to the shear plate



S/S BELLASCO
arrangements provided for carrying timber
deck cargo

4 1/2" AFTER
WELL
4 5/8" FORWARD
WELL

4 1/2" AFTER
WELL
4 10" FORWARD
WELL



Steering rods inside
brackets to hatch
coamings aft