

3562  
**IRON SHIPS.**

Reel 18-4-64

No. 4756 Survey held at Port GlasgowDate 14<sup>th</sup> April

1864

on the Paddle Steaming 'Tien Cheng'

Master

PadghamTonnage Gross 198.12Engine Room 67.81Register 130.31Built at Port GlasgowWhen Built 1863

By whom built

Robert Duncan & CoOwners China & Japan Coast & River Steam Navigation Company (Limited)

Port belonging to

London

Destined Voyage

Clyde to China

If Surveyed Afloat or in Dry Dock

While building

Length aloft	Feet.	Inches.	Extreme Breadth	Feet.	Inches.	Depth from top of Upper Deck Beam to top of Floor	Feet.	Inches.	Power of Engines	Horse No.
.....	130	0	.....	22	6	.....	10	7	.....	90. Two Engines
Distance of Frames or Ribs from moulding edge to moulding edge, all fore and aft	Inches in Ship.		Inches required per Rule.		Inches in Ship.		Inches required per Rule.		Inches in Ship.	
	20		✓		22		✓		22	
Floors, Size of Angle Iron, and No. <u>Single</u> bottom of Floor Plate	2 1/2	2 1/2	4	2 1/2	2 1/2	4				
„ depth and thickness of Floor Plate at mid line	10 1/2		78	10 1/2		78				
„ depth and thickness of Floor Plate at Bilge Keelson	5		78			78				
„ Size of Reversed Angle Iron, and No. <u>Single</u> at top of Floor Plate	2 1/4	2 1/4	78	2 1/4	2 1/4	78				
Frames, Size of Angle Iron, single or double „ Reversed Iron, <u>to every frame</u> and on every frame	2 1/2	2 1/2	4	2 1/2	2 1/2	4				
Beams, Deck (No. <u>Double</u> Angle Iron or Bulb Iron with double Angle Iron on top	4	3	4							
„ „ depth & thickness of plate amidships	4		4	5 1/2		4				
„ „ double or single Angle Iron, on lower edge										
„ „ average space between	20 inches									
„ „ if wood (No. ) sided & moulded										
„ Hold, or Lower Deck (No. ) double Angle Iron or Bulb Iron with double Angle Iron on top										
„ „ depth & thickness of plate amidships										
„ „ double or single Angle Iron, on lower edge										
„ „ average space between										
„ „ if wood (No. ) sided & moulded										
„ Paddle, wood, sided and moulded or if Iron, size of Plate										
„ Engine										
Keelson, wood, sided & moulded, iron, size of plate, if Box, give sketch & dimensions	12	3	4	2 1/2	2 1/2	4				
„ Side or Bilge	2 1/2	2 1/2	4	2 1/2	2 1/2	4				
„ Number										

Stem, bar iron, moulding and thickness .... 5 1/2 x 1 1/2  
 „ if plate iron, breadth and thickness ....  
 Stern-post, bar iron, moulding and thickness 5 1/2 x 2  
 „ „ if plate iron, breadth and thickness  
 Keel, bar iron, depth and thickness .... 5 1/2 x 1 1/2  
 „ if plate iron, breadth and thickness ....

Garboard Plates, thickness.. 7/8  
 From Garboard to upper  
 part of Bilge ..... 7/8  
 From upper part of Bilge  
 to Sheerstrakes ..... 7/8  
 Sheerstrakes double about 12 x 18  
 Breadth & thickness of Butt  
 Straps to outside plating 8

Planksheers .....  
 Gunwale Plate or Stringer  
 on ends of Up. Dk Beams 2 1/4  
 Angle Iron on ditto ..... 3 x 3 x 1/2  
 Waterway ..... Red Pine  
 Deck ..... Yellow Pine  
 Ceiling in Hold ..... Red Pine  
 Ceiling betwixt Decks ....  
 Beam Clamps .....  
 „ Shelf .....  
 „ Stringer Plates on  
 ends of Hold or  
 Lower Dk Beams  
 Ceiling between Decks ....  
 Stringer or Tie Plates out-  
 side Hatchways .....  
 Deck Beam Clamps .....  
 „ „ Shelf .....  
 Stringers in Hold .....  
 Deck, Lower .....

Deck, Upper, how fastened to Beams By screw bolts from aboveTransoms, material Iron or, if none, in what manner compensated for.Knight-heads „ IronHawse Timbers „ Ironare they free from defects? YesBulkheads, No. FourThickness of 7/8how secured to the sides of the ship Between double framesThe Frames or Ribs extend in one length from Keel to Gunwale rivetted through plates with (5/8 in.) rivets, about (6 inches) apart.The reverse angle irons on the floors extend in one length across the middle line from Bilge to Bilge on every frame.„ „ „ on the frames „ „ „ from Bilge to Gunwale on alternate frames in engine room only.Keelson, how are the various lengths of plates or angle irons connected? By Angle Iron Butt StrapsPlates, Garboard, double or single rivetted to keel & at upper edge, with rivets (7/8 in.) diameter averaging (3 1/2 in.) from centre to centre of rivet.„ Edges from Garboards to upper part of bilge, worked carvel with a lining piece (1/2 in.) thick, or clench, double or single rivetted; rivets (5/8 in.) diameter, averaging (2 1/2 in.) from centre to centre of rivets.„ Butts from Keel to turn of bilge, worked carvel with a lining piece (1/2 in.) thick, double or single rivetted; rivets (5/8 in.) diameter, averaging (2 1/2 in.) from centre to centre of rivets. Do the lining pieces lap over and rivet through the lands of the strake below? No„ Edges from bilge to planksheer, worked carvel with a lining piece (1/2 in.) thick, double or single rivetted; rivets (5/8 in.) diameter, averaging (2 1/2 in.) from centre to centre of rivets. Do the lining pieces lap over and rivet through the lands of the strake below? No„ Butts from bilge to planksheers, worked carvel with a lining piece (1/2 in.) thick, or clench, double or single rivetted; rivets (5/8 in.) diameter averaging (2 1/2 in.) from centre to centre of rivets. Breadth of laps in double rivetting (3 1/2) Breadth of laps in single rivetting (2 1/4)

Planksheer, how secured to the plating of the sides

Waterway „ „ planksheer and to the Beams

Side trussing „ „ breadth and thickness of plates

Deck trussing „ „ how secured?

Deck Beams, how secured to the side? By plates all forward and aft on each side of Hatchways 8 x 12 inch and diagonal plates where practicable

Hold or Lower Deck „ „

Paddle „ „

No. of breasthooks Two crutchesWhat description of iron is used for the angle iron and plate iron in the vessel? Warrington Iron Co

Builder's Signature

IRON 437-0213



3549. Iron.

**Workmanship.** Are the lands or laps of the clenchwork in all cases in breadth at least five times the diameter of the rivets in double rivetted edges and butts, and at least three 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? Solid

Do the holes for rivetting plate to frames, lining pieces, or plate to plate, &c., conform well to each other? Yes 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, Yards, &c., are in Good condition, and sufficient in size and length.

She has SAILS.		CABLES, &c.		ANCHORS, and their weights.	
N <sup>o</sup> .			Fathoms. Inches.	N <sup>o</sup> .	Weight.
	Fore Sails,	Chain <u>Admiralty test</u> <sup>13" 15"</sup> 180	<u>7</u>	Bower, <u>Admiralty test</u> 8 tons	1 <u>7.1</u>
	Fore Top Sails,	Hempen Stream Cable	90 <u>5 1/2</u>		
<u>one</u>	Fore Topmast Stay Sails,	Hawser	90 <u>3 1/2</u>	Stream, <u>common</u>	1 <u>2.1</u>
<u>one</u>	Main Sails,	Towlines			
<u>one</u>	Main Top Sails,	Warp		Kedge, <u>common</u>	1 <u>1.2</u>
	and <u>spare sails</u>	All of <u>Good</u> quality.			

Her Standing and Running Rigging Hemp sufficient in size and Good in quality.

She has one Long Boat and one other

The present state of the Windlass is Good Capstan and Rudder Good Pumps Four lead Good

**General Remarks, Statement and Date of Repairs, extent of corrosion (if any) both internally and externally, and condition of rivets.**

DATES of Surveys held while building, as per Section 17.

1st. On the several parts of the frame, when in place, and before the plating was wrought

2nd. On the plating during the progress of rivetting

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

5th. After the ship was launched

Specially surveyed while building from 22nd April 1863 to 14 April 1864 in all 21 visits. From 13th Oct 1863 to 14th April 1864 detained fitting engines.

*This vessel has been built under special survey as per order N<sup>o</sup> 284. She has a raised quarter deck three feet high. Her deck beams are all of single angle iron fitted to every frame which is 20 inches apart, see Committee's letter dated 5<sup>th</sup> May 1863 relating thereto.*

*This is a sister ship to the Paddle Steamer "Vulcan"*

Section of Stringer in Engine and Boiler Space.

In what manner are the surfaces preserved from oxidation? By three coats of Zinc paint inside and outside and bottom coated with green paint

I am of opinion this Vessel should be classed A 1

The amount of the Fee £ 2 : " : " is received by me,

Special £ 9 : 18 : "

Certificate (if required) £ " : " : "

Committee's Minute 19<sup>th</sup> April 1864

Character assigned A 1 for 9 Years

*This vessel appears eligible for the Class recommended*

*18 April 1864 J.M.L.*