M.R.O. 1—32,400—29-11-30.

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

Cons. 14-7-57

G.O. No. 1317 Press Mis.

19-20

Dated 9—7——18 57

Not to be folded or roughly handled

No. 19. Read the following Extract from the Minutes of Consultation in the Marine Department, dated 16th June 1857, No. 242.

Read the following despatch from the Honorable Court of Directors, Marine Department, No. 8 of 1857.

OUR GOVERNOR IN COUNCIL AT FORT SAINT GEORGE.

1. We forward herewith copy of a correspondence relating to the purchase of an Iron Steam Dredging Vessel and Machinery despatched (in pieces) from Liverpool direct for Coringa, on the 19th Ultimo, by the Ship "Architect," Captain Richards.

2. This Dredger, which is fully described in the accompanying Plans and Specification, is to be regarded as one of the number referred to in our Marine Despatch, No. 1, dated 2nd January 1857: it was constructed by Messrs. Forrester and Co., of the Vauxhall Foundry, Liverpool, who for the sum which is to be paid for it by us in England are to deliver it at Coringa, Freight free.

3. We desire that you will make arrangements for the Dredger being received by the Authorities at Coringa immediately on its arrival at that Port, and that you furnish us without loss of time with a Certificate of due delivery in order that we may settle Accounts with Messrs. Forrester and Co.

4. A copy of the Invoice and Bill of Lading will be found with the correspondence.

London,
29th April 1857.

We are,
Your loving Friends,
(Signed) ROSS D. MANGLES.
„ F. CURRIE,
and other Directors.

From Messrs. G. FORRESTER, AND Co.; to Sir JAMES C. MELVILL, K. C. B., dated Liverpool, 26th January 1857.

SIR,

Having been informed that the Honorable East India Company are about to entertain the construction of several Dredgers of very light draft of water, we beg to offer to deliver a Dredger which we have now completed and which has been launched and set to work on the Liverpool and Leeds Canal so as to prove its capabilities and draft of water. This Dredger only draws 9 inches water at the fore end and 18 inches at the after end, and begins to dredge in 12 inches depth of water and as deep as 6 feet of water, the hull is of iron 14 feet beam and 80 feet long.

We may mention that we are now loading an A. I. Vessel with private Machinery for Coringa direct, if therefore, on enquiry, the Honorable East India Company consider the Dredger we now offer will fulfil the conditions they require for Coringa, we shall be happy to undertake the delivery of it Freight free at that place for the sum of £2,350, or otherwise in this country at their option.

We shall despatch the Vessel we are now loading in the course of 15 or 20 days at latest and shall therefore feel obliged by as early a reply as possible, the Machinery of the Dredger is ready for packing up and can therefore be shipped on a very short notice.

We trust our offer may be accepted and that we may also be allowed to tender for the other Dredges. We may mention that we have shown the plan of the Dredger above alluded to, and the writer will be happy to attend and give any further particulars should you require it.

From Captain C. H. HUTCHINSON, Assistant Civil Engineer, Godavery; to Sir JAMES C. MELVILL, K. C. B., dated London, 26th January 1857.

SIR,

Anticipating that Steam Dredgers would be required for the Canals of India of so shallow a draft as to necessitate their construction upon novel and hitherto untried proportions and arrangements, Messrs. Forrester and Co. of Liverpool, have lately planned and constructed a Machine specially calculated to meet those requirements; and invited me to witness the success of their experiments.

I have examined the Dredge at work in the Liverpool and Leeds Canal, and have found it to combine all the qualities requird for service in the Godavery and other Canals.

Messrs. Walker, Burgess and Co. have examined the plans of the Dredge and are considering it with others. But I feel it my duty to bring to your notice, that this particular Machine is now ready for shipment and that a ship is about to sail from Liverpool direct to Coringa, with other machinery, and could take this Dredge on board. Whereas if this ship be allowed to sail and it be afterwards determined to send out this Machine, considerable delay and expense may be thereby incurred.

The dimensions of the Machine are:

	Feet.	Inches.
Length	80	0
Extreme breadth	14	0
Draft of water forward	0	9
Do. do. aft	1	6

It begins to work in one foot of water and digs to six feet and raises about thirty Tons of Soil per hour. Thus, more than meeting the conditions sent from India.

Its price delivered at Liverpool, packed for Shipment, is I am informed £2,000.

From Messrs. WALKER, BURGESS AND COOPER; to the Honorable East India Company, dated 23, Great George Street, 28th January 1857.

(Dredgs for Madras.) SIR,

We beg to append hereto an Extract from a letter received last night from Captain Hutchinson to us, recommending the purchasing and sending out immediately a Steam Dredge, already constructed by Messrs. Forrester and Co., Liverpool. The reasons for this recommendation are stated in Captain Hutchinson's letter. They are strong, and Captain Hutchinson's general acquaintance with the subject, as well as his local knowledge being well known to you, makes his recommendation very different from what that of a stranger would have been. If it be your pleasure (as suggested by Captain Hutchinson) that we send down a competent person to examine the workmanship of the parts we will do so, but as the Machine is taken to pieces, the examination could not go further. You have Captain Hutchinson's Certificate in favour of the *parts* of the *whole*, and it appears, that as respects Shipment, every day is important.

MADRAS DREDGERS.

Extract from Captain HUTCHINSON'S letter; to Messrs. WALKER, BURGESS AND COOPER, dated 27th January 1857.

"Looking to the importance of supplying the Godavery Canals with Dredging Machinery "with as little delay as may be practicable, I beg to submit to you the plan of a Steam Dredge "constructed by Messrs. Forrester and Co. of Liverpool, now actually ready for Shipment on a "Vessel to sail in a few days direct for Coringa, (the Port at the Godavery mouth,) and which I have "seen at work, examined and found to be of such dimensions, arrangement and workmanship as to "more than meet all the conditions required for work upon the Canals of the Godavery and Kistna."

"The Machinery is now taken to pieces and there would not be time to re-erect it for survery, "and to send it by the Ship above referred to, but Forrester and Co. invite examination of its parts "by any competent person you may depute."

"The price packed for Shipment at Liverpool is £2000, but Forrester and Co. would agree "at a fair price to deliver it at Coringa."

From J. D. DICKINSON, Esq., Deputy Secretary; to Messrs. WALKER, BURGESS AND COOPER, dated East India House, 2nd February 1857.

GENTLEMEN,

With reference to your letter dated the 28th Ultimo, forwarding an extract from a letter addressed to you on the preceding day by Captain Hutchinson, on the subject of a Steam Dredge already constructed by Messrs. Forrester and Co. of Liverpool, and now ready for Shipment, which in the opinion of that Officer is likely to meet the conditions required for work on the Canals of the Godavery and Kistna; I am directed to request that you will send down to Messrs. Forrester's at Liverpool, a competent person to examine the workmanship of the several parts of that Dredger and Machinery which Messrs. Forrester's have offered for sale to the Court of Directors of the East India Company, by letter dated the 26th January 1857, for £2,350, delivered Freight free at Coringa, and that you will report to me, for the information of the Court, whether you consider the Dredger complete in all its parts, and suitable for the purpose contemplated by the Madras Government, as referred to by Captain Hutchinson and in the papers already before you on the subject, and whether, in your opinion, the price at which it has been offered to the Court is reasonable.

MADRAS DREDGERS.

MESSRS. FORRESTER'S DREDGER.

23, Great George Street, dated 17*th February* 1857.

SIR,

In compliance with your instructions, dated 2nd February 1857, we on the 9th sent Edward Britton (a person of considerable experience in the construction and working of Dredgers) to Messrs. Forrester's and have this day received his Report upon the Dredger referred to by Captain Hutchinson.

Without entering into all the details of construction we beg to state shortly that Britton considers the materials and workmanship of the Vessel and Machinery generally to be good. The length of the Vessel is 84 feet, the beam 14 feet 6 inches, the draft 9 inches forward and 18 inches aft, and the Machinery is so placed that a headway of 12 feet is required to pass under bridges. The plating of the Vessel is only $\frac{5}{16}$th of an inch thick which we think rather too thin. Britton thinks the boiler is too high for the stability of the Vessel. The motion to the tumbler shaft is by means of a *Worm* Screw which will have to revolve with great rapidity to give the required velocity to the buckets and the friction between the screw and the wheel which works into it will be so great that the screw and wheel will be worn out in a short time.*

Britton says that the buckets are strong and well made but not of a good form for discharging the material, and that the clearing of them will be attended with considerable labour.

Several alterations and additions of a minor nature might be suggested which, if time were allowed, would make the Dredger more complete in its parts, should it be determined to send it to India.

As respects the price we should consider the amount asked by Messrs. Forrester to be reasonable.

Upon the whole, although we cannot be responsible for a Machine which is in some respects novel in construction, which we have never seen at work, and in which, in order to effect a very

* Note.—A spare Screw has been provided which is proposed to be sent out at the same time.

small draft of water, the durability of some of the important parts appear to have been sacrificed, it is to be considered that Captain Hutchinson who has seen the Vessel at work strongly recommends the purchasing and sending out forthwith, and that there is an opportunity for so doing; that no other Dredger can be had so soon, and that to make the alterations which Britton suggests for the purpose of strengthening and improving her would be the work of considerable time and expense.

(Signed) WALKER, BURGESS, AND COOPER.

From Messrs. G. FORRESTER AND Co; to J. C. MASON, Esq., dated Liverpool, 19th February 1857.

SIR,

As the writer had several conversations with you on the subject of the small Steam Dredger which we have offered to deliver Freight free for the Honourable East India Company at "Coringa" and as we are now loading our Vessel for that Port we are anxious to know what progress is making with the consideration of our offer. We persume by this time you have received Messrs. Walker, Burgess and Cooper's Reports, and if you think the writer's presence in London will facilitate any decision, we will lose no time in being at the India House, hoping that you will excuse our trouble and that we may be favoured with a reply by return *as* the despatch of the ship must be prompt

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From Sir JAMES C. MELVILL, K. C. B., Secretary East India House; to Captain C. H. HUTCHINSON, dated 20th February 1857.

SIR,

With reference to your letter, dated the 26th January 1857, bringing to notice a Steam Dredging Vessel constructed by Messrs. George Forrester and Co. of Liverpool, which you have seen at work in the Liverpool and Leads Canal, and "have found to combine all the qualities required for "service in the Godavery and other Canals," I am directed to inform you that Messrs. Forrester and Co. have offered that Vessel for sale to the Court of Directors of the East India Company, to be delivered, *Freight free*, at "Coringa," and that Messrs. Walker, Burgess and Cooper, Civil Engineers, were required to send a competent person to Liverpool to examine and report upon the workmanship of the several parts of that Dredger and its Machinery, previous to any decision being passed by the Court upon Messrs. Forrester's offer.

Messrs. Walker and Co. having sent in their Report, under date 17th February 1857, I have been desired to forward a copy of that document herewith, and to request you will report for the information of the Finance and Home Committee, whether, notwithstanding the objections noticed by Messrs. Walker and Co. with reference to the mechanical construction of their Dredging Vessel and of its Machinery, you are still of opinion that it is adapted to the purposes required by the Madras Government, and that it will perform efficient service in the Canals of the Godavery and the Kistnah, in the event of the Court deciding upon the purchase of it.

An immediate reply is desired.

From Messrs. G. FORRESTER, AND Co; to J. C. MASON, Esq., dated Liverpool, 21st February 1857.

SIR,

Fearing that Captain Hutchinson may have left England, before Messrs. Walker, Burgess and Cooper may have reported on the Iron Dredging Vessel and Machinery, which we tried when Captain Hutchinson was in Liverpool, we take the liberty of writing to say that we shall be quite willing to guarantee this Dredging Vessel for 12 months after being set to work, the same as we are to guarantee those for Madras. We take the liberty of writing this, as we understood that Messrs. Walker and Co's. report would be shewn to Captain Hutchinson and we believe that the latter Gentleman sailed from Southampton.

From Sir JAMES C. MELVILL, K. C. B., Secretary East India House; to Messrs. G. FORRESTER AND Co., Liverpool, dated 26th February 1857.

GENTLEMEN,

I am commanded to acquaint you that the Court of Directors of the East India Company accept your offer to supply an Iron Steam Dredger and Machinery (which you have just completed and which is now ready for Shipment) for the sum of £2,350; the same to be delivered Freight free at Coringa, and its efficiency guaranteed by you for the period of twelve months after it shall have been put together and set to work in India.

From Messrs. G. FORRESTER AND Co.; to Sir JAMES C. MELVILL, K. C. B., dated Liverpool, 23rd March 1857.

SIR,

We beg to enclose Bills of Lading, also Plans and Specification of the small Iron Steam Dredger ordered by the Court of Directors of the Honorable East India Company, as per your letter of 26th February. We have shipped the whole in the "Architect," Captain Richards, which Vessel sailed some days ago direct for Coringa.

From SIR JAMES C. MELVILL, K. C. B., Secretary East India House; to Messrs. G. FORRESTER AND Co., Vulcan Foundery, Liverpool, dated 17th April 1857.

GENTLEMEN,

I am desired to inform you that the Court of Directors of the East India Company have intimated to the Government of Madras, their resolution to purchase of you the Iron Steam Dredging Vessel and Machinery despatched in pieces for Coringa from Liverpool per "Architect" on the 19th Ultimo, and they have directed the Government to make arrangements for the Dredger to be received by the Authorities at Coringa immediately upon its arrival at that Port, and to furnish the Court, without loss of time with a Certificate of its true delivery to enable them to settle Accounts with you for the purchase of the same.

ENGINE No. 145 AND DREDGING MACHINE No. 4, E. I. Co.

LOOSE PIECES.

No. 1= 1	Boiler.	
„ 2= 1	Chimney.	
„ 3= 1	Engine bed-plate.	
„ 4= 1	do. framing.	
„ 5= 1	Crank-shaft.	
„ 6= 1	Fly-wheel.	
„ 7= 3	Elbow-pipes bolted together.	Steam pipes 2½″ bore.
„ 8= 1	Elbow-pipe 4′—7″ long.	
„ 9= 1	do. do. 4′—9″ do.	
„ 10= 1	do. do. 3′—7″ do.	
„ 11= 1	Short Elbow-pipe.	
„ 13—14=3	Straight pipes, 6′ long.	
„ 15= 1	Elbow-pipe with flange and famet.	Exhaust pipes 3″ bore.
„ 16= 1	Straight pipe.	
„ 17= 2	Wrought-Iron pipes (together.)	
„ 18—19=2	Bucket Ladders complete with rollers and bottom Tumblers.	
„ 20—21=2	Top Tumblers with shafts and clutches.	
„ 22—23=2	Cast Iron Framings for Worm-wheel.	
„ 22= 1	Worm-wheel with shaft, 2 fraction-wheels with hoops.	
„ 25= 1	Worm with shaft.	
„ 26= 1	Spare Worm.	
„ 27—58=32	Buckets.	

No. 59—60= 2 Common Winches.
" 61—62= 2 Winches for lifting Ladders.
" 63—64= 2 Mud-shoots.
" 65= 1 Set of Fire-Irons.
" 66—67=14 Bundles of wood-framing.
" 80—81= 2 Pieces of wood for Mud-shoots.
" 82= 1 Oil-box for Worm.

CASES.

No. 83. 1 Piston with Rod, 2 spare Springs.
2 Box-Spanners, 1 Common Spanner, 1 Wrench.
1 Connecting-Rod, 2 Pump-Plungers with Links.
2 Eccentrics, 2 Eccentric-Hoops and Rods.
1 Guard for Governor, 1 Stop-Valve for Feed.
1 Blow-off Cock with Pipe, 1 Scum-Cock with 2 Wrought Iron Pipes, 2 Pipe Brass Cocks with Pipe for Cylinder.
1 Pipe for Indicator.
2 Brass Cocks for water-gauge, 3 gauge-glasses.
12 ½" Bolts for Wrought Iron Pipes and water-gauge.
1 Small column for Throttle-valve-spindle.
1 Throttle-valve-spindle with lever, link and weight.
2 Slides and Wrought Iron guard for slides.
1 Slide Block, 1 Safety-valve with lever and weight.
1 Long Column for Governor lever.
1 Governor with Spindle and Mitre-wheel.
1 Bracket with shaft, pulley and Mitre-wheel for Governor, 2 Bracket pedestals with shaft and levers for Pumps, 1 Lead-Pipe and Box for Bilge-Pump, 1 Long Rod, with Bracket and guide for lifting Safety-valve, 1 Belt for Governor.
4 Spanners for Engine, 2 Wrought Iron-Bars with bolts for holding-down Timbers of Dredging Machine.
2 Wooden-Blocks for Mud-Shoots, 1 Indicator.

No. 84. 32 Pairs of Links for Buckets.

No. 85. 32 Pairs Links for Buckets.

No. 86. 2 Pairs of Blocks, 16 Straps for Timber-Work, 6 Bolts for do., 40 Washers.

No. 87. 2 Disengaging-levers for Couplings.
4 Long bolts for framing.
2 Levers and 2 weights for Chimney.
2 Gaurds for disengaging-levers.
2 Roller-boxes, 2 Brackets for shaft of Chimney.
2 Angle-pieces for framing.
3 Bent Wrought Iron Pipes for Feed, 1 straight do.
5 Winch-handles, 2 Brakes with levers for Bucket-ladder Winches, 14 Bolts for Engine-keelsons.
1 Gross of Wood-screws.

No. 88. 4 Pedestals for Tumbler-shafts.
1 Engine Coupling, 1 Friction-Pulley and 2 Pedestals.

No. 89. 2 Pumps with Valve-boxes.
1 Crank-shaft Pedestal, 3 Brass Cocks.
1 Screw-down Valve and 3 Bends.
3 Wrought Iron bends for feed and bilge.
2 Hand-wheels and Rods for Brake.
8 Holding-down Bolts for Engine bed-plate.
2 Brakes for Winches.
2 Brakets for do. (to lift Bucket ladder.)

No. 90. 1 Crank-shaft Pedestal with sole-plate.
2 Pedestals for Worm-shaft.
1 Cylinder with Valve-casing, 1 Tallow cup.
1 Guide-pulley with Roller and Bracket.
4 Set-screws for Worm-shaft Pedestals.
4 Keys for fly wheel.
2 Hangers for Bucket-ladders, 2 Cottors for friction-pulley.
16 Bolts for Pedestals.
22 Bolts for framing.
34 do. for holding down Timbers.
6 do. for Winches.
4 do. for friction-Pulley-Pedestals.
4 do. for Worm-Pedestals.
6 do. for Engine-framing.
2 Shafts with forks for clutches.
4 Brackets for do.
8 Wood-screws for do.
4 Cotters for top of Bucket-ladder.
1 Large spanner for bolts of Bucket-ladder.

No. 91. 17 Fire-bars.

LOOSE PIECES (DREDGE-BOAT.)

No. 92— 97= 6 Wrought Iron plates for Mud-shoots.
98—103= 6 Keelsons.
104—126=23 Frames.
127—143=17 Pieces of Boat.
144 = 1 Bundle of 2 Corner-plates.

CASE.

No. 145 2500 Rivets ½"× ⅞" long.
1100 do. ½"×1¼" do.
1 Brass cock, 2 chains for Bucket-ladder.
6 Spare links and 12 Pince and Cotters for Ladder.
1 Brush for Worm, 32 mouth-plates for Buckets.

(Signed) GEORGE FORRESTER and Co.

Ordered that this Despatch and its Enclosures be forwarded to the Marine Board, who will issue instructions to the Authorities at Coringa to receive charge of the Dredge immediately on

its arrival at that Port, and to furnish without delay a Certificate of due delivery for transmission to the Honorable Court.

(True Extract and Copy)

(Signed) E. MALTBY,
Acting Chief Secretary.

No. 20. ORDER THEREON, No. 1317; dated 9th July 1857.

Ordered to be communicated to the Chief Engineer.

(Signed) H. FORBES,
Acting Secretary to Government.

MARINE DEPARTMENT.

No. 242.

Extract from the Minutes of Consultation under date the 16th June 1857.

Read the folllowing despatch from the Honorable Court of Directors, Marine Department, No. 8 of 1857.

OUR GOVERNOR IN COUNCIL AT FORT ST. GEORGE.

1. We forward herewith copy of a correspondence relating to the purchase of an Iron Steam Dredging Vessel and Machinery despatched (in pieces) from Liverpool direct for Coringa, on the 19th Ultimo, by the Ship "Architect," Captain Richards.

2. This Dredger, which is fully described in the accompanying Plans and Specification, is to be regarded as one of the number referred to in our Marine Despatch, No. 1, dated 2d January 1857: it was constructed by Messrs. Forrester and Co., of the Vauxhall Foundry, Liverpool, who for the sum which is to be paid for it by us in England are to deliver it at Coringa, Freight free.

3. We desire that you will make arrangements for the Dredger being received by the Authorities at Coringa immediately on its arrival at that Port, and that you furnish us without loss of time with a Certificate of due delivery in order that we may settle Accounts with Messrs. Forrester and Co.

4. A copy of the Invoice and Bill of Lading will be found with the correspondence.

We are,
Your loving Friends,
(Signed) ROSS D. MANGLES
„ F. CURRIE,
and other Directors.

LONDON,
29th April 1857.

From Messrs. G. FORRESTER AND Co; to Sir JAMES C. MELVILL, K. C. B., dated Liverpool, 26th January 1857.

SIR,

Having been informed that the Honorable East India Company are about to entertain the construction of several Dredgers of very light draft of water, we beg to offer to deliver a Dredger which we have now completed and which has been launched and set to work on the Liverpool and Leeds Canal so as to prove its capabilities and draft of water. This Dredger only draws 9 inches water at the fore end and 18 inches at the after end, and begins to dredge in 12 inches depth of water and as deep as 6 feet of water, the hull is of iron 14 feet beam and 80 feet long.

We may mention that we are now loading an A I. Vessel with private Machinery for Coringa direct, if therefore, on enquiry, the Honorable East India Company consider the Dredger we now offer will fulfil the conditions they require for Coringa, we shall be happy to undertake the delivery of it Freight free at that place for the sum of £2,350, or otherwise in this country at their option.

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(Signed) GEORGE FORRESTER AND Co.

From Captain C. H. HUTCHINSON, Assistant Civil Engineer, Godavery; to Sir JAMES C. MELVILL, K. C. B., dated London, 26th January, 1857.

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specially calculated to meet those requirements; and invited me to witness the success of their experiments.

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The dimensions of the Machine are:

	Feet.	Inches.
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Draft of water forward.....	14	0
Do. do. aft.....	0	9
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It begins to work in one foot of water and digs to six feet and raises about thirty Tons of Soil per hour. Thus, more than meeting the conditions sent from India.

Its price delivered at Liverpool, packed for Shipment, is I am informed £2000.

(Signed) C. H. HUTCHINSON,
Captain.

From Messrs. WALKER, BURGESS AND COOPER; to the Honorable East India Company, dated 23, Great George Street, 28th January 1857.

(Dredges for Madras.) SIR,

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"The price packed for Shipment at Liverpool is £2000, but Forrester and Co. would agree "at a fair price to deliver it at Coringa."

From J. D. DICKINSON, Esq., Deputy Secretary; to Messrs. WALKER, BURGESS AND COOPER, dated East India House, 2nd February 1857.

GENTLEMEN,

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(Signed) J. D. DICKINSON,
Deputy Secretary.

MADRAS DREDGERS.

MESSRS. FORRESTER'S DREDGER.

23, Great George Street, dated 17th February 1857.

SIR,

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Without entering into all the details of construction we beg to state shortly that Britton considers the materials and workmanship of the Vessel and Machinery generally to be good. The length of the Vessel is 84 feet, the beam 14 feet 6 inches, the draft 9 inches forward and 18 inches aft, and the Machinery is so placed that a headway of 12 feet is required to pass under bridges. The plating of the Vessel is only $\frac{5}{16}$th of an inch thick which we think rather too thin. Britton thinks the boiler is too high for the stability of the Vessel. The motion to the tumbler shaft is by means of a *Worm* Screw which will have to revolve with great rapidity to give the required velocity to the buckets and the friction between the screw and the wheel which works into it will be so great that the screw and wheel will be worn out in a short time.*

Britton says that the buckets are strong and well made but not of a good form for discharging the material, and that the clearing of them will be attended with considerable labour.

Several alterations and additions of a minor nature might be suggested which, if time were allowed, would make the Dredger more complete in its parts, should it be determined to send it to India.

As respects the price we should consider the amount asked by Messrs. Forrester to be reasonable.

Upon the whole, although we cannot be responsible for a Machine which is in some respects novel in construction, which we have never seen at work, and in which, in order to effect a very small draft of water, the durability of some of the important parts appear to have been sacrificed, it is to be considered that Captain Hutchinson who has seen the Vessel at work strongly recommends the purchasing and sending out forthwith, and that there is an opportunity for so doing; that no other Dredger can be had so soon, and that to make the alterations which Britton suggests for the purpose of strengthening and improving her would be the work of considerable time and expense.

(Signed) WALKER, BURGESS AND COOPER.

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* *Note.— A spare Screw has been provided which is proposed to be sent out at the same time.*

From Messrs. G. FORRESTER AND Co; to J. C. MASON, Esq., dated Liverpool, 19th Februray 1857.

SIR,

As the writer had several conversations with you on the subject of the small Steam Dredger which we have offered to deliver Freight free for the Honorable East India Company at "Coringa" and as we are now loading our Vessel for that Port we are anxious to know what progress is making with the consideration of our offer. We presume by this time you have received Messrs Walker, Burgess and Cooper's Report, and if you think the writer's presence in London will facilitate any decision, we will lose no time in being at the India House, hoping that you will excuse our trouble and that we may be favoured with a reply by return *as* the despatch of the ship must be prompt.

(Signed) GEORGE FORRESTER AND Co.

From SIR JAMES C. MELVILL, K. C. B. Secretary East India House; to Captain C. H. HUTCHINSON, dated 20th February 1857.

SIR,

With reference to your letter, dated the 26th January 1857, bringing to notice a Steam Dredging Vessel constructed by Messrs. George Forrester and Co. of Liverpool, which you have seen at work in the Liverpool and Leeds Canal, and "have found to combine all the qualities required for "service in the Godavery and other Canals," I am directed to inform you that Messrs. Forrester and Co. have offered that Vessel for sale to the Court of Directors of the East India Company, to be delivered, *Freight free*, at "Coringa," and that Messrs. Walker, Burgess and Cooper, Civil Engineers, were required to send a competent person to Liverpool to examine and report upon the workmanship of the several parts of that Dredger and its Machinery, previous to any decision being passed by the Court upon Messrs. Forrester's offer.

Messrs. Walker and Co. having sent in their Report, under date 17th February 1857, I have been desired to forward a copy of that document herewith, and to request you will report for the information of the Finance and Home Committee, whether, notwithstanding the objections noticed by Messrs. Walker and Co., with reference to the mechanical construction of their Dredging Vessel and of its Machinery, you are still of opinion that it is adapted to the purposes required by the Madras Government, and that it will perform efficient service in the canals of the Godavery and the Kistnah, in the event of the Court deciding upon the purchase of it.

(Signed) JAMES C. MELVILL,
Secretary.

An immediate reply is desired.

From Messrs. G. FORRESTER, AND Co; to J. C. MASON, Esq., dated Liverpool, 21st February 1857.

SIR,

Fearing that Captain Hutchinson may have left England, before Messrs. Walker, Burgess and Cooper may have reported on the Iron Dredging Vessel and Machinery, which we tried when Captain Hutchinson was in Liverpool, we take the liberty of writing to say that we shall be quite willing to guarantee this Dredging Vessel for 12 months after being set to work, the same as we are to guarantee those for Madras. We take the liberty of writing this, as we understood that Messrs. Walker and Co's. report would be shewn to Captain Hutchinson and we believe that the latter Gentleman sailed from Southampton.

(Signed) G. FORRESTER AND Co.

From Sir James C MELVILL, K. C. B., Secretary East India House; to G. FORRESTER AND Co., Liverpool, dated 26th February 1857.

GENTLEMEN,

I am commanded to acquaint you that the Court of Directors of the East India Company accept your offer to supply an Iron Steam Dredger and Machinery (which you have just completed and which is now ready for Shipment) for the sum of £2,350; the same to be delivered Freight free at Coringa, and its efficiency guaranteed by you for the period of twelve months after it shall have been put together and set to work in India.

(Signed) JAMES C. MELVILL,
Secretary.

From Messrs. G. FORRESTER AND Co., to Sir JAMES C. MELVILL, K. C. B., dated Liverpool, 23rd March 1857.

SIR,

We beg to enclose Bills of Lading, also Plans and Specification of the small Iron Steam Dredger ordered by the Court of Directors of the Honorable East India Company, as per your letter of 26th February. We have shipped the whole in the "Architect," Captain Richards, which Vessel sailed some days ago direct for Coringa.

(Signed) G. FORRESTER AND Co.

From SIR JAMES C. MELVILL, K. C. B., Secretary East India House; to Messrs. G. FORRESTER AND Co., Vulcan Foundery, Liverpool, dated 17th April 1857.

GENTLEMEN,

I am desired to inform you that the Court of Directors of the East India Company have intimated to the Government of Madras, their resolution to purchase of you the Iron Steam Dredging Vessel and Machinery despatched in pieces for Coringa from Liverpool per "Architect" on the 19th Ultimo, and they have directed the Government to make arrangements for the Dredger to be received by the Authorities at Coringa immediately upon its arrival at that Port, and to furnish the Court, without loss of time, with a Certificate of its true delivery to enable them to settle Accounts with you for the purchase of the same.

(Signed) JAMES C. MELVILL,
Secretary.

ENGINE No. 145 AND DREDGING MACHINE No. 4, E. I. Co.

LOOSE PIECES.

No. 1= 1 Boiler.
„ 2= 1 Chimney.
„ 3= 1 Engine bed-plate.
„ 4= 1 do. framing.
„ 5= 1 Crank-shaft.
„ 6= 1 Fly-wheel.
„ 7= 3 Elbow-pipes bolted together.
„ 8= 1 Elbow-pipe 4'—7" long.
„ 9= 1 do. do. 4'—9" do.
„ 10= 1 do. do. 3'—7" do.
„ 11= 1 Short Elbow-pipe.
} Steam pipes 2"½ bore.
„ 13—14=3 Straight pipes, 6' long.
„ 15= 1 Elbow-pipe with flange and famet.
„ 16= 1 Straight pipe.
} Exhaust pipes 3" bore.
„ 17= 2 Wrought-Iron pipes (together.)
„ 18—19=2 Bucket Ladders complete with rollers and bottom Tumblers.
„ 20—21=2 Top Tumblers with shafts and clutches.
„ 22—23=2 Cast Iron Framings for Worm-wheel.
„ 22= 1 Worm-wheel with shaft, 2 fraction-wheels with hoops.
„ 25= 1 Worm with shaft.
„ 26= 1 Spare Worm.
„ 27—58=32 Buckets.
„ 59—60= 2 Common Winches.
„ 61—62= 2 Winches for lifting Ladders.
„ 63—64= 2 Mud-shoots.
„ 65= 1 Set of Fire-Irons.
„ 66—79=14 Bundles of wood-framing.
„ 80—81= 2 Pieces of wood for Mud-shoots.
„ 82= 1 Oil-box for Worm.

CASES.

No. 83. 1 Piston with Rod, 2 spare Springs.
2 Box-Spanners, 1 Common Spanner, 1 Wrench.
1 Connecting-Rod, 2 Pump-Plungers with Links.
2 Eccentrics, 2 Eccentric-Hoops and Rods.
1 Guard for Governor, 1 Stop-Valve for Feed.
1 Blow-off Cock with Pipe, 1 Scum-Cock with 2 Wrought Iron Pipes. 2 Pipe Brass Cocks with Pipe for Cylinder.
1 Pipe for Indicator.
2 Brass Cocks for water-gauge, 3 gauge-glasses.
12 ½″ Bolts for Wrought Iron Pipes and water-gauge.
1 Small column for Throttle-valve-spindle.
1 Throttle-valve-spindle with lever, link and weight.
2 Slides and Wrought Iron guard for slides.
1 Slide Block, 1 Safety-valve with lever and weight.
1 Long Column for Governor lever.
1 Governor with Spindle and Mitre-wheel.
1 Bracket with shaft, pulley and Mitre-wheel for Governor, 2 Bracket pedestals with shafts and levers for Pumps, 1 Lead-Pipe and Box for Bilge-Pump, 1 Long-Rod, with Bracket and guide for lifting Safety-valve, 1 Belt for Governor.
4 Spanners for Engine, 2 Wrought Iron-Bars with bolts for holding-down Timbers of Dredging Machine.
2 Wooden-Blocks for Mud-Shoots, 1 Indicator.

No. 84. 32 Pairs of Links for Buckets.

No. 85. 32 Pairs Links for Buckets.

No. 86. 2 Pairs of Blocks, 16 Straps for Timber-Work, 6 Bolts for do., 40 Washers.

No. 87. 2 Disengaging-levers for Couplings.
4 Long bolts for framing.
2 Levers and 2 weights for Chimney.
2 Gaurds for disengaging-levers.
2 Roller-boxes. 2 Brackets for shaft of Chimney.
2 Angle-pieces for framing.
3 Bent Wrought Iron Pipes for Feed, 1 straight do.
5 Winch-handles, 2 Brakes with levers for Bucket-ladder Winches, 14 Bolts for Engine-keelsons.
1 Gross of Wood-screws.

No. 88. 4 Pedestals for Tumbler-shafts.
1 Engine Coupling, 1 Friction-Pulley and 2 Pedestals.

No. 89. 2 Pumps with Valve-boxes.
1 Crank-shaft Pedestal, 3 Brass Cocks.
1 Screw-down Valve and 2 Bends.
3 Wrought Iron bends for feed and bilge.
2 Hand-wheels and Rods for Brake.
8 Holding-down Bolts for Engine bed-plate.
2 Brakes for Winches.
2 Brackets for do. (to lift Bucket ladder).

No. 90. 1 Crank-shaft Pedestal with sole-plate.
2 Pedestals for Worm-shaft.
1 Cylinder with Valve-casing, 1 Tallow cup.
1 Guide-pulley with Roller and Bracket.
4 Set-screws for Worm-shaft Pedestals.
4 Keys for fly wheel.
2 Hangers for Bucket-ladders, 2 Cottors for friction-pulley.
16 Bolts for Pedestals.
22 Bolts for framing.
34 do. for holding down Timbers.
6 do. for Winches.
4 do. for friction-Pulley-Pedestals.
4 do. for Worm-Pedestals.
6 do. for Engine-framing.
2 Shafts with forks for clutches.
4 Brackets for do.
8 Wood-screws for do.
4 Cotters for top of Bucket-ladder.
1 Large spanner for bolts of Bucket-ladder.

No. 91. 17 Fire-bars.

LOOSE PIECES (DREDGE-BOAT.)

No. 92— 97= 6 Wrought Iron plates for mud-shoots.
98—103= 6 Keelsons.
104—126=23 Frames.
127—143=17 Pieces of Boat.
144 = 1 Bundle of 2 Corner-plates.

CASE.

No. 145 2500 Rivets ½″ × ⅞″ long.
1100 do. ½″ × 1¼″ do.
1 Brass cock, 2 chains for Bucket-ladder.
6 Spare links and 12 Pins and Cotters for Ladder.
1 Brush for Worm, 32 mouth-plates for Buckets.

(Signed) GEORGE FORRESTER and Co.

Ordered that this Despatch and its Enclosures be forwaded to the Marine Board, who will issue instructions to the Authorities at Coringa to receive charge of the Dredge immediately on its arrival at that Port, and to furnish without delay a Certificate of due delivery for transmission to the Honorable Court.

(True Extract and Copies)

Acting Chief Secretary.

To the President and Members of the Marine Board,
with a Plan and Bill of Lading.
„ Public Works Department.

Exd. J. A. Wilson.

Public Works 1857 Dep
Dated Cons 14th July.

No 1292

Extract from the Minutes
of Cons in the Marine Dept.

Dated 16th June 1857
Rec. 26th

Approving the dispatch by the Ship "Architect" from Liverpool to Coringa of an Iron Steam Dredging Vessel & Machinery.

With an order
No 1317. 9th July

A Copy to the Chief Engr. Madras

Chairman & Co. Madras

Chief Engineer

9th July 1857

No 1920