~~1 or 2 Dks., R.Q.~~ Dk., and ~~Pt. Awng.~~ Shade Dk.

~~IRON OR~~ STEEL STEAMER.

WED. 3 FEB 1897
Received at London Office

State if Report is also sent on the Machinery of the Vessel: Yes

No. 11629 Survey held at Port Glasgow

Date of completion of Report 1st February, 1897 | Port of Greenock

Date, First Survey 31st August 1896 | Last Survey 1st February 1897

On the Twin Screw Steamer "Bhadra" | Rig Schooner

TONNAGE under Tonnage Deck	462.45
Do. of Poop	26.59
~~Do. of Raised Qr. Dk. or Break~~	
Do. of ~~Bridge~~ Side Houses	1.43
Do. of Forecastle	13.50
Do. of Houses on Deck	33.83
Do. of excess of Hatchways	1.04
Do. above Crown of Engine Room	45.64
Gross Tonnage	584.51
Less Crew Space	36.40
Less above Crown of Engine Room	45.64
TONNAGE FOR FEES	502.47
Less Engine Room	302.03
Less Navigation Spaces	2.83
...r Tonnage ...on Beam	243.55

ONE ~~OR TWO~~ DECKED VESSEL.

CLASS ✠ A1 "For Service on the Channels of the River Hooghly"

	Feet
Half Breadth (moulded)	16.00
Depth from upper part of Keel to top of Main Deck Bms.	12.16
Girth of Half Midship Frame (as per Rule)	25.30
1st Number	53.46
Length	194.00
2nd Number	10341
Proportions—Breadths to Length	6.06
Depths to Length—Main Deck to top of Keel	15.95

Master W. Hewat

Year of appointment: (1) As master in service of owner of present vessel:—1894; (2) As master of this vessel 1897

Built at Port Glasgow

When built 1897 Launched 9th Dec. 1896

By whom built Russell & Co.

Owners Duncan Macneill & Co.

Managers (Where necessary to be entered in Reg. Book).

Residence Winchester House, Old Broad Street, London, E.C.

Port belonging to London

Destined Voyage Calcutta via Suez Canal. If Surveyed while Building, Afloat, or in Dry Dock Building & Afloat.

...h on Deck ...Rule	Feet 194	Inches 0	BREADTH—Moulded	Feet 32	Inches 0	DEPTH—Top of Floors to Main Deck Beams	Feet 10	Inches 11	Power of Engines	Horse 104 Regd. 141 Rule	No. of Decks with Flat laid: One & Shade Dk; No. of Tiers of Beams: Two

...ns of Ship per Register, Length, 195.0 breadth, 32.0 depth, 10.9. Moulded Depth, ft. 11 ins. 6. Round of Beam 8 inches.

FRAMING.	Inches in Ship.	Inches in Ship.	~~16ths or~~ 20ths in Ship.	Inches per Rule Or as	Inches per Rule s Appro	~~16ths or~~ 20ths per Rule ved.
...E, Angles, ~~L, E or [Bars~~, for 3/5 length amidships	3½	3	6	3½	3	6
...or 1/5 at each end	3½	3	5	3½	3	5
~~...way of Double Bottoms at Solid Floors~~	3	3	5	3	3	5
,, ,, ~~at intermdt. Bkts.~~						
...e of Frames from moulding edge to ...ling edge, all fore and aft		24			24	
...RSED FRAME, Angles for 3/5 lng.	3	2½	5	3	2½	5
~~FRAMING, depth of girder~~ for 1/5 at each end	2½	2½	5	2½	2½	5
in Engine Room	3	3	6	3	3	6
...RS, depth and thickness of Floor Plate at mid-line for 3/5 length amidships		15	6		15	6
...n way of Engines and Boilers			7			7
...hickness at the ends of vessel			5			5
...lepth at 3/4 the half breadth, as per Rule		10½			10½	
...eight extended at the Bilges		24			24	
~~...S & BRACKETS, in Cell Dble Bottoms~~						
,, ~~Distance apart~~						
~~...E GIRDER, in Double Bottom, depth and thickness~~						
,, ~~Angles, Top~~						
,, ,, ~~Bottom~~						
~~...IRDERS, number and thickness~~						
~~Angles~~						
~~...N PLATE, depth (exclusive of flange) and thickness~~						
~~Angles~~						
~~...BOTTOM PLATING, breadth and thickness of Middle Line Strake~~						
,, ~~thickness in Engine and Boiler space~~						
,, ,, ~~Remainder in Holds~~						
...S, Main ~~and Raised Quarter~~ Deck, ~~Single Angle~~, Bulb Angle, ~~Plate or Tee Bulb~~	7	3	8	7	3	8
~~Angles on Upper Edge~~ at Ends	6	3	8	6	3	8
Average space		48			48	
...S, ~~Lower~~ Shade Deck, Single Angle, ~~Bulb Angle, Plate or Tee Bulb~~	4½	3	6	4½	3	6
~~Angles on Upper Edge~~						
Average space		48			48	
...S, ~~Hold, Plate or Tee Bulb~~						
~~Angles on Upper Edge~~						
~~Average space~~						
...S, Poop Deck, Angle, ~~Bulb Angle, Plate or Tee Bulb~~	In line with Shade dk.					
~~Angles on Upper Edge~~						
Average space						
...S, Bridge Deck, Angle, ~~Bulb Angle, Plate or Tee Bulb~~						
~~Angles on Upper Edge~~						
Average Space						
...S, Forecastle Deck, Angle, ~~Bulb Angle, Plate or Tee Bulb~~						
~~Angles on Upper Edge~~						
Average space						
...ARS, In 'tween Decks, Size and Spacing	2	48		2	48	
,, Hold ,, ,,	2½	48		2½	48	
,, ~~Quarter, 'tween Dks.~~ ,, ,,						
,, in Hold (2/3 lng.) ,, ,,	2¼	96		2¼	96	
~~...FRAMES, In Fore Body, No. and Spacing~~						
,, ,, ,, ~~Brdth. & Thickness~~						
~~No. of Side Stringers~~ ,, ,, (...ial Bulkhd. End of bunkers)						
...FRAMES, In E. & B. Space, No. ~~& Spacing~~	(One)					
,, ,, ,, Brdth. & Thickness		84	5			
~~...FRAMES, In After Body, No. and Spacing~~						
,, ,, ,, ~~Brdth. & Thickness~~						
,, ~~No. of Side Stringers~~ ,, ,,						
,, ~~Size of Angles or Tee Bars to Web Frames~~						
~~BRACKET PLATES to Stringers between Web Frames, Depth and Thickness~~						

FORGINGS ~~AND CASTINGS~~.	Inches in Ship.	Inches per Rule. Or as Approved.
~~KEEL, Bar or Side Plates depth and thickness~~		
STEM, moulding and thickness	7 × 1¾	6 × 1½
STERN-POST for Rudder do. do.	6 × 3½	6 × 3½
,, to form aperture for Propellers	6 × 2½	6 × 2½
MAIN PIECE of Rudder, diameter at head	5	5
~~do.~~ at heel	4½ × 3½	4½ × 3½

RUDDER, how constructed: Single plate (Iron Frame) 24/20 at ...
Can the Rudder be unshipped afloat? Yes

KEELSONS AND STRINGERS.	Inches in Ship.	Inches in Ship.	~~16ths or~~ 20ths in Ship.	Inches per Rule Or as	Inches per Rule s Appro	~~16ths or~~ 20ths per Rule ved.
CENTRE LINE KEELSON, ~~Vertical Plate above floors~~, Through Plate, ~~or Intercostal Plate~~		23	8		23	8
,, Rider Plate		8½	7		8½	7
,, ~~Bulb Plate to Intercostal Keelson~~						
,, Horizontal Plates on Floors		6	6		6	6
,, Angles	4	3	6	4	3	6
~~SIDE KEELSON, Angles~~						
,, ~~Bulb or Plate above floors for lng.~~						
,, ~~Intercostal Plate for length~~						
,, ~~Attached to outside plating with Angle~~						
BILGE KEELSON, Angles (Single)	6	4	9	6	4	9
,, ~~Bulb or Plate above floors for len.~~						
,, Intercostal Plate for 80 Feet length			7			7
,, Attached to outside plating with Angle	3	3	6	3	3	6
BILGE STRINGER Angles (Single)	6	4	9	6	4	9
,, ~~Bulb Plate for length~~						
,, ~~Intercostal Plate for length~~						
,, ~~Attached to outside plating with Angle~~						
SIDE STRINGER Angles (Single)	6	4	9	6	4	9
,, ~~Bulb or Intercostal Plate for lng.~~						
,, ~~Attached to outside plating with Angle~~						
Main ~~and Raised Quarter~~ Deck Stringer Plate, breadth and thickness	42		6	42		6
,, Angle on ditto (and gutter bar 2½ × 2 × 5/20)	3 × 3		7	3 × 3		7
,, Tie Plates fore & aft, outside Hatchways (at ends)	9		5	9		5
,, ~~Diagonal Tie Plates on Bms., No. of Pairs~~						
,, Main Dk* ~~Iron or~~ part Steel for half lng.			5			5
,, ~~R. Q. Dk* Iron or Steel for lng.~~ Wood deck laid thereon						
Wood Deck, Material & thickness Y.P.	2½			2½		
~~Lower~~ Shade Deck Stringer Plate, breadth and thickness	18		5	18		5
,, Angles on ditto, No. 2	2½ × 2½ 2½ × 2		5 5	2½ × 2½ 2½ × 2		5 5
,, Tie Plates, outside Hatchways	9		5	9		5
,, Deck* Material and thickness Teak	2			2		
~~Hold Stringer Plate~~						
,, ~~Angles on ditto, No.~~						
Poop Deck Stringer Plate, breadth & thickness	In line with Shade dk.					
,, Angle on ditto						
,, Tie Plates						
,, Deck, Material and thickness						
Bridge Deck Stringer Plate, brdth & thickness						
,, Angle on ditto						
,, Tie Plates						
,, Deck, Material and thickness						
Forecastle Deck Stringer Plate, brdth & thcknss						
,, Angle on ditto						
,, Tie Plates						
,, Deck, Material and thickness						

* If Iron or Steel Deck, state if whole or part, and if wood deck is laid thereon.

BULKHEADS.	Number In Vessel.	Number Per Rule.	Thickness. ~~16ths or~~ 20ths.	Stiffeners Horizontal. Inches.	Stiffeners Vertical. Inches.	Stiffeners Spacing Inches.	Single or Double Frames.	Height up.
W. T. BULKHEADS	4	4	5	2½ × 2½ × 5/20, 48" spacing	2½ × 2½ × 5/20	30	Double	Main dk.
~~PARTITION~~ ,,			Peak bulkheads additionally stiffened.					
~~LONGITUDINAL~~ ,,								

~~Are~~ The outside Plates doubled ~~two spaces of Frames in length~~? (Diamond Shaped)

Form No. 1A.

GRK336-0214

15 AUG 1896

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PLATING. / RIVETING.

STRAKES.	As in Ship: Amidship Breadth (Inches)	Amidship Thickness (20ths)	Forward Thickness	Aft Thickness	Per Rule or as Approved: Amidship Breadth (Inches)	Thickness (20ths)	Edges: Single or Double	Breadth of Lap (Inches)	Rivets Diam. (Inches)	Rivets Spacing cr. to cr. (Inches)	Butts: Double or Treble for what Length	Rivets Diam. (Inches)	Rivets Spacing cr. to cr. (Inches)	Straps Breadth (Inches)	Straps Thickness (20ths)	If Lapped Breadth (Inches)	For what Length
Flat Plate Keel (If Bar Keel, state Riveting)	32	10 ✓	8	8	32	10	Double	4½ ✓	¾ ✓	3 ✓	Treble	⅞ ✓	3⅛ ✓	16¾ ✓	12 ✓		
Garboard or A Strake	53	7 ✓	5	6	53	7	"	"	"	"	Fore & aft Treble ¾ len	¾ ✓	2⅝ ✓			7½	Whole
~~State actual thickness in way of Double Bottom.~~ B	44	7 ✓	5	6	44	7	"	"	"	"	"	"	"			"	"
C	53	7 ✓	5	6	53	7	"	"	"	"	"	"	"			"	"
D	45	7 ✓	5	6	44	7	"	"	"	"	"	"	"			"	"
E	53	7 ✓	5	6	53	7	Single & Double	2¼ & 4½	"	"	"	"	"			"	"
F	46	7 ✓	5	6	50	7	"	"	"	"	"	"	"			"	"
Sheerstrake G	34	10 ✓	7	7	34	10	"	"	"	"	Treble fore and aft	⅞ ✓	3⅛ ✓			9 ✓	"
H																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
~~Doubling of Flat Plate Keel~~																	
~~Length and thickness of Bilges~~																	
~~of Sheerstrakes~~																	
~~of Strake below~~																	
Poop Sides				4 ✓		4	Single	2¼ ✓	⅝ ✓	2⅝ ✓	Single	⅝	2 ✓			2½	"
~~Raised Quarter Dk. Sides~~																	
Bridge Sides		4	✓			4	"	"	"	"	"	"	"			"	"
Forecastle Sides			4 ✓			4	"	"	"	"	"	"	"			"	"
Lengths of Plating	8 Frame spaces ✓																

Manufacturer's name or trade mark of the ~~Iron or~~ Steel (state process of manufacture of Steel) used for Frames, Floors, Beams, Keelsons, Tie and Stringer Plates, outside Plating, &c.? (Siemens Martin process)
Frames, Tie and Stringer Plates & Dk. Plating - Consett.
Floors & Bulkheads - Consett & Clydebridge
Beams - Hallside, Consett & Glasgow.
Shell - Mossend & Consett.

Main Stringer Plate { **Butts**, double ~~treble~~ riveted for whole ✓ length ~~amidship~~. **Straps**, ~~single, double or~~ overlapped for whole length ~~amidship~~
Butts of Bilge & Side Stringers, and Tie Plates, treble or double riveted? Treble & double
~~**Inner Bottom Plating**, riveting of **Edges** **Butts**~~
Centre Girder Butts, Treble ✓ riveted. **Keelson Butts**, Treble riveted.
Frames, riveted through Plates with ¾ ✓ in. Rivets, about 5¼ ins. apart.
Rivets, state whether of Iron or Steel Iron ✓

FRAMES extend in one length from Keel ✓ to Main and Shade decks alternately. All to Shade deck in way of Poop and Forecastle & Bridge.
REVERSED FRAMES on floors and frames extend from the middle line to main deck and upper turn of bilge alternately. Double across floors in E & B space.

MASTS, SPARS, &c.

	Material.	Total length.	Diameter and Thickness: At Partners.	~~Heel~~	~~Hounds~~	~~Head~~	~~No. of Plates in round~~	~~Angles~~ Number.	Size.	~~Riveting~~ Seams.	Butts.
Lower Masts …. Fore / Main / ~~Mizen~~	Pitch Pine		14"								
~~Bowsprit~~											

Topmasts, Yards and Remainder of **Spars** Wood ✓
Rigging, Material and Size, **Shrouds** Gal. Stl. Wire 2¾" **Stays** Gal. Stl. Wire 2¾"
Sails. One Suit of Sails ~~and the following spare sails~~

EQUIPMENT No. ✓ **LETTER** ✓ ~~TONNAGE FOR TRAWLERS~~ ~~U.Dk.~~
In accordance with Sec letter 20.8.96

ANCHORS.

Weight of Bolt	Number of Certificate.	Anchors.	Total Weight, ~~Ex Stock~~ Cwts.	qrs.	lbs.	Weight of Head ~~Stock~~ Cwts.	qrs	lbs.	Test, per Certificate Tons.	Cwts.	qrs.	lbs.	Total Weight Req. by Sec. Ltr. 20/8/96 ~~Rule~~ Cwts.	qrs.	lbs.	Description of Anchor.	Makers.	Where and when tested and Superintendent.
1.0.0	30689	1st Bower	15	2	21	8	0	11	17	3	0	14	15	0	0	Byers Patent	W. L. Byers & Co.	Sld. 27/11/96 H. T. Welford Supt.
1.0.0	30726	2nd "	12	3	21	8	0	12	14	15	0	0	12	2	0	"Improved Reliance"	"	" 2/12/96 do
		3rd "														Stockless.		
		Collective weight	28	2	14								27	2	0			
	30617	Stream	4	3	7	Weight of Stock 1	1	0	7	5	0	0	6	0	0	Common	E. Finch & Co.	" 16/11/96 do
		~~Kedge~~																
		~~2nd Kedge~~																

If Patent state Name of Patentee.

CHAIN CABLES.

Number of Certificate.	Fathoms.	Size.	Test per Certificate. Tons.	Weight of Chain Cable Supplied.	Per Sec. Ltr. 20/8/96 ~~Rule~~	Fathoms and Size Per Sec. Ltr. 20/8/96	Description.	Makers of Cables.	When and where tested, and Superintendent.
12515	180½	1³⁄₁₆	BS 38 TS 25⅜	130.1.11	96.0.0	105 × 1³⁄₁₆	Stud Link	Edwd. Finch & Co	Sld. 16/11/96 H. T. Welford Supt.
12540 Iron Stream Chain ~~or Steel Wire~~	60¼	⅝	B.S. 10½ T.S. 7	13.0.9	13.0.0	60 × ⅝	do	do	" 12/11/96 do

HAWSERS AND WARPS.

	Material.	Fathoms.	Size.	Breaking Test of Steel Wire Towline.	Fathoms and Size Per Sec. Ltr. 20/8/96 ~~Rule~~
Towline	Stl. Wire	180	3"	Tons 18	180 × 3
Hawser	Manila	75	7½		75 × 7½
Warp	do	60	5		60 × 5

Boats 4 No. (Steel) 3 - 22 Ft. Lifeboats & 1 - 20 Ft. Cutter.
Pumps, Number Three Diameter of Barrel and Tail Pipe 4" Barrels and 2" Tail pipes.
Windlass is Iron (Clarke, Chapman & Co's patent steam) ~~Capstan~~
Engine Room Skylights.—How constructed? Teak frame on Shade deck. Casings 4/20" thick from Main to Shade dk. with coamings 5/20" thick.
What arrangements for deadlights in bad weather? (Gratings and tarpaulins)
Coal Bunker Openings.—How constructed? Cast iron circular frames How are lids secured? Lockings Height above deck? (Flush)
Number of **Scuppers**, and number and dimensions of **Freeing Ports, &c.** each side - 4 Scuppers & 3 Ports - 1 - 18" × 12½" & 2 - 23½" × 7".
Ceiling in Holds, thickness and material 2¼" Red Pine, & Spar **Ceiling 'tween Decks**, thickness and material 2" Red Pine.
Cargo Hatchways.—How formed? Deep plates forming Coaming and Carling. **Hatches.**—If strong and efficient? Yes
State size **No. 1 Hatch** (Forward) 14' 0" × 9' 11". **No. 2 Hatch** 12' 0" × 8' 0" ~~No. 3 Hatch~~ ~~No. 4 Hatch~~
Number of **Web Plates, Shifting Beams**, and **Fore** and **Afters** to each Hatch One fore and after to each hatch.
No. of Breasthooks Four & deep floors **No. of Crutches** Four & deep floors.
Bulwarks, height above deck and description Height 3¼ Ft. - 4/20" thick " to shade dk. " " 3⅓ " - 20/16 " Main Rail, material and size Double hollow cope iron. upper " T" Teak 6 × 2½.
The above is a correct description. *Surveyor's Signature* T. J. House
Builder's Signature (here only). Russell & Co. per [signature] *Surveyor to ~~Lloyd's Register~~ of British and Foreign Shipping.*

Form No. 1A.

Correspondence.—State dates and initials of letters respecting this case (*Reference should be made to any correspondence connected with the case*) M. 12, 13, 20 & 21/8/96, and E. 15/9/96.
Workmanship. Are the butts of plating planed or otherwise fitted? Planed
Is the riveted work properly closed? Yes
Are the liners between the frames 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
Are the butts of Plating, Stringers, &c., properly shifted and strapped? Yes
General Remarks (State quality of workmanship, &c.)
This vessel has been built in accordance with the accompanying plans, and tracing of Midship Section forwarded on the 28th January, for the preparation of the Certificate of Class, and otherwise as required by the Rules. The quality of workmanship and material is good.
The pumps and watertight doors are in efficient working order, and the watertightness of the weather deck has been tested by a hose, and the waterways by flooding with water, with satisfactory results. Doubling plates are fitted under the sounding pipes.

Three reports on forgings herewith

This vessel is fitted with the electric light.

The Surveyor should state the Number of Report and Name of any Sister Vessel.

PARTICULARS FOR RECORD in the REGISTER BOOK.—Length of Poop ✓ ft., R.Q.D. or Break ✓ ft., Bridge Dk. ✓ ft., F'castle ✓ ft. (in feet and tenths) where the Poop is on top of the R.Q.D., or when the Poop or R.Q.D. is joined to the B.D., this should be distinctly stated
No. and Material of Decks (if Iron or Steel) and whether wholly or partially covered with wood, and No. of tiers of Beams (this information is to be given as it should appear in the Register Book) 1 Dk. pt. Stl. wood sheathed, & Shade dk. (Teak)
Official No. 108172 ; Signal Letters
How are the surfaces preserved from oxidation? Inside Portland Cement & Paint Outside Paint

PARTICULARS OF WATER BALLAST.—~~State whether the Double bottom is constructed on the cellular system~~

~~Where fitted.~~	~~Length.~~ ~~Feet.~~	~~Water Capacity.~~ ~~Tons.~~	Where fitted.	Length. Feet.	Water Capacity. Tons.
~~Double bottom, aft,~~			Fore peak tank,		14
~~Double bottom, forward,~~			After peak tank,		20
~~Double bottom, under Engines and Boilers,~~			~~Midship deep tank,~~		
~~Double bottom, if under Engines only,~~			~~Other tanks, if fitted,~~		
~~Double bottom, if under Boilers only,~~			(If necessary, furnish further information by sketch.)		

State whether the above have been tested as required by the Rules Yes

Order for Special Survey No. 1836 Date 3rd Sept. 1896
~~Order for Ordinary Survey No.~~ ~~Date~~
No. 403 in builder's yard

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
2nd. On the plating during the process of riveting
3rd. When the beams were in and fastened and before the decks were laid
4th. When the ship was complete, and before the plating was finally coated or cemented
5th. After the ship was launched and equipped

Built under S. S. and Surveyed 1896 - Aug. 31. Sept. 1. 2. 3. 4. 5. 7. 10. 11. 15. 16. 17. 18. 21. 24. 25. 30. Oct. 1. 2. 5. 6. 9. 10. 14. 15. 17. 21. 29. 30. Nov. 3. 4. 6. 10. 12. 19. 20. 23. 26. Dec. 2. 4. 9. 14. 18. 21. 25. 28. 1897 Jan. 8. 9. 13. 14. 18. 19. 20. 21. 23. 28. 29. Feb. 1.
Total No. of Visits 57

The amount of Entry Fee £ 3 : " : "
Special £ 25 : 3 : "
Certificate* £ " : " : "
Travelling Expenses, if any £ " : " : "
Fees applied for, 28. 1. 1897
Received by me, 30. 1. 1897
Certificate to be sent to Greenock.

I am of opinion this Vessel should be Classed ✠ A1 "Steel" "For Service on the Channels of the River Hooghly"
~~With, or~~ without Freeboard, as condition of Class
T. J. House *Surveyor to Lloyd's Register of British and Foreign Shipping.*

FRI. 5 FEB 1897

Committee's Minute
Character assigned
A1 Steel
A & CP For Service on the
+ LMC 2, 97 Channels of the River Hooghly
F. D
Elec. light
1 Dk (pt. Stl. - w s) & Shade dk. (Teak)
[initials]

The Surveyors are requested not to write on or below the Committee's Minute.

Hull Certificate Written.

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