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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 7833

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69-70

Dated 4-9-1866

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
4th September 1866.*

No. 69. Read the following letter from the Consulting Engineer for Irrigation and Canal Company, to the Secretary to Government, Department Public Works, dated Madras, 13th August 1866, No. 52 :—

1. In paragraph 2 of their Order, No. 2,611, of the 7th September last, Government sanctioned the transfer of 1 Letter from the Agent in original, General No. 244. debit, from the Manufacture of Stores Account to Buildings, of Rs. 9,127-5-1, 1 Plan of Foundry. Iron and Brass Foundry at Kurnool. the outlay incurred in the erection of the Foundry, and which was noted in the In March last an Indent was transmitted to this office for sanction, in which was entered a sum, Rupees 3,083-12-3, for the Remark column as a " further charge." • Agent's letter No. 152 of the 1st instant, with Explanation was asked for, and it will correspondence and Statement attached. be seen from the accompanying papers* that the total expenditure incurred consists of—

	RS.	A.	P.
1. Erection, Brass and Iron Foundry	8,399	4	6
2. Roofing over Brass do	728	0	7
Amount already sanctioned	9,127	5	1
3. Fitting pump for supply of water to Foundry ...	38	9	1
4. Moulding boxes and first out-turn of castings ...	2,344	1	4
5. Copper blow off cock for Foundry Engine ...	179	3	11
6. Constructing tank for Foundry	560	10	8
Total ...	3,122	9	0

2. It also appears that certain timber used for the roof of the Foundry, and valued by the Chief Engineer at Rupees 468-15-10, was not included in the cost of the building already sanctioned, and the reason given is that it was intended to transfer this wood to another Foundry, the erection of which was contemplated, but sanction for which has not been given for the present. Further, the Foundry roof is in need of strengthening, and additional timbers, at an estimated cost of Rupees 100, are proposed to be inserted. The Agent, however, explains that the rates entered by the Chief Engineer are too low, and that Rupees 700 for the timber already used, and 160 Rupees for that to be used, are required. Lastly, the Progress Report shows that a sum of Rupees 2,982-3-3 is debitable to the building for Store charges.

3. Altogether, therefore, the unadjusted expenditure is Rupees 6,964-12-3, and the total outlay, including the sanction Rupees 9,127-5-1 already given, is Rupees 16,092-1-4.

4. The statements of particulars of cost attached to the Agent's letter give the details of all the expenditure, but there is no division or debit to particular items of work executed on one order, and it is not easy to see what has been done

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for the money spent, or to ascertain whether the results are correspondent to the cost. However I have made such an examination as was practicable, and it appears to me that the control over expenditure has not been satisfactory.

5. The plan of the building already sanctioned is enclosed, and the details of the amount* sanctioned are given.

* Rupees 2,127-5-1.
Allowing the same rates as those included in the estimates for the new Workshops and Store buildings now under construction, I find that the Foundry building would cost not more than 1,150 Rupees. It will be observed, however, that the roofing, which should have cost altogether about 510 Rupees, come to Rupees 728-0-7, and to this has to be added, according to the Chief Engineer's estimate, Rupees 468-15-10, or, as explained by the Agent, Rupees 700, for timber used. This part of the cost then seems to have been more than double what was necessary. The actual outlay on the building is not ascertainable perhaps, but the difference between this and the sum sanctioned, probably upwards of 5,000 Rupees, appears to have been spent upon fixing the engine, boiler, crane, &c., and setting up the cupola. Among the items of charge are 371½ Candies of chunam for the building, and 32½ Candies for the roof; the proper quantities would be about 65 Candies for the former, and 16 for the latter. It may be noticed also that Rupees 518-8-0 are charged for a Mechanical Engineer among the details, and that the farther superintendence comes to just 30 per cent.

6. The charge for the foundry tank is Rupees 560-10-8, and I gather from the weight of the iron included, that its cost, exclusive of superintendence, was £75 a ton, and with superintendence about £160 a ton. The length and breadth are given on the plan, and are 6½ feet and 3½ feet respectively, the depth is not shown, but, supposing the sheet iron used to be quarter inch, which weighs 10 lbs. to the square foot, and of which 958½ lbs. are charged for, the depth would be 4 feet 2 inches, and the contents, at 6½ gallons to the cubic foot, 493½ gallons. The English prices for such tanks range from 2½ a gallon for large sizes, to 5½ for small ones, and, at the latter price, the tank would be worth 102½ Rupees, and the cost of bringing such a tank from England to Kurnool would not exceed 100 Rupees, and should be not more than 75 Rupees, so that even simple work of this sort at the Kurnool shops would appear to cost about three times as much as would be needed were it done in England, and afterwards sent to Kurnool. Of course things must be made up on the spot as wanted, but it is not necessary that there should be any such great disproportion between the proper and the actual cost, and the Officer in charge of the Workshops should examine the details of cost of articles made up, and see that it is not greater than the rates of Artificers' wages, and the prices of unwrought materials would warrant.

7. The only other item requiring notice is Rupees 2,344-1-4 for sundry expenditure in making moulds and boxes for castings when the Foundry was started. Usually such charges form part of the cost of the castings made, but this debit was not made, and it is implied that the castings were sufficiently costly without any such addition. I think that now the only course is to write off the amount to profit and loss.

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8. I beg therefore to recommend that, of the total amount, Rupees 6,964-12-3 requiring sanction. Rupees 860 for timber used and to be used be considered as part of the cost of Foundry buildings, and

* Items 3 and 6, paragraph 1 above.

† Item 5.

‡ Item 4.

Rs. 599-3-9* as Foundry fixtures, Rupees 179-3-11† for the blow off cock to the engine should be added to the value of the engine in the General Plant

Return. Rupees 2,344-1-4‡ be written off to profit and loss, and Rupees 2,982-3-3 store charges, be added to the sanction for the Foundry. Under this arrangement the sanction for the Iron and Brass Foundry under the head Buildings will be:—

	RS	A.	P.
Amount already sanctioned	9,127	5	1
Additional for roof	860	0	0
Fixtures	599	3	9
Store charges	2,982	3	3
Total	13,568	12	1

From the Agent and Manager Madras Irrigation and Canal Company, to the Consulting Engineer for Irrigation and Canal Company, dated Madras, 1st August 1866, No. 152.

1. Enclosed I beg to hand you copy of a letter (No 96 of the 20th instant) which I have received from the Chief Engineer, and copies of the enclosures therein referred to, relative to the expenditure upon the Iron and Brass Foundry at Kurnool. This letter, I hope, will be conclusive if not satisfactory, conveying, as I believe it does, the fullest details which it is possible now to obtain of the outlay.

2. I shall be glad if you will obtain sanction for the expenditure referred to in paragraph 2 of the above letter, and also for the repair recommended in paragraph 3. In both these cases, however, the amount will have to be increased, the jungle timber being put at far too low a value. I would suggest that in paragraph 2 the amount be increased to Rupees 700, and in paragraph 3 to Rupees 160. These amounts will only just cover the actual book value of the timber.

3. Sanction will also be required for the Rupees 778-7-8, referred to in paragraph 4, as expenditure upon the Foundry, but as regards the Rupees 2,344-1-4, if as it would appear this was expended in making core boxes and castings, I do not see upon what principle it can be made an item of charge against the building. That the castings were turned out at a very high price is no argument in favor of this course. However I leave it in your hands to decide how this amount shall be appropriated.

4. The difference, alluded to in paragraph 5, between Rupees 12,249-14-1 and Rupees 12,278-13-3 is Rupees 28 15-2, the premium on bills remitted to Kurnool, of which the Chief Engineer had no knowledge.

From the Provisional Chief Engineer, to Agent and Manager, Madras Irrigation and Canal Company, dated Kurnool, 20th July 1866, No. 96.

Your No. 49 of 23rd May, enclosing Consulting Engineer's No. 2 of 2nd May.
Iron and Brass Foundry.

1. I have the honor to forward herewith a plan and section of the Foundry buildings as they are at present, and also detailed abstracts of the expenditure of every Order issued in connection with these buildings.

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2. The first two orders, namely :—

[illegible]

have been already sanctioned, G. O., No. 2,611, of 7th September 1865. The first of these was for the erection of the buildings, the second for the roof; but you will observe that, though a large amount is entered for carpenters and sawyers under Order No. 200, *no timber* is charged, and here I would refer you to paragraph No. 6 of my letter No. 90 of 10th instant, where I recorded the fact that

347" 88 Jungle Timber and	Total ...	9,127	5	1
33" 12 Teak do.				

were used in the construction of the roof.

were used in the construction of the roof, but were not charged to that work under the supposition that the timber would be used again in the erection of the new shops. This will not, however, now be the case, as the present Foundry is to be a permanent erection, and therefore I think that this timber should be charged in its proper place, namely, to Order No. 260. This will be, at the usual rates

317" 88 Jungle-wood @ Rupees 1-1-0	Rs.	A.	P.
33" 123 Teak-wood @ " 3	360	9	11
	19	5	11
Total	468	15	10

3. But, I regret to see that the flat roof is showing unmistakable signs of giving way; and to prevent this it will be necessary to charge some more timber as below, the cost of erection will be but small, as I propose merely to place a horizontal piece immediately under the present girder indicated by the red lines on the tracing, and support it by vertical poles at either end. Where the position will allow of it, a simple prop in the centre will answer every purpose. The cost of this propping will be :—

72 Cubic feet Jungle timber @ Rs. 1-1-0...	RS.	A.	P.
Masonry foundation to props ...	76	8	0
Putting up beams, &c. ...	7	8	0
... ..	16	0	0
will come under the head "Repairs"	Total	100	0 0

4. The other Orders which

4. The other Orders which compose the Rupees 12,249-14-1, as per Memorandum which accompanied your No. 1,258 of 7th April last, leaving an amount of Rupees 3,122-0-2 as yet unsanctioned, are :—

Order No. 868, for				P.	A.	P.
Do. .. 703, for	...	...	...	560	10	8
Do. .. 175, for	...	...	...	179	3	11
	...	...	...	38	9	1
ong to the Foundry, and Order No. 1906			Total	778	7	6

... ... 38 9 1

Total ... 778 7 8

which properly belong to the Foundry, and Order No. 190 for Rupees 2,314-1-4, which represents the cost of the first turn-out of castings which may have been chiefly for the Bhowanessy Division, as it was truly considered that the commencement of the Foundry work, with people who were quite unaccustomed to the work, would necessarily be much more expensive than the actual out-turn of work would fairly represent. The necessary employment of a Mechanical Engineer was also very expensive; and it will be observed what a large proportion this item and that of superintendence bear to the total cost of the several Orders concerned.

5. The three Orders, Nos. 608 &

blow off cock and

5. The three Orders, No. 868 for the wrought iron tank and supply pipe, 763 for a copier blow off cock and long connecting pipe, and 175 for fitting a pump to the small well outside the building, form a fair charge against the Foundry building.

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6. I am unable to explain the difference noted by the Consulting Engineer between the two amounts, Rupees 12,249-14-1, as per your letter No. 1,258 of 7th April, and Rupees 12,273-13-3, as per Progress Report. The former appears to be correct and to agree with our books, but the items in my paragraphs 2 and 3 should be added, viz. :—

RS. P. P.

	BS.	P.	P.
Total as above	12,249	14	1
Add for timber not hitherto charged to Order No. 200	468	15	10
Add for repairs	100	0	0
Total	12,818	13	11

MEMORANDUM.

Order No.	100,	Erection of Brass and Iron Foundry	...	...	8,399	4	6
		do.	...	...	728	0	7
Do.	"	200, Roofing over Brass	...	...	38	9	1
Do.	"	175, Fitting pump for supplying water to do.	...	...	2,344	1	4
Do.	"	190, Moulding boxes and first out turn of casting	...	...	179	3	11
Do.	"	703, Copper blow off cock for Foundry Engine	...	...	560	10	8
Do.	"	868, Constructing tank for Foundry	...	...			
					<u>12,240</u>	<u>14</u>	<u>1</u>

(Signed) W. J. LOWE,

Executive Engineer.

KERNOL,
20th July 1866.

Detail particulars of cost of constructing Tank for Foundry, Order No. 868
of 23rd April 1864.

Particulars.	Quantity.	Amount	Particulars.	Quantity.	Amount.
		RS. A. P.			LS. A. P.
Carpenters ... Days	3	2 12 4	Tin Metal ... lbs.	5	3 12 0
Fitters ... "	100	137 10 10	Gun do. ... "	10	10 0 0
Men Coolies ... "	59	16 3 8	Copper Sheets ... "	30	22 8 0
Smiths ... "	63	62 13 3			
Moulder ... "	42½	58 8 8			132 15 2
Stoker ... "	16	16 3 0	Superintendence ...	.....	46 4 9
Iron, angle ... lbs.	81½	8 1 1			
Do., sheet ... "	958½	93 13 1	Total ...	.....	179 3 11
Chalk, English ... oz.	1 lbs. 40	0 2 8	Cost of fitting pump for supplying water to the cistern of Foundry engines, Order No. 175 of 29th September 1864.		
Oil, Lamp ... Pint	2	0 7 3	Brass Founders Days	5½	6 6 8
Iron, Country ... lbs.	193½	22 3 6	Bricklayers	25½	14 12 0
Salamoniac ... oz.	2	0 1 4	Iron, round, ... lbs.	8½	0 13 5
Oil, Linseed ... Pint.	¼	0 1 1	Timber, Jungle C. ft.	1'280"	1 13 9
Iron, Round ... lbs.	7	0 11 1	Oil, Cocoonut Pints.	3	1 6 6
Read Lead, dry "	1½	0 9 0	Cotton, Waste... lbs.	1½	0 12 0
			Tallow ... "	¼	0 2 0
Superintendence ...	.....	420 5 10	Cotton Thread... "	½	1 0 0
Total ..	.....	140 4 10	Tin Metal ... "	½	0 6 0
			Copper Sheet ... "	6	4 8 0
Cost of Copper cock for Foundry en- gine, Order No. 703 of 8th March 1864.	57	75 9 2	Spelter ... oz.	4	0 0 8
Brass Founders days	15	3 6 0	Solder, soft ... lbs.	½	0 8 0
Men Coolies ... "	9	15 6 0			31 15 0
Fitters ... lbs.	19	2 6 0	Superintendence ...		6 10 1
Spelter					38 9 1

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Detailed particulars of cost of castings in the Central Workshop, Order No. 190 of 7th October 1864.

Particulars.	Quantity.	Amount.	Particulars.	Quantity.	Amount.
		RS. A. P.			RS. A. P.
Carpenters for making mould and boxes ... Days	217½	141 12 10	Oil, Coconut Qt.	6½	6 0 0
Smiths ... "	482½	483 13 9	Oil, Lamp ... Qt.	19½	2 7 2
Coolies ... "	434	146 13 4	Lamp black ... lbs.	5	1 15 0
Iron, round ... lbs.	163	16 1 7	Lead do. ... "	6	2 1 0
Iron, flat ... "	2,91	22 11 4	Soap, soft ... "	2½	0 11 0
Iron, square ... oz.	2	0 0 2	Hammer, white ... "	3½	0 9 0
Iron, pig ... lbs.	1,504	164 8 0	Paint, white ... "	1	0 3 6
Iron, cast Railway chairs ... "	1,000	15 10 0	Cotton Rope ... "	1	0 2 4
Copper Cassil ... lbs.	252	18 9 0	Do. thread ... "	3-15½	4 0 0
Lead, Pig, English ... "	89	11 1 10	Cott n waste ... "	7½	7 15 0
Coke ... "	3,982	503 9 0	Hide, bullock ... "	1	3 12 0
Fire, clay ... "	1,227	38 4 6	Brick, Bath ... No.	1-10 oz.	0 15 7
Do. bricks ... No.	676	46 0 0	Fire-wood ... lbs.	1	0 4 0
Timber, Jungle C. ft.	20-630"	21 14 7	Paddy husk ... Paras.	5,724	9 0 0
Do. Teak ... "	0-924"	1 9 8	Brushes Camel hair ... "	1	1 0 0
Nails, Rose ... lbs.	8	1 6 0	As per bill sent ... "	2	0 7 2
Do. spike ... "	91	2 12 9			8 8 0
Cement, Vulcan ... "	1	0 10 0	Superintendence ...		1,800 11 3
Oil, raw, Linseed Pint	4	0 1 2	Total ...		4-3 6 1
					2,511 1 4

Detail particulars of cost of erection of Brass and Iron Foundry, Order No. 100 of 4th July 1863.

Particulars.	Quantity.	Amount.	Particulars.	Quantity.	Amount.
		RS. A. P.			RS. A. P.
Carpenters ... Days.	.....	357 11 10	Copper sheets lbs.	225½	151 15 0
Mechanical Engineer ...	.....	518 8 0	Lead, pig ... "	121½	17 10 9
Bricklayers ...	.....	686 0 0	Lead, sheets ... "	131	2 1 7
Men and Women	.....	1,821 10 2	Speltre ... "	211	2 8 9
Coolies ...	.....	167 1 10	Fire bricks ... No.	2,592	8 5 11
Fitters ...	.....	192 13 0	Screws, wood ... doz.	65½	4 5 9
Filers ...	.....	326 2 9	Nails, rose ... lb.	6	1 2 0
Founders ...	.....	225 4 2	Nails, clasp ... "	13	2 5 4
Fireman ...	.....	21 8 2	Nails, tack ... "	4-6½	1 1 0
Tinkers ...	.....	17 11 3	Iron, brad ... oz.	1	0 0 5
Moulders ...	.....	254 0 6	Dowels, iron lbs.	4	0 11 8
Stoker ...	.....	73 6 4	Nails, spike ... "	3	0 7 0
Tapper ...	.....	26 0 6	Iron, washers ... "	47	2 0 6
Sawyers ...	.....	22 8 0	Canvas ... yds.	7	3 5 4
Iron, round ... lbs.	1,891	141 11 6	Cloth, white, country ... "	1	0 4 0
Iron, sheets ...	2,962	211 11 5	Emery, cloth, sheets ... "	12	0 3 0
Iron, flat ...	1,177½	78 8 9	Sponge ... oz.	61	15 5 0
Iron, square ...	454	34 11 0	Brushes Camel hair No.	7	0 2 6
Iron, angle ...	571	31 14 10	Wire, iron ... "	2½	1 13 0
Iron, country ...	259½	21 12 5	Do. do. rings No.	2	0 0 0
Steel, octagon ...	82	0 5 6	Presley Mount	1	16 12 0
Iron, hoop ...	31				

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4th September 1866.*

Detail particulars of cost of erection of Brass and Iron Foundry, Order No. 100 of 4th July 1863.

Particulars.	Quantity.	Amount.	Particulars.	Quantity.	Amount.
		RS. A. P.			RS. A. P.
Gunpowder ... lbs.	4½	1 2 0	Rope, cotton lbs.	46½	92 8 0
Bamboo mats No.	60	38 2 0	Coir line ... "	52½	78 8 6
Bamboo, large ... "	22	1 6 0	Twine, Bengal ... "	2	0 8 0
Chunam Candies.	371½	178 11 8	Hemp, Europe ... "	½	0 6 0
Stones ... C. yds.	94	23 8 0	Hemp, raw, country ... "	4	0 11 0
Stones, loads ... "	88	11 0 0	Red lead in powder ... "	18½	8 19 0
Bratties ... "	46	4 3 0	White lead ... "	13	4 10 0
Baskets ... No.	46	4 13 2	Paint, green ... "	15	1 9 0
Chatties and Brooms.	24	11 1 0	Paint, black ... "	15	2 2 3
Handles for Mamoties.	1	0 8 0	Lamp black ... "	4	1 2 0
Tub, earthen ... "	1	0 9 3	Hammer, white ... "	2-3	0 7 8
Paddy husk ... "	20	12 8 0	Solder, soft ... "	1-1 oz.	1 1 0
Hire of 2 buffaloes, days			Soap, soft ... "	3	0 12 0
			Borax ... "	5	1 11 6
			Glass panes ... No.	2	1 4 0
			Glass gauge ... "	1	0 3 10
			Locks, drawer ... "	1	1 8 0
			Padlock, brass ... "	1	0 6 0
			Iron, flat ... lbs.	185	11 9 0
			Iron, round ... "	41	2 9 0
			Iron, square ... "	107½	6 11 6
			Nails, rose ... "	3½	0 10 2
			Nails, clasp ... "	30	6 9 0
			Nails, spike ... "	35	2 4 10
			Rope, cotton ... "	3	3 12 0
			Chunam ... Candies.	32½	40 12 0
			Hire of buffaloes No.	1	7 8 0
			Rope, coir ... lbs.	16	1 9 6
					605 7 2
					122 9 5
					728 0 7
					8,399 4 6
					*9,127 5 1

* Sanctioned G. O. No. 2,611 of 7th September 1865.

(True Copies.)

(Signed) C. A. BADHAM,
Agent and Manager.

Cost of roofing over Brass and Iron Foundry Order No. 200.

	RS. A. P.
Carpenters ...	267 10 6
Sawyers ...	164 11 6
Filers ...	24 3 6
Tapper ...	0 8 0
Fire man ...	1 4 0
Men and women coolies ...	45 13 8

Erection

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4th September 1866.

No. 70. ORDER THEREON, 4th September 1866, No. 2,605.

ACCOUNT, No. 6.

Fitting pump for supply of water to Foundry	RS. A. P.	
Sundry expenditure in making moulds and boxes for castings ...	2,314	1 4
Copper blow off cock for Foundry Engine	179	3 11
Tank for Foundry	560	10 8
Additional for timber	860	0 0
Store charges	2,982	3 3
	6,961	12 3

1. In G. O. dated 7th September 1865, No. 2,611, authority was granted for transferring a sum of Rs. 9,127-5-1, which had been expended on the erection of an Iron and Brass Foundry at Kurnool, from the account of the Manufacture of stores to that of Buildings. It now appears that a further sum of Rupees 6,961-12-3, representing certain additional charges which are debitable to that work, requires adjustment, raising the total expenditure to Rupees 16,092-1-4.

2. Captain Mullins reports having carefully scrutinized the accounts of the work, and he is of opinion that, at the rates provided for in the estimates for the new Workshop and Store buildings now under construction at Kurnool, the Foundry building should not have cost more than Rupees 1,150, and that the Foundry tank has been about three times more expensive than it would have been if it had been procured from England.

3. It is clear that, as in the case of the many other works for which supplemental demands have so frequently been made of late, the control exercised over the Foundry buildings has been extremely lax, and the conduct of the Officers concerned highly neglectful. In the hope that the notice taken by the Chief Engineer of these and similar irregularities has been such as to ensure an improved executive management of the works of the Company, the Government authorize the adjustment of the sum of Rupees 6,961-12-3 in the manner recommended by the Consulting Engineer in paragraph 8.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

To the Consulting Engineer Madras Irrigation and Canal Company.
.. Manager for do. do.

Exd. S. T. Augustin,

Consulting Engineer's Office,
Irrigation Canal Company,
Madras, 13th August 1866.
Despatches 25th 1866.

No. 52

From,

Captain, J. Mullins, R.E.

Consulting Engineer for I.C.C.

To,

The Secretary to Government,
Department of Public Works.

*Received
for the
Secretary to Government
Department of Public Works
13th August 1866*

1. In para. 2 of their order No. 2611 of the 7th September last, Government sanctioned the transfer of debit, from the Manufacture of Stores Account to Buildings, of Rupees 9,127-5-1, the outlay incurred in the erection of the Iron and Brass foundry at Kurnool. In March last an indent was transmitted to this office for sanction, in which was entered a sum Rupees 3,083-12-3 for the Foundry and, which was noted in the remarks column as a "further charge". Explanation was asked for, and it will be seen from the accompanying papers that the total expenditure incurred consists of

*See letter No. 152 of
the 11th inst. with corresponding
letter to the
Hon. of Foundry.*

1 Erection

homined that the roofing, which should have cost altogether about 540 Rupees, came to Rupees 728-
-7, and to this has to be added, according to the Chief Engineer's estimate, Rupees 468-15-10, or, as explained by the Agent, Rupees 700, for timber used. This part of the cost then seems to have been more than double what was necessary. The actual outlay on the building is not ascertainable perhaps, but the difference between this and the sum sanctioned, probably upwards of 5,000 Rupees, appears to have been spent upon fixing the Engine, boiler, crane &c. and setting up the cupola. Among the items of charge are 371 $\frac{1}{2}$ candies of Chunnam for the building, and 32 $\frac{3}{5}$ candies for the roof: the proper quantities would be about 65 candies for the former, and 16 for the latter. It may be noticed also that Rupees 518-8-0 are charged for a Mechanical Engineer among the details, and that the further superintendence comes to just 30 per cent. -

6. The charge for the foundry tanks is Rupees 560-10-8, and I gather from the weight of the iron included -

included, that its cost exclusive of superintendence was £ 75 a ton, and with superintendence ¹³ about £ 100 a ton. - The length and breadth are given on the plan and are 6 $\frac{1}{4}$ ' and 3 $\frac{1}{2}$ ' respectively, the depth is not shown, but, supposing the sheet iron used to be $\frac{1}{4}$ inch, which weighs 10 lbs to the square foot, and of which 958 $\frac{3}{4}$ lbs are charged for, the depth would be 4' 2", and the contents, at 6 $\frac{1}{4}$ gallons to the cubic foot, 493 $\frac{6}{8}$ gallons. The English prices for such tanks range from 2 $\frac{1}{2}$ a gallon for large sizes, to 5 $\frac{1}{2}$ for small ones, and at the latter price, the tank would be worth 102 $\frac{3}{4}$ Rupees, and the cost of bringing such a tank from England to Kurnool would not exceed 100 Rupees and should be not more than 75 Rupees, so that even simple work of this sort at the Kurnool shops would appear to cost about 3 times as much as would be needed were it done in England, and afterwards sent to Kurnool. - Of course things must be made up on the spot as wanted, but it is not necessary that there should be any such great disproportion between the proper and the actual

actual cost, and the officer in charge of the workshops should examine the details of cost of articles made up, and see that it is not greater than the rates of artificers wages, and the prices of unwrought materials, would warrant.

7. The only other item requiring notice is Rupees 2344-1-11 for sundry expenditures in making moulds and boxes for castings when the foundry was started. Usually such charges form part of the cost of the castings made, but this debit was not made, and it is implied that the castings were sufficiently good without any such addition. I think that now the only course is to write off the amount to Profit and Loss.

8. I beg therefore to recommend that, of the total amount, Rupees 6964-12-3, requiring sanction: Rupees 860 for timber used and to be used be considered as part of the cost of Foundry Buildings, and Rupees 599-3-9 as Foundry fixtures. Rupees 386 for the blow off coals to the Engine should also be added to the value of the Engine in the General Plant Return. Rupees 2344-1-11 be written off to Profit and Loss.

Profit and Loss, and Rupees 2982-3-3 Store charges be added to the sanction for the Foundry. Under the arrangement the sanction for the Iron and Brass Foundry under the head Buildings will be

Amount already sanctioned	9127-5-1
Additional for roof	860
Fixtures	599-3-9
Store charges	2982-3-3
Total Rupees	13568-12-1

I have the honor to be,
Sir,
Your most obedient servant,
Wm. Hunter Esq. Captain, R.E.
Care Ings for S. H. Co. Ltd.

Wm. Hunter

C. 2171 dated 1886 A. 277

C. 2805-1538 dated 1886

Convey certain property
and the adjustment of
expenses on account
of Foundry in the Works
of the Government and
submit the same to
the Committee on
the subject.

Enclosure 4

Dated 13 August 1886
C. 2805-1538-1886

For the
the Consulting Engineer
the Govt. of Madras

For the
the Consulting Engineer
the Govt. of Madras

PROCEEDINGS of the MADRAS GOVERNMENT
under date the 14th Sept 1886
Read the following

From the Consulting Engineer
J. H. Canal Company

(Here enter No. 52 dated 13 Aug 1886)

In G. O. of 7th September
1885, No. 2611, authority was
granted for transferring a
sum of Rs. 9,127-5-1 which
had been expended on the
erection of an Iron and
Brass Foundry at Kurnool,
from the Account of the
Manufacture of Stores to that
of Buildings. It now

as 2. of Buildings. It now
appears that a further sum
of Rs. 6,964-12-5, represent
ing certain additional charges
which are debitable to that
work, requires adjustment,
raising the total expenditure

Setting down for supply of water to Foundry	38-9-1
Expenditure on making moulds and boxes for casting	2244-1-4
Cost of labour for Foundry	179-3-11
Engine	568-10-8
Tools for Foundry	800-0-0
Additional for similar	2982-3-3
These charges	6964-12-5

to Rs 1692-1-4

Capt. Mullins reports having carefully scrutinized the accounts of the work, and he is of opinion that, at the rates provided for in the estimates for the New Workshops and other buildings now under construction at Kurnool, the Foundry Building should not have cost more than Rs. 1150, and that the Foundry Tank has been about three times more expensive than it would have been if it were procured from England.

It is clear that, as in the case of the many other works for which supplemental demands have so frequently been made of late, the control exercised over the Foundry Buildings

has been extremely lax, and the conduct of the office concerned highly neglectful, and in the hope that the notice taken by the Chief Engineer of these and similar irregularities has been such as to ensure an improved executive management of the works of the Company, the Government authorize the adjustment of the sum of Rs 6964-12-3 in the manner recommended by the Consq Engr in Para 8.



To The Consq Engr at St C with forwarded
" Manager for Rs
Recd 5 Sept 8

20
P. W. 186 G. Department.

Prop of Govt for Sept/86
No 2865

PROCEEDINGS OF GOVERNMENT.

Dated 4 Sept 1886

Authority granted
for the additional
charge (Rs 6954-12-8)
incurred in connection
with the erection, &c. of
Sargatnagar Canal
Company's Iron and
Brass Foundry at Kur-
nool, being accepted
in the manner recommend-
ed by the Consulting En-
gineer.

1886/70