

# IRON SHIPS.

Rev 28/8/68

18 65

No. 9724 Survey held at Newcastle Date 20<sup>th</sup> April to 26<sup>th</sup> August  
 in the S.S. "A.P. Rehder" Master P. E. Larsen  
 Tonnage under tonnage deck. 606.82 Built at Newcastle When built 1865 Launched 29<sup>th</sup> July  
 Ditto of poop or spar deck 102.80 By whom built Palmer Bros. Owners Northern Steam Navigation Co.  
 Ditto of engine room 135.37 Port Lubeck Destined Voyage Hull & Back  
 Total Register tonnage 844.19  
 Gross Tonnage 709.70  
 Surveyed while Building, Afloat, or in Dry Dock While building

PLANS CASE

Feet.	Inches.	Feet.	Inches.	Depth from top of Upper Deck Beam to top of Floor	Feet.	Inches.	Horse.	N <sup>o</sup> . of Decks
Length aloft	<u>199.8</u>	Extreme Breadth	<u>30.05</u>		<u>13.9</u>		<u>95</u>	<u>1</u>
Dimensions of Ship per Register, length <u>199.8</u> breadth <u>30.05</u> depth <u>13.9</u>								
Keel, if bar iron, depth and thickness	Inches in Ship.		Inches required per Rule, for 600 tons Scale.		Plates in Garboard Strakes, breadth and thickness			
" if plate iron, breadth and thickness	<u>30</u>	<u>1 1/16</u>	<u>30</u>	<u>1 1/16</u>	<u>44</u>		<u>1 1/16</u>	<u>30</u>
Stem, if bar iron, moulding and thickness	<u>7 1/2</u>	<u>2 3/4</u>	<u>7</u>	<u>2 3/4</u>	Ditto from Garboard to upper part of Bilges..		<u>10 1/16</u>	<u>10 1/16</u>
" if plate iron, breadth and thickness	<u>8 1/2</u>	<u>3 3/4</u>	<u>7</u>	<u>5 1/2</u>	" from upper part of Bilge to a perpendicular height from upper side of Keel of 3/4ths the entire depth of Hold		<u>9 1/16</u>	<u>9 1/16</u>
Stern-post, if bar iron, moulding and thickness					" from 3/4ths depth of Hold to lower edge of Sheerstrake		<u>8 1/16</u>	<u>8 1/16</u>
" if plate iron, breadth and thickness	<u>21</u>		<u>21</u>		" Sheerstrake, breadth and thickness		<u>40 1/2</u>	<u>10 1/16</u>
Distance of Frames from moulding edge to moulding edge, all fore and aft					Butt Straps to outside plating, breadth and thickness		<u>31 1/2</u>	<u>8 1/16</u>
Frames, Size of Angle Iron, single or double	<u>4</u>	<u>3 3/4</u>	<u>4</u>	<u>3</u>	Gunwale Plate or Stringer on ends of Upper Deck Beams, breadth and thickness		<u>29</u>	<u>2 8/16</u>
" Reversed Iron, # to every frame or every frame	<u>3</u>	<u>3</u>	<u>3</u>	<u>2 3/4</u>	Angle Iron on ditto		<u>4 3/4</u>	<u>3 3/4</u>
Floors, depth and thickness of Floor Plate at mid line	<u>18</u>	<u>9 1/16</u>	<u>18</u>	<u>9 1/16</u>	Stringer or Tie Plates fore and aft, on Upper Deck Beams, outside Hatchways		<u>11</u>	<u>9 1/16</u>
" Ditto ditto at Bilge Keelson	<u>12</u>				Diagonal Tie Plates on ditto		<u>11</u>	<u>9 1/16</u>
" Size of Reversed Angle Iron, and No. 1 at top of Floor Plate	<u>3</u>	<u>3</u>	<u>3</u>	<u>2 3/4</u>	Planksheer, materials and scantlings			
Beams, Deck (N <sup>o</sup> . <u>43</u> ) double Angle Iron, Plate, Tee, or Bulb Iron	<u>7 1/2</u>	<u>7 1/16</u>	<u>7 1/2</u>	<u>7 1/16</u>	Waterway ditto ditto		<u>12</u>	<u>8 1/16</u>
" double or single Angle Iron, on top edge	<u>3</u>	<u>2 1/2</u>	<u>3</u>	<u>2 1/2</u>	Flat of Upper Deck, thickness and material		<u>3 1/2</u>	<u>Red Pine</u>
" average space between	<u>3 feet</u>	<u>6 inches</u>			" how fastened to Beams		<u>Nut &amp; screw bolts</u>	<u>Yellow Pine</u>
" Hold, or Lower Deck (N <sup>o</sup> . <u>26</u> ) double Angle, Tee, Plate, or Bulb Iron	<u>7 1/2</u>	<u>7 1/16</u>	<u>7 1/2</u>	<u>7 1/16</u>	Ceiling betwixt Decks and in Hold, thickness and material		<u>2 1/2</u>	<u>2 in. x 6 in. x Red Pine</u>
" double or single Angle Iron, on top edge	<u>3</u>	<u>2 1/2</u>	<u>3</u>	<u>2 1/2</u>	Clamps or Spirketting ditto			<u>Mattress timber deck</u>
" average space between	<u>every fourth frame</u>				Stringer Plates on ends of Hold or Lower Deck Beams, breadth and thickness		<u>22</u>	<u>9 1/16</u>
" Paddle, sided and moulded, thickness of Plate size of Angle Iron					Stringer or Tie Plates fore and aft outside Hatchways, on Hold or Lower Deck Beams		<u>5 x 3</u>	<u>4 1/2 x 3 1/2</u>
" Engine					Stringers in Hold		<u>5 x 4</u>	<u>4 3/4 x 3 3/4</u>
Keelson, single or double plate, box, or intercostal	<u>24</u>	<u>9 1/16</u>	<u>22 3/4</u>	<u>9 1/16</u>	Flat of Lower Deck, thickness and material			
" Size of Plates	<u>18</u>	<u>7 1/16</u>			Main piece of Rudder, diameter at head		<u>5 1/4</u>	<u>5</u>
" Size of Angle Irons	<u>4 3/4</u>	<u>3 3/4</u>	<u>4 3/4</u>	<u>3 3/4</u>	" " " at heel		<u>3 1/2</u>	<u>3</u>
" Side, single or double, plate, box, or intercostal	<u>4 3/4</u>	<u>3 3/4</u>	<u>4 3/4</u>	<u>3 3/4</u>	(Can the Rudder be unshipped afloat)			<u>Yes</u>
" Bilge (No. <u>3</u> ) at each Bilge, single, or double, plate, or box	<u>4 3/4</u>	<u>3 3/4</u>	<u>4 3/4</u>	<u>3 3/4</u>	Bulkheads, N <sup>o</sup> . <u>5</u> Thickness of		<u>9 1/16</u>	

Transoms, material Plate or, if none, in what manner compensated for.  
 Knight-heads, and Hawse Timbers Oak Cheeks  
 The Frames extend in one length from Keel to Gunwale rivetted through plates with (3/4 in.) rivets, about (6) apart.  
 The reverse angle irons on the floors extend in one length across the middle line from at double to bottom to bilge, thence to hold beam stringer and alternately to keel, before and abaft double bottom the reverse  
 Keelson, how are the various lengths of plates or angle irons connected? by butt straps  
 Plates, Garboard, double or rivetted to keel, double or rivetted at upper edge, with rivets (1 1/16 in.) diameter, averaging (3 1/2 in.) apart.  
 Edges from Garboards to upper part of bilge, worked clencher, double or single rivetted; with rivets (3/4 in.) diameter, averaging (2 3/4 in.) apart.  
 Butts from Keel to turn of bilge, worked carvel with butt straps (1 1/16 x 10 1/16) thick, double or single rivetted; with rivets (3/4 in.) diameter, averaging (2 3/4 in.) apart.  
 Do the butt straps lap over and rivet through the lands of the strake below? No  
 Edges from bilge to sheerstrake, worked carvel with a lining piece (1 1/16 in.) thick, or clencher, double or single rivetted; with rivets (3/4 in.) diameter, averaging (2 3/4 in.) apart.  
 Do the butt straps lap over and rivet through the lands of the strake below? No  
 Edges of Sheerstrake, double and single rivetted? At upper edge single At lower edge double  
 Butts from bilge to planksheers, worked carvel with butt straps (1 1/16 x 9 1/16) thick, double or single rivetted; with rivets (3/4 in.) diameter, averaging (2 3/4 in.) apart. Breadth of laps in double rivetting (5 3/4 to 4 1/4) Breadth of laps in single rivetting ( )  
 Butt Straps of Keelsons, Stringer and Tie Plates, double or single rivetted? double rivetted  
 Planksheer, how secured to the plating of the sides Explain by sketch  
 Waterway " " planksheer and to the Beams Bolted to stringer & outside plating  
 Deck Beams, how secured to the side? Bracket ends rivetted to frames  
 Hold or Lower Deck ditto do  
 Paddle " " do  
 No. of breasthooks 5 crutches 5  
 What description of Iron is used for the Frames, Beams, Keelsons, Tie and Stringer Plates, Outside Plating, &c.? Angle iron Stamped Redlington & Palmers Best, Plates, Palmers Best  
 Manufacturer's name or trade mark Angle iron Stamped Redlington & Palmers Best, Plates, Palmers Best  
 We certify that the above is a correct description of the several particulars therein given.  
 Builder's Signature For Palmers Shipbuilding & Iron Co. (Limited) William E. Eland Surveyor's Signature J. H. Siltman  
 IRON 438-0366



4216 Ln

**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? none observed

Do the fillings between the ribs and plates fill in solid with single pieces? or are they in short lengths of various thicknesses? Solid with single pieces

Do the holes for rivetting plate to frames, butt straps, or plate to plate, &c., conform well to each other? generally so 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.

She has SAILS.		CABLES, &c., tested at <u>Lloyd's Lane Proving House</u>				ANCHORS, tested at <u>Lloyd's Lane Proving House</u>			
No.		No. on Chain seen by me.	No. and date on Certificate	Fathoms.	Inches.	No.	No. on Anchor seen by me.	No. and date on Certificate	Weight, Ex. Stock.
Fore Sails,	Chain .....	373	282.11.5.65	120	1 1/8	Bowers .....	674	674.18.7.65	17.1.18.18.20.2.
Fore Top Sails,	Hemp	302	373.18.7.65	135	1 1/8		945	945.23.8.65	17.0.7.18.5.3.
Fore Topmast	Stream Cable		502.23.8.65	15	1 1/8			471.11.5.65	14.1.0.15.16.3.
Stay Sails,	Hawser .....			90	3/4	Stream .....	1	684	684.18.7.65
Main Sails,	Towlines .....			8 1/2					7.0.7.9.5.0.
Main Top Sails,	Warp .....			6 1/2		Kedges .....	2	685	685.18.7.65
and	All of <u>good</u> quality.			340	4			686	686.18.7.65

Her Standing and Running Rigging is sufficient in size and good in quality.

She has two life boats Long Boat and two others

The present state of the Windlass is Good Capstan Good and Rudder Good Pumps 4 deck Pump & Engine Pump

Order for Special Survey	DATES of	1st.	2nd.	3rd.	4th.	5th.
No. <u>506</u>	Surveys held	On the several parts of the frame, when in place, and before the plating was wrought	On the plating during the progress of rivetting	When the beams were in and fastened, and before the decks were laid	When the ship was complete, and before the plating was finally coated	After the ship was launched
Date <u>7 March 1865</u>	while building					
Order for Ordinary Survey	as per					
No. <u>—</u>	Section 18.					
Date <u>—</u>						

State if she has a Spar Deck — Poop 106 feet and Forecastle 29 ft 9 in

**General Remarks,** This vessel has a double bottom 72 feet long, the after part of which is about 20 feet from sternpost. The stringer plate on ends of upper deck beam is only 7/16 inch thick in place of 1/2 as marked on the tracing, to compensate for this a doubling plate 8 x 7/16 has been rivetted on the top of stringer plate, and with this exception she has been built in accordance with the enclosed tracing of midship section.

The Beams of Poop are of angle iron 5 x 3 x 7/16 properly scarphed to alternate frame the breast beam of double angle iron, the united lengths of Poop & Forecastle exceed three fifths the length of the vessel, and the plating of same only 7/16 inch thick, double angle iron 3 x 3 x 7/16 has been fitted inside below the dougtree keel extending all fore and aft done by the Builders as compensation, for which I beg to refer to the Secretary's Letter of 17th ult.

The Rivets in the spaces between the frames for rivetting the doubling plate and sheerstrake appear to be too wide spaced, and in my opinion not sufficient to rivet the two plates solid and firmly together, recommended additional rivets to be introduced as marked in red on the annexed sketch for at least half the length of the vessel, which Mr. Chelmsford the manager declined to do, stating that if the Committee insist upon it he could only do it afterwards.

She has been built under Special Survey for the Admiralty, and with the above exception, the workmanship is generally satisfactory, I beg therefore respectfully to submit this Report for the Committee's consideration.

In what manner are the surfaces preserved from oxidation? Inside Cement and Red lead  
Ditto ditto Outside Paint

I am of opinion this Vessel should be Classed —  
The amount of the Fee ..... £ 5 : 0 : 0 is received by me,  
Aut M Special ..... £ 35 : 10 : 0  
Certificate (if required) ..... £ 0 : 0 : 0

Committee's Minute 29th August 1865

Character assigned A 1

J. H. Saltman  
I am of opinion for  
Lloyd's Register  
Foundation  
28 Aug 1865