

IRON SHIP.

(Received at London Office) **WEDNESDAY 20 JUNE 1884**
1884

No. **88**. Survey held at **Bergen**
On the **(No 81) S.S. "Welhaven"**

Date, First Survey **27 July 1883** Last Survey **18 June 1884**

TONNAGE under Tonnage Deck **509.13**
Ditto of Third, Spar, or Awaiting Deck
Ditto of Poop, or Raised Qr. Dk. **57.22**
Ditto of Houses on Deck **91.82**
Ditto of Foredeck **20.03**
Gross Tonnage **678.20**
Less Crew Space **41.81**
636.39
Less Engine Room **152.75**
Register Tonnage as cut on Beam **483.64**

ONE, OR TWO DECKED, THREE DECKED VESSEL, RAISED QUARTER DECK
Half Breadth (moulded) **14.0**
Depth from upper part of Keel to top of Upper Deck Beams **15.25**
Girth of Half Midship Frame (as per Rule) **26.13**
1st Number **55.38**
1st Number, if a 3 Decked Vessel deduct 7 feet
Length **178.9**
2nd Number **9907.482**
Proportions— Breadths to Length **6.39**
Depths to Length— Upper Deck to Keel **11.73**
Main Deck ditto **cellular tank**

Master **B. Servald**
Built at **Bergen**
When built **1884** Launched **15.1.84**
By whom built **Martens Olsen & Co**
Owners **S. M. Kuhnle and others**
Residence **Bergen**
Port belonging to **Bergen**
Destined Voyage **Archangel**
If Surveyed while Building, Afloat, or in Dry Dock.
Special Survey while building

LENGTH on deck as per Rule **178 9** BREADTH— Moulded **28 0** DEPTH top of Deck Beams to Upper Deck Beams **12 5** Power of Engines **75** Horse. N° of Decks with flat laid **one** N° of Tiers of Beams **two**

KEEL, depth and thickness	Inches in Ship	Inches per Rule	PLATES, breadth and thickness	Inches in Ship	Inches per Rule
Centre plate two 8 x 7/8"	8 x 7/8"	7 1/2 x 2 1/2"	Flat Keel Plates, breadth and thickness	32	32
STEM, moulding and thickness	6 3/4 x 2 1/2"	6 3/4 x 2 1/2"	From Garboard Strakes, br'dth & thickness	9/16	9/16
STERN-POST for Rudder do. do.	6 3/4 x 4 1/4"	6 3/4 x 4 1/4"	From Garboard to upper part of Bilges	16	16
STERN-POST for Propeller	6 3/4 x 4 1/4"	6 3/4 x 4 1/4"	From Bilge at Bilge, or increased thickness, and length applied 1/2 length	16	16
Distance of Frames from moulding edge to moulding edge, all fore and aft	22 inches	22 inches	From up. prt of Bilge to lr. edge of Sh'rstrake	33	33
FRAMES, Angle Iron, for 3/4 length amidships	3 1/2 x 3 7/16	3 1/2 x 3 7/16	Main Sheerstrake, breadth and thickness	33	33
Do. for 1/2 at each end	3 1/2 x 3 7/16	3 1/2 x 3 7/16	Of d'bling at Sh'stk. & lng. applied 30 feet	16 3/4	16 3/4
REVERSED FRAMES, Angle Iron	3 x 2 1/2	3 x 2 1/2	From Main to Up. or Spar Dk. Sh'rstrake	16 3/4	16 3/4
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships	15 1/2	15 1/2	Up. or Spar Dk Sh'rstrake, breadth & thickness	16 3/4	16 3/4
thickness at the ends of vessel	15 1/2	15 1/2	Butt Straps to outside plating, breadth & thickness	16 3/4	16 3/4
depth at 3/4 the half-bdth. as per Rule	Cellular double bottom	Cellular double bottom	Lengths of Plating six spaces of frames	26	26
height extended at the Bilges	5 x 3 7/16	5 x 3 7/16	Shifts of Plating, and Stringers as per Rule	4 x 3 x 7/16	4 x 3 x 7/16
BEAMS, Upper, Spar, or Awaiting Deck	5 x 3 7/16	5 x 3 7/16	Gunwale Plate on ends of Awaiting Spar, or Upper Deck Beams, breadth and thickness	4 x 3 x 7/16	4 x 3 x 7/16
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	22 inches	22 inches	Angle Iron on ditto	4 x 3 x 7/16	4 x 3 x 7/16
Single or double Angle Iron on Upper Edge	5 x 3 7/16	5 x 3 7/16	Tie Plates fore and aft, outside Hatchways	21	21
Average space	22 inches	22 inches	Diagonal Tie Plates on Beams No. of Pairs	22	22
BEAMS, Main, or Middle Deck	6 1/2 x 9/16	6 1/2 x 9/16	Flat of Up., Spar, or Awaiting Dk. Iron	22	22
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	3 x 3 7/16	3 x 3 7/16	How fastened to Beams rivetted	3 1/2 x 3 1/2 x 7/16	3 1/2 x 3 1/2 x 7/16
Single or double Angle Iron, on Upper Edge	3 x 3 7/16	3 x 3 7/16	Stringer Plate on ends of Main or Middle Deck Beams, breadth and thickness	8	8
Average space	18 feet 4 inches	18 feet 4 inches	Is the Stringer Plate attached to the outside plating?	yes	yes
BEAMS, Lower Deck at Hatchways	7 1/2 x 7/16	7 1/2 x 7/16	Angle Irons on ditto, No.	3 1/2 x 3 1/2 x 7/16	3 1/2 x 3 1/2 x 7/16
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	3 x 3 7/16	3 x 3 7/16	Tie Plates, outside Hatchways 7/16 plates in way of Hatches	8	8
Single or double Angle Iron on Upper Edge	3 x 3 7/16	3 x 3 7/16	Diagonal Tie Plates on Beams, No. of pairs	21	21
Average space	18 feet 4 inches	18 feet 4 inches	Flat of Middle Deck do. 2 1/2" Wood	22	22
BEAMS, Hold, or Orlop	12 x 8/16	12 x 8/16	How fastened to Beams galv. bolts with nuts	22	22
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	9 x 8/16	9 x 8/16	Stringer Plates on ends of Lower Deck, Hold or Orlop Beams	3 1/2 x 3 1/2 x 7/16	3 1/2 x 3 1/2 x 7/16
Single or double Angle Iron on Upper Edge	4 x 3 7/16	4 x 3 7/16	Is the Stringer Plate attached to the outside plating?	yes	yes
Average space	12	12	Angle Irons on ditto, on 4 bridge deck	8	8
KEELSONS Centre line, single or double plate, box, or Intercostal, Plates	9 x 9/16	8 1/2 x 9/16	Stringer or Tie Plates, outside Hatchways	8	8
" Rider Plate in fore hold	4 x 3 7/16	4 x 3 7/16	Flat of Lower Deck Raised quarter deck and main deck of Iron 1/8"	8	8
" Bulb Plate to Intercostal Keelson	4 x 3 7/16	4 x 3 7/16	Ceiling betwixt Decks, thickness and material	battens & space	battens & space
" Angle Irons	4 x 3 7/16	4 x 3 7/16	" in hold do. do.	2 1/2	2 1/2
" Double Angle Iron Side Keelson	4 x 3 7/16	4 x 3 7/16	Main piece of Rudder, diameter at head	4 3/4	4 1/2
" Side Intercostal Plate	4 x 3 7/16	4 x 3 7/16	do. at heel	2 3/4	2 3/4
" do. Angle Irons	4 x 3 7/16	4 x 3 7/16	Can the Rudder be unshipped afloat? yes	4	4
" Attached to outside plating with angle iron	4 x 3 7/16	4 x 3 7/16	Bulkheads No. 4 No. per Rule 4	4	4
BILGE Angle Irons	4 x 3 7/16	4 x 3 7/16	" Thickness of 7/16	4	4
" do. Bulb Iron	4 x 3 7/16	4 x 3 7/16	" Height up three to upper decks - the aftermost to watertight flat	4	4
" do. Intercostal plates riveted to plating for length	4 x 3 7/16	4 x 3 7/16	" How secured to sides of ship double frames	4	4
BILGE STRINGER Angle Irons	4 x 3 7/16	4 x 3 7/16	" Size of Vertical Angle Irons 3 x 3 x 7/16 and distance apart 39 ins.	4	4
Intercostal plates riveted to plating for length	4 x 3 7/16	4 x 3 7/16	" Are the outside Plates doubled two spaces of Frames in length? yes	4	4
SIDE STRINGER Angle Irons	4 x 3 7/16	4 x 3 7/16		4	4

The FRAMES extend in one length from **hange plate to hange plate in way of st. b.** to **gunwale where** Riveted through plates with **3/4 in.** Rivets, about **8** apart.
The REVERSED ANGLE IRONS on floors and frames extend **middle line to hold beam stringer** 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 **4** 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 1/2** ins. from centre to centre.
Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets **3/4** in. diameter averaging **3 1/2** ins. from centre to centre.
Butts of **two** Strakes at Bilge for **1/2** length, treble riveted with Butt Straps **1/16** 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 3/8** 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 **4 1/2** Breadth of laps of plating in single riveting **2 1/2**
Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? **yes** No. of Breasthooks, **4** Crutches, **4**
What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.?
Manufacturer's name or trade mark, **Plates J & R Minier** Angles - **Sorman Long & Co**
The above is a correct description
Builder's Signature, **Martens Olsen** Surveyor's Signature, **Effingham**
Surveyor to Lloyd's Register of British and Foreign Shipping.

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 few*

Masts, Bowsprit, Yards, &c., are *now* 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 *Main Mast 78 feet x 16" diameter*
Fore Mast 84 feet x 17" diameter
both masts of pitchpine - and Pole masts.

NUMBER for EQUIPMENT		Fathoms.	Inches.	Test per Certificate.	Inches per Rule.	Machine where Tested & Suprntd.	ANCHORS.	No.	Weight. Ex. Stock.	Test per Certificate	W'ght req'd per Rule.	Machine where Tested & Suprntd.
SAILS.												
CABLES, &c.												
N ^o .	Chain	104.5	1 1/4	42 1/2	1 1/4	Artificer 6966	Bower Anchors					
1.	Fore Sails,	105.5	1 1/4	42 1/2	1 1/4	Artificer 6965	(State Machine where Tested, Date, or No. of Certificate, & Name of Superintendent.)	1.	13.3.7	15.10.1.7.	13 1/2	
1.	Fore Top Sails,	60.2	1 3/16	17 3/10	1 3/16	6950	N ^o 8389	1.	13.1.14	15.1.2.7	"	
1.	Fore Topmast Stay Sails,	90	9		9		N ^o 8394	1.	12.3.0	14.10.2.14	"	
2.	Main Sails,						N ^o 8395	1.	5.3.21	8.5.0.0	4 3/4	
	Main Top Sails, and	90	8		7		N ^o 8391	1.	2.2.14	5.2.2.0	2 1/2	
	Standing and Running Rigging	120 extra Warps					Stream Anchor	1.	1 1/2		1 1/4	
	Standing of steel						Kedge 8387.	1.				
	returning of brass						2nd Kedge ...	1.				

The Windlass is *Harfield patent* Capstan — and Rudder *good* Pumps *efficient*
Engine Room Skylights.—How constructed? *Iron coaming, Teak Top* How secured in ordinary weather? *Screws*
 What arrangements for deadlights in bad weather? *dead plates*
Coal Bunker Openings.—How constructed? *Iron coaming* How are lids secured? *Iron bars* Height above deck? *two feet*
Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? *Ports and scuppers*
Cargo Hatchways.—How formed? *Iron coamings extending to lower edge of beams and two feet above deck*
 State size **Main Hatch** *18'4" x 11'0"* **Forehatch** *7'4" x 7'6"* **Quarterhatch** *18'4" x 11'0"*
 If of extraordinary size, state how framed and secured?
 What arrangement for shifting beams? *Web plates - three fore and afters.*
Hatches, If strong and efficient? *2 1/2" solid*

Order for Special Survey No.	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	<i>Special Survey while building</i>
Date		2nd. On the plating during the process of riveting	
Order for Ordinary Survey No.		3rd. When the beams were in and fastened, and before the decks were laid....	
Date		4th. When the ship was complete, and before the plating was finally coated or cemented..	
No. <i>8.</i> in builder's yard.		5th. After the ship was launched and equipped	

State dates of letters respecting this case *32 Visits.*

General Remarks (State quality of workmanship, &c.) *The Workmanship of this vessel is good, and it is my opinion that the S.S. "Welhaven" is this day the 18th of June 1884 in a good seaworthy condition eligible to obtain the class 100 A 1.*

*One decked vessel, Raised quarterdeck 65'9" long
 Bridge deck 49'9" and Forecastle 21'3" long. -*

State if one, two, or three decked vessel, or if spar, or awning decked; and the lengths of poop, bridge, forecastle, or raised quarter deck. (If double bottom, state particulars on separate form.)
 How are the surfaces preserved from oxidation? *bottom well cemented*
 I am of opinion this Vessel should be Classed *100 A 1.*
 The amount of the Entry Fee£ 3 : 0 : is received by me, } £38.3.0
 Special£ 33 : 18 : }
 (to be sent as per margin). Certificate ... 0 : 5 : }
 (Travelling Expenses, if any, £ 1.0.0.)

Committee's Minute *TUESDAY 1 JULY 1884* 18
 Character assigned *100 A 1*
 Signature: *Effroyland*
 Surveyor to Lloyd's Register of British and Foreign Shipping.
 Lloyd's Register Foundation