Midship Section

Steel Screw Steamer No 235 — "Indra" — as built.

DW 3/7/97

To Class 100 A. 3 Deck Rule

Scale ½" = 1 Foot.

Dimensions 430'0" B.P. x 51'0" Mo. x 34'0" Mo. TO UPPER DECK.

Proportions

Depths to Upper Deck	=	12·23
" " Strain	=	16·46
Breadths	=	8·38

Equipment Numeral

116·46 x 428	=	49844·88
1/8 of 49844·88	=	6230·61
229/428 of 6230·61	=	3333·66

49844·88
+ 3333·66
53178·54 = Equipment No

Equipment

		Cwts qrs lbs
2 Bowers Stockless each	58 cwts	
1 " " CA Stock	45 " "	
1 " " "	41 " "	
1 Stream " "	16 3/4 " "	
1 Kedge " "	8 1/2 " "	
135 Fathoms 2 5/16 Stud Strain Cable	=	360·1·16
135 " " 2 5/16 " " " " "	=	360·1·16
90 " " 1 13/16 Stream Stud Strain	=	85·0·5
120 " " 15 Towline or 5 1/4 Steel Wire		
90 " " 12 Answer or 4" " " "		
90 " " 10 Warp or 3 1/4" " " "		

Numerals

½ Girth	= 55·96
½ Breadth	= 25·5
Depth	35·0
	116·46
	-4
	109·46 - ½ Mo
	x 428
	87568
	21892
	43784
	46848·88 ½ M°

4'6" in Bridge
4'0" in Poop & Fcle

Wood Deck 5"x3" ½ R.S. — Forecastle Deck

¾ c plate 12" x 9/20"

Angle 3½"x3½"x9/20"
Stringer 40" x 9/20"
Butts overlapped & double riveted
Angle 3"x2½"x7/20"

Bridge Beams 9"x3½"x11/20" Bulb angle on all Frames (under 1.8 feet)

Hollow Moulding 3"x1½" along toe of Poop Bridge & Fcle

Knee 2½ times depth of Beam 1½ times at throat

9/20" Butts overlapped & treble riveted

Poop Beams 9"x3½"x11/20" Bulb Angle on all Frames
Forecastle Beams 9½"x9/20 bulb & double angles 3½"x3½"x7/20
¾ Fcle & Poop Stringers 24" x 7/20" to 21" x 7/20" & Iris 11" x 7/20"
" " " Angles 3½"x3"x7/20"
Poop Deck 5"x3" ½ R.S. Forecastle Deck 5"x3½" ½ R.S.
Poop & Forecastle Pillars 3" diar

½ Poop & Forecastle sides 7/20"
Butts overlapped & double riveted

3" Lap single, double at ends of Bridge

Open Bulwarks in Wells

Bridge sides 8/20 9/20" at ends
Butts overlapped & double riveted

Pillars 3" diar

Complete Steel Deck 9/20" to 8/20" chequered where exposed
Butts overlapped & double riveted for ½ L
remainder Single landings all Single riveted

Stringer plate 6¾" x 11/20" to 51" x 9/20" + 3/20" for 3/5 Length
Stringer butts quadruple riveted for ½ L remainder treble
Straps 11/20 thicker for 3/4 L
remainder 7/20 thicker

4'0"

Upper Deck

Round of Beam 12"
lugs 3½"x3½"x10/20"

Beams 9"x3"x12/20" to 11/20" bulb angle on every frame

Beams at ends of Hatches 12"x12/20" bulb

Lugs 3½"x3½"x11/20"

Single Angle 6½"x4½"x13/20"

Knees 2½ times depth of Beam 1½ times at throat.

3½" to 3 lap single double at ends of Bridge Upper Deck

Stringer Angle 5"x5"x 11-10/20" in Wells
" " " 4"x14" 9-8/20" in way of ½ Poop Bridge & Forecastle

Sheerstrake 46" x 15 6/12/20" + 5/20" for 3/4 Length + 7/20" for 20' beyond each end
Double Strapped for 3/4 Length — Single at ends of Bridge
SHEERSTRAKE DOUBLED FOR 20 FEET AT ENDS OF BRIDGE Outside 13/20 Inside 11/20
Straps 7/20 thicker

6" to 5/4 Lap

Channel 7"x3½"x10/20" 6½"

Frames 6"x3½"x10/20" to 9/20" Spaced 26" apart
Frames in Peak 6½"x3½"x9/20" " 26" "
Reverses 8"x3½"x10/20" to 9/20" to Upper Deck for ½ length: & to Upper Deck & Main Deck Stringer angle beyond ½ length
Reverses in Peaks 4½"x4"x7/20" all to Upper deck in aft Peak, in way of
Fcle to Forecastle Deck & Main deck Stringer angle alternately
Bulkheads 8 6/7/20 Vert Stiffrs 6½"x3½"x 10 6/9/20 4½"x4"x10/20 in Tween Decks
Bulkhead Frames double 4½"x3½"x 10 6/9/20
" Horiz Stiffrs 9"x3"x12/20" Bulb Angle
Stem 12"x3⅛" (Sternpost 12"x1 3/4" Steel Casting)
Rudder head 10½" pintles 5/4"
Complete Steel Deck 8/20" to 7/20"
Butts overlapped & double riveted for ½ L
remainder Single Landings all Single riveted

Pillars 3 1/8" diar

Bulkheads if flanged
Depth of flange below Main Dk = 8"
" " " in Tween " = 3½"
3 1/8" Pillar on every 4th frame for ¾ L

Stringer plate 6¾"x11/20" to 51"x9/20"
Butts overlapped & treble riveted all fore & aft.

Main Deck

Beams 9"x3"x12/20" to 11/20" bulb Angle on every frame

Beams at ends of Hatches 12"x11/20" bulb (Beam under 52 feet)

Lugs 3½"x3½"x11/20"

Channel 7"x3½"x10/20"

Single angle 6½"x4½"x13/20"

Knees 3 times depth of Beam 1 3/4 times at throat

Stringer Angles 4"x4" 9-8/20"
Main Deck
4½" x 13 6/10/20
5/4" Lap

5/4" x 13 6/10/20

Side Stringer

5/4" Lap

48" x 13 6/10/20

Side Stringer

5/4" Lap

54" x 13 6/10/20

Side Stringer

5/4" Lap

46" x 13 6/10/20

6" to 5/4" Lap.

Side Stringer

Brackets 7/20 for 3 5/8 L to 8/20

54" x 14" to 11/20

6" to 5/4" Lap

46" x 14" to 11/20

Margin plate 3½" x 10 6/9/20
" " 11/20 in B Space

6" to 5/4" Lap

54" x 14" to 11/20

Margin Angle 4"x4"x10/20

Brackets 6'10½"

Bilge Keel for 170 feet each side, of bulb 12"x9/20 & double angles 4"x4"x7/20

Shell Riveting
all Shell Butts except where otherwise noted to be overlapped and treble riveted ~~quadruple~~

Tank Riveting
Landings of Middle line Strake & Strake next to it double riveted throughout. Remaining Landings Double riveted for ½ Length single at ends
Butts of Tank Fcle overlapped & double riveted throughout.
Butts of Margin plate overlapped & double riveted
" " " Centre Girder " " & Treble " "

Tank Scantlings
Tank Frames 3½"x3½"x10/20" to 9/20"
" Reverses 3½"x3½"x 10 6/9/20" 11/20" in Boiler Space
Iron " Floors 9/16" 9/16 in Boiler Space 8/20 outside Tanks
" Vertical & Girder Angles 3½"x3½"x10/20", 11/20 in B Space
" Fcle plating under Engine Seating 1" thick steel
" " " in Engine Space 9/16" iron
" " " in Boiler " 9/16" " galvanized
" " " in Holds 9/20" to 8/20"
" " Centre Strake 36"x11/20" to 9/20, 11/16 in E Space, 12/16 in Boiler Space Galvd

Sparring in Holds & Tween Decks 6"x2"

Reverse — 3" Lap — Ships side
Side Stringer Lug — Frame
11½"

Section of Framing

Double Reverse bars in Engine & Boiler Space Doubling Bar carried to outer Girder

Ceiling 2½"

Lap 5/4" to 4½"

Lap 5/4" to 2½"

Centre Girder top angle 4"x4" 10 6/9/20"
Centre Girder 48" x 11 6/9/20"

Under Engines

Hole 42"x16" 21"x16"

Vertical angles double for ½ Length

Centre Girder base angles 6½"x4½"x 10-9/20

Keel Plate 36" x 18 to 14/20 + 3/20 for ½ Length
Flat Keel Plate double Strapped & Treble riveted all fore & aft.
Inside Straps 12 6/9/20"
Outside " 13 6/10/20

6" Lap

6" to 5/4" Lap

36" x 14" to 13/20 + 3/20 for ½ Length

56" x 12 6/10/20

48" x 12 6/10/20

Double Angles for ½ length

3'11"

11'0"

Pillars 4 3/8" diar

Pillars 4 3/8" diar on every 4th beam for 3/4 L

'20" taken off Shell Plating in way of Double Bottom

Framing in E & B Space on Web Frame Principle for Detail see Profile & Separate Sketch

J. L
Ls 7/5/96

C. CONNELL & CO
Shipbuilders
GLASGOW
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