

IRON SHIPS.

No. 1975 Survey held at Belfast Date, first Survey 26th May Last Survey 13th Sept 1870
on the Crow Steamer "Amelb." Master H. A. Samsen.

Tonnage under Tonnage Deck	264.63	ONE, OR TWO DECKED VESSELS.	Half Moulded Breadth	10.91	Half Moulded Breadth	10.91
Ditto of Spar Deck, or Awning Deck.			Total Depth if three or more Decks	13.50	Total Depth if three or more Decks	13.50
Ditto of Poop, or Raised Qr. Dk.			Total Girth of Half Mid-ship Frame	21.75	Total Girth of Half Mid-ship Frame	21.75
Ditto of Houses on Deck	4.49		3rd Number	46.16	3rd Number	46.16
Ditto of Forecastle			Length	145	Length	145
Gross Tonnage	269.12		2nd Number	66.93	2nd Number	66.93
Crew Space, as per Rule	13.89		4th Number		4th Number	
Register Tonnage, out on Beam	255.23		Breadths to Length		Breadths to Length	
Engine Room	86.12					
Register Tonnage, as a Steamer, cut on the Beam	169.11					

Built at Belfast
When built 1870. Launched 7th Sept 1870
By whom built Messrs Harland & Wolff
Owners Messrs Harland & Wolff
Port belonging to Belfast
Destined Voyage fasting
If Surveyed while Building, Afloat, or in Dry Dock

Length on deck as per Rule, 145 Feet. 145 Inches. Moulded Breadth, 21 Feet. 53 Inches. Depth from top of Keel to Deck Beam, as per Rule, 13 Feet. 9 Inches. Power of Engines, 700 Horse. N^o. of Decks, one. N^o. of Tiers of Beams one.

Dimensions of Ship per Register, length, 146 ft. breadth, 21 ft. depth, 13 ft.

	Inches in Ship.	Inches required per Rule.		Inches in Ship.	Inches required per Rule.
Keel, $\frac{1}{2}$ bar iron, depth and thickness	$5\frac{1}{2} \times 2\frac{1}{2}$	$7 \times 1\frac{1}{2}$	Flat Keel Plates, breadth and thickness		
Do. if centre through plate, depth and thickness			Plates in Garboard Strakes, breadth and thickness	36	$9\frac{1}{8}$
Stem, $\frac{1}{2}$ bar iron, moulding and thickness	$5 \times 2\frac{1}{2}$	$6\frac{1}{4} \times 1\frac{1}{8}$	Do. from Garboard to upper part of Bilges		$9\frac{1}{8}$
Stern-post do. do. do.	7×4	$6\frac{1}{4} \times 3\frac{1}{4}$	Do. of doubling at Bilge, or increased thickness, and length applied		$9\frac{1}{8}$
Distance of Frames from moulding edge to moulding edge, all fore and aft	21	21	Do. from upper part of Bilge to lower edge of Sheerstrake		$9\frac{1}{8}$
Frames, size of Angle Iron, for $\frac{1}{2}$ length amidships	$3\frac{1}{2} \times 2\frac{1}{2}$	$6\frac{1}{8} \times 1\frac{1}{2}$	Do. Sheerstrake, breadth and thickness	62	$9\frac{1}{8}$
Do. for $\frac{1}{2}$ at each end	$3\frac{1}{2} \times 2\frac{1}{2}$	$6\frac{1}{8} \times 1\frac{1}{2}$	Do. of doubling at Sheerstrake, and length applied		$9\frac{1}{8}$
Reversed Frames, size of Angle Iron	$2\frac{1}{4} \times 2\frac{1}{4}$	$5\frac{1}{8} \times 1\frac{1}{4}$	Butt Straps to outside plating, breadth and thickness	$10\frac{1}{2} \times 1\frac{1}{2}$	$9\frac{1}{8}$
Floors, depth and thickness of Floor Plate at mid line for half the length amidships	$13\frac{1}{2}$	14	Lengths of Plating	$10\frac{1}{2}$	$9\frac{1}{8}$
Do. at the ends	$13\frac{1}{2}$	14	Shifts of Plating, and Stringers	42	$9\frac{1}{8}$
Do. do. do. at Bilge Keelson	8	$6\frac{1}{8}$	Gunwale Plate on ends of Awning, or Spar Deck Beams, breadth and thickness		$9\frac{1}{8}$
Do. height extended at the Bilges	26	28	Angle Iron on ditto		$9\frac{1}{8}$
Beams, Three Decked, Spar, or Awning Decked (No.) single or double Angle Iron, Plate or Tee Bulb Iron			Tie Plates (fore and aft), outside Hatchways		$9\frac{1}{8}$
Single or double Angle Iron on Upper edge			Diagonal Tie Plates on Beams (No. of Pairs,)		$9\frac{1}{8}$
Average space			Planksheer material and scantling		$9\frac{1}{8}$
Beams, Upper or Middle Deck (No.) single, or double Angle Iron, Plate or Tee Bulb Iron	6	3	Waterways do. do.		$9\frac{1}{8}$
Single, or double Angle Iron, on Upper Edge			Flat of Deck do. do.		$9\frac{1}{8}$
Average space	42	42	How fastened to Beams		$9\frac{1}{8}$
Beams, Lower Deck or Orlop (No.) single or double Angle Iron, Plate or Tee Bulb Iron			Stringer Plate on ends of Upper or Middle Deck Beams, breadth and thickness	42	$9\frac{1}{8}$
Single or double Angle Iron on Upper Edge			Angle Irons on ditto (No.)	$3\frac{1}{2} \times 3\frac{1}{2}$	$9\frac{1}{8}$
Average space			Tie Plates, outside Hatchways		$9\frac{1}{8}$
Keelsons Centre line, single or double plate, in Horse box, or Intercoastal, size of Plates	9	$7\frac{1}{8}$	Diagonal Tie Plates on Beams (No. of pairs,)		$9\frac{1}{8}$
Do. Bulb Plate to Intercoastal Keelson			Waterways materials and scantlings		$9\frac{1}{8}$
Do. Size of Angle Irons	4	4	Flat of Deck do. do. (Iron)		$9\frac{1}{8}$
Do. Side Intercoastal Keelson, size of Plates			How fastened to Beams		$9\frac{1}{8}$
Do. Angle Irons on tops of Floors			Stringer Plates on ends of Lower Deck or Orlop Beams		$9\frac{1}{8}$
Do. Bilge Keelson, Bulb Iron	9	$7\frac{1}{8}$	Angle Irons on ditto (No.)		$9\frac{1}{8}$
Do. do. Angle Irons	4	3	Stringer or Tie Plates, outside Hatchways		$9\frac{1}{8}$
Do. Side Stringers (No. Two) size of Angle Irons	6	3	Flat of Deck		$9\frac{1}{8}$

Transoms, material Iron or, if none, in what manner compensated for.
Knight-heads Iron Hawse Timbers Iron
Windlass Sarfield's Patent Pall Bitt None required
The Frames extend in one length from Keel to Gunwale. Riveted through plates with ($\frac{3}{4}$ in.) Rivets, about $\frac{5}{4}$ apart.
The Reverse Angle Irons on the floors extend across the middle line To the upper part of Bilge on every frame and on every alternate frame to the Gunwale.
On all the Frames and to
Keelsons. Are the various lengths of Plates and Angle Irons properly connected? Yes And are their butts properly shifted? Yes
Plates, Garboard, double or single Riveted to Keel, double or single at upper edge, with Rivets ($\frac{3}{4}$ in.) diameter, averaging ($\frac{3}{4}$ ins.) from centre to centre.
Do. Edges from Garboards to upper part of Bilge, worked Clencher, double or single Riveted; with Rivets ($\frac{3}{4}$ in.) diameter, averaging ($\frac{3}{4}$ ins.) from centre to centre.
Do. Butts from Keel to turn of Bilge, worked carvel with butt straps ($\frac{3}{4}$ ins.) thick, treble, double or single Riveted; with Rivets ($\frac{3}{4}$ in.) diameter averaging ($\frac{3}{4}$ ins.) from centre to centre. Do the Butt Straps lay over and Rivet through the lands of the strakes above or below? No
Do. Edges of Sheerstrake, double or single Riveted. At upper edge Single through Angle Iron At lower edge Double
Do. Butts from Bilge to Planksheers, worked Carvel with Butt Straps ($\frac{3}{4}$ ins.) thick, double or single Riveted; with Rivets ($\frac{3}{4}$ in.) diameter, averaging ($\frac{3}{4}$ ins.) from centre to centre. Breadth of laps in double Riveting ($\frac{1}{4}$ ins.) Breadth of laps in single Riveting ($\frac{1}{4}$ ins.)
Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? Treble and Double
Planksheer, how secured to the plating of the sides, { Explain by Sketch, } See Midship Section herewith
Waterway " " planksheer and to the Beams, { if necessary. }
Beams of the various Decks, how secured to the sides? By buckles. Plates well riveted No. of Breasthooks, Three Crutches, Two
What description of Iron is used for the Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Amey's Bes. (R.C. & S.C.)
Manufacturer's name or trade mark, (Amey's Bes.) and (R.C. & S.C.)

We certify that the above is a correct description of the several particulars therein given.
Builder's Signature, Harland & Wolff Surveyor's Signature, William Stb.

IRON 447-0138

8335 Iron

Workmanship. Are the butts of plating planed otherwise fitted? *Hammered.*
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? *Single pieces.*
Do the holes for riveting plate to frames, butt straps, or plate to plate, &c., conform well to each other? *Yes.* and are the rivet holes well and sufficiently countersunk in the plate and punched from the faying surfaces? *Yes.*
Are there any rivets which either break into or have been put through the seams or butts of the plating? *A few in the Butts only.*

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 riveting, quality of Materials, and if stamped with Maker's name.

State also Length and Diameter of Lower Masts and Bowsprit *Fore Mast 52 1/2 long 14 inch dia. Main Mast 55 1/2 long 14 inch dia. Bowsprit - long - diameter at stem - Masts & Bowsprit of pitch and Red-pine.*

N ^o .	SAILS.	CABLES, &c.	Fathoms.	Inches.	Test as per Certificate.	In. req'd per Rule.	Test req'd per Rule.	ANCHORS, &c.	N ^o .	Weight.	Test as per Certificate.	Wt. req'd per Rule.	Test req'd per Rule.
	Fore Sails,	Chain <i>74.5053</i>	<i>180</i>	<i>1</i>	<i>Iron cast 9/16 20.14.0.0</i>	<i>15 1/2</i>	<i>15 1/2 1/2</i>	Bowers	<i>4558</i>	<i>7.3.0</i>	<i>11.7.3.7</i>	<i>8.2.0</i>	<i>8 1/2 1/2</i>
	Fore Top Sails,	(State Machine where Tested, and name of Superintendent).	<i>Being 15 per cent above Admiralty proof.</i>		<i>Tested at Staffordshire Public Machine and certified signed by S. Eugene Esq.</i>				<i>4564</i>	<i>7.2.3</i>	<i>11.5.1.8</i>	<i>6.2.0</i>	<i>8 1/2 1/2</i>
	Fore Topmast Stay Sails	Hempen Stream Cable	<i>90</i>	<i>7</i>		<i>7</i>				<i>1.3.15</i>	<i>11.5.1.8</i>	<i>6.2.0</i>	<i>8 1/2 1/2</i>
	Main Sails,	Hawser	<i>90</i>	<i>5</i>		<i>5</i>		Stream	<i>1824</i>	<i>2.8.10</i>	<i>2.2.0</i>	<i>2.2.0</i>	
	Main Top Sails,	Towlines	<i>4</i>	<i>1/2 inch</i>									
	and	Warp	<i>3 1/2</i>	<i>1/2 inch</i>				Kedges	<i>one</i>	<i>1.1.12</i>	<i>1.1.0</i>		
		All of <i>good</i> quality.											

Her Standing and Running Rigging *Iron and Hemp* sufficient in size and *good* in quality. She has *one* Long Boat and *one* other.

The present state of the Windlass is *Efficient* Capstan *Efficient* and Rudder *Efficient* Pumps *Three besides Engine pumps.*

Engine Room Skylights.—How constructed? *Iron Curved and Hooped Framing* How secured in ordinary weather? *Bolled to angle Irons fitted inside.*

What arrangements are there for deadlights in such for bad weather? *Carpanlights supported by rod framing over the Glass.*

Coal Bunker Openings.—How constructed? *Framed of Iron* How are lids secured? *rub Shud, hinged bar and bolted.* How high above deck? *16 ins.*

Scuppers, &c.—What arrangements are there beyond the scuppers on deck, for clearing upper deck of water, in case of a sea coming on board? *She has very low Bulwarks being only 20 ins above deck, with Stations and Chain Rails fitted 19 ins above deck. And 10 Scuppers and two Stern, showing - perfect.*

Cargo Hatchways.—How formed? *Iron. Framed in the ordinary way State size Fore Hatch 10 ft square. After ditto 20 ft by 12 ft.*

If of extraordinary size, state how framed and secured? *The Main Hatch has two supported transverse beams and fore and after, and the after Hatch is particularly fitted with one transverse beam.*

What arrangement for shifting beams? *No arrangement made for shifting beams.*

Hatches, themselves, whether strong and efficient? *Very Strong being 2 1/2 inch Main Hatchways.—State size 27 ft 8 ins long by 10 ft 4 ins wide.*

Order for Special Survey No. <u>41</u>	DATES of	1st.	On the several parts of the frame, when in place, and before the plating was wrought	} <i>During the rammed stages after completion in all seven keels visits.</i>
Date <u>12th July 1870</u>	Surveys held	2nd.	On the plating during the progress of riveting	
Order for Ordinary Survey No. <u>—</u>	while building	3rd.	When the beams were in and fastened, and before the decks were laid	
Date <u> </u>	as per	4th.	When the ship was complete, and before the plating was finally coated or cemented	
No. <u>78</u>	in builder's yard.	Section 18.	5th.	

General Remarks, *She is a flush decked vessel, Schooner rigged, with a House on deck and ships constructed of Iron. Has been built under Special Survey in accordance with the approved Trading of shipbuilding Societies. Is fitted with a more than usually large Main Hatchway, which is well and substantially secured, with Transverse Beams and Fore and After, and the upper part of deck Beams, (from the sides of the Hatchway to the Skeerstrake are plated over with 8/16 plates, and she is also fitted with a partial Iron Bulkhead at about the middle of the said Hatch, as shown in ticked lines on the Tracing;— and altogether the Transverse strength of the vessel at this part, is in my opinion, well maintained. She is also fitted with an entire Iron deck; also a strong and substantial longitudinal girder or Fender, on the outside as shown on Section, extending all fore and aft, at lower part of Skeerstrake; and the Stern Frame is arranged so as to admit of the Screw propeller being either raised or lowered. The principle object of the plan is, to be able to immerse the Screw, when the vessel is light, so as to obviate the necessity of Ballasting the vessel which is the usual practice of attaining that object. I may add that the Workmanship of this vessel is of a very superior character.*

In what manner are the surfaces preserved from oxidation? Inside *fermented in flat and Painted* Outside *Black Varnish and Paint.*

I am of opinion this Vessel should be Classed *100 A 1*

The amount of the Entry Fee£ *3 : 0 : 0* is received by me,

Travelling Expenses (if any)£ *— : — : —*

Special£ *12 : 15 : 0*

Certificate£ *— : — : —*

Committee's Minute *7th October 1870*

Character assigned *100 A 1*

Williamson
This Vessel appears eligible to be Classed and recommended as 100 A 1
Lloyds Register Foundation