

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. 34558.
(For London Office only.)

20 AUG 1935

GLASGOW REPORT No. 56055

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Roop Bridge & ForecastlePort of Survey Glasgow

(Type of Superstructures.)

Date of Survey while building

Ship's Name S.S. "INVENTOR"
 Nationality and Port of Registry Brit Liverpool
 Official Number 164267
 Gross Tonnage 629.57
 Date of Build 1935

Name of Surveyor A.W. Paterson

Moulded Dimensions: Length 435' Breadth 55.79' Depth 32'
 Moulded displacement at moulded draught = 85 per cent. of moulded depth 14220 tons
 Coefficient of fineness for use with Tables .754

Particulars of Classification +100A1
Contemplated.

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>32.0</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(32.04 - 29.00) 3 = 9.12</u>	Moulded Breadth (B) <u>55.79</u>
Stringer plate (<u>.43</u>) <u>.04</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} =$ <u>13.39</u>
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ <u>no sheathing</u>	If restricted by superstructures	Ship's Round of Beam = <u>13.5</u>
Depth for Freeboard (D) = <u>32.04</u>		Difference <u>.11</u>
		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) =$ <u>$\frac{.11}{4} \times .4833 = -.01$</u>

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed <u>Equis.</u>	<u>43.21</u>	<u>43.21</u>	<u>7'-11 1/2"</u>	<u>✓</u>	<u>43.21</u>
" overhang ...	<u>1.79</u>	<u>.89</u>			<u>.89</u>
R.Q.D. enclosed	<u>-124.07</u>				
" overhang	<u>126.33</u>	<u>124.07</u>	<u>7'-11 1/2"</u>	<u>✓</u>	<u>124.07</u>
Bridge enclosed <u>Equis.</u>	<u>15.42</u>	<u>11.57</u>			<u>11.57</u>
" overhang aft	<u>1.50</u>	<u>.75</u>			<u>.75</u>
" overhang forward	<u>41.25</u>	<u>41.25</u>	<u>7'-11 1/2"</u>	<u>✓</u>	<u>41.25</u>
F'cle enclosed					
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	<u>230.25</u>	<u>224.74</u>			<u>224.74</u>

Standard Height of Superstructure 7.50" " R.Q.D. ✓Deduction for complete superstructure 42.00Percentage covered $\frac{S}{L} =$ 52.94" " $\frac{S_1}{L} =$ 51.64" " $\frac{E}{L} =$ 51.64

Percentage from Table, Line A.

(corrected for absence of forecastle (if required))

Percentage from Table, Line B.

(corrected for absence of forecastle (if required))

Interpolation for bridge less than .2L (if required)

Deduction = 42.00 \times .3464 = -15.82

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<u>53.50</u>	1		<u>53.50</u>	<u>60.0</u>	<u>60.00</u>	1		<u>60.00</u>
$\frac{1}{8}$ L from A.P. ...	<u>23.81</u>	4		<u>95.24</u>	<u>27.0</u>	<u>24.00</u>	4		<u>108.00</u>
$\frac{3}{8}$ L " ...	<u>5.88</u>	2		<u>11.76</u>	<u>7.5</u>	<u>4.50</u>	2		<u>15.00</u>
Amidships ...	<u>✓</u>	4		<u>✓</u>	<u>✓</u>	<u>✓</u>	4		<u>✓</u>
$\frac{3}{8}$ L from F.P. ...	<u>11.44</u>	2		<u>23.54</u>	<u>14.0</u>	<u>14.00</u>	2		<u>28.00</u>
$\frac{1}{8}$ L " ...	<u>44.61</u>	4		<u>190.44</u>	<u>53.5</u>	<u>53.50</u>	4		<u>214.00</u>
F.P. ...	<u>104.00</u>	1		<u>104.00</u>	<u>120.0</u>	<u>120.00</u>	1		<u>120.00</u>
Total				<u>481.48</u>					<u>545.00</u>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) =$ $\frac{63.52}{18} \times (.75 - .2644) = -1.41$

If limited on account of midship superstructure.

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 32.04
 Summer freeboard = 6.54
 Moulded draught (d) = 25.50

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 6.37 = 6 3/4Addition for Winter North Atlantic Freeboard (if required) = ✓

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$ 13300

Tons per inch immersion at summer load water line

 $T =$ 49.44Deduction = $\frac{\Delta}{40T}$ inches $=$ 6.42 $=$ 6 3/4

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

.754 + .681.36Depth Correction 9.12 ✓Deduction for superstructures ✓ 15.82Sheer correction ✓ 1.41Round of Beam correction ✓ .01Correction for Thickness of Deck amidships ✓ ✓Other corrections, scantlings, etc. ✓ ✓9.12 14.54 - 8.42Summer Freeboard = 78.51SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Steel Deck:—

Tropical Fresh Water Line above Centre of Disc ...	<u>13"</u>	Tropical Fresh Water Freeboard ...	<u>5'-5 1/2"</u>
Fresh Water Line " " ...	<u>6 3/4"</u>	Fresh Water " " ...	<u>5'-11 3/4"</u>
Tropical Line " " ...	<u>6 3/4"</u>	Tropical " " ...	<u>6'-0 1/4"</u>
Winter Line below " " ...	<u>6 3/4"</u>	Winter " " ...	<u>4'-0 3/4"</u>
Winter North Atlantic Line " " ...	<u>✓</u>	Winter North Atlantic " " ...	<u>✓</u>

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Inventor

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

Particulars of Companionways :—

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

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

on foreck deck:—	one vent @	22" diam casing	36" x 40 to hold x timber dks.
	two "	" 18 "	36" x 40 "
	one "	" 10 "	36" x 32 to Bosman's store
on upper dk. scuttles	" @	18" "	"
	two "	@ 15" "	48" x 40 to hold x timber dks.
		" "	48" x 38 "
		" "	30" x 40 to hold "
on bridge deck.	two "	@ 18" "	"
	four "	@ 15" "	30" x 38 to bunkers.

on prop one vent 22" diam coaming 30"x.40 to hold ✓
four " 15" " " 30"x.38 to bunkers ✓

All vents constructed in accordance with Rules and loadings closed with plugs & canvas covers. ✓

Air pipes fitted with
canvas covers.

Particulars of Gangway Cargo and Coaling Ports:—

Particulars of Scuppers and Sanitary Discharge Pipes :—

Particulars of Scuppers and Sanitary Discharge Pipes:—
2 scuppers from bridge space x 1 from fore'st' led overboard and below fl'd. dk (p. 18) with
y.m. stem valves at ship's side.
sanitary discharges from poop & bridge spaces led overboard and below fl'd. dk. and from
houses on bridge dk. led overboard and above fl'd. dk. all with stem valves at ship's side.
(y.m.)

Particulars of Side Scuttles:—

Side scuttles in fore bridge & prop fitted with hinged deadlights.

All scuttles of substantial construction.

Particulars of Guard Rails :—

Guard rails on forse and ends of bridge 3'-6" high having four rods x Stanchion spaced 5'-0" apart. Steel bulwark 3'-6" high at bridge x Sides efficiently constructed x supported. Fernal rails up poops 3'-9" high having four rods x Stanchions spaced 5'-0" apart. Steel bulwark on fbd. sk in wells efficiently constructed x supported. (4'-0" high)

Particulars of Gangways, Lifelines, etc. :—

Suitable arrangements provided in ford. & after wells
for lifelines.

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	110.25'	4'	4'-0" x 1'-4"	5	24.7	22.05
Forward Well	96.75'	4'	4'-0" x 1'-5" 4'-0" x 1'-4"	2 <i>horizontal</i>	20.3	19.35
<p>State position of each freeing port { After Well:— <i>to fore end of port - 5'-0" - 22'-0" - 31'-4" - 60'-1" - 75'-9"</i></p> <p>(F. and A. position and height above deck edge) { Forward Well:— <i>to aft end of port - 10'-9" - 35'-9" - 46'-3" - 62'-3"</i></p> <p>State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— <i>one horizontal rail</i></p>						
Additional area where sheer is less than standard. <i>14 1/2 sq ft</i>						

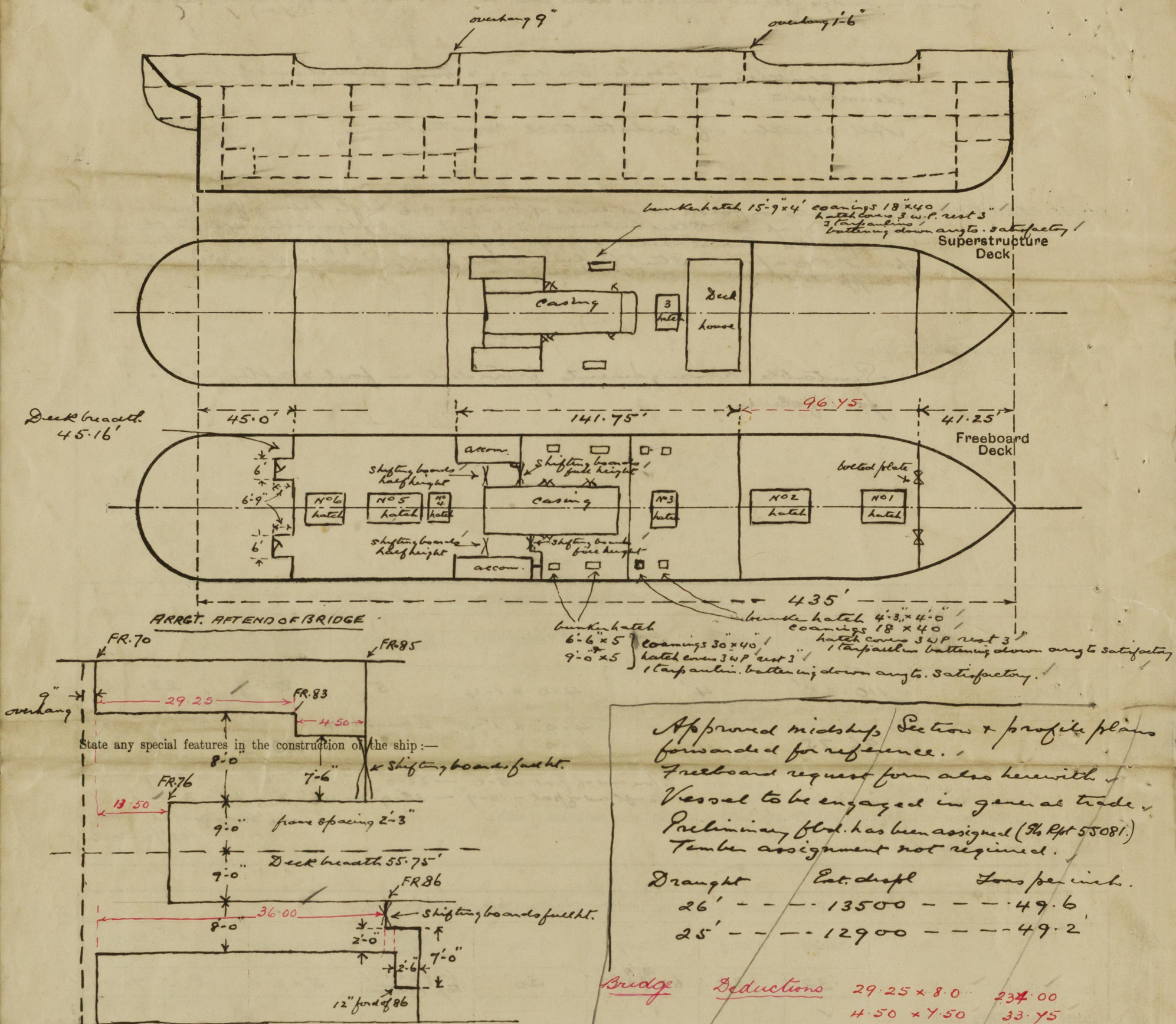
Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ... ..	.38	.38	^{B.F.} 6 x 3 x 32	30"	<i>lugged top & bottom</i>	5' x 2'	18"	7'-11"
Raised Quarter Deck Bulkhead ...	✓							
Bridge, After Bulkhead ... ..	.40	.30	^L 4 x 3 x 32	30"	✓	1 @ 5'9" x 6'-3" 1 @ 5'9" x 5'-6"	18"	7'-11"
Bridge, Forward Bulkhead ... ..	.44	.44	^{B.F.} 9 x 3 1/2 x 50	30"	<i>lugged top & bottom</i>	✓	✓	
Forecastle Bulkhead ... ..	.30	.30	^L 4 x 3 x 32	29"	✓	5'-6" x 4'	12"	7'-11"
Trunk, Aft	✓							
Trunk, Forward	✓							
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	✓							
Exposed Machinery Casings on Superstructure Decks ... ..	.34	.30	^L 3 x 3 x 30	27"	<i>bracketed at casing top</i>	5' x 2'-6"	18"	7'-9"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	.40	.30	^L 3 x 3 x 30	27"	<i>do.</i>	5' x 3'-0" 5' x 3'-6" 5' x 2'-6"	18"	7'-11 1/2"
Deckhouses on Flush Deck Ships ...	✓							

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

Poop Bulkhead	...	...	...	hinged 1 1/2" wood doors (manipulated both sides)
Raised Quarter Deck Bulkhead	✓			
Bridge, After Bulkhead	...	...	...	3" weather boards fast fit in riv. channels. ^{vertical angle 8 degrees on center of opening bolted to beam and casing. All rivet boards bolted to the}
Bridge, Forward Bulkhead	✓			no openings
Forecastle Bulkhead	...	...	...	portable steel plates with hooked bolts. ^{now storm boards in channels} ^{Two 1/4" x 8}
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	✓			
Exposed Machinery Casings on Superstructure Decks	...	...	...	hinged steel doors (manipulated both sides)
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...	...	...	hinged steel doors do.
Deckhouses on Flush Deck Ships	✓			

J. J. Inverness

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:—



Approved midship Section & profile plans forwarded for reference.
Freeboard request form also herewith.
Vessel to be engaged in general trade.
Preliminary fld. has been assigned (3/4 Rpt 55081).
Tender assignment not required.

Draught	Est. displ	Tons per inch.
26' - - -	13500 - - -	49.6
25' - - -	12900 - - -	49.2

Bridge	Reductions		
	29.25 x 8.0	234.00	
	4.50 x 7.50	33.75	
	13.50 x 18.00	243.00	
	36.00 x 8.00	288.00	
	2.00 x 1.00	2.00	
	7.00 x 2.50	17.50	
		818.25	
		55.75	
		overhang	14.68
			15.43

OMIT

Builder's name and yard number D. & W. Henderson & Co. Ltd. No 953 M.

Names of sister ships

Owners Charente S.S. Co. Ltd. (Mgas.) T. & J. Harrison

Fee £ (approx.) £17.0.0

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