

# IRON SHIP.

No. 25026 Survey held at Birkenhead Date, First Survey Sept 15/75 Last Survey March 27 18/76  
On the S.S. "Han Kwang" Yard Number 431 Master A. Tillet

TONNAGE under Deck 770.93  
Ditto of Awning Deck 452.36  
Ditto of Poop, or Raised Qr. Dk. 10.15  
Ditto of Houses on Deck 10.15  
Ditto of Forecastle 10.15  
Gross Tonnage 1233.44  
Less Cow Space Nil  
Less Engine Room 394.70  
Register Tonnage 838.74  
as cut on Beam

ONE, OR TWO DECKED, THREE DECKED VESSEL.  
SEMI, OR AWNING-DECKED VESSEL.  
HALF BREADTH (moulded) 16.5  
DEPTH from upper part of Keel to top of Upper Deck Beams 15.11/2  
GIRTH of Half Midship Frame (as per Rule) 29.6  
1st NUMBER 61.11/2  
1st NUMBER 230.0  
deduct 7 feet 14240  
2nd NUMBER 6.27  
PROPORTIONS Breadths to Length 9.210  
Depths to Length—Upper Deck to Keel 14.215  
Main Deck ditto

Built at Birkenhead  
When built 1876 Launched Jan 4-25  
By whom built Laurd Bros  
Owners J. Smith & Co. Ltd.  
Port belonging to London  
Destined Voyage China  
Is Surveyed while Building, Afloat, & in Dry Dock. Yes

LENGTH on deck as per Rule 230 Feet. Inches. 33 Breadth Moulded... Feet. Inches. 21 Depth top of Floors to Upper Deck Beams... Feet. Inches. 13 Power of Engines 150 Horse. N° of Decks with flat laid 3 N° of Tiers of Beams 3

Dimensions of Ship per Register, length, 230.6 breadth, 33.3 depth, 21.3 & 14.4

KEEL, depth and thickness... 7 1/4 x 2 3/8  
STEM, moulding and thickness... 9 x 4  
STERN-POST for Rudder do. do. 9 x 4  
for Propeller 28  
Distance of Frames from moulding edge to moulding edge, all fore and aft 28  
FRAMES, Angle Iron, for 1/2 length amidships... 4 x 3 1/2  
Do. for 1/4 at each end 4 x 3 1/2  
REVERSED FRAMES, Angle Iron 3 x 3 1/2  
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships... 1 1/2  
thickness at the ends of vessel 1 1/2  
depth at 1/2 the half-bdth. as per Rule 1 1/2  
height extended at the Bilges... 3 1/2  
BEAMS, Upper Spar or Awning Deck... 4 x 3 1/2  
Single or Double Angle Iron, Plate or Tee Bulb Iron 4 x 3 1/2  
Single or Double Angle Iron on Upper edge 4 x 3 1/2  
Average space... 4 1/2  
BEAMS, Main or Middle Deck... 5 1/2 x 3 1/2  
Single or Double Angle Iron, Plate or Tee Bulb Iron 5 1/2 x 3 1/2  
Single or Double Angle Iron on Upper edge 5 1/2 x 3 1/2  
Average space... 2 1/2  
BEAMS, Lower Deck, Hold or Orlop... 6 x 3 1/2  
Single or Double Angle Iron, Plate or Tee Bulb Iron 6 x 3 1/2  
Single or Double Angle Iron on Upper edge 6 x 3 1/2  
Average space... 4 1/2  
KEELSONS Centre line, single or double plate... 2 1/2 x 9  
Rider Plate 12 x 7  
Bulb Plate to Intercoastal Keelson 5 x 3 1/2  
Angle Irons 5 x 3 1/2  
Double Angle Iron Side Keelson 5 x 3 1/2  
Side Intercoastal Plate 5 x 3 1/2  
do. Angle Irons 5 x 3 1/2  
Attached to outside plating with angle iron Yes  
BILGE Angle Irons 5 x 3 1/2  
do. Bulb Iron 5 x 3 1/2  
do. Intercoastal plates riveted to plating for 100 ft length 5 x 3 1/2  
BILGE Angle Irons 3 1/2 x 3  
do. Intercoastal plates riveted to plating for 100 ft length 9 x 3  
SIDE STRINGER Angle Irons 5 x 3 1/2

Flat Keel Plates, breadth and thickness... 34  
Plating in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges... 8 x 9  
of doubling at Bilge, or increased thickness... 7 x 8  
from up. part of Bilge to Ir. edge of Sh'rstrake... 36  
Main Sheerstrake, breadth and thickness... 5  
from Mn. to Upper Dk. Sh'rstrake... 5  
Dk Sh'rstrake, brdth & thickness... 9 1/4 x 1 1/4  
Butt Straps to outside plating, breadth & thickness... 11 1/2 x 6  
Lengths of Plating... well arranged  
Shifts of Plating, and Stringers... 32  
Gunwale Plate on ends of Awning, Spar or Deck Beams, breadth and thickness... 3 x 3 1/2  
Angle Iron on ditto... 10 x 7  
Tie Plates fore and aft, outside Hatchways... 10 x 6  
Diagonal Tie Plates on Beams No. of Pairs... 3  
Planksheer material and scantling... 10 x 6  
Waterways do. do. 3  
Flat of Upper Deck do. do. 3  
How fastened to Beams... 10 x 6  
Stringer Plate on ends of Main or Middle Deck... 40  
Beams, breadth and thickness... 40  
Is the Stringer Plate attached to the outside plating? Yes  
Angle Irons on ditto, No. 2... 3 1/2 x 3 1/2  
Tie Plates, outside Hatchways... 11  
Diagonal Tie Plates on Beams, No. of pairs... 11  
Waterways materials and scantlings... 2 1/2  
Flat of Middle Deck do. do. 2 1/2  
How fastened to Beams... 2 1/2  
Stringer Plates on ends of Lower Deck, Hold or Orlop... 20  
Is the Stringer Plate attached to the outside plating? Yes  
Angle Irons on ditto, No. 2... 3 1/2 x 3 1/2  
Stringer or Tie Plates, outside Hatchways... 11  
Flat of Lower Deck... 2 1/2  
Ceiling betwixt Decks, thickness and material... 1 1/4  
in hold do. do. 2 1/4  
Main piece of Rudder, diameter at head... 6 1/4  
do. at heel... 3 1/2  
Can the Rudder be unshipped afloat? Yes  
Bulkheads No. 5 Thickness of Plates 5 x 6  
Height up to main deck  
How secured to sides of ship By double frames  
Size of Vertical Angle Irons 3 x 3 1/2 and distance apart 30 ins.  
Are the outside Plates doubled two spaces of Frames in length? Yes

Transoms, material. Knight-heads. Hawse Timbers. Iron  
Windlass Iron - Patent Pall Bitt Iron

The FRAMES extend in one length from Keel to Gunnwale Riveted through plates with 3/4 in. Rivets, about 16 apart.  
The REVERSED ANGLE IRONS on floors and frames extend across middle line to lower deck beams and alternately  
KEELSONS. Are the various lengths of Plates and Angle Irons properly connected? Yes And butts properly shifted? Yes

PLATING. Garboard, double riveted to Keel, with rivets 1/2 in. diameter, averaging 2 1/2 ins. from centre to centre.  
Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets 3/4 in. diameter, averaging 2 1/4 ins. from centre to centre.  
Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 3/4 in. diameter averaging 2 1/4 ins. from centre to centre.  
Butts of 3 Strakes at Bilge for 1/2 length, treble riveted with Butt Straps 1/2 thicker than the plates they connect.  
Edges from bilge to Main Sheerstrake, worked clencher, double or single riveted; with rivets 3/4 in. diameter, averaging 2 1/4 ins. from cr. to cr.  
Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 3/4 in. diameter, averaging 2 1/4 ins. from cr. to cr.  
Edges of Main Sheerstrake, double or single riveted. Upper Sheerstrake, double or single riveted.  
Butts of Main Sheerstrake, treble riveted for 1/2 length amidships. Butts of Lower or Spar Stringer Plate, treble riveted for 1/2 length amidships.  
Butts of Main Stringer Plate, treble riveted for 1/2 length amidships. Butts of Lower or Spar Stringer Plate, treble riveted for 1/2 length amidships.  
Breadth of laps of plating in double riveting 48 ft

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? Double & treble as per Rule  
Waterway, how secured to Beams As per Rule (Explain by Sketch, if necessary.)  
Beams of the various Decks, how secured to the sides? Reinforced to frames No. of Breasthooks, 4 Crutches, 4  
What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Yorkshire & Lancashire  
Manufacturer's name or trade mark, Butterfield's, Tophams & Parrygate Iron Works

The above is a correct description.  
Builder's Signature, Laurd Bros Surveyor's Signature, E. J. Meade



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? Single pieces  
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? No 16070Ln

Masts, Bowsprit, Yards, &c., are 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 Masts formed of 2 plates in the round.  
Foremast (Iron) 82 ft 6 in extreme length + 22 dia at partners, 1 heel, 13 1/2 head - plates 6/16  
Shies from keel to 10 feet above running deck from thence to head 3/16, 3 Angle irons 3 x 2 1/2 x 1/16  
the whole length. Seams single riveted & butts double &c. - except in way of partners where  
they are triple & straps 1/16 thicker than plates -  
Mainmast (Iron) 86 ft 0 in extreme length + 22 dia at partners, 1 heel, 13 1/2 head - Constructed same as foremast

NUMBER for EQUIPMENT 18622		Fathoms.	Inches.	Test per Certificate.	Length & Size req'd per Rule.	Test req'd per Rule.	ANCHORS, &c.	N <sup>o</sup> .	Weight. Ex. Stock.	Test per Certificate.	Weight req'd per Rule.	Test req'd per Rule.
SAILS.		120		1 1/2	40-10/20	240-18/16-40 5/10	Bowers	1	22-0-2	22-7-0	60-0-0	
CABLES, &c.		121		1 1/2	40-10/20	240-18/16-40 5/10	Stream	1	21-1-10	21-18-0		
Chain		90		1 5/16		50-7-0	Kedges	1	2-1-0		2-1-0	
Fore Sails,		90		7/8		90-8						
Fore Top Sails,		90		7/8		90-8						
Fore Topmast Stay Sails		90		7/8		90-8						
Main Sails,		90		7/8		90-8						
Main Top Sails,		90		7/8		90-8						
Warp		90		4 1/2								
quality												

Standing and Running Rigging Wire & hemp sufficient in size and best in quality. She has five Boats and in good condition.

The Windlass is Good Capstan Good and Rudder Good Pumps Iron - in each Compartment.

Engine Room Skylights. - How constructed? Strong brass frame How secured in ordinary weather? Bolted to Comings

What arrangements for deadlights in bad weather? Strong brass guards & wood frames

Coal Bunker Openings. - How constructed? Iron frame How are lids secured? By strong catches Height above deck? Level

Scuppers, &c. - What arrangements for clearing upper deck of water, in case of shipping a sea? No valves are fitted but iron  
handicams and rails

Cargo Hatchways. - How formed? Iron Comings

State size Main Hatch 10 ft 9 in x 12 ft 1/2 Fore hatch 5 ft 1/2 x 3 ft 6 in After hatch 14 ft 9 in x 10 ft 1/2

If of extraordinary size, state how framed and secured? Strong shifting beams are fitted across the hatchway  
& are well secured

What arrangement for shifting beams?

Hatches, If strong and efficient? Yes

Order for Special Survey No. 611  
Date 29th May 75  
Order for Ordinary Survey No.   
Date   
No.  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

During the whole time of building  
and fitting out - under Special  
Survey

General Remarks, (State quality of workmanship &c.)

This vessel has been built in accordance with the tracing sketches appended, & sanctioned by the Committee in their letter dated April 22/75. July 29/75.

The running deck sheerside is double fore & aft with plates 18 x 7/16 Amids hips, tapering to 5/16 at ends. The Cargo ports (4) are well secured to the sides. Engine & boiler hatchways on main deck are enclosed by strong iron trunk bulkheads and extend from main to the running deck - in the former strong glass windows (15) are fitted as allowed.

The lower deck stringer plates carries its full size thro' the Engine and boiler space and are supported by strong bracket plates fitted at alternate frames.

The main deck is of iron 9/16 in midship body & 5/16 at ends - seams single riveted & butts double &c.

She is well built and fully equipped -

State if yes awning decked, and length of 13 feet above double bottom.

How are the surfaces preserved from oxidation? Inside Portland Cement in bottom, & paint Outside Red lead & other paint

I am of opinion this Vessel should be Classed \* 90 A 1 - "Awning deck" - Load line 13 feet

The amount of the Entry Fee ... £ 5 - - - is received by me,

Special ... £ 55 - 16 - 6 31/3/1875  
Machinery Certificate ... 10 - 10 - 0

(Travelling Expenses)

(if any) £

Committee's Minute Liverpool, 31st March, 1875

Character assigned 90 A 1 - Built under Special Survey  
Awning-decked - Load-line 13 feet  
A & C. P. / Com. 75 - Lloyd's N.C. 76. E. C. 76.