Laird Brothers vessel 321

HUASCAR



Documents

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Laird Brothers, Birkenhead

Vessel no 321

HUASCAR

1. Agreement between Peruvian Government, represented by Jose Marie Salcedo, and Laird Brothers, Birkenhead, dated 12th August 1864 (on blue paper)

2. Contract & specifications, dated 12th August 1864

3. Copy debit note/receipt for £14,200, dated 12th August 1864

4. Draft Builder's Certificate, dated 12th January 1866 (with pencil amendments for vessel no.330 PRINS HENDRICK DER NEDERLANDEN)

5. License from Captain Cowper Phipps Coles to use 'shield and patent apparatus',
   dated 25th July 1865

Laird Brothers, Birkenhead

Vessel no 321

HUASCAR

1. Agreement between Peruvian Government, represented by Jose Marie Salcedo, and Laird Brothers, Birkenhead, dated 12th August 1864 (on blue paper)

This Agreement entered into this Twelfth day of August One thousand eight hundred and sixty four Between José Maria Salcedo Post Capitan in the Peruvian Navy acting on behalf of the Peruvian Government & being the accredited Agent of that Government of the one part and Laird Brothers of Birkenhead Iron Shipbuilders, and hereinafter called the Contractors of the other part Whereas the said party hereto of the first part on the sixth day of August instant agreed with the said Contractors for the building by them of the Steam Ship hereinafter mentioned Now this Agreement Witnesseth that the said Contractors in pursuance of the said Agreement and in consideration of the several payments to be made to them by the said Party hereto of the first part, at the times and in the manner hereinafter mentioned, Do hereby for themselves and their Representatives Promise and agree with and to the party hereto of the first part in manner e following that is to say, that provided the said Party shall duly make to them or their Represen- -tatives the several payments, at the several times, and in the manner hereinafter set forth, They the Contractors or their Representatives, shall build complete and finish for the party hereto of the first part (unless prevented by Fire, Storm, or other inevit- -able circumstance) a good and substantial Iron e Steam Ship, corresponding in every respect in workmanship material and Machinery, with the Specification hereto annexed and signed by the parties hereto And further that the Contractors or their Representatives will (duly receiving the payments e hereinafter set forth) Launch the said Steam Ship in Nine to Ten Months from the date hereof so that

all the Trials of the Machinery and Turret of the same may be completed and the said Steam Ship be ready to be delivered fit for Sea in all respects to the Party hereto of the first Part or his Representative, in the River Mersey or in one of the Liverpool or Birkenhead Docks within twelve months from the Sixth August and in default of the said Steam Ship not being ready to be so delivered as aforesaid the Contractors shall pay a fine of Five pounds a day for each and every day during such default And it is hereby declared and agreed that during the building of the said Ship and on the several Trials of the same and the Turret thereof, it shall be lawful for the Party hereto of the first part, or any Inspector to be appointed by them, to visit and view the said Ship, at all reasonable times in the day, and it shall also be lawful for such Inspector from time to time to examine the Materials and Workmanship, and the state and progress of the same Ship, and to reject any portion of such as Materials or Workmanship as may be deemed insufficient or imperfect, But that such interference shall not be inconsistent with the said Specification nor with other the terms and provisions of these presents And in consideration of the premises the party hereto of the first part Doth hereby agree with the said Contractors and their Representatives that he will duly pay unto them as and for the price or purchase money of the said Steam Ship the sum of Seventy one thousand pounds in the proportions following that is to say One fifth part thereof in Cash on the execution of this Agreement One further fifth part thereof in Cash when the said Ship is Framed; One further fifth part thereof in Cash when the Hull

is plated. One further fifth part thereof in Cash when the Decks are laid and the Teak backing fitted and the Armour plating commenced; And the remaining fifth or balance of the said price or purchase money in Cash when the said Ship is completely finished and ready to be delivered as aforesaid Provided always that in case before the completion and delivery of the said Ship the Republic of Peru shall become engaged in War with any other Country, and in consequence thereof the English Government shall interfere to prevent the completion or delivery of the said Ship, then and in that case the party hereto of the first part shall pay to the said Contractors or their Representatives such proportion of the Instalment or Instalments remaining to be paid at the time of seizure as is represented by the Works that have been performed by the Contractors or their Representatives since the payment of the previous Instalments And it is further declared and agreed that the said several payments or Instalments shall become due and payable as the Contractors or their Representatives procuring, if required by the Party hereto of the first part, the Certificate in writing of such Inspector (if any such be appointed) that the said several Instalments are respectively due and payable, and that the Contractors shall always give to the party hereto of the first ~~part~~ part or his Representative ten days previous notice in writing of their requiring payment of each and every such Instalment And it is also declared and agreed that if the party hereto of the first part shall during the progress of the said works require any alteration or addition (not within the terms of this Contract) to be made in or to the said Ship, the

same shall be reduced into writing and signed by him or his Representative, or the said Inspector, and submitted to the Contractors or their Representatives when the Terms and prices thereof and extention of time for completion of the Work shall be agreed upon and reduced into writing and signed as aforesaid and also by the Contractors or their ccc Representatives, and such additional Work, according to such agreed prices shall be taken and considered to be part and parcel of the work contracted for by virtue of these Presents Provided that no such alteration or addition shall in any manner cc injuriously affect the general intention and design of the said Specification And Provided also that it shall be lawful for the said Contractors or their Representatives to proceed with any such additional work contemporaneously with the preparation and reduction into writing of any such supplemental agreement provided that the same be subsequently completed agreed upon and signed in manner aforesaid And it shall be lawful for the said Inspector in such supplemental Agreement to extend the period in which the said Vessel shall be completed and delivered, which shall necessarily be caused by such alterations or additions being suggested and completed And it is hereby further declared and agreed that if at any time during the building of the said Ship any Strike or Stand out of the Workmen employed in building the same or in preparing the Materials to be used therein, or the Engineers or other Workmen employed in constructing the Machinery for the same, shall take place, and in case notice in writing of any such Strike or Stand out shall be immediately given by

the Contractors or their Representatives to the party hereto of the first part or his Representative or the said Inspector then and in such case so much further time shall be allowed for completing and delivering the said Ship as shall be necessary and proper to be allowed according to the time the said Workmen or any of them shall be absent or refuse to work as aforesaid And it is hereby further agreed and

Insurance declared that upon or before payment of each Instalment of the said Purchase money the Contractors shall insure such parts of the said Ship her Engines Boilers Machinery and Fittings as shall be then constructed against loss or damage by fire in such Office or Offices as the party hereto of the first part shall approve, in the joint names of himself or his Representative and the said Contractors, in a sum equal to the amount of such Instalment, and in case the same or any part thereof shall be burnt or damaged by fire then they the Contractors shall apply the money to be received by virtue of such Insurance in rebuilding and reinstating the said Ship Engines Boilers Machinery or fittings or such part thereof as shall have been burnt or so damaged by fire as aforesaid: And Lastly it is hereby further declared and agreed that in case

Arbitration any dispute question or difference shall at any time hereafter arise between the parties hereto touching the rights duties and liabilities of either party under this Agreement then and in every such case the matters in difference shall be referred to three Arbitrators to be appointed as follows; one of such Arbitrators to be nominated by each of the parties in difference and the third to be appointed by the

Arbitrators to nominated before they shall proceed in the Reference And the Award of such three Arbitrators, or any two of them made in writing or within one calendar month next after such nomination or such further time as the Arbitrators or any two of them shall by writing under their hands from time to time appoint, shall be binding and conclusive on the parties, and they shall not bring any Action or Suit against the other of them or against the Arbitrators in respect of the premises save for enforcing the award: and that the parties hereto shall produce before the Arbitrators or any two of them all Books accounts papers contracts and writings in their respective custody possession or power relating to the matters in difference: and the parties hereto their Representatives and Witnesses may be examined on oath if the Arbitrators or any two of them shall require the same, and that the costs of the Reference and Award shall be in the discretion of the Arbitrators or any two of them, and that the submission hereby made shall at the option and expence of either of the parties hereto requiring the same, be made a Rule of Her Majestys Court of Queens Bench at Westminster: and further that if either party shall neglect to appoint an Arbitrator after ten days notice in writing from the other so to do, or if either of the Arbitrators after being appointed shall refuse, or after ten days notice in writing shall neglect to take upon him the burthen of the Reference or shall not proceed therein, and the party by whom he was chosen shall not name another Arbitrator in his stead after

having received such notice then and in either of such cases the other party having given to the party so not appointing or nominating another ten days notice in writing of his intention, may appoint another indifferent person to be the Arbitrator, who shall be competent to act as if he had been appointed by the other party

As Witness the hands of the Parties hereto the day and year first above written.

Witness
Thos Raole
1. Bedford Row
London Gentn

José M. Salcedo

Laird Bros.

Aprobada ésta ut supra.

Laird Brothers, Birkenhead

Vessel no 321

HUASCAR

2. Contract & specifications, dated 12th August 1864

N° 321

Contract

&

Specifications

12" Aug' 1864

Dimensions and General Description of the Iron Cased Cupola Vessel

referred to in the annexed Specification and Contract

Length extreme	about 195 feet
" between perpendiculars	190 "
Breadth extreme	35 "
Depth at side to top of Gunwale	20 "
Tonnage, old Rule	1100 Tons
Engines Collective power	300 HP
Draught of Water	15 feet
Speed Estimated	12 Knots

Armour Plating

To be 8 feet wide extending from 3 feet below the deep load Water line up to the Gunwale

Thickness of Armour

For about 100 feet amidships	4½ inches
" " 15 feet before and 15 feet abaft this	4 "
" " 15 feet before and 15 feet abaft this	3 "
" " 15 feet before and 15 feet abaft this	2 "

Upper Deck to be covered with Iron plate weighing 15 lbs per sqpl foot

Towers

Number of Towers	1
Thickness of Armour plating	5/8 inches
Number of guns that can be carried in the Tower	2
Weight of each gun may be	12 Tons

Pilot Tower covered with Armour Plates leading to the Budge with Steering Wheel below Plates to be 3 inches thick

Budge to have Bows Stancheons with Mahogany Rail

Completion The whole of the material and Workmanship to be of the very best quality and the vessel and machinery to be entirely fitted and ready for Sea in accordance with the general intent and meaning of the Specification with the

Exception of Plate - linen - Glass - Earthenware - Cutlery - Sea Stores - and Stewards stores beyond those named in the Specification also Guns Ammunition and armament of all kinds

Laird Bros:

It is decided that our outside keel and the draught of water may be increased accordingly -

Laird Bros:

Jose M. Salcedo

Specification of Iron Work.—

Keel Keel to be formed as shewn on section

The vertical Keel plate to be 2ft 6ins or 2ft 9ins deep as may be determined upon × 3/8" thick and to be carried forward far enough to be secured to the lower part of the Stem and aft far enough to be secured to the lower part of the stern frame.—

The flat Keel plates to be 2ft 6 ins: wide × 1" thick and bent to suit the form of the Vessel.—

The angle irons for connecting the vertical with the flat Keel plates are to be 4" × 4" × 3/8 and worked in long lengths.—

The angle irons on the top of the vertical Keel plates are to be 4" × 4" × 1/2"

All plates and angle irons to be worked in long lengths; the Butts to be well fitted and properly supported with straps.

The Butt strips for the vertical Keel plate to be double, one on each side of the plate 3/8" thick.—

If an outside Keel is adopted the strength to be equal to the above

Keelson Plate A flat plate on the throat of the floors

floors and rivetted to them and the angle iron on the top of the vertical keel plate to extend as far forward and aft as the form of the vessel will allow, to be for 100 feet amidships 2 ft 6" wide × 3/8", forward 2 ft 6" × 7/2", and aft the whole width of and forming the bottom of tunnel, 7/16" thick.

Stem To be forged solid of the best hammered scrap iron, and formed as a projecting Beak below the water line to give the blow when the vessel is used as a Ram.

To be about 9" × 3" at the fore foot
9" × 3" at the deck
and, say 15" × 5" at the point of the Beak

Stern Frame to be formed with suitable aperture for the Screw Propeller; the body post to have a boss large enough for the Screw shaft and Stern tube. The after or rudder post to have the rudder braces forged solid.

The Body Post to be about 9" × 4"
Rudder Post " " 9" × 5"

Double bottom to extend from after end of Engines to the fore end of Magazines a length of about 90 feet. Thickness of plating to be 3/8" for 2 strakes next to centre line and 5/16" from this to longitudinal bulkhead.

Framing

Framing. The system of framing to be as follows:

First, for the length of the double bottom or 90 f^t. There is to be a continuous longitudinal frame about 14 feet from the centre line which will form the bottom of the longitudinal bulkhead formed of a plate 2 feet wide × ½" thick secured to outside plating by an angle iron 4 × 4 × ½

Between this longitudinal frame and the centre Keelson there is to be an intercostal Keelson fitted between the athwartships flanings formed of plate 7/16" thick and angle iron 3 × 3 × 7/16

Athwartship Frames to be spaced 22 inches apart (centre to centre) to be arranged for the distance the longitudinal bulkhead extends into four pieces, the two middle ones forming the floor frames and being attached to the centre keel plate and the vertical plate of the longitudinal frame and the two outside ones forming the side frames, and being attached to the longitudinal frame and extending up to the Gunwale. These frames to be made of angle iron 5 × 3 × ½ for the length of the double bottom amidships and 5 × 3 × 7/16 forward and aft of this.

The frames to be attached to the vertical centre Keel plate by a reverse angle iron.

The Floor Plates will be 2 feet 6 ins deep

at

at the vertical Keel plate tapering off to 1 ft 6 ins at the longitudinal frame.

These plates to be 7/16" thick in the Engine and Boiler space and 7/16" at the ends.

Floor plates at the bottom of the athwartship watertight bulkheads to be ½" thick and to be made deep enough to receive the bottom plates of the bulkheads above the level of the floor tops.

Angle irons on tops of floors to be 3 × 3 × ½ amidships and 3 × 3 × 7/16 forward and aft.

In the length of the double bottom the floor plates are to be on alternate frames or 3 ft 6 ins apart and will be extended up outside the longitudinal bulkhead in the Wing passage to form a stiffening to the side and a support to the Armour plate Shelf.

These plates to be 7/16" thick between the longitudinal bulkheads and 5/16" thick outside.

Forward and aft of this the floor plates are to be on every frame.

Reverse frames to be fitted on all the frames extending from the angle iron tops of floors to the Gunwale; below the Armour plate shelf these to be 3 × 3 × 7/16 and above the Armour plate shelf up to Gunwale to be 4 × 3 × ½

If desirable this reverse frame behind the

the Armour plates to be left out and a double frame secured to the side of the Ship.

Outside Plating to be carefully arranged with a proper shift of butts.

The butts to be flush and the longitudinal joints to be lapped, except perhaps under the Armour plates where it may be desirable to have the longitudinal joints butted with an outside jointing piece.

The thickness to be as follows:

	For a length of about 100 feet	Foward and aft of this
Strake nexct Keel . . .	3/4	11/16
3 nexct strakes	9/16	1/2
Strake under longitudinal bulk head . . .	5/8	9/16
From this to lower side of Armour Plates . .	9/16	1/2
From this to Gunwale Strake	9/16	9/16
Gunwale Strake . . .	5/8	5/8

The Shelf plate to be formed of angle iron and plate 5/8" thick.

The plates to be thickened near the projecting Beak of the Stem (say 3/4 inch) to stand the shock of collision

Liners or filling pieces to be fitted where necessary between the outside plating and the

the frames of the Ship.

The punching and countersinking to be most carefully done so that there may be no unfair holes.

The butts and joints to be closely fitted so that they may be caulked perfectly water-tight metal to metal. No canvas, red lead or other substance to be introduced into the seams.

Deck Beams on Main Deck to be in every second frame and to be formed of Rolled Bulb Iron 8" × ½"

The Beams to be secured to the side frames of the Ship by a deep Knee 2 feet 6 inches deep.

At fore and after ends of the Tower — opening there will be an extra strong beam 12 ins: deep × ½" with 4 angle irons 3½ × 3½ × 7/16 with deep strong Knees. These beams carry the circular carlings 15 ins: deep.

Lower Deck Beams to be formed of Rolled Patent Bulb Beam Iron 8" × ½"

Beams under the Tower to be of plate 9 inches wide × ½" thick with 4 angle irons 3 × 3 × 3/8", or of 9" × ½" Patent Bulb Beam Iron.

Carlings for Hatchways to be of at least equal depth to the Beams and well secured with Knee pieces &c

The entire space under the Tower or Tween decks to be plated over with 5/16" plate,

and

and all round the opening on upper deck extending to covering plates with 3/8" plates.

Gunwale Stringer Plate.

On upper Deck to be 3 ft. 6 ins:, wide amidships and 5/8" thick treble rivetted at butts and connected to Ships side by an angle iron 4 × 4 × ½ turned out the covering plate extending over and lying on top of it.—

The width of the covering plate to be reduced to 2 ft. 6 inches at fore and after ends

On Lower Deck to be 3/8" thick and to be secured to the inner part of the Armour plate shelf and extend to top of longitudinal bulkhead.—

Diagonal Braces on upper deck are to be arranged so as to resist a tendency to twist.— These braces to be about 9" × ½" bars in very long lengths.

Watertight bulkheads

Athwartships 4 & 5 extending up to the upper deck and 5 & 6 extending up to the lower deck.

The 3 principal bulkheads in the midship part of the Vessel to be formed of plates 6/16" thick up to lower deck and 5/16" thick from lower to upper deck

The

The remainder to be of plates 5/16 thick up to lower deck and 3/16" thick from lower to upper deck.

Longitudinal. To extend for a length of about 90 feet on each side of the Ship about 14 feet from the centre of the Ship at the position of the longitudinal frame, up to the line of the Lower deck to be 5/16" thick, properly stiffened angle irons 3 × 2½ × 6/16 about 22 inches apart.

The whole of the Bulkheads to be carefully fitted and so caulked that they may be caulked watertight.

To be connected to the floors, deck beams and side of the Ship that they may resist the pressure of water in the event of any one compartment being filled.

Stiffening Bars of angle iron 3 × 2½ × 5/16 to be arranged that no space exceeding 2ft 6 ins: shall be unsupported.

All Doorways & other openings that may be necessary through the athwartship Bulkheads to be fitted with sliding doors which may be made watertight.

It is intended for greater security that there should be no openings into the space contained between the side and the longitudinal bulkhead except such as are necessary for

Steaming

cleaning and painting, as all the required accommodation can be got between these two bulkheads.

Sluice Valves or Cocks with levers for working them to be fitted in each compartment, so that the water may be led to the Engine Room.

Shaft Passage or Tunnel to be made perfectly watertight of 5/16" plates and suitable Angle Iron.

Coal Bunkers to be built of Iron Plates 3/16" or 1/8" thick to hold Tons of Coal.

Engine and Boiler Keelsons of suitable strength to suit the plans of the Engines

Keelsons under the Tower of suitable strength

Quality of Iron. The Iron to be of "Best" quality, except where there is much bevilling or work on the Iron, when a better quality must be used as usual in Steam Vessels built by us.

General Fastenings. The joints of the outside plates to be double rivetted. All the remaining joints where not otherwise specified are to be single rivetted.

The breadth of the laps and butt straps, size

form and distance of rivets, to be as usual in first class ships built by us.

The riveting to be executed in a careful and workmanlike manner, the rivets thoroughly filling the holes, and the greatest care is to be taken in punching to prevent unfair holes; All such are to be rimed out before riveting.

The countersinking is also to be carefully done.

System of Armour Plating &c

The Backing is to be composed of East India Teak, sound and free from defects, which is to be bolted and secured to the plates of the Ship. A layer of Teamought will saturated with Tar is to be laid between the Iron Armour Plates and the Wood, if required –

Armour Plates are to be secured outside the Teak by bolts passing through the Teak and the side plating of the Ship with two nuts on the inside.

The plates to have all the edges and ends truly planed and fitted edge to edge.

The thickness of the Teak to be as follows:

for about 100 feet amidships . . . 9 inches
" " 30 feet forward & 30 feet aft 8 "
at the ends . . . . . 6 "

The plate to be 8 feet in depth extending from 3 ft below the load water line up to the Gunwale.

The thickness of plates to be as follows:
for about 100 feet amidships . . . 14 inches
" " 15 feet before & 15 ft abaft this .. 4 "
" " 15 feet before & 15 ft abaft this .. 3 "
" " 15 feet before & 15 feet abaft this 2 "

Armour Plate covering of the Deck of Iron plates carefully bedded and secured to the wooden deck to be ribbed plates weighing 15 lbs per superficial foot.

Tower to be on the system patented by Captain Cowper Coles R. N. to be constructed of of frame work of plate and angle iron arranged above deck so as to receive the Teak backing and Armour plates, and below the necessary fittings and turning gear for training the Guns.

The Teak Backing to be about 14 or 15 inches thick and the Armour plates 5½ inches thick.

The whole to be equal in strength to the Towers and Gear on board the "El Tussum and "El Monassir"

The Tower is adapted for 2 Guns

Guns, Gun Carriages, slides and platform are not included in this Specification.

Pilot Tower formed of Plate and Angle Iron and covered with Teak and Armour Plates 3 inches thick to be built where directed

Painting

All Iron work is to be carefully scraped and cleaned before being painted, and each portion of it, as it is turned out of hand, is to have a Coat of thin paint or other substance as may be directed, as soon as it is sufficiently completed to receive it, in order to prevent as far as possible, the Iron from becoming in any degree oxidised.

In addition to the foregoing the whole of the Ship outside as well as the plating behind the Wood backing and all Iron surfaces covered with Wood, is to have three Coats, and the inside of the Vessel to have two Coats of the best paint

The third Coating of paint on the outside of the bottom plating shall be substituted by any species of composition or coating usual for Iron Vessels; and also the second Coat of paint on the inside of the bottom may be substituted by Portland Cement

All Woodwork is to be painted in the best manner with three coats of good paint of colour and with such portions grained as may be directed, and as usual in this class of Vessel —

Woodwork &c.

The upper Deck to be 4 inches thick of Red Pine except the strakes next the Waterway which are to be of Teak or other hard wood
To be carefully laid and secured by bolts to the Beams

Lower Deck to be 3 inches thick of Yellow Pine

Ceilings of Holds and Coal Bunkers to be of Red Pine

Magazine and Shell Room to be fitted with Bulkheads Light Room, Handing Room, Racks Dunnage Battens Supply and Return Scuttles &c as usual in H. M Service but without Copper or Zinck Powder Canisters

Provision Rooms and Store Rooms to be fitted as shown on plan

Chain Lockers of suitable size

Sail Rooms and Boatswain and Carpenters Stores of suitable size

Deck Fittings

The Bulwarks to be fitted temporary suitable for the passage out to Peru, on arrival there this will be removed

It is intended for permanent service that there shall be Iron Stanchions with a Netting Rail all round the Vessel to admit of training the Guns all round

The Companions and entrances to the Cabins and other spaces and skylights to be arranged as per plan

Pumps arranged to pump out of each compartment – 2 of them are of Dawtons Patent and arranged to pump from the sea and to pump water on to deck, each Downtons pump to be 7 inches in diameter

Capstan & Riding Bitts on Brown & Carfield's patent to be fitted on the upper deck also all necessary mooring Bollards Bitts &c with polished brass head with suns rays as ornament

Hawse Pipes of Cast Iron strong and well fitted

Controllers or Stoppers to be fitted if required

Ring Bolts & Eye Bolts where required

Shot racks to be fitted round Hatchways and on lower deck where required

Steering Wheels & Gear to be of ample and efficient arrangement and led from aft to Midships below deck so as to be protected from shot by the Armour plating

The Wheels to be placed near the position which will be occupied by the Captain also ~~another~~ set of Gear fitted aft

Rudder To be of Iron with the Pintles cut out of the solid. The Tiller and Spare Tiller to be of Iron and carefully fitted

Channel Plates or other means of securing the Rigging with the necessary dead eyes &c

Fittings for Anchors. The necessary Timber Heads, Eye Bolts, Lashing Bolts, Slip Stoppers, Bill Boards, Fish davits &c.

Bells with Ships name 1 forward & the other Aft -

Boats Davits as may be required for the Boats with Block Chain guys, and other fittings as may be decided on

Awning Stanchions fore and aft and ridge ropes.

Hammock Nettings of suitable arrangement as may be decided

Ornament on Stern to be the Peruvian Arms in Brass

Cabins

Cabins to be arranged as in Plan

The Bulkheads in Captains and Gun Room Cabins to be of mahogany or maple
other Officers Cabins to be of Oak

Doors to be made to hinge or slide as may be required

Bed Place: Drawers, Wash stand of plain and substantial make in each State Room

Captains Room and Gun Room to be fitted with side Board, Glass Rack, Tables and Seats

Engineers Mess, & Midshipmens Mess Room to be fitted with Seates &c

Pantry fitted with the proper shelves, Racks Drawers &c for the number of Officers.

Forecastle below Main Deck to be fitted with Bag Racks, Lockers or other fittings suitable for the number of Crew

Water Closets & Urinals for the Officers Petty Officers and Crews.

Furniture

Captains Cabin - Mahogany Dining Table with plate guards
Circular swing tray for Glasses
Small side board or cupboard
Gilt Frame Mirror
Sofas finished in Black Hair seating, fixed Cushions 2 Bolsters and pillows

Officers Ward Room } Mahogany dining table with plate guards
2 Swing trays over table for glasses
Gilt frame Mirror over sideboard
Mahogany side board
Seats or Camp Stool.

Midshipmen & Petty Officers Ward Room - Mahogany (Bayonne) dining table with plate guards

Racks for Glasses Crockery &c

Officers Cabins Sofas finished in black hair seating
fixed Cushions

Mattress Bolster & Pillow in each berth for
Captain Officers and Petty Officers Midshipmen

Dressing Glass in each Stateroom (medium size)

8 Camp Stools with backs - 18 ordinary camp
stools Carpet for Captains Room but none for Ward
Room or Officers Rooms

Hammocks to supply Hammocks for 100 men, namely
200 in number - 100 of which are to be supplied
with Wool Mattress & Pillow, Blanket rug & bag

General Outfit.

Masts & Rigging The Vessel will be rigged as a
Brig per plan

The Lower masts of Iron Top masts and Top
Gallant masts and other Spars of wood

The length of lower Masts
about 42 feet for the Foremast from deck to hounds
45 " " " Mainmast " " "

The length of lower yards about 64 feet
Top sail yards 49 feet and other spars in
proportion

Rigging — The lower rigging to be of Galvanized Iron wire rope
The running gear of Hemp or Manilla
Blocks, dead eyes &c suitable for the style of Ship

Sails — One complete suit to be of the best Canvas
Also a spare suit of Sails and Storm Stay Sails

Awnings — Fore and aft the Ship and Curtain for one side

Tarpaulins & Covers, Mast Coats 4 Windsails, Covers for Standing sails wheel, Binnacle, Boats Covers for Hammock Nettings - Bags for Boats sails Sail Covers.

Colors — 2 x Set of Peruvian Code Signals 2 x Peruvian Ensign - Burgee 1 Jack and 5 Boat Ensigns English - American, French - Brazil - Chile Ecuador - Mexico - Buenos Ayres - Monte Video Spanish, Italian the Ensigns of above nations to be supplied also Bolivia New Granada Central America -

Life Buoy with Lamp hole fitted at the Stern

Five in Number, say

1 Cutter	30 ft x 7 ft. x 2 ft. 10 ins	12 oars
2. Life Boat	28 x 7 x 2.10.	12 oars
1 Pinnance	35. 8.0	14 oars
1 Gig	30 x 5 x 2.2.	6 oars
1 Dingy	16. x 5.6 x 2.2.	4 oars

all built of wood, thoroughly Copper fastened and fitted with Gratings, Rowlocks, Oars and Boat-hooks, and 3 of them with Masts Rigging Sails, Awnings and Anchors and rope Small galley for the Pinnance

Anchors
2 Bower 32 Cwt Trotman's Patent
1 do 30 " do
1 Stream 12 "
2 Kedges 6 cwt & 5 cwt

Cables
300 fathoms 1 3/8 inch
90 " Stream 1 " } Admiralty Proof

Hawsers
90 fathoms 8 inch
90 " 7 "
90 " 6 "
2 Transporting Lines of 4½ inch

Tanks Iron Tanks for water to hold 2000 to 3000 gallons

Condenser for making fresh water with all necessary pipes &c and Cooling tank and connected with Tanks.

Fire Hose and Buckets 200 feet Leather hose in 40 feet lengths with Brass Couplings directing pipes &c
24 Leather Fire Buckets

Coopers Stores 2 Doz: Deck Buckets – 2 Wash deck tubs – 1 Hames Cask with partition in it to hold about 2 Casks beef or pork – 4-10 Gall: Breakers for Cutter – 3 6 Gall do for other Boats – 2 Water Tunnies – 2 Cooks pails

Nautical Instruments

2 Brass Binnacles with Lamps shade & Compass for Quarter deck
1 do do for Bridge
3 Steering Compasses for the above
1 Azimuth ring to fit all the above
2 Boat Compasses
1 Spare dipping Needle Compass 2 spare Compass cards and glasses
2 each 14" & 28" Log Glasses
1 Telescope or pair of Glasses
1 Barometer & Sympiesometer

1 Brass Speaking Trumpet

1 Fog horn

1 Massey's Patent Log

1 " " Sounding Machine & Lead

Time piece for Companion aft or ward room

Code Signal Book

Lamps 1 Lamp with Small Reflector for Captain's room Argand Burner

1 Lamp for Ward Room Argand Burner

1 " " Petty Officers Ward Room "

1 " " each Stateroom

Lamps for Pantry and Steward's room

2 " " Boatswain

2 " " forecastle deck

1 Magazine Lamps

1 Bulls eyes & Fittings

1 Lamp for entrance to magazine with reflector

1 set Regulation Signal Lamps with spare coloured Glasses

1 Gaff Light

1 Anchor Lamp

2 Large Deck Lanterns

2 Small " "

2 dark Lanterns

1 Lantern with Shop to secure to the army

2 Scouring Boxes.

2 oil feeders

2 pair Scissars

6 spare Globe & Funnels, suitable for Captains or Saloon Lamps

1 doz: do for Staterooms

1 set spare glasses for regulation Lamps

1 pan " " " Magazine "

Cooking Utensils

4 fire Saucepans

1 set scales & weights

1 Cleaver

1 Set Skewers

1 flour dredger

4 dish covers Japanned

1 Coffee Copper Kettle

2 Double Gridiron

2 Canniste

1 Meat Saw

1 Steel

2 Hair Sieves

1 Grater

2 Pudding moulds

1 Cullender

1 Iron Ladle

1 Cooks Axe

1 Mincing Knife

1 Coffee mill

1 Scraper

1 Plate Basket

2 Rakes

2 Pudding Dishes

1 Wood Spoon

2 Cooks forks

1 Glaze pot & Brush

1 Salters Spring Balance

1 Spice Box

1 Pepper mill

1 Fish Slice

1 Flour Sieve

2 Shovels

2 Oven lifters

2 Basting spoons

2 Tin Ladles

1 Pepper Box

2 Cooks Knives

1 French Knife

1 Brass wire Sieve

1 set Cutters

1 Rolling pin

1 Paste Brush

2 Trussing needles

2 Larding "

Cooking apparatus with sufficient Boiler space &c for 200 people filled with the following Utensils &c Viz^t

2 Copper Steamers
2 " Warmers
2 Stew pans
3 Copper Hothearth Boilers
2 Ladles
1 Poker
1 Shovel
2 Tormentors
2 Baking Dishes
2 Iron Oval Soup Boilers
4 Saucepans
2 frying pans
6 Bread tiers
4 pie dishes
4 Tart tins
2 French roll tins

Cordage &c 1 Coil 4/4 inch Wormed Lanyard Rope
8 " Cordage 1 1 1 2 1 1 1 / 3¼ . 3. 2¾ . 2½ . 2¼ . 2 . 1¾ Coils inch
4 doz: fine 2yarn Spunyarn
2. " Stumbroline
6 " Stoweline
4 " Marline

2 Deep Sea Lines & 1 Lead 150 fathoms
2 Hand " & 2 " 20 "
2 Log Lines & 1 Reel (2 Lines complete
Signal Haulyards complete
4 fishing Lines
20 lbs Seaming Twine
30 " Roping "

Boatswains Stores

2 doz Clip Hooks
2 " Fish Hook for fishing
1 " Marline Spikes
2 " Connecting Shackles from 3/8th to 3/4 assorted
6 Sail Hooks
3 Doz Sail needles assorted
6 Cork Fenders
1 Hide Service Leather
6 Palms
2 Doz Holystones
1 " Frames & Handles for do
2 Large Stones 50 or 60 lbs
12 Bath Bricks
1 pair Rigging Screws
2 Circular Life Buoys
6 Coir Mats
1 Gallon Jar Bottle
1 Brass Cock for Oil Cask

1 Cross cut saw
1 Grains
1 Harpoon
6 pair Handcuffs
1200 Clasp 4d Nails
1200 " 6d "
800 " 8d "
500 " 10d "
200 " 12d "
300 Boats Nails 2½"
300 " " 3"
200 " " 3½
4lb 1½ Copper nails
3 " roves Clench nails (for Boat)
200 - 3" Batten Nails
10 lbs Spikes assorted
6 shuts yellow metals
1 dozen Leather Hose rings
20 lbs Sheat Lead
1 pitch pot
1 " Ladle
1 pump hook
2 sounding rods
1 Shank Hook
24 Chain Hooks
1 doz: scrapers
6 Steel scrapers (for bright work)

4 Boat axes

1 Grindstone with 20 inch trough

½ Cwt Oakum

½ hide pump Leather

Painters Stores &c.

1 Barrel Stockholm tar in 2 small iron kegs

2 " Light Varnish in small iron Kegs

20 gallons Olive oil for Cabin Lamps

2 lbs Black Lead

2 " Glue

2 Cwt deck work paint

2 " Black paint

1 " White paint

A little blue Common Ochre, Chrome Yellow and Umber All in Oil

35 gallons boiled Oil for paint and spars

8 " Turpentine

28 lbs putty

2 Cwt Lime

Gallon Tanks of Iron

10 lbs Chalk

6 paint Cans

6 " Scrubs

6 deck "

6 Mops

6 Swabs

6 India Rubber Squidgers
6 short Tar Brushes
6 Pencil Brushes
1 doz Brooms
12 ground paint Brushes
2 Hearth Brushes
2 long "
3 Lime Wash brushes.

Specification of a pair of Marine Steam Engines with Screw Propeller of 300 H.P. Nominal by English Admiralty rule

Dimensions &c.

N° of Cylinders	2
Diameter of d°	54 inches
Stroke	3 feet
N° of revolutions P.r Minute	52
Power of English Admiralty rule	300 H.P.

The Engines to be direct acting horizontal "return connecting rod" condensing Engines, having the Cylinders on one side of the Crank shaft, and the Condenser, Pumps &c. on the other.

Cylinders to be fitted at each end with escape valves, Cocks for draining off the water, and apparatus for taking Indicator cards: to be covered with hair felt and properly lagged.

The Pistons to be fitted with Metallic packing.

The Piston rod glands to be double.

The Slide Valves to be double ported, fitted with rings on the back to relieve the pressure - to be worked

by

by the ordinary link motion

Air Pumps to be horizontal double acting

Air Pump liners, buckets and rods to be of gun metal.
Foot and delivery Valves to be of India rubber with brass seats and guards.

Discharge Valve at Ships side to be circular lifting, of Brass.

Feed and Bilge Pumps horizontal single acting with solid plungers of Brass; Valves of India rubber with brass seats and guards.

Hand Pump with two vertical plungers working alternately capable of being worked from the Main Engines when required and supplying water to the boilers at half power; to be made to pump from the Sea into the Boilers, from the Boilers to the Sea, and from the Bilge to the Sea.

Auxiliary Steam Pump double acting capable of supplying the Boilers at full power: to have a separate set of feed pipes and made to draw water from the Sea and from the Bilge and to deliver on deck.

All

All Pipes to be of Copper; Steam pipes not less than 1/4 inch thick; Feed, Blow off, Bilge and Waste Water not less than 3/16 inch. Waste Steam not less than 1/8 inch.

The Steam pipes to be clothed with Felt and lagged with wood or covered with Canvas properly secured.

The Shafts, Piston Rods, Connecting rods and other working parts to be of wrought iron

All Bearings in the Engines to be of Gun metal

The Screw Propeller to be of Cast iron, strong and of suitable size. The Stern Tube to be of Cast iron with a brass bush fitted with Lignum Vitæ Strips at the outer end, in which the Shaft, cased with brass will work. The rubbing parts at inner end of the Tube or Gland to be bushed with brass and the portion of the shaft working therein is to be cased with brass.

The Boilers to be the ordinary Tabular, two or four in number spacing the tubes over the Furnaces, placed two on each side of the Vessel with the firing room between them: to be constructed

so that each may work independently of the other: to be fitted with the necessary safety and stop valves, dampers in front of Ashpits, External plates to Smoke box doors.

To be capable of carrying steam of 20lbs per square inch, and to be proved with water pressure to 40lbs per square inch

To contain not less than 225 square feet of Grate surface and 6000 square feet of heating surface.

The thickness of the Boiler Plates to be as follows

Bottoms of Shells and Furnaces and lower parts of fronts to be	11/16 inch
Uptakes	1/2 "
Tube Plates	5/8 "
All other parts	7/16 "

The Furnaces and back Tube plates to be of Bowling Iron. other parts of Best Boiler Plate

The Tubes to be of Brass 2½ to 2¾ in diameter. or as may be decided on –

List of Spare Articles and Tools

Spare Gear

Air Pump rod	1
Furnace Bars	1 Set
Bearers for 1 Furnace	2

Mud

Mud hole door and Man hole door of each sort	1
Boiler Plates	6 Cwt
Bolts and Nuts (properly assorted for Engines	120
Crosshead	1
Cylinder Cover of each kind	1
Eccentric ring (if of brass) of every size	1
Ferrules for Boiler Tubes	150
Piston and Rods	2
Propeller	1
Connecting rod with caps, bolts and brasses complete	1
Feed Pump rod	1
Bilge Pump rod	1
Slide rod	1
Springs for each Piston	1 set
Do for other parts of Engines - for 1 Engine	1 set
Boiler Tubes	30
Glass Tubes for Boilers	8
Valves of vulcanized India rubber for each Engine	2 sets
Iron Washers of various sizes	1 Gross
White Metal	½ Cwt

Engine

Engine and Boiler Room Tools

Brushes for Boiler Tubes	50
Drifts (short and long)	5
Fire Irons (assorted)	15
Mandrills	4
Scrapers Circular and forked	12 ea:
A complete set of Spanners and Wrenches to fill all parts of the Engine	
Stocks, taps and dies 1/4 to 1/4 inch	1 Set
4 Copper Cans	
1 Oil Tank to contain Gallons	
4 Tin Oil Jugs	
6 Hammers (4 Hand 1 Hogging 1 Sledge)	
1 Copper Hammer	
2 Block Tin do	
6 Packing Worms assorted	
2 Set Hammers	
1 Brass Syringe	
Lamps for Engine and Boiler Room	
6 Iron Lamps (Collier)	
2 Silvered Hydrometers & Buckets complete	
1 Thermometer for Engine Room	
1 Iron Ladle	
1 Bench Vice 100 lbs fitted	
1 set Fitters tools (Compasses Squares Callipers &c)	

12 Files assorted and handles

12 Chisels "

2 Fleet Blocks and falls to lift 10 & 15 Cwt each

1 Tin Tallow Kettle

1 Copper " "

1 Hand Vice

1 Tin Pan with Drainer for Oil Tanks & Cans

1 Drilling Clamp

1 Ratchet Brace

1 Crank

10 Drills (1 set from 1/4" to 2")

2 Axes for Wood

1 Saw

4 Ashbuckets

4 Common Iron Water Buckets

8 Shovels 13"

2 Coal hammers

4 Scaling "

4 Chisels for scaling"

4 Brushes and Brooms

4 Mud rakes

4 " Shovels

1 Thermometer for each Stoke hole

1 Tallow Tank to contain

1 Portable Forge with necessary Tools (20 inch)

12 Picker Blades

2 Boiler Makers Screw Clamps (1 large 1 small)

1 Boiler Makers Shelching Screw (complete)

2 Pour Pincers (1 round and 1 flat mouthed)

1 Bottle Jack (10 to 12 Inches)

2 Soldering Irons.

Jose M. Toledo

Witness
Thos Rawle

Laird Bros:

Laird Brothers, Birkenhead

Vessel no 321

HUASCAR

3. Copy debit note/receipt for £14,200, dated 12th August 1864

Copy

Debit Note

Birkenhead Iron Works
Birkenhead
12 August 1864

To amount of first instalment on
an Iron clad Cupola Vessel Contracted
for by Capt. Salcedo Port Captain in the
Peruvian Navy on behalf of the Government
of Peru - due on the Contract being
~~Completed~~ Executed -

1/5th of £71.000 ——— £14.200

Copy Receipt

Received from the Peruvian Minister an order at
6 days sight for the above amount of £14200 on
Messrs Thomson T Bonar & Co
×

(Signed)
Laird Bros
Aug 15/64

× 57½ Old Broad St
London
E C

Laird Brothers, Birkenhead

Vessel no 321

HUASCAR

4. Draft Builder's Certificate, dated 12th January 1866 (with pencil amendments for vessel no.330 PRINS HENDRICK DER NEDERLANDEN)

Builders Certificate.

We hereby certify that the Iron Screw Steam Ship called the "Huascar" was built by us in our Building Yard Birkenhead in the County of Chester and launched in the year 1865.

That her dimensions are

Length between perpendiculars	One hundred and ninety one feet six inches
Breadth at Midships	Thirty five feet four inches
Depth at Midships	Seventeen feet ten & a half inches.

and Admeasures 1130 85/94 Tons Builders Measurement.

That she is Clencher built, Rigged as a Brig having two Masts and Standing Bowsprit, Ram Stem, Round Stern, no Galleries, a short Poop & short Topgallant Forecastle, Man Figure head; and that José Marie Salcedo, Post Captain in the Peruvian Navy, acting on behalf of the Peruvian Government and being the accredited Agent of that Government, is the first purchaser of the said Vessel.

Dated in Birkenhead this 12th day of January 1866.

Laird Bros.

Laird Brothers, Birkenhead

Vessel no 321

HUASCAR

5. License from Captain Cowper Phipps Coles to use 'shield and patent apparatus', dated 25th July 1865

Captn C. Phipps Coles
R. N. _____

License

License to use Captain Cowper Phipps Coles' Shield and Patent Apparatus &c in and upon the Ship No 321.

Know all Men by these Presents that I Cowper Phipps Coles of the United Service Club Pall Mall in the County of Middlesex a Captain in the Royal Navy in consideration of the sum of One hundred and nine pounds seventeen shillings paid to me on the execution of these presents by William Laird John Laird the younger and Henry Heyneman Laird all of Birkenhead in the County of Chester Ship Builders trading under the style or firm of Laird Brothers DO hereby give and grant unto the said William Laird John Laird the younger and Henry Heyneman Laird and to the survivors and survivor of them his executors and administrators (but not their or his assigns) license and authority to make use and exercise in and upon the Vessel Number 321 now in course of building by them at their Docks and premises situate at Birkenhead aforesaid the Invention mentioned in certain Letters Patent under the Great Seal of the United Kingdom dated the thirtieth day of March One thousand eight hundred and fifty nine granted to me the said Cowper Phipps Coles and to make place and affix in and upon the said Vessel (but not in or upon any other vessel) one shield or apparatus constructed according to the method prescribed by the said Letters Patent and described in the Specifications of the said Invention filed in pursuance of the said Letters Patent on the thirtieth day of September One thousand eight hundred and fifty nine with or without any subsequent modifications improvements additions or alterations thereof made or to be made by the said Cowper Phipps Coles. Provided always that nothing herein before ~~contained~~ contained shall create any express or implied warranty covenant or promise whatsoever. And in consideration of the premises the said William Laird John Laird the younger and Henry Heyneman Laird for themselves their heirs executors and administrators covenant with

the said Cowper Phipps Coles his heirs executors administrators and assigns as follows that is to say that they the said William Laird John Laird the younger and Henry Hyndman Laird or the survivors or survivor of them his executors or administrators shall not nor will at any time use or attempt to use the License or authority hereby given for any other Ship or any other purpose save and except the placing the said Shield or apparatus on board the said Vessel Number 321 now being built as aforesaid. In witness whereof I the said Cowper Phipps Coles and the said William Laird John Laird the younger and Henry Hyndman Laird have hereunto set our hands and seals on the Twenty fifth day of July in the year of our Lord One thousand eight hundred and sixty five

Signed sealed and delivered by the said Cowper Phipps Coles in the presence of

S. A. Anderson.
Captain H M Ship Urgent
Portsmouth.

Cowper. P. Coles.

Signed sealed and delivered by the said in the presence of

Received the day and year first above written of and from the above named William Laird John Laird the younger and Henry Hyndman Laird the sum of One hundred and nine pounds seventeen shillings being the consideration money above mentioned to be paid by them to me

£109.17.

Witness

S. A. Anderson
Captain H M Ship Urgent
Portsmouth

Cowper. P. Coles.