

# IRON SHIPS.

Rev 3/6/69

No. 2979 Survey held at Renfrew Date Feb 13<sup>th</sup> to June 1<sup>st</sup> 1869  
 on the Screw Steamer "Hedge" Master John F. Breininge  
 Tonnage under tonnage deck 644.28 Built at Renfrew When built 1869 Launched May 12/69  
 Ditto of quarter deck 43.65  
 Ditto of poop, fore-castle, or other erections on upper deck 42.87  
 Ditto of spar deck 39.76 By whom Henderson & Coulson Owners Steam Ship Coy Denmark  
 Ditto of engine room 233.86 Port belonging to Copenhagen Destined Voyage Baltic  
 Gross tonnage, less crew space 691.04  
 Total Register tonnage, as cut on beam 457.18 If Surveyed while Building, Afloat, or in Dry Dock Special while building

PLANS CASE

Length aloft 205.6 Extreme Breadth 28.3 Depth from top of Upper Deck Beam to top of Floor 15.5 Power of Engines 110 No. of Decks one  
 (Dimensions of Ship per Register, length 205.4 breadth 28.1 depth 15.2)

	Inches in Ship.		Inches required per Rule.		16ths required per Rule.			Inches in Ship.		Inches required per Rule.		16ths required per Rule.	
	Inches.	16ths.	Inches.	16ths.	Inches.	16ths.		Inches.	16ths.	Inches.	16ths.	Inches.	16ths.
Keel, if bar iron, depth and thickness	7	23/4	7	23/4	7	23/4	Plates in Garboard Strakes, breadth and thickness	36	10/16	30	10/16		
" if plate iron, breadth and thickness	7	23/4	7	23/4	7	23/4	Ditto from Garboard to upper part of Bilges		9/16		9/16		
Stem, if bar iron, moulding and thickness	7	23/4	7	23/4	7	23/4	" from upper part of Bilge to a perpendicular height from upper side of Keel of 3/4ths the entire depth of Hold		8/16		8/16		
" if plate iron, breadth and thickness	8 1/2	4 1/2	7	5 1/2	7	5 1/2	" from 3/4ths depth of Hold to lower edge of Sheerstrake	6/16	7/16	10/16	7/16		
Space of Frames from moulding edge to moulding edge, all fore and aft	21		21		21		" Sheerstrake, breadth and thickness	37	13/16	36	13/16	34	13/16
Frames, Size of Angle Iron, single or double	4	3	4	3	4	3	Butt Straps to outside plating, breadth and thickness	10		18			
" Reversed Iron, if to every frame or every	3	3	3	23/4	3	23/4	Gunwale Plate or Stringer on ends of Upper Deck Beams, breadth and thickness	29 1/2	10/16	29 1/4	10/16	34	10/16
Floors, depth and thickness of Floor Plate at mid line	18		18		18		Angle Iron on ditto	5 x 3	7/16	5 x 3	7/16		
" Ditto ditto at Bilge Keelson	10 1/2		10		10		Stringer or Tie Plates fore and aft, on Upper Deck Beams, outside Hatchways	11	8/16	10 1/2	8/16		
" Size of Reversed Angle Iron, and No. at top of Floor Plate	3	3	3	23/4	3	23/4	Diagonal Tie Plates on ditto	11	8/16	10 1/2	8/16		
Beams, Deck (No. ) double Angle Iron, Plate, Tee, or Bulb Iron	7	5	7	5	7	5	Planksheer, materials and scantlings						
" double or single Angle Iron, on edge							Waterway ditto ditto						
" average space between	3 1/2	6	3 1/2	6	3 1/2	6	Flat of Upper Deck, thickness and material	3 1/2	Yellow pine	3 1/2			
Hold, or Lower Deck (No. ) double Angle, Tee, Plate, or Bulb Iron	7	5	7	5	7	5	" how fastened to Beams						
" double or single Angle Iron on edge							Ceiling betwixt Decks and in Hold, thickness and material	2 1/2	Elk Red Pine				
" average space between	3 1/2	6	3 1/2	6	3 1/2	6	Clamps or Spiricketing ditto						
Paddle, sided and moulded, thickness of Plate size of Angle Iron							Stringer Plates on ends of Hold or Lower Deck Beams, breadth and thickness						
Engine							Stringer or Tie Plates fore and aft outside Hatchways, on Hold or Lower Deck Beams						
Keelson, single or double plate, box, or intercostal	12		12		12		Stringers in Hold	5 x 3	7/16	4 1/2 x 3 1/2	7/16		
" Size of Plates	5	3	5	3	5	3	Flat of Lower Deck, thickness and material						
" Size of Angle Irons	5	3	5	3	5	3	Main piece of Rudder, diameter at head	4 3/4		4 3/4			
" Side, single or d'ble, plate, box, or intercostal							" " " at heel	3		2 3/4			
" Bilge (No. ) at each Bilge, single or double plate, or box	5	3	5	3	5	3	(Can the Rudder be unshipped afloat)						
" bulb plate for 1/2 length	7		7		7		Bulkheads, No. 5 Thickness of			6/16			
Transoms, material or, if none, in what manner compensated for.							" Height up to main deck						
Knight-heads, and Hawse Timbers							" how secured to the sides of the ship						
The Frames extend in one length from	Keel		gunwale		Keel		" size of vertical angle irons						
The reverse angle irons on the floors extend in one length across the middle line	from		to		from								
" " " on the frames	"		"		"								
Keelson, how are the various lengths of plates or angle irons connected?													
Plates, Garboard, double or	double		double		double								
" Edges from Garboards to upper part of bilge, worked clencher, double or single rivetted; with rivets (3/4 in.) diameter, averaging (2 1/4 in.) apart.													
" Butts from Keel to turn of bilge, worked carvel with butt straps (10/16 x 9/16) thick, double or single rivetted; with rivets (3/4 in.) diameter, averaging (2 3/4 in.) apart.													
" Edges from bilge to sheerstrake, worked carvel with a lining piece ( ) thick, or clencher, double or single rivetted; with rivets (3/4 in.) diameter, averaging (2 3/4 in.) apart.													
" Edges of Sheerstrake, double or single rivetted? At upper edge single to bulwark At lower edge double													
" Butts from bilge to planksheers, worked carvel with butt straps (13/16 x 6/16) thick, double or single rivetted; with rivets (3/4 in.) diameter, averaging (2 3/4 in.) apart. Breadth of laps in double rivetting (5 1/2 times) Breadth of laps in single rivetting (3 1/4 times)													
Butt Straps of Keelsons, Stringer and Tie Plates, double or single rivetted?													
Planksheer, how secured to the plating of the sides													
Waterway " " planksheer and to the Beams													
Deck Beams, how secured to the side?													
Hold or Lower Deck ditto													
Paddle " " " " " " " "													
No. of breasthooks													
crutches													
What description of Iron is used for the Frames, Beams, Keelsons, Tie and Stringer Plates, Outside Plating, &c.?													
Manufacturer's name or trade mark													
We certify that the above is a correct description of the several particulars therein given.													
Builder's Signature													
Surveyor's Signature													

Plates in Garboard Strakes, breadth and thickness 36 10/16 30 10/16  
 Ditto from Garboard to upper part of Bilges 9/16 9/16  
 " from upper part of Bilge to a perpendicular height from upper side of Keel of 3/4ths the entire depth of Hold 8/16 8/16  
 " from 3/4ths depth of Hold to lower edge of Sheerstrake 6/16 7/16 10/16 7/16  
 " Sheerstrake, breadth and thickness 37 13/16 36 13/16 34 13/16  
 Butt Straps to outside plating, breadth and thickness 10 18  
 Gunwale Plate or Stringer on ends of Upper Deck Beams, breadth and thickness 29 1/2 10/16 29 1/4 10/16 34 10/16  
 Angle Iron on ditto 5 x 3 7/16 5 x 3 7/16  
 Stringer or Tie Plates fore and aft, on Upper Deck Beams, outside Hatchways 11 8/16 10 1/2 8/16  
 Diagonal Tie Plates on ditto 11 8/16 10 1/2 8/16  
 Planksheer, materials and scantlings gutter  
 Waterway ditto ditto 3 1/2 Yellow pine 3 1/2  
 Flat of Upper Deck, thickness and material Iron Nutt & Serunt  
 " how fastened to Beams Iron Nutt & Serunt  
 Ceiling betwixt Decks and in Hold, thickness and material 2 1/2 Elk Red Pine  
 Clamps or Spiricketing ditto  
 Stringer Plates on ends of Hold or Lower Deck Beams, breadth and thickness  
 Stringer or Tie Plates fore and aft outside Hatchways, on Hold or Lower Deck Beams See side view section  
 Stringers in Hold 5 x 3 x 7/16 4 1/2 x 3 1/2 x 7/16  
 Flat of Lower Deck, thickness and material  
 Main piece of Rudder, diameter at head 4 3/4 4 3/4  
 " " " at heel 3 2 3/4  
 (Can the Rudder be unshipped afloat) No  
 Bulkheads, No. 5 Thickness of 6/16  
 " Height up to main deck  
 " how secured to the sides of the ship between double frames in way of Keels 4 1/2 x 3 x 7/16 and their distance apart 2-6  
 " size of vertical angle irons 3 x 3 x 7/16 rivetted through plates with (3/4 in.) rivets, about (5) apart.  
 The reverse angle irons on the floors extend in one length across the middle line from to hold beam stringer & gunwale alternately  
 " " " on the frames " " from to the same  
 Keelson, how are the various lengths of plates or angle irons connected? by butt straps  
 Plates, Garboard, double or rivetted to keel, double or at upper edge, with rivets (3/4 in.) diameter, averaging (2 1/4 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 (10/16 x 9/16) 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 ( ) 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 or single rivetted? At upper edge single to bulwark At lower edge double  
 " Butts from bilge to planksheers, worked carvel with butt straps (13/16 x 6/16) thick, double or single rivetted; with rivets (3/4 in.) diameter, averaging (2 3/4 in.) apart. Breadth of laps in double rivetting (5 1/2 times) Breadth of laps in single rivetting (3 1/4 times)  
 Butt Straps of Keelsons, Stringer and Tie Plates, double or single rivetted? double and free  
 Planksheer, how secured to the plating of the sides Explain by sketch gutter  
 Waterway " " planksheer and to the Beams if necessary.  
 Deck Beams, how secured to the side? knee plates rivetted to frame and beams  
 Hold or Lower Deck ditto do do do  
 Paddle " " " " " " " " No. of breasthooks 4 crutches 3  
 What description of Iron is used for the Frames, Beams, Keelsons, Tie and Stringer Plates, Outside Plating, &c.? Crossed  
 Manufacturer's name or trade mark & Mosses  
 We certify that the above is a correct description of the several particulars therein given.  
 Builder's Signature Henderson & Coulson Surveyor's Signature

7140 Jm

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? yes

Do the fillings between the ribs and plates fill in solid with single pieces? yes or are they in short lengths of various thicknesses? no

Do the holes for rivetting 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 outer plate? yes

Are there any rivets which either break into or have been put through the seams or butts of the plating? a very few in corners of butts

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.)

Masts of wood, rigged as a Three Masted Schooner

She has SAILS.	CABLES, &c.	Fathoms.	Inches.	Test as per Certificate.	In. req'd per Rule.	Test req'd per Rule.	ANCHORS, &c N <sup>o</sup> .	Weight. Ex. Stock.	Test as per Certificate.	W'ght req'd per Rule.	Test req'd per Rule.	
Fore Sails,	Chain .....	270	1 3/8	34	1 3/8	34	Bowers .....	3	16.3.14	18.2.3.7	16 3/4	18
Fore Top Sails,	at Staffrd. by MK Reade apl 19/69						at Staffrd. Shur		16.3.0	18.0.2.14	16 3/4	18
Fore Topmast Stay Sails	Hempen Stream Cable	90	3/4		90	3/4	by MK Reade apl 24/69		14.2.7	16.4.1.0	14.0.2.7	15 7/10
Main Sails,	Hawser .....	60	7/8			6 1/2	Stream		6.3.12	7.12	7	
Main Top Sails,	Towlines .....	"	3/4				Porters Patent		3.2.25	5.10	3 1/2	
and	Warp .....	120	3 1/2				Kedges .....	2	1.3.0	3.16	1 3/4	
	All of <u>good</u> quality.		2 1/2									

Her Standing and Running Rigging wood & hemp sufficient in size and good in quality.

She has 1 life, 1 cutter, Long Boat and a dingy and gig

The present state of the Windlass is Patent Capstan worked by steam and Rudder efficient Pumps 6 in each hold, Engine

Order for Special Survey	DATES of	1st.	2nd.	3rd.	4th.	5th.
No. <u>388</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>Decr 26/68</u>	while building					
Order for Ordinary Survey	as per					
No. <u>---</u>	Section 18.					
Date <u>---</u>						

Built under Special Survey from Feb 13<sup>th</sup> to June 1<sup>st</sup> 1869

State if she has a Spar Deck Painted Poop and Forecastle

General Remarks,

She has a short hurricane deck fitted over the Engine Hatchway, which is plated between the upper and hurricane decks and covered with a wood framed skylight; also a light bridge deck amidships, under which is fitted a house for officers with a Chart house on the top; The bulwarks are of iron supported by iron stays against the inside angle bars of the gutter waterway.

A Water ballast tank is fitted amidships 32 feet long between two bulkheads to the height of the hold beams which are spaced 3ft. 6ins in this part and plated with 1/16 plating forming iron deck.

It will be noted that the Patent Stream anchor is 16lbs lighter than required by Table No 22.

In what manner are the surfaces preserved from oxidation? Inside Portland Cement in flat above Oil Paint Ditto ditto Outside Oil Paint

I am of opinion this Vessel should be Classed A1.  
The amount of the Fee .....£ 5 : 0 : 0 is received by me,  
Special .....£ 14 : 11 : 0  
Certificate (if required) .....£ 2 : 0 : 0  
Committee's Minute 4<sup>th</sup> June 18 69  
Character assigned A1

H. Morush  
This vessel appears eligible to be classed as recommended above  
R  
Registered  
Foundation