

IRON SHIPS.

No. 9742 Survey held at Sundolan Date _____
on the Ship "Exford"

November 10th 1862

Tonnage under tonnage deck 1102.39

~~Ditto of quarter deck~~

Ditto of poop, fore-castle, ^{and} other erections on upper deck 135. 20

~~Ditto of spar deck~~

~~Ditto of engine room~~

Gross tonnage, _____
crew space _____

Total Register tonnage, } 5281 21
as cut on beam

Built at Sunderland When built 1869 Launched 24 Feb

By whom built West Oswald & Owners Inc 11 - New York

Port belonging to London Destined Voyage to India

If Surveyed while Building, Afloat, or in Dry Dock *Walden Island*

	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Horse.	N ^o . of Decks
Length aloft	22	3	Extreme Breadth	34	3	Depth from top of Upper Deck Beam to top of Floor	22	4	Power of Engines	—
(Dimensions of Ship per Register, length 22 3/4 breadth 34 3/4 depth 22 0/4)										
Keel, if bar iron, depth and thickness	10	2 1/2	Inches in Ship.	10	2 1/2	Inches required per Rule.	9	3	Plates in Garboard Strakes, breadth and thickness	36
" if plate iron, breadth and thickness	10	2 1/2	Inches in Ship.	10	2 1/2	Inches required per Rule.	9	3	Ditto from Garboard to upper part of Bilges	12
Stem, if bar iron, moulding and thickness	10	2 1/2	Inches in Ship.	10	2 1/2	Inches required per Rule.	9	3	" from upper part of Bilge to a perpendicular height from upper side of Keel of 3/4ths the entire depth of Hold	11
" if plate iron, breadth and thickness	10	2 1/2	Inches in Ship.	10	2 1/2	Inches required per Rule.	9	3	" from 3/4ths depth of Hold to lower edge of Sheerstrake	10 1/2
Stern-post, if bar iron, moulding and thickness	10	2 1/2	Inches in Ship.	10	2 1/2	Inches required per Rule.	9	3	" Sheerstrake, breadth and thickness	38
" if plate iron, breadth and thickness	10	2 1/2	Inches in Ship.	10	2 1/2	Inches required per Rule.	9	3	Butt Straps to outside plating, breadth and thickness	10 1/2
Distance of Frames from moulding edge to moulding edge, all fore and aft	24		Inches in Ship.	24		Inches required per Rule.	24		Gunwale Plate or Stringer on ends of Upper Deck Beams, breadth and thickness	32 1/2
Frames, Size of Angle Iron, single or double	5	3	Inches in Ship.	5	3	Inches required per Rule.	5	3	Angle Iron on ditto	5 x 4 1/2
" Reversed Iron, if to every frame or every frame	3 1/2	3	Inches in Ship.	3 1/2	3	Inches required per Rule.	3 1/2	3	Stringer or Tie Plates fore and aft, on Upper Deck Beams, outside Hatchways	13 1/2
Floors, depth and thickness of Floor Plate at mid line	24 1/2		Inches in Ship.	24 1/2		Inches required per Rule.	24 1/2		Diagonal Tie Plates on ditto	13 1/2
" Ditto ditto at Bilge Keelson	9	10	Inches in Ship.	9	10	Inches required per Rule.	9	10	Planksheer, materials and scantlings	2
" Size of Reversed Angle Iron, and No. 1 1/2 at top of Floor Plate	3 1/2	3	Inches in Ship.	3 1/2	3	Inches required per Rule.	3 1/2	3	Waterway ditto ditto	5
Beams, Deck (N ^o . 53) double Angle Iron, Plate, Tee, or Bulb Iron	9	9	Inches in Ship.	9	9	Inches required per Rule.	9	9	Flat of Upper Deck, thickness and material	4 Yellow pine
" double or single Angle Iron, on edge	3 1/2	3 1/2	Inches in Ship.	3 1/2	3 1/2	Inches required per Rule.	3 1/2	3 1/2	" how fastened to Beams	gal. iron screw bolt & nut
" average space between	3 1/2	3 1/2	Inches in Ship.	3 1/2	3 1/2	Inches required per Rule.	3 1/2	3 1/2	Ceiling betwixt Decks and in Hold, thickness and material	2 1/2 x 3 in red pine
" Hold, or Lower Deck (N ^o . 52) double Angle, Tee, Plate, or Bulb Iron	9	9	Inches in Ship.	9	9	Inches required per Rule.	9	9	Clamps or Spirketting ditto	—
" double or single Angle Iron, on edge	3 1/2	3 1/2	Inches in Ship.	3 1/2	3 1/2	Inches required per Rule.	3 1/2	3 1/2	Stringer Plates on ends of Hold or Lower Deck Beams, breadth and thickness	24
" average space between	3 1/2	3 1/2	Inches in Ship.	3 1/2	3 1/2	Inches required per Rule.	3 1/2	3 1/2	Stringer or Tie Plates fore and aft outside Hatchways, on Hold or Lower Deck Beams	4 x 3 x 7/16
" Paddle, sided and moulded, thickness of Plate size of Angle Iron	—	—	Inches in Ship.	—	—	Inches required per Rule.	—	—	Stringers in Hold double angles	5 x 4 1/2
" Engine	—	—	Inches in Ship.	—	—	Inches required per Rule.	—	—	Flat of Lower Deck, thickness and material	3 in red pine
Keelson, single or double plate, box or intercostal	30	11	Inches in Ship.	30	11	Inches required per Rule.	30	11	Main piece of Rudder, diameter at head	6
" Size of Plates Bulb plates	9	9	Inches in Ship.	9	9	Inches required per Rule.	9	9	" at heel	3 1/2
" Size of Angle Irons	4	4	Inches in Ship.	4	4	Inches required per Rule.	4	4	(Can the Rudder be unshipped afloat)	Yes
" Side, single or double plate, box or intercostal	18	11	Inches in Ship.	18	11	Inches required per Rule.	18	11	Bulkheads, N ^o . 1 Thickness of	7/16
" Bilge (N ^o . 10) at each Bilge, single, or double, plate, or box	4	4	Inches in Ship.	4	4	Inches required per Rule.	4	4	" Height up Upper deck	1

Transoms, material *Plata* or, if none, in what manner compensated for. „ how secured to the sides of the ship *between double*

Knight-heads, and Hawse ^{Chocks}Timbers 2.1.2 Leak size of vertical angle irons 2 1/2 x 5/8 and their distance apart 36

The Frames extend in one length from Neely to Gumvale rivetted through plates with ($\frac{1}{2}$ in.) rivets, about (1)

The reverse angle irons on the floors extend in one length across the middle line from 7 to Take angle this total

" " " on the frames " " " from _____ to 3 strings are on alternate

Keelson, how are the various lengths of plates or angle irons connected? *by built up plates*

Plates: Carboard, double, or ³ and rivetted to keel, double, or at upper edge, with rivets ($\frac{1}{2}$ in.) diameter, averaging ($\frac{1}{2}$ in.) a

Plates, Garboard, double rivetted to keel, double at upper edge, with 10-1/8 in. diameter rivets, averaging (3 1/2 ins.)

Edges from Garboards to upper part of bilge, worked clencher, double or single riveted, with rivets (7/8 in) diam.

„ Butts from Keel to turn of bidge, worked carvel with butt straps ($\frac{12}{16}$) thick, double ~~or single~~ rivetted, with rivets ($\frac{1}{8}$ in)

averaging (3 $\frac{1}{2}$ ins.) apart. Do the butt straps lap over and rivet through the lands of the strake below: 7/3

„ Edges from bilge to sheerstrake, worked ~~carvel~~ with a lining piece (—) thick, or clencher, double or single rivetted; with rivets ($3\frac{7}{8}$ in.) dia

averaging ($3\frac{1}{4}$ - $3\frac{1}{2}$ in.) apart. Do the butt straps lap over and rivet through the lands of the strake below? Yes

Edges of Sheerstrake double or single rivetted? At upper edge Single At lower edge Double

But for piles to plank beams, each with butt straps $(10 \times 8 \times 12)$ thick double ~~or single~~ rivetted; with rivets $(\frac{7}{8} \times \frac{3}{4})$ in. dia.

Butts from bilge to planksheers, worked carve with butt straps (46) thick, double ()

Width of laps in single rivetting ()

averaging 34 3/4 ins.) apart. Breadth of laps in double rivetting () Breadth of laps in single rivetting ()

Butt Straps of Keelsons, Stringer and Tie Plates, double or single rivetted? Double through hull

Planksheer, how secured to the plating of the sides } Explain by sketch } *Butter Burwale*

Waterway " " planksheer and to the Beams if necessary.

Deck Beams, how secured to the side. Welded angles riveted to beams

Hold or Lower Deck ditto — do — do —

Paddle	"	"		No. of breasthooks	crutches
				23	19

What description of Iron is used for the Frames, Beams, Keelsons, Tie and Stringer Plates, Outside Plating, &c.? Calcutta Iron

Manufacturer's name or trade mark M. I. Co. S. T. & Co. S. Floor under land by the

We certify that the above is a correct description of the several particulars therein given.

the clergy and the laity

Builder's Signature *[Signature]* Surveyor's Signature *[Signature]*

IRON 445-0111

7501 Iron

445

Workmanship. Are the lands or laps of the clenchwork in all cases in breadth at least five and a half times the diameter of the rivets in double rivetted edges and butts, and at least three and a quarter times the diameter of the rivets where single rivetting is admitted? Yes
 Do the edges of the carvel work and of the butts lay close together throughout their length without requiring any making good of deficiencies? Yes
 Do the fillings between the ribs and plates fill in solid with single pieces? or are they in short lengths of various thicknesses? a few in two thickness
 Do the holes for rivetting plate to frames, butt straps, or plate to plate, &c., conform well to each other? Yes very well and are the rivet holes well and sufficiently countersunk in the outer plate? Yes
 Are there any rivets which either break into or have been put through the seams or butts of the plating? A few

Her Masts, Bowsprit, Yards, &c., are in Good condition, and sufficient in size and length. (If they are of Iron or Steel give the scantlings of Plating, Angle Irons, &c., and further explain by a Sketch showing how the lower Masts and Bowsprit are constructed, showing the number of Plates and Angle Irons, mode of rivetting, quality of Materials, and if stamped with Maker's name.)

The Main & Fore Masts, Bowsprit, Lower Yard & Bower Spar are made of Iron. See Sketch attached.

marked P.H.V. J. Hatched Sep 2 *marked P.H.V. J. Hatched Sep 2*

N ^o .	She has SAILS.	CABLES, &c.	Fathoms.	Inches.	Test as per Certificate.	In. req'd per Rule.	Test req'd per Rule.	ANCHORS, &c.	N ^o .	Weight. Ex. Stock.	Test as per Certificate.	Wght req'd per Rule.	Test req'd per Rule.
	Fore Sails,	Chain (C & A Book for 43)	300	1 1/2	59 1/2	1 1/2	59 1/2	Bowers (C & A Book for 109)	32	3. 26. 30. 112.	32	-	30 1/2
	Fore Top Sails,	Chain											
	Fore Topmast Stay Sails	Hempen Stream Cable	60	1						32	0. 14. 30. 4. 111.	32	-
	Main Sails,	Hawser	90	4	6	1		Stream		27. 3. 21. 27. 2. 10. 27. 0. 23. 26			
	Main Top Sails,	Towlines	90	10	10	10				In Stock			
	and	Warp	90	8	2 1/2	9 1/2		Kedges		13. 1. 26			
	Her Standing and Running Rigging	All of <u>new</u> quality.	90	5 1/2	2 1/2	9 1/2				8. 0. 8			
	She has <u>live life</u>	Long Boat and <u>Boat</u>								3. 2. 14			
	The present state of the Windlass is <u>good</u>	Capstan <u>and</u>											
		Rudder <u>and</u>											
		Pumps <u>2 metal & all good</u>											

Order for Special Survey	DATES of	1st.	On the several parts of the frame, when in place, and before the plating was wrought	<u>Built under S.P. Survey</u>
No. <u>2242</u>	Surveys held	2nd.	On the plating during the progress of rivetting	<u>1869. Apr. 21. 24. 27. 29. May 1. 7. 10. 12. 14. 19. 21. 26.</u>
Date <u>20th April 69</u>	while building	3rd.	When the beams were in and fastened, and before the decks were laid	<u>26. 29. June 2. 5. 8. 11. 14. 16. 21. 24. 29. July 3. 6. 9.</u>
Order for Ordinary Survey	as per	4th.	When the ship was complete, and before the plating was finally coated	<u>12. 15. 19. 21. Aug 4. 7. 13. 16. 19. 21. 23. 25. 30. Sept 1. 4. 6. 9.</u>
No. _____	Section 18.	5th.	After the ship was launched	<u>11. 14. 18. 21. 23. 30. Oct 6. 8. 13. 20. 22. 25. Nov 3. 5. 10.</u>
Date _____				

State if she has a Spar Deck _____ Poop Yes or Forecastle Yes

General Remarks,

I beg to observe that some of the beam angles on hulls are somewhat small, and to which Mr. Oswald's attention was called at the time of their being put together. Larger ones were then introduced at both decks as shown on the other side, with a view of meeting these deficiencies. Thence

This vessel is fitted with a full Poop and Lop-gallant fore-castle, the Poop beams are of plain angle iron, and constructed in a rounded form at the gunwale,

In what manner are the surfaces preserved from oxidation? Inside Portland Cement to upper turn of Ridges, & Paint above
 Ditto ditto Outside 3 Coats of paint - and 1 of Tallow

I am of opinion this Vessel should be Classed A. 1.

The amount of the Fee £ 5 : : : is received by me,
 Special £ 64 : 1 : :
 Certificate (if required) £ : : : :

Committee's Minute 16th November 1869

Character assigned A 1

James Lubur
Surveyor
Sanhouse Martindale for Mr
This Sailing Ship built of good materials and
in accordance with the rules of the Lloyd's Register