

IRON SHIP. 16839

No. 11444 Survey held at Sunderland Date, First Survey March 27th Last Survey September 18th

On the "Belle of Arron" Barque Master Hugh Thomas

Built at Sunderland

When built 1876 Launched 8mo 76

By whom built Osbourne & Graham & Co.

Owners Thomas Griffiths and others

Port belonging to Liverpool

Destined Voyage Singapore

If Surveyed while Building, Afloat, or in Dry Dock.

TONNAGE under Tonnage Deck	882.56	ONE, OR TWO DECKED, THREE DECKED VESSEL.
Ditto of <u>Lower</u> Deck		SPAR, OR AWNING DECKED VESSEL.
Ditto of <u>Upper</u> Deck		
HALF BREADTH (moulded)	16.50	
DEPTH from upper part of Keel to top of Upper Deck Beams	22.58	
GIRTH of Half Midship Frame (as per Rule)	33.66	
1st NUMBER	72.74	
1st NUMBER, if a THREE-DECKED VESSEL [deduct 7 feet]		
LENGTH	134.56	
2nd NUMBER	6	
PROPORTIONS—Breadths to Length		
Depths to Length—Upper Deck to Keel		
Main Deck ditto		

LENGTH on deck as per Rule ..	Feet. Inches.	BREADTH—Moulded ..	Feet. Inches.	DEPTH top of Floors to Upper Deck Beams	Feet. Inches.	Power of Engines ..	Horse.	Nº. of Decks with flat laid	Nº. of Tiers of Beams
185 "		33 "		20 9				One	Two

Dimensions of Ship per Register, length, 134.56 breadth, 33.2 depth, 20.65

	Inches in Ship.	Inches per Rule.
KEEL, depth and thickness	8 4 2 3/8	8 4 2 3/8
STEM, moulding and thickness	7 1/4 + 2 3/8	7 1/4 + 2 3/8
STERN-POST for Rudder do. do.	7 1/4 + 2 3/8	7 1/4 + 2 3/8
Distance of Frames from moulding edge to moulding edge, all fore and aft	23 "	23 "
Angle Iron, for 1/2 length amidships	4 1/2 3 8	4 1/2 3 8
Angle Iron, for 1/4 at each end	4 1/2 3 7	4 1/2 3 7
REVERSED FRAMES, Angle Iron	3 3 7	3 3 7
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships	22 1/2 9	22 1/2 9
thickness at the ends of vessel	8 7	8 7
depth at 3/4 the half-bdth. as per Rule	11 1/4	11 1/4
height extended at the Bilges	11 1/4	11 1/4
BEAMS, Upper, Spar, or Awning Deck Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	7 1/2 7	7 1/2 7
Single or double Angle Iron on Upper edge	3 3 6	3 3 6
Average space	46	46
BEAMS, Main, or Middle Deck Single or d'ble Ang. Iron, Plate or Tee Bulb Iron		
Single or double Angle Iron on Upper Edge		
Average space		
BEAMS, Lower Deck, Hold, or Orlop Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	8 8 8 8	8 8 8 8
Single or double Angle Iron on Upper Edge	3 3 6 3 3 6	3 3 6 3 3 6
Average space	46	46
KEELSONS Centre line, single or double plate, box, or intercostal, Plates	14 11 14 11	14 11 14 11
" Rider Plate		
" Bulb Plate to Intercostal Keelson		
" Angle Irons	5 3 1/2 7 5 3 1/2 7	5 3 1/2 7 5 3 1/2 7
" Double Angle Iron Side Keelson		
" Side Intercostal Plate		
" do. Angle Irons		
" Attached to outside plating with angle iron	3 3 6	not req'd
ILGE Angle Irons	5 3 1/2 7 5 3 1/2 7	5 3 1/2 7 5 3 1/2 7
" do. Bulb Iron		
" do. Intercostal plates riveted to plating for length		
BILGE STRINGER Angle Irons	5 3 1/2 7 5 3 1/2 7	5 3 1/2 7 5 3 1/2 7
Intercostal plates riveted to plating for length		
SIDE STRINGER Angle Irons	5 3 1/2 7	not req'd

	Inches. In Ship.	16ths. In Ship.	Inches. per Rule.	16ths. per Rule.
Flat Keel Plates, breadth and thickness				
PLATES in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges of doubling at Bilge, or increased thickness, and length applied	34	10	34	10
fm up. part of Bilge to Ir. edge of Sh'rstrake				
Main Sheerstrake, breadth and thickness of d'bling at Sh'rstrake, & length applied from Mn. to Up. or Spar Dk. Sh'rstrake.	36	11	36 11	
Up. or Spar Dk Sh'rstrake, brdth & thickness	7 1/4 14 1/4 16 3/4 9 1/4 14 1/4 16 3/4			
Butt Straps to outside plating, breadth & thickness	9 10 13 9 10 10			
Lengths of Plating	2 4 spaces			
Shifts of Plating, and Stringers	2 4 spaces			
Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness	36	9	36 9	
Angle Iron on ditto	5 3 1/2 8 5 3 1/2 7			
Tie Plates fore and aft, outside Hatchways	10	9	10 9	
Diagonal Tie Plates on Beams No. of Pairs, Plankbolts material and scantling				
Waterways do. do.	gutter gutter			
Flat of Upper Deck do. do.	3 1/2			
How fastened to Beams	Gal'd Iron rivets			
Stringer Plate on ends of Main or Middle Deck Beams, breadth and thickness				
Is the Stringer Plate attached to the outside plating?	yes			
Angle Irons on ditto, No.	3 1/2 3 1/2 8 3 1/2 3 1/2 8			
Tie Plates, outside Hatchways	4 3 7			
Diagonal Tie Plates on Beams, No. of pairs				
Waterways materials and scantlings				
Flat of Middle Deck do. do.				
How fastened to Beams				
Stringer Plates on ends of Lower Deck, Hold or Orlop Beams	28	8	28 8	
Is the Stringer Plate attached to the outside plating?	yes			
Angle Irons on ditto, No. 2	3 1/2 3 1/2 8 3 1/2 3 1/2 8			
Stringer or Tie Plates, outside Hatchways	4 3 7			
Flat of Lower Deck				
Ceiling betwixt Decks, thickness and material	8 spanning			
in hold do. do.	2 1/2			
Main piece of Rudder, diameter at head	5			
do. at heel	3			
Can the Rudder be unshipped afloat?	yes			
Bulkheads No. 1 Thickness of				
Height up	6			
How secured to sides of ship	between double frames			
Size of Vertical Angle Irons 3 x 3 x 7 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 22" 20" Pall Bitt Iron

The FRAMES extend in one length from Middle line to gunwale Riveted through plates with 7/8 in. Rivets, about 6 apart.

The REVERSED ANGLE IRONS on floors and frames extend from middle line to shore down all stringers and to gunwale 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 in. diameter, averaging 5 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 3 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 3 1/4 ins. from centre to centre.
Butts of 3 Strakes at Bilge for 7/2 length, treble riveted with Butt Straps 7/16 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 3 1/4 ins. from cr. to cr.
Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 3/4 in. diameter, averaging 3 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 Upper or Spar Sheerstrake, treble riveted length amidships.
Butts of Main Stringer Plate, treble riveted for 1/2 length amidships. Butts of Upper or Spar Stringer Plate, treble riveted for length.
Breadth of laps of plating in double riveting 6 times Breadth of laps of plating in single riveting 3

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? yes

Waterway, how secured to Beams gutter gunwale (Explain by Sketch, if necessary.)

Beams of the various Decks, how secured to the sides? Beams turned on Beams No. of Breasthooks, 5 Crutches, 3

What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Wrought Iron

Manufacturer's name or trade mark, H. & A. Bell & Co. & J. & A. Bell & Co.

The above is a correct description.

Builder's Signature, Osbourne & Graham & Co. Surveyor's Signature, W. M. Lloyd

Surveyor to Lloyd's Register of British and Foreign Shipping.

168467-0477

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 very few only*

Masts, Bowsprit, Yards, &c., are *all* 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 *Refer Sketch and tracing annexed.*

The plates used in the construction of the masts and yards of this vessel are of good quality and were submitted to Hot and Cold test as required.

NUMBER for EQUIPMENT *14354*

N ^o .	SAILS.	CABLES, &c.	Fathoms.	Inches.	Test per Certificate.	Length & Size req'd pr Rule.	Test req'd per Rule.	ANCHORS.	N ^o .	Weight. Ex. Stock.	Test per Certificate.	W'ght req'd per Rule.	Test req'd per Rule.
		Chain	270	1 7/8	47 5/8	270 1 7/8	47 5/8	Bowers	1	25.2.18	25.8.018	25 1/2	25 3/20
	Fore Sails,		31 1/2	1 1/2	15 1/2	31 1/2	15 1/2		1	25.2.14	25.5.328	25 1/2	25 3/20
	Fore Top Sails,								1	21.3.0	22.3.1.0	21.2.20	22 3/20
	Fore Topmast Stay Sails		90	7/8		90 1 1/8		Stream	1	10.2.0		10.250	
	Main Sails,		90	1 1/8		90 1 1/8		Kedges	1	5.1.0		5.1.0	
	Main Top Sails,		100	5		90 5			1	2.3.0		2.3.4	
	and	quality	100	4									

Standing and Running Rigging *White Manila* sufficient in size and *good* in quality. She has *3* Long Boats and

The Windlass is *good* Capstan *good* and Rudder *good* Pumps *good* and sufficient

Engine Room Skylights.—How constructed? *✓* How secured in ordinary weather? *✓*

What arrangements for deadlights in bad weather? *✓*

Coal Bunker Openings.—How constructed? *✓* How are lids secured? *✓* Height above deck? *✓*

Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? *Ports and Scuppers*

Cargo Hatchways.—How formed? *Plates and angle iron*

State size Main Hatch *15'4" x 10* Fore hatch *5'9" x 5'6"* Quarter hatch *7'8" x 7'*

If of extraordinary size, state how framed and secured? *A shifting beam to Main Hatchway*

What arrangement for shifting beams? *Ports and beams*

Hatches, If strong and efficient? *Wood 2 1/2 inch*

Order for Special Survey No. <i>2626</i>	1st. On the several parts of the frame, when in place, and before the plating was wrought	<i>Built under S.P. and Surveyed 1876 March 24 to April 30 11.13. 2025 May 14 to 13.18 23.524 June 18.14 to 20.26 29.30 July 3.05.13.14 to 26 Aug. 2.8.14 13.21.24.25.30.31 Sep. 1</i>
Date <i>24th March/76</i>	2nd. On the plating during the process of riveting	
Order for Ordinary Survey No. <i>✓</i>	3rd. When the beams were in and fastened, and before the decks were laid....	
Date <i>✓</i>	4th. When the ship was complete, and before the plating was finally coated or cemented..	
No. <i>23</i> in builder's yard.	5th. After the ship was launched and equipped	

General Remarks (State quality of workmanship, &c.) *The workmanship is of good quality throughout*

This vessel has been built in general conformity with the Rules and in accordance with the Midship section attached for the 100 A grade. It will be observed that an intercostal keelson 7/16 thick is fitted between the side keelsons, attached to the shell plating, with angles 3 x 3 x 6 and there is a double angle iron each side riveted to reverse frames under the raised deck, both of which is in excess of the Rules. Efficient arrangements to prevent painting have been provided and diagonal ties are fitted on Hold Beams in way of Fore and Main Masts.

State if one, two, or three, decked vessel, or if spar, or running decked, and the length of poop, forecabin, or raised quarter deck, and the length of double, or part double bottom.

How are the surfaces preserved from oxidation? Inside *Cement and Paint* Outside *Paint & White Lead & Yellow*

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

The amount of the Entry Fee ... £ *5* ... is received by me, *✓*
Special ... £ *46* : *3* ... *1st September 1876*
Certificate ...

(Travelling Expenses, if any, £ ...).

Committee's Minute *5th September 1876*

Character assigned *100 A.1.*