

# STEEL SHIP.

(Received at London Office,

No. 7246 Survey held at Middlesbrough Date, First Survey May 28<sup>th</sup> 1888 Last Survey January 18<sup>th</sup> 1888  
On the Steel Screw Steamer ECHUCA 3 masted Schooner (8300 tons)

TONNAGE under Tonnage Deck	2660.10	ONE, OR TWO DECKED, THREE DECKED VESSEL.	Master <u>Jas Pankhurst</u>
Ditto of Third, Spar, or Running Deck	<u>22.13</u>	<del>SPAR, OR RUNNING DECKED VESSEL.</del>	Built at <u>Middlesbrough</u>
Ditto of Poop, or Raised Quarter Deck	<u>95.00</u>	Half Breadth (moulded) ... ..	When built <u>1888-9</u> Launched <u>Nov 5<sup>th</sup> 88</u>
Ditto of Houses on Deck	<u>68.71</u>	Depth from upper part of Keel to top of Upper Deck Beams	By whom built <u>Raylton Dixon &amp; Co</u>
Ditto of Forecastle	<u>60.75</u>	Girth of Half Midship Frame (as per Rule) ... ..	Owners <u>Wilhelm Lund</u>
Gross Tonnage	<u>2906.69</u>	1st Number ... ..	Residence <u>18 Savoy St London</u>
Less Cargo Space	<u>95.34</u>	1st Number, if a 3-Decked Vessel .. deduct 7 feet	Port belonging to <u>London</u>
Less Engine Room	<u>2811.35</u>	Length ... ..	Destined Voyage <u>Australia</u>
Register Tonnage as out on Beam	<u>1881.21</u>	2nd Number ... ..	Surveyed while Building, Afloat, & in Dry Dock.
		Proportions— Breadths to Length ... ..	
		Depths to Length—Upper Deck to Keel ... ..	
		Main Deck ditto ... ..	

LENGTH on deck as per Rule ... 323 0 BREADTH—Moulded... 39 9 1/2 DEPTH top of Floors to Upper Deck Beams ... 25 5 1/2 Power of Engines ... 400 Horse. N° of Decks with flat laid 2 N° of Tiers of Beams 3  
Dimensions of Ship per Register, length, 324.8 breadth, 40.2 depth, 25.1 Moulded depth 28' 8"

KEEL, depth and thickness	<u>Slabs</u>	Inches in Ship	Inches per Rule	Flat Keel Plates, breadth and thickness		Inches in Ship	Inches per Rule
STEM, moulding and thickness		<u>11 x 1 3/4</u>	<u>11 x 1 3/4</u>	PLATES in Garboard Strakes, br'dth & thickness		<u>36</u>	<u>12</u>
STERN-POST for Rudder do. do.		<u>12 x 6</u>	<u>11 x 6 1/2</u>	From Garboard to upper part of Bilges		<u>36</u>	<u>12</u>
" for Propeller		<u>24</u>	<u>24</u>	Of d'blng at Bilge, or increased thickness and length applied		<u>all</u>	<u>11 x 12</u>
Distance of Frames from moulding edge to moulding edge, all fore and aft		<u>24</u>	<u>24</u>	From up. part of Bilge to Ir. edge of Sh'rstrake		<u>all</u>	<u>11 x 12</u>
FRAMES, Angle Iron, for 1/2 length amidships		<u>5 1/2</u> <u>3 1/2</u> <u>8</u>	<u>5 1/2</u> <u>3 1/2</u> <u>8</u>	Main Sheerstrake, breadth and thickness		<u>11</u>	<u>11</u>
Do. for 1/2 at each end		<u>5 1/2</u> <u>3 1/2</u> <u>7</u>	<u>5 1/2</u> <u>3 1/2</u> <u>7</u>	Of d'blng at Sh'stk. & lng. applied		<u>40</u>	<u>13</u>
REVERSED FRAMES, Angle Iron		<u>3 1/2</u> <u>3 1/2</u> <u>8</u>	<u>3 1/2</u> <u>3 1/2</u> <u>8</u>	From Main to Upper or Spar Dk. Sh'rstrake		<u>40</u>	<u>13</u>
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships	<u>Cellular</u>			Up. or Spar Dk Sh'rstrake, br'dth & thicken'ss		<u>40</u>	<u>13</u>
" thickness at the ends of vessel	<u>bottom</u>			Butt Straps to outside plating, breadth & thickness		<u>9 1/2</u> <u>19</u>	<u>11 1/2</u> <u>17</u>
" depth at 3/4 the half-bdth. as per Rule	<u>as per approved plan</u>			Lengths of Plating	<u>7 spaces of frames</u>		
" height extended at the Bilges				Shifts of Plating, and Stringers	<u>as per rule</u>		
BEAMS, Upper, Spar, or Awning Deck		<u>8</u> <u>5</u> <u>8</u>	<u>8</u> <u>5</u> <u>8</u>	Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness		<u>4 1/2</u> <u>10</u>	<u>4 1/2</u> <u>10</u>
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron		<u>6 x 3</u> <u>7</u>	<u>6</u> <u>3</u> <u>7</u>	Angle Iron on ditto		<u>4 x 4</u> <u>9</u>	<u>4 x 4</u> <u>9</u>
Single or double Angle Iron on Upper edge		<u>4 1/2</u> <u>9</u>	<u>4 1/2</u> <u>9</u>	Tie Plates fore and aft, outside Hatchways		<u>16</u>	<u>9</u>
Average space		<u>24</u>	<u>24</u>	Diagonal Tie Plates on Beams No. of Pairs			
BEAMS, Main, or Middle Deck		<u>7 1/2</u> <u>3</u> <u>9</u>	<u>7 1/2</u> <u>3</u> <u>9</u>	Flat of Up., Spar, or Awning Dk. * 20 Stbd 1/2 length amid 4" fine 6" do			
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron		<u>6 x 3</u> <u>8</u>	<u>6</u> <u>3</u> <u>8</u>	How fastened to Beams	<u>Twisted</u>		
Single or double Angle Iron on Upper Edge		<u>24</u> <u>9 1/2</u> <u>9</u>	<u>24</u> <u>9 1/2</u> <u>9</u>	Stringer Plate on ends of Main or Middle Deck Beams, breadth and thickness		<u>4 1/2</u> <u>9</u>	<u>4 1/2</u> <u>9</u>
Average space		<u>24</u>	<u>24</u>	Is the Stringer Plate attached to the outside plating?	<u>Yes</u>		
BEAMS, Lower Deck				Angle Iron on ditto, No. 2		<u>4 x 4</u> <u>9</u>	<u>4 x 4</u> <u>9</u>
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron				Tie Plates, outside Hatchways			
Single or double Angle Iron on Upper Edge				Diagonal Tie Plates on Beams, No. of pairs			
Average space				Flat of Middle Deck* do. do.	<u>Seet</u>	<u>7</u>	<u>7</u>
BEAMS, Hold, or Orlop		<u>11</u> <u>6 1/2</u> <u>10</u>	<u>11</u> <u>6 1/2</u> <u>10</u>	How fastened to Beams	<u>Riveted</u>		
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron		<u>8</u> <u>10</u> <u>8</u>	<u>8</u> <u>10</u> <u>8</u>	Stringer Plates on ends of Lower Deck, Hold or Orlop Beams		<u>4 1/2</u> <u>9</u>	<u>4 1/2</u> <u>9</u>
Single or double Angle Iron on Upper Edge		<u>see elevation</u>	<u>see elevation</u>	Is the Stringer Plate attached to the outside plating?	<u>Yes</u>		
Average space				Angle Iron on ditto, No. 2		<u>4 x 4</u> <u>9</u>	<u>4 x 4</u> <u>9</u>
KEELSONS Centre line, single or double plate, box, or Intercoastal, Plates				Stringer or Tie Plates, outside Hatchways			
" Rider Plate				Flat of Lower Deck*			
" Bulb Plate to Intercoastal Keelson				Ceiling betwixt Decks, thickness and material		<u>2 1/2</u> <u>fine</u>	<u>2 1/2</u> <u>fine</u>
" Angle Irons	<u>Cellular double</u>			" in hold do. do.		<u>2 1/2</u> "	<u>2 1/2</u> "
" Double Angle Iron Side Keelson	<u>bottom built</u>			Main piece of Rudder, diameter at head		<u>8 1/2</u>	<u>8 1/2</u>
" Side Intercoastal Plate				do. at heel		<u>6 x 4 1/2</u>	<u>4</u>
" do. Angle Irons	<u>as per approved</u>			Can the Rudder be unshipped afloat?	<u>Yes</u>		
" Attached to outside plating with angle iron				Bulkheads No. 6 No. per Rule 5			
BILGE Angle Irons	<u>plans</u>			" Thickness of 7/2 to 6 1/2 at top			
" do. Bulb Iron		<u>6 1/2</u> <u>4</u> <u>9</u>	<u>6 1/2</u> <u>4</u> <u>9</u>	" Height up upper deck			
" do. Intercoastal plates riveted to plating for length		<u>9</u>	<u>9</u>	" How secured to sides of ship	<u>double frames</u>		
BILGE STRINGER Angle Irons				" Size of Vertical Angles	<u>76 1/2 x 3 x 10</u>		
Intercoastal plates riveted to plating for 3/5 length				" Are the outside Plates doubled two spaces of Frames in length?	<u>Yes</u>		
SIDE STRINGER Angle Irons							

The FRAMES extend in one length from bilge to bilge, & bilge to upper deck Riveted through plates with 7/8 in. Rivets, about 7 apart.  
The REVERSED ANGLE IRONS on floors and frames extend across middle line to bilges, & bilges to Main Deck and to upper deck alternately  
KEELSONS. Are the various lengths of Plates and Angles properly connected? Yes And butts properly shifted? Yes

PLATING. Garboard, double riveted to Keel, with rivets 1/8 in. diameter, averaging 5 1/8 ins. from centre to centre.  
Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets 7/8 in. diameter, averaging 3 1/2 ins. from centre to centre.  
Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 7/8 in. diameter averaging 3 1/8 ins. from centre to centre.  
Butts of Strakes at Bilge for length, treble riveted with Butt Straps thicker than the plates they connect.  
Edges from Bilge to Main Sheerstrake, worked clencher, double or single riveted; with rivets 7/8 in. diameter, averaging 3 1/2 ins. from cr. to cr.  
Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 7/8 in. diameter, averaging 3 1/8 ins. from cr. to cr.  
Edges of Main Sheerstrake, double or single riveted.  
Butts of Main Sheerstrake, treble riveted for length amidships. Butts of Upper or Spar Sheerstrake, treble riveted 3/4 length amidships.  
Butts of Main Stringer Plate, treble riveted for 3/4 length amidships. Butts of Upper or Spar Stringer Plate, treble riveted for 3/4 length.  
Breadth of laps of plating in double riveting 6 1/2 diam. Breadth of laps of plating in single riveting

Butt Straps of Keelsons, Stringer and Tie Plates, treble or double Riveted? No. of Breasthooks, 4 Crutches, dup floors  
What description of Steel is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Siemens Martin  
Manufacturer's name or trade mark, Robertson & Co. Dorman Long & Co. Corbett. Moor.  
The above is a correct description.  
Builder's Signature, RAYLTON DIXON & CO. Surveyor's Signature, N. M. Williams  
Surveyor to Lloyd's Register of British and Foreign Shipping.



Workmanship. Are the butts of plating planed or otherwise fitted? *Planed*  
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*  
Are the fillings between the ribs and plates solid single pieces? *Yes*  
Do the holes for riveting plate to frames, butt straps, or plate to plate, &c., conform well to each other? *Yes*  
Are the rivet holes well and sufficiently countersunk in the plate and punched from the faying surfaces? *Yes*  
Do any rivets break into or through the seams or butts of the plating? *A few*

Masts, ~~Rigging~~ Yards, &c., are *iron* ~~wood~~ in *good* condition, and sufficient in size and length. If of Iron or Steel give 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 riveting, quality of Materials, and if stamped with Maker's name.

State also Length and Diameter of Lower Masts and ~~Bowsprit~~

*The mast 88' 3" long 27 1/2" diam, made in 3 plates in the round*

*Main " 79' 9" " 24 1/2" " " 3*

*Mizen " 73' 6" " 22 3/4" " " 2*

*Plates for masts have been tested in accordance with the Rule*

NUMBER & LETTER OF EQUIPMENT *32216 22*

N <sup>o</sup> .	SAILS.	CABLES, &c.	Fathoms	Inches.	Test per Certificate.	Inches per Rule.	Machine where Tested and Superintendent, also Number of Certificate.	ANCHORS.	N <sup>o</sup> .	Weight. Ex. Stock.	Test per Certificate.	W'ght req'd per Rule.	Machine where Tested and Superintendent, also Number of Certificate.
		Chain .....	300	1 5/8	67 1/2 m	1 5/8	Riv. from Com. Oct 31	Bower					
		(State Machine where Tested, Date, or No. of Certificate, & Name of Superintendent.)						Anchors	17834	45.3.14	39.15.3.21	45.2.14	Riv. from Com. Oct 29
Fore Sails,		Iron Stream Chain	902	1 1/8	22 3/4	1 1/8	do Sept 5/88		17833	45.3.13	39.15.3.21		do Oct 29
Fore Top Sails,		or Steel Wire											
Fore Topmast Stay Sails,		Hempen Strm Cable	120 each	4"	33	4	do Sept 5/88	Smiths	17832	39.3.17	35.15.0.0	35.10.4	do
		Towlines					do Sept 5/88	Stockless	17831	131.2.16	25%	26	do
		Steel Wire						Stream					
Main Sails,		Hawser	90	10	Manila	10		Anchor	17304	11.1.14	13.5.0.0	11.1.0	do May 23/88
Main Top Sails, and quality		Warp	90	8 1/2	"	8 1/2		Kedge	16993	5.3.0	8.0.2.14	5.2.0	do Feb 18/88
								2nd Kedge	17167	2.3.7	5.7.2.0	2.3.0	do Apr 19/88

Standing and Running Rigging *rye & hemp* sufficient in size and *good* in quality. She has *2* Life Boat and *4* other.

The Windlass is *Iron*, *Steam*. Capstan *✓* and Rudder *good* Pumps *good*

Engine Room Skylights. How constructed? *Plate comings, teak tops* How secured in ordinary weather? *Slid teak tops, thick*

What arrangements for deadlights in bad weather? *Small lights*

Coal Bunker Openings. How constructed? *Iron comings* How are lids secured? *batten & cleats* Height above deck? *13"*

Scuppers, &c. What arrangements for clearing upper deck of water, in case of shipping a sea? *forward, 4 ports 30"x17", & 3 scuppers and aft, 4 ports 30"x17" & 5 scuppers each side.*

Cargo Hatchways. How formed? *Plate comings 30 inches high*

State size *1st* Hatch *forward 15' 9" x 12' 0"* *2nd* Hatch *No 2 23' 9" x 12' 0"* *3rd* Hatch *No 3 19' 8" x 12' 0"* *4th* Hatch *No 4 16' 0" x 12' 0"*

If of extraordinary size, state how framed and secured? *No 1 hatch 1 x 1 beam, 3 port & aft No 3 1 x 1 beam 3 port & aft*

What arrangement for shifting beams? *2 " 2 " 3 " 4 " 3 "*

Hatches, If strong and efficient? *Slid pine 2 3/4"*

Order for Special Survey No. *1261*

Date *May 7<sup>th</sup> 88*

Order for Ordinary Survey No. *✓*

Date *✓*

No. *289* in builder's yard.

DATES OF SURVEYS held while building as per Section 18.

- 1st. On the several parts of the frame, when in place, and before the plating was wrought
- 2nd. On the plating during the process of riveting
- 3rd. When the beams were in and fastened, and before the decks were laid....
- 4th. When the ship was complete, and before the plating was finally coated or cemented..
- 5th. After the ship was launched and equipped

*Built under Special Survey*  
*1<sup>st</sup> visit May 28<sup>th</sup> 1888*  
*last " January 18<sup>th</sup> 1889*  
*Number of visits. 83*

State dates of letters respecting this case *April 19<sup>th</sup> 88 M. Sept 17<sup>th</sup> 88 P*

General Remarks (State quality of workmanship, &c.) *The vessel has been built under special survey, in accordance with the plans submitted and amendments made. The steel has been tested in accordance the rules. The workmanship and materials are good.*

*The double pillars are 2 1/4", 2 3/8" & 2 3/8" diam. Poop beams 7"x3"x3/4" angles. Bridge side 7/6 iron Bridge stringer 7/6 iron. Upper deck beams in Engine & boiler space plate 10"x3/4", 4 angles 4"x4"x3/4", at Main deck 10 1/2"x3/4" & 4 angles 4 1/2"x4"x3/4"; deck plating increased in thickness at Engine & boiler openings. Reverse bars in Engine & boiler space all carried to upper deck. The butts of shell plating, main and upper deck stringers are treble rivetted for 3/4 length amidships, where strapped, straps 5/8 thicker than plate, remainder double rivetted, straps 2/3 thicker than plate.*

*The freeboard has been marked on the vessel in accordance with the Rules & the Secy's letter dated April 19<sup>th</sup> 88, as follows Summer 5' 8", winter 6' 0" 5 1/2 inches allowance for fresh water. To be recorded in the Register Book*

State if one, two, or three decked vessel, or if spar, or awning decked; and the lengths of poop, bridge, fore-castle, or raised quarter-deck. (If double bottom, state particulars on separate form.)

How are the surfaces preserved from oxidation? Inside *bottom black enamel, bilge bottom* Outside *paint.*

I am of opinion this Vessel should be Classed *+100 A1 3dk Steel*

The amount of the Entry Fee .....£ 5 : : is received by me, *R.H.*

Special .....£ 95 : 5 : 6 19. 1 1889

(to be sent as per margin). Certificate ...

(Travelling Expenses, if any, £ ..).

Committee's Minute

Character assigned

*+100 A1 1/89*

*a rep*

*Record Freeboard*

TUES 22 JAN 1889

*100 A1*

*2dk*

*3dk*

*Steel - Inner bottom*

*1st & 1st 1/2*

*2dk*

*3dk*

Surveyor to Lloyd's Register of British and Foreign Shipping

*It is submitted that this vessel appears eligible to be classed*

*as 100 A1 3dk Steel*

*2dk, one steel & one 1st steel*

*3dk*

*Cell & B particulars appended*

*Inner bottom plating iron 21/1/89*

*Lloyd's Register*

*Foundation*

*21/1/89*