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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

P.W DEPARTMENT

G O. No / B P. No	2503 W	Press / Mis
Dated	6. 9 1883	—198—.

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GOVERNMENT OF MADRAS

PUBLIC WORKS DEPARTMENT

General.
Account

READ—the following letter from D C GORDON, Esq, Examiner of Public Works Accounts, to the Secretary to Government, Public Works Department, dated Madras, 18th August 1883, No 87 W —

I have the honor to forward, for information of Government, letter No 504 W, dated 20th July, from the General Superintendent, Public Works Workshops, together with the annual accounts of the shops for the year 1882 83, and the audit memorandum thereon by Mr Ramier, Deputy Examiner

2 It may perhaps be convenient to review here the changes which have affected the status and conditions of these Workshops since the accounts for 1881-82 were submitted

3 In August 1882, after much ventilation of the question as to the retention or abolition of the shops, Government determined (G O No 2034 W, dated 12th August 1882) that the operations of the shops should be limited to repairs and smaller manufactures such as the efforts of the Department could not extend locally, and that no more should be added to the original buildings and plant except such as were necessary for the contracted operations which the shops were to undertake

4 The first step towards restricting work was the refusal of orders except those of the Public Works Department and even such orders were to be withdrawn as far as practicable so that outside work and trial might be thrown to the open market or private enterprise Notices were also published in the Government Gazettes of the several Presidencies announcing the intention to dispose of the premises, Plant, &c (G O No 5483 W, dated 25th September 1882)

5 Inquiries were made with a view to having the repairs of instruments performed by the Mathematical Instrument Department in Calcutta, but the result was not favorable, and Government ordered that the Instrument Shop should be maintained for the present for the execution of Government work (G O, No 3183 W, dated 4th December 1882)

6 The periodical valuation of the block and plant was proceeded with and determined as on 31st March 1883, comparing as follows with the previous valuation in 1878 —

	As at March 1878	31st March 1883.
	RS	RS
Block	1,24,300	88,300
Plant	73,600	57,600
	1,97,900	1,45,900

Depreciation Rs 52,000, in which amount was the value (Rs 19,000) of the engine-house and out-still shed, which buildings being unnecessary to the Workshops, were made over to the Stores Department (G O, No 933 W, dated 22nd March 1883)

The amount of depreciation therefore was Rs 33,000, and adjustment should have been made in the accounts of the year so as to show the value of the block and plant at the revised figures The engine-house and saw-mill shed above mentioned were not revalued, apparently because they were not to be part of the block of the shops, but opportunity should have been taken to revalue them, and to dispose of any depreciation in the same manner as in the cases of the buildings retained for the Workshops' use

7 Reports having been called for from the Superintending Engineers regarding the result of the restrictions placed on the operations of the shops as affecting the satisfaction of requirements by Divisional Officers, the general conclusion arrived at was that no difficulties would arise from the contemplated closure No tender worth consideration had been received for renting or otherwise taking over the premises from Government The General Superintendent was deemed to submit a definite scheme for the organisation and maintenance of a small workshop for purposes purely departmental, and the establishment of the Instrument Department was to be reduced as far as practicable (Chief Engineer's memorandum, No 1041 C, dated 31st May 1883)

8 Another change has been effected during the year by which the contribution for leave and pension allowances has been reduced from 25 per cent to 14½ per cent (G O, No 1864 W, dated 21st July 1882)

9 Under the conditions above reviewed, any comparison of the working of the shops during 1882-83 with previous years avails nothing The outturn of the year was Rs 1,40,000 and the loss Rs 2,928 The Superintendent has submitted two new statements, "Revenue Account for the year" and "Net Revenue Account," which he considers represent more clearly the administrative, as distinguished from the financial, results of the year's transactions The former shows that administrative earnings exceed working expenses by Rs 6,710, the latter, that such excess failed to meet financial liabilities on account of interest on capital I do not think much advantage will be gained by introducing these new statements for the future of the shops To be really useful the "Net Revenue Account" should have gone back to the earliest days of the undertaking

10 The accounts as rendered by the General Superintendent are incorrect in so far as concerns the adjusting entries under Block, Plant, and Government This will be evident from the fact that the amounts at debit of block and plant as on 31st March 1883 do not tally with the revaluation figures given in paragraph 6, (above), and the result from the course adopted is that Government has been over-debited by Rs 6,207-0-11, Block over-credited by Rs 2,189-14 6, and Plant and Machinery over-credited by Rs 4,017-2-5 It is too late to effect corrections now, nor is it material to do so in the accounts concerned, as the profit or loss is not affected The differences will be put right in the current year's accounts, crediting Government and debiting the two other heads, by which means the amounts at debit of Block and Plant will (as on 1st April 1883) tally with the figures in the revaluation statement

11 The question of the percentage to be charged in future has to be considered in connection with the revaluation of the block and plant On the basis of the figures given the following table gives the result —

—	Value in 1878	Value in 1883	Depreciation in 5 years	Percentage per cent per Annum
	RS	RS	RS	
Block	* 1,05,056	88,327	16,729	3 18
Plant	73,609	57,595	16,014	4-35
Block and Plant	1,78,665	1,45,922	32,743	3 66

* Excluding engine house and saw mill, see paragraph 6

2503/2

The old rate (2 per cent) is clearly insufficient It is for Government, therefore, to determine whether in future the rates shall be altered to ~~3 per cent. on~~ block, 4 per cent on plant and machinery The rate of 3 66 per cent is of course of no importance in the consideration

ENCLOSURES

From Lieutenant W L C BADDELEY, R E General Superintendent, Public Works Workshops, to the Examiner of Public Works Accounts, dated Madras, 20th July 1883, No 504 W

1 List of forms
1 Book of Accounts
1 Revenue Account and
Net Revenue Account

I have the honor to forward, for submission to Government, the accounts of the Presidency Public Works Workshops for 1882 83

2 During the year the Workshop became liable to Government for—

	RS	A	P
(1) To cash drawn from Treasury	1,02,000	0	0
(2) To value of stores received without payment	28,245	12	9
(3) To interest on capital	9,638	11	0
(4) To Pension and Leave Allowances	2,093	15	2
	1,41,978	6	11

3 On account of this amount the following payments were made —

(1) Payments into Treasury	34,712	10	8
(2) Approved invoices	1,14,857	10	0
(3) Difference between the book value and revaluation of block and machinery and plant	49,456	12	6
(4) Balance of interest due to Government	2,928	3	7
	2,01,955	4	9
Leaving for decrease to Capital a balance of	59,976	13	10

4 The gross profits amounted to 38,594 5 2
against which charges aggregating 41,522 8 9
have been debited, leaving a balance of 2,928 3 7
interest due to Government

5 The opening and closing balances of the Capital Accounts as noted in the following table show a decrease to capital of Rs 59,976-13-10 —

—	CAPITAL ON 31st March 1883			CAPITAL ON 31st March 1882			Increase			Decrease		
	RS	A	P	RS	A	P	RS	A	P	RS	A	P
Block	86,137	1	6	1,09,495	7	8				23 358	6	2
Machinery and Plant	54,577	13	7	86,883	4	10				32 305	7	3
Mechanical Department	7,787	6	9	14 598	1	3				6,810	10	6
Instrument do	5,438	1	9	3,428	4	10	2,009	12	11			
Manufacture	400	0	0	400	0	0						
Raw Materials	22,442	7	9	25,228	11	1				2,786	3	4
Sales	1,575	9	8	1,811	0	8				235	7	0
Public Department	3,223	6	0	125	15	0	3,100	7	0			
	1,80,581	15	0	2,40,967	13	4	5,110	3	11	65,496	2	3
Deduct Bills Payable	612	13	11	1,021	14	5	612	13	11	1,021	14	5
	1,79,969	1	1	2,39,945	14	11	4,497	6	0	64,474	3	10
				1,79,969	1	1				4,497	6	0
				59,976	13	10				59,976	13	10

6 The results of the working for the year under review as compared with those of three previous years are as follows —

—	1879 80			1880 81			1881 82			1882 83		
	Rs	A	P	Rs	A	P	Rs	A	P	Rs	A	P
Outturn	2,16,876	0	0	2,08,888	13	2	2 34,302	3	4	1,00,076	16	4
Net profit												
Net loss or interest unpaid	18,210	10	11	22,161	10	6	6,833	1	2	2,928	3	7

7 Block, machinery and plant were revalued, and the difference between the old block value and revaluation was adjusted as per instructions conveyed in your letter, No 48 S W, dated 3rd August 1878

8 From an examination of the accounts it will be seen that the Workshop paid all its expenses for the year, and if the outturn had been larger, the whole of the interest on capital would have been paid

9 The small outturn is due to the restrictions that have been placed upon the working of the shops, by which, except in the Mathematical Instrument Department all the work that was formerly executed for the different departments of Government, both civil and military, has been shut out

These restrictions must eventually close the Workshop, and will, in any opinion, necessitate starting small workshops in some of the chief Public Works Locations

10 The chief points brought forward in favor of the abolition of the Workshop were—

1*st*—That it was in a chronic state of indebtedness, and consequently a loss to Government

2*nd*—That it was a bar to the development of private enterprise

11 With regard to the first, I would beg to point out the facts shown by the accounts of the last two years

In 1881-82 the accounts showed a profit of Rs 1,984 which was afterwards altered to a loss of Rs 6,833, because it was decided by the Examiner, Public Works Accounts that the loss by the sale of unserviceable *stores* that had been accumulated in *previous* years should be deducted from the profit made in the year in which the stores were sold

12 I am well aware that it was necessary to adjust this loss, but I do not consider that it should have been adjusted in the Revenue Account of the Workshop for the year, as the loss was the result of mismanagement in former years

13 It may be urged that periodical sales of useless stores are unavoidable, and that the loss must be borne by the Workshop, to this I would reply that with ordinary care there is no reason why the Workshop should ever again be burdened with a large stock of materials, &c, and an examination of the accounts for the last few years will show the great improvement that has taken place under the head of "Raw Materials" and "Manufactured Articles"

14 The form of account used by the Workshop is, I consider, very misleading, as a clear distinction is required between "Capital" and "Revenue," and I beg to submit that the forms of account* submitted by me show the real working of the shops for the year far more distinctly than is possible with the forms that have hitherto been used

* Revenue Account
Net Revenue Account

15 During the past year 1882-83 the Workshop has, in spite of the restrictions placed upon its operations, again paid all its expenses and 70 per cent of the interest due to Government I must mention that the restrictions only came into force during the latter part of the year, in the earlier months there was a very fair amount of work executed

16 With these facts before me I venture to say that the financial position of the Workshop at the end of 1882 was far better than it had ever been since the removal from Chepauk, and, with liberty to do the work that would have been sent to it from all departments of Government, I am convinced that the question of loss would not again have arisen

17 During the years immediately after the famine the Workshop was depressed from the following causes —

(1) Buildings too large and expensive
(2) Excessive amount of capital in stock materials, &c
(3) Heavy interest on capital, out of all proportion to the outturn
(4) High prices that the Workshop was obliged to charge in the vain hope of paying the interest on capital

(5) Having hastily occupied the present building, when the famine had commenced and when no labor was available for any work but the manufacture of famine tools, much work required for the completion of the shops was left to be finished and charged for in following years

(6) Over-manufacture of stock articles, large purchases of stores, want of care in keeping down the expenditure of fuel, cost of repairs to machinery, and contingent expenses

18 The figures which I append in support of my statement that all these causes of depression have disappeared are as follows —

—	1876 77	1877 78	1878-79	1879-80	1880-81	1881-82	1882-83
	Rs	Rs	Rs	Rs	Rs	Rs	Rs
Block	69,463	1 18,280	1,15 914	1 14,010	1,11 730	1,09 499	86,197
Stock	1,32,784	1,72 844	1 87 800	1,69 478	1,24,573	25,628	22,642
Interest on capital	13,221	19,897	21,687	23 809	20 937	13 386	9,635
Repairs to machinery	5,801	12,284	25,315	18 813	8,120	4,751	3,466

NOTE.—The Workshop was at Chepauk during part of 1876-77, and Rs 69,463 represent therefore the value of the Chepauk buildings Rs 1 8,280 represent the first debit on account of the value of the present buildings.

19 With regard to the Workshop being a bar to the development of private enterprise, there can be no doubt that a Government Workshop takes the place of competition, but from the fact that when the Workshop was advertised for sale no one came forward, I beg to submit that a genuine competitive trade in the class of work executed in this Workshop cannot be looked for until there are other large customers besides the Government, and in the absence of a Government Workshop of this class the trade must be almost a monopoly

20 The real utility of this Workshop consists in its being a jobbing shop where every variety of work can be executed.

There is no demand for large iron constructions to be made up in this country, but no engineering work can be carried on without assistance from some Workshop, and every department of Government uses machines or appliances which must be made or repaired locally

21 The heterogeneous character of the work necessitates the employment of a class of men whom, if once lost, it will be difficult to replace, and necessitates the maintenance of a variety of machinery, so that when once completely dismembered it will be exceedingly difficult and costly to again put together a Workshop of this kind

22 As matters now stand, the Workshop cannot be satisfactorily or properly worked, for the orders received are not sufficient to maintain a proper staff of workmen

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Memorandum of Inspection by H RAINIER, Esq, Deputy Examiner, Public Works Accounts, Madras, on the 9th August 1883, of the Office of the General Superintendent, Public Works Workshops with reference to his Annual Accounts for 1882-83

The financial results brought out in the accounts of the Public Works Workshops for 1882-83 are as follows —

	Rs	A.	P	Rs.	A.	P
Payments into Treasury	34,712	10	8			
Approved invoices	1,14,857	10	0			
Depreciation in value of block, machinery and plant on the 31st March 1883	43,249	11	7			
Loss	2,928	3	7			
Total	1,95,748	3	10			
Cash drawn from Treasury				1,02,000	0	0
Stores received in transfer				28,245	12	9
Interest on capital				9,638	11	0
Pension and Leave Allowances				2,093	15	2
Decrease to capital				53,769	12	11
Total				1,95,748	3	10

2 The chief event of the year in the books has been the revaluation of the block and the machinery and plant The statements showing details of revaluation were said to have been forwarded to Government

3 In the case of block, the value of all the block (immoveable property) of the concern on the 31st March 1883 was computed at Rs 88,327 This sum has been deducted from the balance on the 31st March 1882, and the difference credited to block by debit to "Government" as depreciation of the block by revaluation on the 31st March 1883

The better way would have been to have stated—(*a*) The valuation of the block on the 31st March 1883 *according to the books*, and (*b*) the valuation of the block on the 31st March 1883 *according to valuation*, and to have charged off the difference As it is, (*a*) as above, is not much different from the balance on the 31st March 1882, being in fact Rs 2,189-14-6 less

4 But in the case of machinery and plant, the difference is greater, as there were certain transactions in that account during the year 1882-83

5 The General Superintendent's accounts, when corrected in these respects, bring out the financial results aforesaid The loss remains a loss (though it would become a profit unless the 1882-83 transactions were considered)

The amount properly creditable to the accounts *block* and *machinery* and *plant* by debit to "Government" for depreciation aggregates Rs 43,250, instead of Rs 49,457 as shown in the General Superintendent's accounts, and the balances of the above accounts, instead of being Rs 86,137 and Rs 53,578, respectively, are Rs 88,327 and Rs 57,595 (see valuation statement) which so affects the balance sheet that the Capital Account balance (decrease to capital) becomes Rs 53,770 instead of Rs 59,977

6 The outturn for 1882-83 has been Rs 1,39,936-10-4, which is nearly a lakh of rupees less than that of 1881-82 The figures of outturn and profit or loss in recent years are as follows (though such a comparison is subject to a review also of the great modifications which have of late taken place in the scope of the shops' business)

	1879-80	1880-81	1881-82	1882-83
	Rs	Rs	Rs	Rs
Outturn	2,16,876	2,08,888	2,34,363	1,39,937
Profit				
Loss	18,200	22,160	6,833	2,928

7 In the last report, *vide* G O, No 2266 W, of 2nd September 1882, the centage charges and the method of trying to effect profits have been fully explained

8 Some of the unfinished jobs (the balances of the accounts, "Mechanical Department," "Instrument Department," represent their aggregate value) are outstanding since 1881

9 The balance in the "Manufacture Account," Rs 400, is the value of two weighing machines made some time ago for sale, these should be transferred to the stores.

10 There are bills of 1881-82 unrecovered, but it was stated that steps are being taken for recovery

11 The account of workmen's time and its allocation to works, the register of requisitions, and the works ledgers were all carefully looked into The time is sufficiently well kept and allocated but it had not in some cases been written up and the works ledgers posted for July 1883, though in one or two instances the works were completed in that month Works completed in May last are not billed for There is evidently some little delay in billing for jobs, the excuse given was that the accounts for 1882-83 have occupied the entire office to the exclusion of book-keeping, &c

12 The Treasury cash balance (General Superintendent's drawing account) on the 31st July 1883 was proved and found correct

13 The office cash is generally from Rs 100 to Rs 150, it is kept by the Head Clerk, Cothundasawmy Pillay, who makes all cash payments and who keeps the cash-book

14 The cash abstract book is not posted daily, nor signed at all, by any one

MADRAS,
13th August 1883

ORDER—dated 6th September 1883, No 2503 W, Public Works.

With his letter above recorded, the Examiner, Public Works Accounts, submits the annual accounts of the Presidency Public Works Workshops for the year 1882-83

2 The liabilities during the year amounted to Rs 1,95,718, while the assets were Rs 1,92,820, showing a net loss on the year's transactions of Rs 2,928

3 The outturn of the year was Rs 1,39,937, but, as stated by the Examiner, Public Works Accounts, after the recent changes which the shops have undergone, any comparison between this figure and the outturn and profit or loss of previous years would be valueless

4. The suggestion in the last paragraph of the Examiner's letter, that the rates for depreciation be fixed at 3 per cent. on block and 4 per cent on plant and machinery, is sanctioned

(True Extract)

Major, R E.,
Under Secy. to Govt, P.W D.

To the General Superintendent, Public Works Workshops
" Examiner, Public Works Accounts
" Superintending Engineer, Fifth Circle.

Fwd A F Goodall.
Spare Copies

GENERAL.
ACCOUNT

Govt. of {1883} Madras.

PUBLIC WORKS.

Dated September, 6th.

Read *Encl.*

G.O., 6th Sept. 1883, No. 2503 W.

SEPTEMBER.

Annual Accounts

The — of the Presidency Public Works Workshops for 1882-83.—Passing orders on —.

2503/5

12TH AUGUST 1882, No 2064 W, PUBLIC WORKS

GOVERNMENT OF MADRAS

PUBLIC WORKS DEPARTMENT.

Buildings and Roads
Civil Works

No 80

READ—the following papers —

Precis of opinions on retention or otherwise of the Public Works Workshops at Madras

No 80-A

Note by the Chief Engineer, Public Works Department.

The long pending question as to the further retention of the Public Works Workshops at Madras has now arrived at a stage admitting of a final decision

2 My general opinions on the subject were expressed in considerable detail in my note of the 28th November 1881, and a careful *precis* of all the latest correspondence, showing the various questions at issue, with my own opinion recorded on those of the several officers who have been consulted, is herewith forwarded for information

3 Setting aside all minor points at issue, it has become clear that the shops, though shown to have worked at considerable profit during the famine years, have since then retrograded altogether in this respect.

4 In paragraph 3 of his letter printed with G O, 12th December 1881, No 3081 W, the Examiner gives the loss on working the shops during 1879-80 and 1880-81 as Rs 40,000, and although improvement may to some extent be looked for under the reductions already carried out, and those which may still be feasible, by reducing the amounts charged against the Capital Account, there is only too much reason to conclude that a condition of indebtedness exists and must become chronic

5 This unsatisfactory state of matters is chiefly due to the large and costly buildings and plant which have to be maintained in order to meet the ever-varying demands of manufacture and repair of articles of all classes for the Public Works and other Government Departments, as also for private individuals

6 Practically speaking they are merely jobbing shops, and, in the effort to show a profit on commercial principles, are compelled to undertake heterogeneous manufactures, which from their constitution they are necessarily quite unable to carry out economically

7. Driven thus to seek for work on all sides, including such as can be obtained from private parties, they necessarily stand in the way of the development of private enterprise in the same line

8 Viewed from another stand-point also there is a very serious drawback to the continuance of the shops on their present footing The total amount of outturn (annually about two lakhs in value) is so small as to make the entertainment of a thoroughly trained Mechanical Engineer at its head an impossibility, the cost of such an officer in original salary and subsequent increments being too heavy a burthen for the establishment The result is that Superintendents have to be appointed from officers on the regular departmental establishment None of these are necessarily experts in the particular line, and one and all must vacate on promotion from Assistant

to Executive Engineer, as the shops are unable to bear the increased salary This will ere long be the case with the present incumbent No continuity of Superintendents is thus possible

9 My own view, therefore, as expressed in the annexed précis of correspondence, is that the shops should be abolished—

First, as being in a condition of chronic deficit,
Second, as directly interfering with private enterprise,
Thirdly, as presenting insuperable difficulties in the way of providing for their proper and continuous supervision by a thoroughly trained Mechanical Engineer

10 That very opposite views are entertained by other highly qualified officers will at once be observed from the précis of correspondence, and these views are doubtless shared by many others in the department whose opinions deserve every consideration

11 That the shops were started to carry out work which at the time of their creation it was not possible to get readily done elsewhere is not only true, but the same contention is still to some extent valid, and further that the presence of a large Government Workshop capable of turning out a great variety of work, though at an unduly high price, is a convenience to this and other departments cannot be denied

12 Further, that some inconvenience will follow such a drastic remedy from the present defects as their total abolition may also be accepted

13 Notwithstanding these and other contentions which I have replied to in the précis, I am of opinion that the shops should not continue to be maintained on their present footing

14 One of the three following courses are thus it seems open to Government —

(1) To maintain the shops on much the same footing as at present, though relieved as much as possible of certain items now standing against the Capital Account, so as to admit of their having a better chance in future of working to show a profit

(2) To get rid of all buildings and plant and retain only those portions which may be required for the execution of such repairs and trifling matters of manufacture as Executive Engineers cannot have locally executed

(3) To dispose of the whole concern and trust to the open market for all manufactures and repairs

15 As regards the *first* alternative, it will be observed that the matter is discussed under point No 7 in the annexed précis, and the mode of giving the needful relief to the Capital Account pointed out Should this method of dealing with the question commend itself to Government, the appointment of a Committee for giving effect to the proposals would apparently be most satisfactory

16 In reference to the *second* alternative which as the *ex media* I venture myself to recommend, a year or more would probably be required before it could be given full effect to The intentions of the Government with a complete statement of the buildings, machinery and plant to be eventually disposed of, should be widely published for six or nine months, and tenders invited from persons desirous of starting a private workshop in Madras to take its place as much as possible During the interval thus insured the shops could gradually contract their operations so as to test the value of private enterprise, and allow our own officers and those of other departments to become gradually acquainted with the new state of matters

17 Judiciously carried out, I am convinced that the measure would be attended with but small inconvenience and would in any case afford an opportunity for deciding whether the reasons for abolishing the shops as a Government concern rested on a thoroughly sound basis

18 When narrowed to the limits of a simple repair establishment, either on the present site or another, the shops would become merely a sub-division attached to the Presidency Division under charge of a good Foreman Mechanic, and even this might

in time disappear if subsequent experience proved that resort might be had entirely to the open market for even the small class of work which would be left

19 The *third* alternative would, I confess, it appears to me to be too drastic, though of course it could be led up to by allowing ample time for giving publicity to the intentions of Government and for giving full effect to the measure

OOTACAMUND,
6th July 1882

(Signed) R H SANKEY, Colonel, R E,
Chief Engineer, P W D

No 80-B

Note by the Chief Engineer for Irrigation

In my opinion the only question for my consideration is, can the work required by the Irrigation Branch, Public Works Department, be done, readily and effectually, without the aid of Public Works Workshops If it can, the workshops should cease to exist

2 The work required is, such as iron girder bridges, lance and valve lifting gear, lock gates, involving iron and brass casting, repairs to pumps, steam engines, dredges, &c I understand that at present much of this work could not be turned out at Madras, except at the Gun Carriage Manufactory, where the charges are very heavy, but as regards iron girders, screw gearing for shutters &c, such work could be obtained either from Calcutta or Bombay at rates not exceeding, in all probability the rates now charged at the Public Works Workshops, and I do not see that inconvenience would result from this work being obtained either from Calcutta or Bombay

3 As regards repairs to steam-engines, &c, however, it is necessary that there should be as little delay as possible, and until this work can be done by private firms at Madras, I think it will be necessary to retain the workshops on a smaller scale

4. To close the workshops at once would, I think, cause great inconvenience, but as I believe that it is mistaken policy for Government to interfere in any way with private trade, and that the closing of the workshops would create a demand locally which private enterprise would before long supply, I consider the second course proposed by the Chief Engineer is in every way suitable, if regarded as a step towards the total abolition of the workshops

5 The up-country workshops at Dowlaishweram and Bezvada are very differently circumstanced, the works necessitate the employment of complicated machinery which may require repairs without delay, and if the Railway Workshops can be made available for training apprentices, there should be no difficulty in obtaining men to fill vacancies in the establishments

10th July 1882

(Signed) J O HASTED, Col, R E,
Ag Chief Engineer for Irrigation

No 80-C Note by the Consulting Engineer for Railways

The question as to the retention or abolition of the Public Works Department Shops at Madras does not directly affect the Railway Branch, and I presume that my opinion on the points at issue is called for on general grounds, as affecting the operations of the department at large

I entertain no doubt that the sole *raison d'être* of the shops is that they should provide for the execution of work which cannot be done elsewhere,—either as cheaply, as well or as quickly If the required work can be executed elsewhere, on satisfactory conditions as to these three points, the shops should cease to exist

With respect to economical work The papers circulated leave no room for doubt that, of late years, the shops have been worked at considerable loss, while there is no reason to suppose that the prices charged for the outturn have been lower than would have been charged by private firms

With respect to efficient work On this point I can see no ground for doubting that the requirements of the department could be met in the open market,—whether in Madras, Calcutta, Bombay, or England,—as satisfactorily as they have been met in the shops attached to the Public Works Department Indeed, the list of manufactures given by the Superintendent of the Shops contains so many articles which may be termed *specialties*, as to satisfy me that, unless the local conditions are of an unusual nature, the work must of necessity be turned out better by firms that make such specialties their particular study I need only refer to such articles in the list as 'Steam Boilers," "Dredging Machinery," "Boring Apparatus," "Bells for Churches," "Machines for testing coin, stone-crushing, tile-moulding," &c, &c., &c

With respect to expedition in the execution of work This is the only point on which I am inclined to question the expediency of abolishing the shops, but this opinion has reference not so much to new manufactures as to repairs There must be many cases in which the immediate repair of machinery, instruments, &c, is of urgent importance, and I do not think that it would be wise at present to trust to the open market in Madras for the execution of such work. In course of time, experience will probably show that the maintenance of a special establishment is unnecessary, even for work of this nature

For these reasons, I concur with Colonel Sankey in giving preference to the second of the three courses named by him as being open to Government, but in the expectation that its adoption will in course of time lead probably to the third course, viz, the abolition of the shops and the disposal of the entire concern

(Signed) J. SHAW-STEWART, Colonel, R E,
Consulting Engineer for Railways

11th July 1882

No 81

ORDER—dated 12th August 1882 No 2061 W, Public Works

The Right Honorable the Governor in Council, concurring in the opinions expressed by the Chief Engineer, Public Works Department, and the Chief Engineers of the Irrigation and Railway Branches, resolves to restrict the operations of the Public Works Workshops at Madras in the manner proposed by Colonel Sankey in clause 2, paragraph 14 of his Note, dated 6th July 1882, above recorded

2 The Chief Engineer, Public Works Department, will report at an early date the measures he would propose for carrying this decision into effect

(True Extract)

(Signed) R H SANKEY, Colonel, R.E,
Secretary to Govt, P W.D

To Superintending Engineers
To the Consulting Architect to Government
" General Superintendent, Public Works Workshops
" Chief Engineer, Public Works Department
" Chief Engineer for Irrigation
" Consulting Engineer for Railways
" Examiner of Public Works Accounts
" Financial Department
" Revenue do
" Military do

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503/2

BUILDINGS AND ROADS
CIVIL WORKS

Govt. of {1882} Madras.

PUBLIC WORKS.

Dated August, 12th

Read *Encl*

G.O. 12th Aug. 1882, No. 2064 W.

AUGUST.

Nos. 80 81.

Public Works Workshops at Madras.

Restricting the operations of the — in the manner proposed by the Chief Engineer, Public Works Department, and requesting him to report the measures he would propose for carrying out the same

GOVERNMENT OF MADRAS

PUBLIC WORKS DEPARTMENT.

General Account

No 20

READ—the following letter from D C GORDON, Esq, Examiner of Public Works Accounts, to the Secretary to Government, Public Works Department, dated Madras, 14th August 1882, No 71 W —

I have the honor to forward, for information of Government, letter No 904 W of 8th July 1882, from the General Superintendent, Public Works Workshops, together with the annual accounts of the shops for the year 1881-82, and the audit memorandum thereon by Mr Godfrey, Examiner

2 The decrease to capital is the result of carrying into effect the orders of Government regarding the removal of all manufactured articles and surplus materials from the shops to their proper place under the Stores Department, so confining the shops to their legitimate duties as manufacturers and not dealers

3 In paragraph 4, Mr Godfrey revises the comparative statement of outturn and profits and brings out a loss on the years transactions of Rs 6,800 The outturn of 1881-82 is put at Rs 2,35,000, but this is not the amount which should be contrasted with the outturn of the preceding periods, because it includes transactions amounting to Rs 90,000 in connection with the transfer of manufactured articles and materials (referred to in my paragraph 2) quite abnormal to the ordinary outturn of the former years The ordinary outturn for 1881-82 is about Rs 1,50,000 for purposes of comparison and does not nearly come up to that of 1880-81, which again was lower than during the two preceding years On the other hand, though the loss of Rs 6,800 is connected with the sale of such of the above stores as were useless and unserviceable, the transaction cannot be considered abnormal, whether the *transfer* was made or not, the periodic *sale* of useless lumber should have been a matter of course and the resulting loss an ordinary transaction to be taken into current working

4 The future administration of the shops has been for some months past under consideration of Government, and orders are shortly to issue in regard to the decision arrived at It is therefore unnecessary for me to offer any further remarks for the consideration of Government so far as affects the accounts and results under review.

ENCLOSURES

COPY of letter from the General Superintendent, Public Works Workshops, to the Examiner, Public Works Accounts, dated 8th July 1882, No. 904 W

I have the honor to forward, for submission to Government, the accounts of the Presidency Public Works Workshops for 1881-82

4 The following statement shows the outturn and profits, &c, for the last four years —

—	1878 79	1879 80	1880-81	1881 82
	RS A P	RS A P	RS A P	RS A P
Outturn	2,58,201 8 8	2,16,876 1 2	2,08,888 13 2	2,34,363 3 4
Net profit	727 11 10			
„ loss		18,200 11 11	22,160 0 6	6,833 1 2

5 A reference to Account (A) 'General Charges' will show that the amount recovered by percentages to meet these charges fell short of the amount of general charges by Rs 2,171-2-3 The centages are charged monthly on labour and material expended, and are debited to the departments of the shops in which the works were in progress Fifty per cent and in some cases 100 per cent is charged for labour, 50 per cent on English and 25 per cent on country material, and 100 per cent on labour and material for work done in the instrument department

6 The 'profits' shown on the creditor side of the profit and loss account are the differences between the credits given during the year for works completed at *estimate values* and the expenses charged including centages for general charges The departments of the shops concerned are debited monthly with the actual charges for labour and materials and with the centages for general charges, and are credited with the *estimate* value of each work when finished

7 In order to cover general charges and interest on capital, the estimate of each work provides for 50 per cent and in some cases 100 per cent on labor charges and from 25 to 50 per cent on cost of material, at the discretion of the Superintendent, and in addition also 10 per cent is provided for superintendence and contingencies

8 The General Superintendent states that when the percentages at present in force were first instituted to cover the ordinary working of the shops no interest was charged on capital He considers that the rates of percentage should vary according to the class of work, and that the percentages for general charges should be calculated so as to cover the total amount of the general charges including interest In this way the Superintendent would be better able to regulate the amount of profit to be allowed for on each estimate so as to cover all charges

9 The capital has been reduced by Rs 1,15,975-10-8 during the year The principal items causing the decrease are,—

	RS A P
Materials transferred to Public Works Stores	90 142 5 1
Do sold	11,274 0 9
Machinery and plant sold to the Executive Engineer, Kistna Eastern Division	3 825 0 0
Do other sales	1 969 0 0
Depreciation of block and machinery	4,056 9 10

The General Superintendent states that the materials sold were useless and unserviceable, but that those transferred to the Public Works Stores at the values at which they stood on the books of the workshop are serviceable and fairly worth the prices charged

The third item is the price at which four machines were sold to the Executive Engineer, Kistna Eastern Division The book value of the machines was only Rs 1,400, and in consequence a sum of Rs 2,055 was written back to the debit of machinery and plant The procedure was entirely wrong, and the write-back should have been in reduction of the credit already given to machinery and plant No corrections have however been made, as it is understood that the machines will soon be returned to the workshop, when the present entries can be reversed

The fourth item comprises machinery to the value of Rs 700 sold to the firm of Parry and Company and another machine of the value of Rs 750 sold to Messrs McDowell and Company The latter has been returned and the value refunded during the current year All the above transfers and sales took place under the general sanction given in G O, No 914 W of 4th April 1881

10 The item of Rs 2,276-4-4 on the debtor side of the account "Machinery and Plant" includes a sum of Rs 221-4 4 on account of a crane purchased in February 1882, and for the purchase of which sanction appears to be necessary

11 The item of Rs 2,711 on the creditor side of the account "Mechanical Department" is the value of cash-chests and locks manufactured for the Commissioner of Salt Revenue, but not required by that officer, and subsequently transferred to manufacture and thence to the Public Works Stores

12 Of the item of Rs 19,709-13-9 in the same account, Rs 19 673-1-9 is on account of a write-back necessitated by a double charge for material for castings, viz, once in the mechanical department and once in the accounts of the foundry

13 The item of Rs 2-8-0 on the creditor side of the account "Raw Materials" is the value of a scale and weights transferred to the correct head, viz, machinery and plant.

14 A detailed list of the articles making up the balance at the debit of "Raw Materials" and "Manufacture" accompanies the accounts Count was made of nearly all the articles during the year The list shows that the only articles now at the debit of manufacture are two 10-cwt weighing machines of the value of Rs 400

15 The bills outstanding at the end of the year amounted to Rs 1,897-14-9, and at this date the balance unadjusted amounts to Rs 243-15-8, which compares favorably with the outstandings noticed last year The claims as below are under reference —

	RS A P
Local Fund Engineer, Vizagapatam	83 5 8
Do do	9 8 0
Local Fund Board, Chicacole	19 2 0
Superintendent, School of Arts	66 1 0
Do do	55 12 0
Dr Benson, Bangalore Jail	10 3 0
	243 15 8

16 On the whole the financial status of the shops shows a considerable improvement The capital has been reduced by over a lakh, and the interest to be charged during the current year at the reduced rate of 4 per cent will be about Rs 9,500 The general charges and interest may be roughly taken at the following figures —

	RS
Establishment and contingencies	23,000
Working expenses	3,000
Repairs to machinery	1,000
Depreciation in block, &c	4,000
Leave and pension allowances	3,000
Interest on capital	9,500
	44,500
The corresponding charges in the accounts for 1881-82 under review amounted to	50,000

No 21

ORDER —dated 2nd September 1882, No 2266 W., Public Works

With his letter above recorded the Examiner of Public Works Accounts submits the annual accounts of the Presidency Public Works Workshops for the year 1881-82

2 According to the figures furnished by the Examiner's Office, the liabilities during the year amounted to Rs 2,54,448, while the assets were Rs. 2,47,615, showing a net loss on the year's transactions of Rs 6,833

3 The following statement shows the value of the outturn and the profit or loss for each of the last four years —

—	1878 79	1879 80	1880-81	1881 82
	RS	RS	RS	RS
Outturn	2,58,201	2,16,876	2,08,888	2,34,363
Net profit	727			
Net loss		18,200	22,160	6,833

4 The outturn of the year under review is thus Rs 25,475 in excess of that of the previous year, but the Examiner of Public Works Accounts points out that this increase is owing to the transfer to the Stores Department of manufactured articles and surplus materials to the value of about Rs 90,000, and that the ordinary outturn of 1881-82 must therefore be taken at about Rs 1,50,000, or considerably less than that of the previous year

5 The outstandings at the end of 1881-82 amounted to Rs 1,897 since which they have been reduced to Rs 243

6. A considerable improvement was effected in the financial status of the shops during the year under review, chiefly by a diminution of capital to the extent of over a lakh of rupees, and by a reduction in the rate of interest on capital from 5 to 4 per cent

7 The Government having resolved in G O, No 2061 W, dated 12th August 1882, to restrict the operations of the shops and to alter the entire nature of the institution, and the whole subject being now under the consideration of the Chief Engineer, Public Works Department, no further remarks are necessary on the present report

(True Extract.)

(Signed) R H SANKEY, Colonel, R E,
Secretary to Govt, P W.D.

To the General Superintendent, Public Works Workshops
" Superintending Engineer, Fifth Circle
" Examiner, Public Works Accounts

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GENERAL
ACCOUNT

Govt. of (1882) Madras.

PUBLIC WORKS.

Dated September, 2nd

Recd *Encl*

G O., 2nd Sep. 1882, No. 2266 W.

SEPTEMBER.

Nos. 20-21.

Annual Accounts of the Presidency Public Works Workshops for the year 1881-82.

Passing orders on the —

2503
12

GOVERNMENT OF MADRAS

PUBLIC WORKS DEPARTMENT

General
Account

No 13

READ—the following papers —

From Lieutenant-General J T WALKER, C B, R E, Surveyor-General of India, to the Secretary to Government, Public Works Department, dated Mussooree, 23rd October 1882, No 611 F

In reply to your No 2489 W, dated 25th ultimo, I have the honor to inform you that the Mathematical Instrument Department, which is attached to the Surveyor-General's Offices in Calcutta, is not at present in a position to undertake the repair of the mathematical instruments of the Madras Public Works Department It has already as much work coming in as it can well get through with the present establishment, and there is no room for expansion in the present buildings which, as it is, are very crowded and inconvenient, and quite inadequate for existing requirements

2 Proposals are at present under the consideration of the Government of India for the construction of new offices and workshops for the Mathematical Instrument Department But it is improbable that new buildings will be constructed in less than three years from the present time

3 Any very special work, requiring the services of a skilled instrument maker, might generally be executed in the department But I think that for the ordinary current work of the examination and repair of instruments of the better classes, and the construction and repair of instruments of an inferior class—such as are often required in large numbers by the Revenue Surveys and other departments of the public service, and can be constructed more cheaply in this country than purchased in England—it will be found most economical to make arrangements such as are suggested in paragraph 17 of Lieutenant Baddeley's letter, No 1447 W, dated 7th ultimo

No 2044 C

Referred to the Superintending Engineer, Fifth Circle, for report as to the arrangements now feasible

(Signed) R H SANKEY, Colonel, R E,
Secretary to Government, P W D

11th November 1882

No 13-A

From Colonel H L PRENDERGAST, R E, Superintending Engineer, Fifth Circle, to the Chief Engineer, Public Works Department, dated Chepauk, 22nd November 1882, No 2990

I have the honor to return your endorsement, No 2044, of the 11th instant, and to report that from paragraph 3 of the Surveyor-General's letter there can, in my opinion, be hardly any change made in the Instrument Department of the Public

No 611, dated 23rd October 1882

Works Workshop For the ordinary current work of examining and repairing instruments for the various Government departments, the Shop, which has done the work hitherto, will be required to be maintained at about the usual strength

2 The General Superintendent shows the monthly cost of establishment to be Rs 820 in his letter enclosed This amount includes a portion of his own pay, of which one-half is debited to the Workshops, and about three-eighths of that moiety to the Instrument Department But this item of Rs 150 will not altogether disappear on the abolition of the office of General Superintendent, for the Instrument Shop cannot well be separated from the Public Works Stores, and a share of the cost of supervision will remain debitable to the Instrument Shop

No 1954, dated 14th November 1882

3 If then it be decided that the Instrument Shop cannot be dispensed with, there must be some responsible person in charge of it and of the stores But until tenders are received for the Workshop buildings and plant, it cannot be determined what supervision will have to be retained for a general Workshop on a reduced scale

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ENCLOSURE

From Lieutenant W L C BADDELEY, R E, General Superintendent, Public Works Workshops, to the Superintending Engineer, Fifth Circle, dated Madras, 14th November 1882, No 1954 W

With reference to your No 2882 * of 13th November 1882, I have the honor to recommend that the Mathematical Instrument Department of the Public Works Workshops should be maintained on its present footing

* Enclosure returned

2 The cost of the establishment is approximately as follows —

	Rs
The General Superintendent	150
The Foreman	190
The Engraver	30
About 30 workmen on pay varying from 40 rupees to 5 rupees	450
Total per mensem	820

The pay of the General Superintendent, Public Works Workshops, is Rs 407-8 0, and I have taken 150 rupees of this amount as the monthly debit against the Instrument Department. The Foreman is a Supervisor in the Public Works Department, and will be entitled to promotion in the ordinary course

3 In addition to examining and repairing instruments for the Public Works Department, the Mathematical Instrument Department should be allowed to execute orders from the Revenue Survey and all other Departments of Government, and work for the public should not be refused in cases where there is no possibility of its being done elsewhere

4 It is essential that the Instrument Department should be adjacent to the Public Works Stores, as no instrument can be received into or issued from Stores without first passing through the Instrument Shop

5 From the figures I have given it will be seen that the scale of wages is low, also the prices paid for material are moderate, and the stock of machinery is not excessive, but, owing to the practice of charging 100 per cent for Workshop profit, the cost of work is made to appear very high, although, on consideration, it will be seen that a large amount of every bill on a Government Office is merely a book transaction, and in the case of private work the high charges prevent interference with private trade

6 There are very few complaints made of the quality of the work turned out by the Instrument Department, and for the examination and ordinary repairs of the theodolites, levels, &c, used by the Madras Survey and the Public Works Department, and for the manufacture of the badges, seals, scales, weights, measures, &c, used by the Revenue and other Departments of Government, I am convinced that it would be impossible to suggest a better or more economical arrangement than to maintain the Mathematical Instrument Department at about its present strength

2503
13

No 14

ORDER—dated 4th December 1882, No 3183 W, Public Works

It is evident from the correspondence recorded above that the closing of the Mathematical Instrument Shop under existing circumstances would be premature They will accordingly be maintained for the present for the execution of Government work, the establishment being regulated solely with reference to the amount of such work likely to be required The execution of private work should not be encouraged.

(True Extract)

(Signed) R H SANKEY, Col, R E,
Secretary to Govt, P.W D

To the Superintending Engineer, Fifth Circle
" General Superintendent, Public Works Workshops
" Examiner, Public Works Accounts
" Public Department
" Revenue "
" Military "

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GENERAL
ACCOUNT

Govt. of {1882} Madras.

PUBLIC WORKS.

Dated December, 4th

Read *Enc*

G.O., 4th Dec. 1882, No 3183 W.

DECEMBER
Nos 13-14.

Public Works Workshops.

The closing of the Mathematical Instrument Shop in the — deferred for the present.

GOVERNMENT OF MADRAS

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works

No 173

READ—the following letter from Lieutenant W L C BADDELEY, R E, General Superintendent, Public Works Workshops, to the Deputy Chief Engineer, Public Works Department, dated Madras, 20th March 1883, No 2742 W.—

With reference to G O, No 731, dated the 7th instant, I have the honor to enclose statements showing the value of block and machinery on the 31st March 1883. Buildings to the value of Rs 24,000 are not required by the Workshops, and Rs 23,000 is the amount that will be required for depreciation

2 The whole of the buildings not required by the Workshops can be utilized by the Public Works Stores

ENCLOSURES

A.—Valuation List of Workshop Buildings for the Year ending 31st March 1883

Description	Value on 31st March 1878	Value on 31st March 1883	Remarks
	RS	RS	
Main building	45,639	41,076	
Engine-house	12,463		Not required by the Workshop
Foundry building	12,752	9,564	Roof in very bad order
Saw mill shed	6,792		Not required by the Workshop
Sheds for stores	9,490	4,745	The transfer of Workshop stores to the Public Works Stores renders a large store shed unnecessary
Smith's shop (southern row including latrine)	12,600	11,340	
Carpenter's shed	10,330	8,781	Roofing in very bad order
Smith's shop (northern row)	10,415	9,374	
Cistern and Red Hills water service pipes	3,050	2,745	
Stable, dining-room and latrines	780	702	
Total	1,24,311	88,327	

B—Valuation Statement of Machinery and Plant in the Presidency Public Works Workshops on the 31st March 1883

Description	Number or Quantity	Value on 31st March 1878			Value on 31st March 1883			Remarks
		RS	A	P	RS	A	P	
Crane, travelling, large	1	2,000	0	0	1,500	0	0	
Cupolas, large	2	4,000	0	0	3,000	0	0	
Fan blower, large	1	820	0	0	615	0	0	
Do 3rd size	1	120	0	0	90	0	0	
Forges, portable fan	4	400	0	0	300	0	0	
Do do large	2	80	0	0	60	0	0	
Force pump for testing boilers, large	1	350	0	0	260	0	0	
Do do. small	1	150	0	0	110	0	0	
Lathe, Duplex, surfacing and boring, large, with face plate 8½' diameter	1	2,000	0	0	2,000	0	0	Lately purchased from Ordnance Department
Do screw cutting, 30 3" (15" centre and the other 12")	2	7,000	0	0	5,600	0	0	
Do do 30' and 15' centre	1	3,500	0	0	2,625	0	0	
Do do 20' 2' and 24" centre	1	3,000	0	0	2,250	0	0	
Do do 15' 2' and 10" do	1	1,500	0	0	1,275	0	0	
Do do 11 2' and 10" do	1	1,200	0	0	990	0	0	
Do do 6' 3 and 6" do.	1	800	0	0	600	0	0	
Do. do 6' and 7" do	2	2,000	0	0	1,700	0	0	
Do turning, 12' and 16" do.	1	800	0	0	600	0	0	
Do do 8' and 6" do	1	300	0	0	225	0	0	
Do wood turning, 8' and 9" do	1	300	0	0	225	0	0	
Do foot, 6 (3 of 6½" 1 and 5" centres).	4	1,200	0	0	900	0	0	
Do do 6 and 9 centre	1	300	0	0	225	0	0	
Do do screw cutting, 5 3" and 6" centre	1	800	0	0	600	0	0	
Do do 5' and 6" centre	1	800	0	0	600	0	0	
Do do 1 6" and 5" do	1	800	0	0	600	0	0	
Do do 3' 6" and 5" do	5	2,300	0	0	1,725	0	0	
Do do glass-polishing of 2½" centre	1	30	0	0				Useless
Machine, planing 14' 10	1	2 000	0	0	1,500	0	0	
Do do 9 0"	1	1,500	0	0	1,125	0	0	
Do do 2' 9"	1	500	0	0	375	0	0	
Do do 2' 9"	1	400	0	0	300	0	0	
Do tapping, 5 2'	1	700	0	0	525	0	0	
Do multi-boring, large	1	1,200	0	0	900	0	0	
Do drilling, 8'	2	4,000	0	0	3,450	0	0	
Do do 7'	2	1,500	0	0	1,125	0	0	
Do do. 6	3	1,500	0	0	1,275	0	0	
Do do wall	1	300	0	0	225	0	0	
Do riveting, large	1	900	0	0	675	0	0	
Do do small	1	500	0	0	375	0	0	
Do drilling, hand	1	100	0	0	75	0	0	
Do plate-bending	1	1,000	0	0	750	0	0	
Do punching and shearing	1	400	0	0	300	0	0	
Do do do. large	1	1,500	0	0	1,125	0	0	
Do hand, saw	1	350	0	0	260	0	0	
Do general joiner	1	1 200	0	0	900	0	0	
Do punching, large	1	1,000	0	0	750	0	0	
Do press for embossing	1	100	0	0	75	0	0	
Do hammer, steam, 7½ cwt	1	2,855	0	0	2,180	0	0	
Do saw, circular, table, complete	1	400	0	0	300	0	0	
Do table, iron, for marking	1	100	0	0	75	0	0	
Anvils	34	408	0	0	408	0	0	
Do cooper's	2	40	0	0	30	0	0	
Bellows, English	2	40	0	0	30	0	0	
Benches, carpenter's	15	525	0	0	395	0	0	

Valuation Statement of Machinery and Plant in the Presidency Public Works Workshops on the 31st March 1883—*cont*

Description	Number or Quantity	Value on 31st March 1878			Value on 31st March 1883			Remarks
		RS	A	P	RS	A	P	
Benches, small	7	140	0	0	105	0	0	
Do filer's, large	5	500	0	0	375	0	0	
Bearings 5½"	3	225	0	0	170	0	0	
Do 3½"	3	130	0	0	100	0	0	
Do 3'	19	570	0	0	330	0	0	
Do 2¾'	5	150	0	0	110	0	0	
Do 2½'	28	700	0	0	525	0	0	
Buckets, foundry, of sizes	13	500	0	0	375	0	0	
Cast-iron tanks for water	2	80	0	0	60	0	0	
Hangers, large, for 3" shafting	11	330	0	0	250	0	0	
Swage blocks and stands	14	280	0	0	210	0	0	
Moulding boxes (at Rs 80 a ton), tons about	40	3,200	0	0	2,400	0	0	
Pulleys 64" × 8"	1	45	0	0	34	0	0	
Do 63" × 8"	1	40	0	0	30	0	0	
Do 36' × 18"	1	75	0	0	56	0	0	
Do 30" × 8	1	16	0	0	12	0	0	
Do 27" × 18'	1	55	0	0	41	0	0	
Do 24" × 9"	1	18	0	0	14	0	0	
Do 24" × 7"	5	80	0	0	60	0	0	
Do 24" × 6	3	60	0	0	45	0	0	
Do 22" × 12'	5	75	0	0	56	0	0	
Do 18" × 12"	6	90	0	0	68	0	0	
Do 16" × 12"	5	60	0	0	45	0	0	
Do 16" × 9"	1	11	0	0	8	0	0	
Do 16' × 8"	31	350	0	0	263	0	0	
Do 14" × 5	1	9	0	0	7	0	0	
Do 12" × 12	2	16	0	0	12	0	0	
Do 12" × 8'	1	8	0	0	6	0	0	
Do 12" × 6"	4	28	0	0	21	0	0	
Do 9" × 9"	1	6	0	0	5	0	0	
Water troughs, smith's	25	225	0	0	225	0	0	
Shafting 5½ Feet	14	140	0	0	105	0	0	
Do 3½' "	10	90	0	0	67	0	0	
Do 3½' "	10	85	0	0	64	0	0	
Do 3 "	122	845	0	0	634	0	0	
Do 2¾" "	23	210	0	0	157	0	0	
Do 2½" "	10	70	0	0	52	0	0	
Do 2⅜" "	129	645	0	0	484	0	0	
Surface plates	2	400	0	0	300	0	0	
Vices, large	26	260	0	0	195	0	0	
Do medium	29	194	0	0	146	0	0	
Do small	16	80	0	0	60	0	0	
Wall brackets for hangers 3"	2	60	0	0	45	0	0	
Do for bearings 2¾"	1	25	0	0	19	0	0	
Weston's patent differential pulley to lift 4 tons	1	121	12	0	91	0	0	
Standards with countershafts for 40 H P engine	3	300	0	0	225	0	0	
Crane for steam-hammer	1	200	0	0	200	0	0	
Machine, saw sharping	1	350	0	0	263	0	0	
Cast-iron stands, large	3	150	0	0	113	0	0	
Do do small	2	25	0	0	19	0	0	
Gas taps and dies ¼" to 3"	1				300	0	0	
Total		78,609	12	0	57,595	0	0	

No 174

ORDER—dated 22nd March 1883, No 933 W, Public Works

The buildings no longer required by the Workshops will be transferred to the Public Works Stores

2 The valuation now fixed is accepted, and an appropriation of Rs 33,000 * is made from the Provincial Reserve to cover depreciation

* Not Rs. 23,000 as stated by the Superintendent

(True Extract)

(Signed) R H. SANKEY, Colonel, R.E,
Secretary to Govt, P W D

To the General Superintendent, Public Works Stores and Workshops
" Examiner, Public Works Accounts

Exd A. F Goodall.
Spare Copies

2303
16

BUILDINGS AND ROADS
CIVIL WORKS

Govt. of {1883} Madras.

PUBLIC WORKS.

Date March, 22nd

Recd *Encl*

G.O., 22nd March 1883, No 933 W.

MARCH.
Nos. 173-174.

Public Works Workshops, Madras

The buildings no longer required by the —, transferred to the Public Works Stores, and the valuation of the block and machinery of the Workshops by the General Superintendent accepted.

PRECIS OF OPINIONS

ON THE

SUBJECT OF RETAINING OR OTHERWISE THE PUBLIC WORKS WORKSHOPS AT MADRAS.

PRECIS OF OPINIONS ON THE SUBJECT OF RETAINING OR OTHERWISE THE PUBLIC WORKS WORKSHOPS AT MADRAS.

Chief points brought forward in the Correspondence	Opinions expressed by			
	General Superintendent Public Works Workshops.	Superintending Engineer of the Circle	Examiner of Public Works Accounts	Consulting Engineer for Railways	Chief Engineer
1. Whether the Railway Workshops might be made available for giving a practical training in Mechanical Engineering to Public Works Apprentices				1 Reports that, as far as the Madras Railway is concerned, there would probably be no difficulty in arranging this matter, but the approval of the Board of Directors would be required There is no reason to suppose that similar arrangements could not be made with the South Indian Railway Company also if it were thought desirable to utilise their shops at Negapatam for the purpose	1 Arrangements can apparently be made by both the Madras Railway and South Indian Railway Companies to admit of Workshop training being given to students in the Civil Engineering College, and looking to the more systematic character of the work done at their shops such training would be preferable to that given at the Public Works Workshops
2 Whether all Public Works work which cannot be executed in the open market might be undertaken by the Railway Workshops		2 As the Public Works Workshops cannot at present be superseded by another institution, the Engineer Department will still remain dependent on the former for the execution of work to be done at Madras		2 Neither the Madras nor the South Indian Railway Companies are prepared to undertake the execution of work for the Public Works Department	2 Though neither of the Railway Workshops will undertake to guarantee the execution of work for the Public Works Department at their respective shops, it would probably often be convenient for them to do so Work could also no doubt, under the sanction of Government, be executed by the Gun Carriage Manufactory Messrs Massy and Co, with encouragement, could moreover doubtless undertake more than they now do, and there can be no question that the Workshops of Bombay, and particularly Calcutta, can be trusted to turn out all classes of iron work whether in the way of manufacture or repair Messrs Fraser and Fuller at the Carnatic Iron Works, Bombay, seem prepared to execute work to any extent, and as will be seen from the annexed Notification (A) Messrs Oldham and Jackson, of Calcutta, are fully

Precis of Opinions on the subject of retaining or

Chief points brought forward in the Correspondence	Opinions	
	General Superintendent, Public Works Workshops	Superintending Engineer of the Circle
3 Whether or not the Public Works Workshops should be looked upon as working on commercial principles	3 Considers that the Workshop differs from a private concern in the following important points It has a borrowed capital out of all proportion to the average outturn, and consequently the charges on account of interest on Capital swallow the larger portion of the profits made, *e g*, during 1880-81 the percentages recovered in the Mechanical Department amounted to Rs 15,565, while the charge for interest was Rs 20,897 The total percentages recovered during the same year amounted to Rs 38,753, while the total charge for interest was Rs 25,049, leaving a balance of only Rs 13,704 to meet the cost of establishment, fuel, oil, repairs to tools and machinery, &c, a sum quite insufficient for the purpose, *ergo*, the Shops are not in a position to work on commercial principles The profits made during successful years have not been applied to reduce the borrowed capital, *e g*, the large profit made during the famine would in a commercial concern have been set off against the cost of removal from Chepauk The accounts are kept on uncommercial principles, as they contain fictitious items and are generally misleading	3 The Workshops have avowedly not been conducted on commercial principles to show a profit, and Government have discouraged the idea of their competing with the local market They were instituted because the wants of the Public Works Department could not be met in the country, and this object has been attained according as those wants have been supplied The Superintendent was unfortunately absent on privilege leave when the Examiner made his inspection, so that the former had not the opportunity of offering explanation both as to the accounts and the practical working of the Shops

otherwise the Public Works Workshops at Madras—(continued)

Expressed by		
Examiner of Public Works Accounts	Consulting Engineer for Railways	Chief Engineer
3 Does not see where the Workshops differ from an institution working on commercial principles except that they are not dealers and do not speculate for rises and falls in the market Their institution to supply the department at fixed rates removes the dangerous element in ordinary commerce, but the principle adopted has been that the Shops are to be considered as a private concern working to show a profit and loss, but without the speculative element which would be engendered by competition with the open market		prepared to give estimates, execute designs, &c There are several other firms in the same position, to say nothing of the greatly increased facilities which now exist for dealing directly with firms in England Probably, therefore, although some little inconvenience would for a time be experienced in getting matters into train, no reasonable doubt can be entertained that were the present Public Works Workshops closed for all but the immediate requirements of the Presidency Division and small matters of repair, it would be quite feasible to get the work done elsewhere 3 There can be no question that, however artificial the method of accounting may be in order to show a profit and loss, it is essential to base these on commercial principles as far as circumstances admit, and that to ignore or discard these must deprive the Government of the sole means at their command of from time to time comparing results and of forming a judgment as to the advantages or otherwise of continuing the institution It is of course quite open to Government, by making such arrangements as may decrease the unproductive capital sunk in buildings, plant or machinery on which interest is charged, to relieve sensibly the present pressure, and thus show a larger profit in working, but this in no-wise interferes with or militates against the Shops being considered as worked on commercial principles

Precis of Opinions on the subject of retaining or

Chief points brought forward in the Correspondence	Opinions	
	General Superintendent, Public Works Workshops	Superintending Engineer of the Circle
4 The form in which the profit and loss accounts were submitted by the Superintendent	4 The amended statement prepared by the Deputy Examiner shows percentages recorded under different heads, but as these percentages are fictitious amounts, it is evident that the system of accounts (which is the same as that originally prescribed by the Accounts Department and which has been invariably used since 1868) is not clearly understood, and consequently wrong conclusions have been drawn as to the present working of the Shops	4 With reference to the Examiner's remarks in his annual review for 1880-81 (G O, No 3081 W, of 12th December 1881,) as to the unintelligibleness, in an accounts point of view, of the figures put forward by the Superintendent, Colonel Prendergast remarks that the returns in the office of the Superintendent show to him clearly the loss The form of accounts, however, was prescribed by the Accounts Department itself some years ago The profit and loss statement could not therefore have been drawn up in any other shape than that with which the Examiner finds fault and which has always hitherto been accepted In a second report he remarks that he has looked up the orders of 1867-68 and finds that the profit and loss accounts were then drawn up in the Controller's (Examiner's) office, and that they are in the same form as those submitted by the General Superintendent for 1880-81 The procedure instituted by the Accounts Department has been followed by the Superintendent for years He fully agrees with the Examiner that if the procedure be faulty it should be revised
5 The legitimacy or otherwise of "extra profits"	5 It is not the case that the Workshop deliberately adds an extra profit in addition to securing the ordinary profit It is absolutely impossible to work a large manufacturing concern so that a fixed amount of profit shall be made on every article Estimates for work, as a rule, are made as low as possible, but stock articles, on the other hand, are sold at standard rates, and when a large quantity is ordered, the reduction in cost of manufacture enhances the profit No percentage is added to an article because it is sold from stock Nothing is now manufactured for stock, but if it were necessary to lay in a supply of stock	5 The term "extra profit" is an invention of the Accounts Department and certainly conveys the idea of an increase in the rate of issue In reality, however, there is no such increase, the "extra profits" being the ordinary receipts from articles manufactured in the Shops and transferred to stock When issued from stock, the recovery is entered separately and is termed "extra profit" He does not consider that the latter is an illegitimate credit In his second report he does not consider that his explanation is at variance with the accounts Articles are entered on stock at standard rates, they have been manu-

otherwise the Public Works Workshops at Madras—(continued)

EXPRESSED BY

Examiner of Public Works Accounts	Consulting Engineer for Railways	Chief Engineer
4 The forms for accounts procedure were issued in 1867-68, and in the system prescribed the operations to be shown under general charges and profit and loss are clearly illustrated and should have been followed That they have not been followed hitherto is no argument that they should not be followed now, or that they should not always have been followed It is beyond doubt that the profit and loss statement submitted by the Superintendent is not intelligible, in an accounts view, and if the procedure laid down 14 years ago had been followed as it should have been, the accounts rendered by the Superintendent would have shown the same result as those prepared by the Deputy Examiner in the recent annual review In the erroneous procedure followed, wrong conclusions are published and facts concealed But apart from this, if the procedure prescribed 14 years ago be now found to be faulty, there is the greater necessity to revise it		4 There is much divergence of opinion on the subject of the profit and loss accounts, the Examiner contending that the forms prescribed 14 years ago have not been followed, while both the Superintendent of the Shops and the Superintending Engineer state with equal clearness that they are the same as those originally drawn up by the Examiner It is unnecessary to decide which is correct, as all admit that the old forms have led to wrong conclusions being drawn, and that from an account point of view modification, as suggested by the Examiner, is necessary
5 The term "extra profit" was probably an invention of the Accounts Department, and was evidently intended to distinguish between ordinary profits (*i e*, the usual percentage charged in addition to actual cost) and the profits resulting from excessive estimates binding on customers and regardless of actual cost Thus, however, is not the way in which the term is now used, nor is the explanation given by the Superintending Engineer correct if the accounts are correct He maintains that "extra profits" resulting from the system in force are an illegitimate credit in so far that they are recovered by illegitimate charges		5. I have no hesitation in saying that, as originally decided by the Stores Committee, the so-called "extra profits" were illegitimate, but it is now unnecessary to follow the controversy, as nothing (according to the statement of the Superintendent of the Workshops) being at present manufactured for stock, no entry under this head can again appear NOTE —In paragraph 8 of G O, No 3081 W, dated 12th December 1881, it was ordered that "extra profits" should no longer appear in the accounts

Precis of Opinions on the subject of retaining or

Chief points brought forward in the Correspondence.	Opinions	
	General Superintendent, Public Works Workshops	Superintending Engineer of the Circle
	articles such as pick-axes, &c, they would be entered in the stock list at standard rates Manufacture would be debited with cost of labor and materials *plus* ordinary percentages, and the credit would be the total cost of the articles at standard rates When a large number of any article is made, the profit is in excess of that estimated, the cost of manufacture being reduced He maintains that this is a legitimate and ordinary profit, and that it is impossible to execute work so that the actual profit shall agree exactly with that estimated for Estimates are given for work, and the Workshop takes its chance of ultimate gain or loss No other plan is possible unless all work is executed without estimate, which would be excessively inconvenient to the officer ordering the work	factured at less rates, and there is therefore a profit on issue, but no percentage is added to the price of an article because it is sold from stock
6 The percentage drawn by the Superintendent on bills for private work (discontinued under G O, No 3081 W, dated 12th December 1881)	6 The percentage is not paid by Government, but by the person ordering the work, over and above the ordinary Workshop charges The Examiner's comparison is therefore inappropriate The allowance has always been considered a portion of the pay of the office, and he trusts Government will reconsider their order discontinuing it Allowances of the same nature are drawn by officers of the Marine Department, and the Mints at Calcutta and Bombay In a letter No 212 W, dated 2nd May 1882, the General Superintendent replies to the Examiner's remark that the principle under which the allowance is drawn is not demonstrated He states that he has ascertained on inquiry that the Superintendent of the Roorkee Workshops draws a commission of ½ per cent on *all* bills, whether for Government or private work, provided the Workshop pays its expenses and the management is approved He trusts, there-	6 The percentage has been drawn with the sanction of Government since 1870 The average amount during late years has been about Rs 630 per annum, so that by its discontinuance the Superintendent has been deprived of a regular allowance which had always been drawn by himself and his predecessors A similar percentage is drawn by the Superintendent of the Roorkee Workshops with the sanction of the Government of India, and the Superintendent here has looked upon the allowance as in some degree a compensation for his regular pay being unaffected by promotion, and as a recompense for obtaining early payment on bills for private work In his second report he considers the Examiner entirely wrong The word "duty" was used by him in the sense of "performance of work" The allowance is not paid by Government, but by the person ordering the work

otherwise the Public Works Workshops at Madras—(continued)

Examiner of Public Works Accounts	Consulting Engineer for Railways	Chief Engineer
upon customers They have further been pronounced neither correct nor politic by the Stock Committee		
6 It is the ordinary duty of the Superintendent to recover without delay outstandings due to Government The Superintending Engineer admits that the allowance is looked upon as compensation for a duty, and it is much the same as if a Divisional Officer were allowed a premium for settling up miscellaneous advances or contractors, bills		6 The principle on which the Superintendent of the Workshops has hitherto drawn a percentage on bills for work executed for private individuals, though previously sanctioned by the Local Government, is, it is thought, entirely opposed to the rules of the Government of India and should therefore cease The only exception has reference to the Mysore State Stores, which has been specially sanctioned by the Government of India

Precis of Opinions on the subject of retaining or

Chief points brought forward in the Correspondence	Opinions	
	General Superintendent, Public Works Workshops.	Superintending Engineer of the Circle
	fore, that the allowance may be restored to him, or that he may be allowed the same privilege as the Superintendent of the Roorkee Workshop	
7 The heavy charges imposed on the Shops by the item interest on Capital	7 The exceptional outlay consequent on the removal from Chepauk is the main cause of the losses during late years, and it rests with Government to decide whether they will compensate the Shops for these losses by removing a portion of the heavy charges for interest on Capital, or whether they will take the account of expenditure and earnings apart from the Capital account The Shops can never pay the enormous charges on account of interest, depreciation and pension and leave allowances, but if at the end of this year it is seen that a fair amount of profit has been made on an average outturn, and if it is evident that the work turned out is of a class that could not have been obtained elsewhere, it is not necessary to consider the Shops a dead loss because it cannot meet the charges for interest which have accrued by the action of Government in removing the Shops from Chepauk He admits that the Workshops have been a failure the last two years from a commercial point of view, but maintains that the losses are owing to the charges consequent on the removal and on the dead weight of interest on stock which has accumulated by mismanagement in former years.	7 An examination into figures will show that the balance sheet of the Workshops is heavily burdened by this item By the removal from Chepauk to Black Town the Capital Account of the Shops has been increased by Rs 51,000 under Buildings and Rs 47,000 under Machinery and Plant, and thus since 1877-78 the Shops have been debited with interest at 5 per cent on nearly a lakh of rupees, in addition to the standing charges upon Capital previous to that time The general charges too were greatly increased during the first two years of occupation of the new buildings, but after settling down these charges have greatly fallen The Capital and working expenses have, however, been raised to the detriment of the profit and loss account Considers that the Shops should not be condemned on the results of a couple of years' working, but that the figures of a series of years should be considered, even if no regard be paid to exceptional circumstances Points out that the Examiner gives figures for four years and shows a heavy progressive loss, but that, if the figures for these four years be taken collectively, the result is an average annual profit of Rs 7,827 Also that, if the figures for the past 15 years be taken, the result would be an average annual profit of Rs 7,316 In his second report he still holds that where there is one exceptionally good year out of four the other years look bad by comparison He has already shown that a heavy charge is made as interest on Capital, that heavy expendi-

otherwise the Public Works Workshops at Madras—(continued)

EXPRESSED BY

Examiner of Public Works Accounts	Consulting Engineer for Railways	Chief Engineer
7 Considers it needless to comment on the Superintending Engineer's remarks concerning exceptional outlay consequent on the removal of the Shops, &c, as he has already fully discussed the point in his annual review He further remarks that according to the Superintending Engineer's argument as to the manner in which results should be calculated, an undertaking must lose the whole of its previous earnings before it can be considered ineffective, or that not until the surplus of all prosperous years has been wiped out by the deficit of adverse periods can a concern be looked upon as a losing one During 1880-81 there was a loss on the Workshops in administrative results of Rs 13,930, while the financial results gave a loss of Rs 22,160 after taking as extra profits a sum of Rs 13,309		7 It is not unreasonably contended that, owing to the removal of the Workshops from Chepauk to Black Town, and the acquirement of useless plant, the concern is burthened by unduly heavy interest charges on Capital The Superintending Engineer states that the total unproductive Capital is about Rs 98,000, which thus at 4 per cent adds an interest charge of Rs 3,920, of which the Shops ought to be relieved Should it be decided to retain the Shops, it is thought that a careful revaluation of the buildings and machinery should be made to determine which are necessary in the performance of work, and to afford such relief as may under all the circumstances be feasible Such depreciation as may appear reasonable in the value of the buildings though necessarily having to be met by a grant under Provincial Civil Buildings will practically be recouped entirely by a credit to Provincial Revenue on account of decrease of Capital For such machinery as there may appear to be reasonable prospects of use in the department, though not required for the Shops, a simple transfer at book value to the Public Works Stores may be made, but for such as there is no reasonable prospect of use it will be desirable to arrange for their sale, exercising all needful precaution to prevent as far as possible undue loss to Government Some may with advantage be brought temporarily on to the stock of the Public Works Stores For this a grant under Tools and Plant would be need d,

Precis of Opinions on the subject of retaining or

Chief points brought forward in the Correspondence	Opinions	
	General Superintendent, Public Works Workshops	Superintending Engineer of the Circle
		ture has been incurred consequent on change of premises, and that the Workshops need not be condemned on the working of only two years
8. The annual outturn to be looked for from the Shops	8 Admitting that the average outturn of the Shops may be taken at two lakhs, the questions are, what portion of the work represented by this sum can be satisfactorily executed elsewhere, and what would be the loss to Government if the various engineering works which are now mainly dependent on the Workshops for their iron-work were left unfinished for want of it? The question must be looked upon from a broad point of view, i e, can the Public Works Department afford to be dependent on private enterprise for the class of work turned out by the Workshops? In his opinion the closing of the Workshops would result in heavy loss to Government, and so far from private enterprise coming forward to take up the work, it would be found necessary to open a Workshop in each district	8 A great variety of work is turned out in the Shops from iron girders to engraving and die-cutting In the present year demands have been received from the Ordnance, Commissariat, Revenue Survey, Postal, Forest, Marine, and Salt Departments from 17 Collectors and other Government officers From the Public Works Department there were recently plans and estimates for works aggregating nearly 2 lakhs of rupees. The Workshops thus supply a want that has not been met elsewhere Public Works officers if they can get their work done themselves, do not go to the Public Works Workshops, but when they cannot get the work done at all, or at a fair price, they must go to the Workshops Plans, estimates, and designs are also furnished to the department free of charge, and heavy work has been done for the Harbour

otherwise the Public Works Workshops at Madras—(continued)

EXPRESSED BY

Examiner of Public Works Accounts	Consulting Engineer for Railways	Chief Engineer
		which, however, would be met by a corresponding credit as above to Provincial Revenue. The loss on such machinery or tools as it may be decided to sell outright will have to be met by a Provincial grant The whole operation as above noted will require the exercise of much judgment and might be made to extend over some time, but if the Shops are to be retained it should be entered on seriously without delay NOTE —In paragraph 10 of G O, No 3031 W, dated 12th December 1881, the Government reduced the charge on account of interest on Capital from 5 to 4 per cent None of the officers allude to this fact
8 It must be taken as a matter of course that all Government Departments do and perhaps must give employment to the Shops They naturally avail themselves of the skilled labor, supervision and plant thus placed at their disposal, but this does not prove that they cannot get work done themselves at a fair price The Shops were originally instituted because the wants of the Public Works Department could not be met in the country, and the requirements of other departments should therefore be an extra demand, tending to increase outturn He gives figures to show that the outturn has been tolerably even from about 1874-75, when the average rose from 1¼ to over 2 lakhs If the outside requisitions have prevailed only lately, the ordinary Public Works Department work must *pro tanto* have been withdrawn In either case the average outturn to be looked for in future may be put down at from 2 to 2¼ lakhs		8 Beginning from an average of 1¼ lakhs the outturn of late years has been pretty steady at 2 lakhs, which may be assumed as the normal working All departments use the Shops where they find it convenient to do so, and a great variety of work is turned out ranging from boilers and iron girders to engraving and die-cutting It is almost unnecessary to say that the principles which lead to economy of production in any establishment devoted to special manufactures cannot be followed in a "jobbing" shop which this is Boilers, girders and all such special manufactures must of necessity be obtainable from regular manufacturers far cheaper than they can possibly be turned out by our Workshops, and it is only a question as to whether the time saved by giving the order to the latter compensates for the difference of price From my own experience I have no hesitation in saying that such are now the facilities for procuring all

Precis of Opinions on the subject of retaining or

Chief points brought forward in the Correspondence	Opinions	
	General Superintendent, Public Works Workshops.	Superintending Engineer of the Circle
9 The suitableness of the present form of accounts	9 The forms of account must, if they are to be any guide as to the value of the Workshops, be based on those used by Guaranteed Railways in which the distinction between Capital and Revenue is clearly marked	9 The forms of account must be looked upon as unsatisfactory Recommends that the Superintendent and the Examiner should jointly consider what forms are inappropriate in order that they may be amended, and that ambiguous terms such as "extra profits" may disappear
10 The average outturn being 2¼ lakhs, is it worth while maintaining the Shops for so moderate a demand?	10 The value of the outturn must be considered in connection with the value of the various works which require the assistance of the Workshops The question is not whether it is worth while to maintain the Shops for so moderate a demand, but how could these wants be otherwise supplied without undue delay and in a satisfactory manner? He considers that no engineering work of any size could be undertaken if there were any doubt as to how these wants could be supplied without delay	
11 What is the classification of the outturn, and how much of it is special work not to be obtained from local markets	11 The Superintendent's list of works, which are ordinarily carried on in the Shops and which he considers cannot be satisfactorily obtained elsewhere in Madras, is attached (B) Taking the average for	

otherwise the Public Works Workshops at Madras—(continued)

EXPRESSED BY

Examiner of Public Works Accounts	Consulting Engineer for Railways	Chief Engineer
		articles of special manufacture from England or from the various establishments elsewhere that time and money are both now sacrificed in continuing the effort to meet such demands through our Workshop It was only lately that in the matter of a new boiler for the engine for the General Hospital much time and Rs 1,600 were sacrificed
9 States that steps have already been taken to the above end		9 Steps have already it seems been taken to introduce the State Railway rules and forms, no further action in this respect is now necessary.
Questions 10 to 14 are put by the Examiner in paragraph 18 of his Note of the 20th February 1882 He observes that the considerations therein contained must be discussed before a final decision is possible He does not know how far it has been conclusively proved that the Shops at the present time meet demands which cannot otherwise be met in the country He remarks that the facilities in communication with European markets have so enormously increased since 1866-67 that probably the demands of the present period can easily be satisfied from European or local markets, and the existence of the Shops for normal requirements is not essential For abnormal times he thinks the use of modern means of rapid communication would amply suffice for abnormal demands being executed from Europe		10 From the evidence before me I do not consider it worth while to continue the Workshops on their present footing See remarks above on queries Nos 2 and 8.
		11. Nothing has been shown as to the nature of the special demands on the Shops proving that such could not be met equally well if not better elsewhere

Precis of Opinions on the subject of retaining or

Chief points brought forward in the Correspondence	Opinions	
	General Superintendent Public Works Workshops	Superintending Engineer of the Circle
and required to be of superior workmanship, how much of it is for the Public Works Department, how much for other Government Departments, and how much for private individuals?	the past three years, he states that about half of the total work is for the Public Works Department, about one-third for other Government Departments, and about one-sixth for private individuals.	
12 How do the rates of issue for manufactured articles compare with similar articles obtainable from European market?	12 The rates are higher than English prices, but they include a considerable amount of profit which is returned to Government	
13 Are the charges made to customers, whether Government Department or private individuals, based on estimates accepted in full by them regardless of the actual cost incurred by the Workshops, or is all work charged at actual cost	13 All charges are based on estimates except repair works and special jobs which cannot be estimated for The estimates are accepted and paid in full on the work being approved No other procedure could possibly be adopted	
14 How far it has been conclusively proved that the Workshops at the present time meet demands which cannot otherwise be met in the country	14 The proof required can only be obtained by closing the Shops, a measure which the Superintendent predicts would result in heavy loss to Government for the following reasons — (*a*) Delay and uncertainty in supply of work (*b*) Increased prices for the same or inferior work (*c*) Loss by sale of the buildings, machinery, &c (*d*) Loss of the services of a number of skilled men of various trades who are now available for work in any part of the Presidency The Superintendent concludes with the remark that the discussion which has taken place will be of the greatest value if it results in the Workshops being placed on a proper footing as regards Capital and Revenue Accounts	

otherwise the Public Works Workshops at Madras—(continued.)

EXPRESSED BY

Examiner of Public Works Accounts	Consulting Engineer for Railways	Chief Engineer
		12 While admitting that the rates are higher than the English prices, the Superintendent considers that a large share of the profit is returned to Government, forgetting apparently that the departments concerned have to bear the charge for this profit 13 No remark necessary, as the procedure now followed is the only feasible one
		14 Of the four contentions urged by the Superintendent of the Shops, the only one which I consider valid is the probable loss of the services of certain artificers who are now available for work in other parts of the Presidency, but even this loss will, it is thought, in time be recouped

Precis of Opinions on the subject of retaining or

Chief points brought forward in the Correspondence	Opinions	
	General Superintendent, Public Works Workshops.	Superintending Engineer of the Circle
	In a separate letter submitted by the General Superintendent, No 3067 W, dated 2nd March 1882, he offers the following suggestions — He considers that the broad principles upon which a Government Workshop should be conducted are the following 1 No Government officer should be compelled to get work done at the Workshops All ordinary work will thus be executed in the open market and the Workshop be resorted to only for special work 2 The Workshop should have moderate capital, carrying such a rate for interest that the latter shall be in fair proportion to the outturn 3 Capital and Revenue Accounts should be kept with a view to preventing extraordinary expenditure being mixed up in the accounts, and thus concealing the real working of the Shop during any particular years 4 The percentage charged for the execution of work should be just sufficient to meet all Shop expenses including interest on Capital, provided that "Capital" has not been unduly increased from exceptional circumstances, such as removal to more expensive buildings with cost of removing and resetting up shafting and machinery 5 If Capital has thus been unduly increased, and the Workshop is unable to pay the full amount of interest, the Government should make up the deficit, provided they are satisfied from the Revenue Account that the earnings are in fair proportion to the expenditure The Superintendent then goes on to enlarge on several of the questions already discussed above He adverts to the inestimable value of the Workshops to Government during the late famine, to the good	

otherwise the Public Works Workshops at Madras—(continued)

Expressed by		
Examiner of Public Works Accounts	Consulting Engineer for Railways	Chief Engineer
		1 Unobjectionable, if it be decided to maintain the Shops
		2 Do. do
		3 Do so far as understood
		4 The percentages charged should in addition to those specified by the Superintendent cover all administrative charges, depreciation on block and plant, pensionary and interest charges
		5. As a fact the Government does this now
		As regards the final contentions of the Superintendent regarding the great value of the work done during the famine, repairs to the Madras Pier in 1868 and 1870, it may, without in any way de-

Precis of Opinions on the subject of retaining or

Chief points brought forward in the Correspondence	Opinions	
	General Superintendent, Public Works Workshops	Superintending Engineer of the Circle
	work done by it for the Harbour Works, but for which the Harbour would have had to maintain its own machine shop, and to the repairs executed to the Pier in 1868 and in 1870 With reference to the losses shown in the accounts of the past two years, he points out that, taking the accounts from the commencement in 1807, it is found that after paying all charges including interest there remains a balance of Rs 1,09,746 in favor of the Workshops He remarks at the same time that every rupee of net profit made by the Shops means money taken away from irrigation and other works on which it was intended to be spent. He alludes to how the Shops have suffered by the large increase of stock by injudicious purchases in former years, and observes that there has been no such increase since 1879, and that the Shops are not likely to suffer from similar mismanagement in future With regard to the heavy expenditure under "General Charges," the Superintendent shows that it has been caused by expenses attendant on the removal from Chepauk, but that since 1879 there has been a steady reduction under this head He summarises all the facts of the case as follows — 1 The Workshops have suffered considerably by the action of Government (in the matter of the removal) by mismanagement in the matter of stock 2 Compensation is necessary and should take the form of a clear distinction being drawn between the Capital and Revenue Accounts when considering the present working of the Shops 3 From the evidence furnished by the officers of various Government Departments, it would appear that there is a considerable quantity of work which they prefer to get executed at the Workshops	

otherwise the Public Works Workshops at Madras—(continued)

EXPRESSED BY

Examiner of Public Works Accounts	Consulting Engineer for Railways	Chief Engineer
		tracting from these and other services, be hoped that through the increased facilities already existing, &c, as before pointed out, and the impetus which would be given to private undertakings of the desired character, the requirements even during exceptional times would be amply met It appears to be forgotten that it has been owing in very great measure to the ephemeral expansion given to the machinery of the Shops, and the great overmanufacture of useless articles for stock during the late famine that the Capital Account was raised to an extent which has unduly weighted the whole concern, and probably more than anything else has drawn attention to its unremunerative character The causes in fact which produced the fictitious success now quoted as the strongest reason for continuing the Shops are those which in very great measure have contributed to the losses of the past two years As regards the concluding remarks of the Superintendent, see observations above on query No 7

A.

NOTICE

The undersigned have this day established themselves as Engineers, at No 5, Clive Street, Calcutta, under the style of Oldham Brothers

ROBERT AUGUSTUS OLDHAM
M Inst C E, M Inst M E, &c

15th *April* 1882

EDWARD JACKSON,
M Inst C E, &c

With reference to the above, we have, by Power of Attorney, authorised Messrs Samuel Stewart Gladstone, Robert Gladstone, John Francis Ogilby, George Francis Mewburn Charles Henry Moore, and Henry Neville Gladstone, partners in the firm of Messrs Gillanders, Arbuthnot & Co, and William Buckley Gladstone, and John Thompson, assistants to the said firm, jointly and severally to sign for our firm per procuration

OLDHAM BROTHERS,
Engineers and East India Agents,
110, Cannon Street, London, E.C,
and
5, Clive Street, Calcutta

15th *April* 1882

From R A OLDHAM, Esq, M Inst C E, M Inst M E, &c, to Colonel R H SANKEY, R E, Chief Engineer, Public Works Department, dated 110, Cannon Street, London, E C, 15th April 1882

As an old Public Works officer, allow me to ask your support on behalf of the Engineering branch of Messrs Oldham Brothers, of 110, Cannon Street, London, and 5, Clive Street, Calcutta.

In giving to our firm the privilege of tendering for, or supplying you with any description of engineering work or machinery, you may rely upon the utmost care being taken that the very best materials and workmanship are supplied, and that the lowest possible prices are charged

Being fully aware, from my personal experience in India, that the Government rules restrict Public Works officers from dealing direct with firms in England, I have hitherto been unable to address you on this subject In order, however, to obviate this difficulty, we have now established ourselves in Calcutta, at the address given in the preceding paragraph

I am also well aware that you are not in the position to remunerate us for getting up plans and specifications for any engineering work or scheme, and to prevent any misapprehension on this head, I would state that we are fully prepared to supply you with every information in our power *without charge*, provided that, when you are making inquiries, you will tell us, as plainly and fully as you are in the position to do, the probabilities of the inquiries leading to business, so that we may be able to form an opinion as to whether it is merely an approximate estimate you require, or a *bona fide* and definite tender

B.

List of works ordinarily carried on in the Public Works Workshops, the demand for which could not be satisfactorily met by private agency in Madras

MANUFACTURE

Steam boilers, tubular and flue
Dredging machinery
Boring apparatus
Gearing for sluice shutters, lock gates, &c
Wrought-iron girders for bridges, roofs, &c
Heavy forgings of all kinds
Heavy castings, such as columns with ornamental capitals, pillar letter-boxes, &c
Large bells for churches, &c
Heavy turning, boring and planing
Archimedian water lifts
Súrki screens
Pumps, deep well and hand
Machines for special works, such as testing coir, stone crushing, tile-moulding, &c
Scales of every description
Standard weights and measures
Iron roofs
Locks of all kinds
Heliostats, Rookee and Beglie's pattern
Signalling lamps of all kinds
Road-training instruments.
Engine-turned stamps
Pattern making and other wood work that is of a special character

REPAIRS

Steam engines, pumps, and all kinds of machinery
Theodolites, levels, compasses, sextants, barometers and all kinds of mathematical instruments
Repairs and jobs of the most varied description Among those recently carried out may be mentioned—
Repair of a large iron bowsprit broken in two by a collision
Repairs to divers' helmets and air pump
Repairs to mowing machine
Welding screw piles 37 feet long 6 inches diameter
Repairing a large iron buoy by putting in a new plate
Making up large wire ropes for lightning conductors
Plans, estimates, and designs are furnished when required, and men are sent to any part of the Presidency with tools for fitting up work, driving machinery, &c

MADRAS
3rd March 1882

(Signed) W L C BADDELEY, Lieutenant, R E,
General Superintendent, Public Works Workshops

No 8

General charges passed at the Railway & Harbour Stockyard for the year 1882-83

To Cost of Personal Establishment		17372 7 3		By per Charges on Outlay to meet the cost of General Charges as under.	
" Cost of Contingencies Establishment		1750 1 3			
" Cost of Coals per account		318 3 4	21921 12 4	Mechanical & Harbour	19547 12 11
" Cost of Office Allowances forced to Pensions			1150 0 0	Stores Management & Inspectorate	8735 11 10
" Cost of Fuel, Oil and other Materials used for Engines Tugs and Cranes & Machinery Tools and Plant		3027 15 4		Foundry	7772 11 7
				Coals for undermined Wages	1 0 11
" Public Expenditure		44 2 8	3071 18 0	Sales	73 2 7
" Mechanical Department for Steam Cranes & Machinery &c			438 10 7		36130 15 1
" Stock for Expenditure A/c		2107 14 6			
" Machinery and Plant &c		1717 10 6	3907 9 0		
" Government for Steam and Crane allowances on the Personal Establishment Charges £ 11657 9 11			2093 15 2		
			31863 13 9		
To Balance carried to Profit and Loss			4247 1 10		
Total Outlays.			36130 15 7	Total Outlays	36130 15 7

Victoria
20th July 1883

Audited
Chief Supt of Railways

Postal Note

Government for Patent on the Opening Balances as per Statement C/ to 239945-14-11

Plus amount thereon

Less this Amount Rs 11-1-14-8

To Government

Postage on 5 Copies

Stamps

9628 11 6

To Balance of Disbursement Account — 1 4247 1 10

To Profits on Coloured Works and Printed Cards.

Statement Department — 1228 5 7

Postage Department — 92 8 4

Total — 1442 7 11 — 2463 3 3

By Balance of Patent due to Government — 1 2928 37

Total Rs 9628 11 6

Total Rs 9638 11 6

His Majesty's Government

To Transfer to Capital account	239745 14 11	By Opening Capital	239745 14 11
" Coal	31,717 10 8	By Cash for Cheques drawn	102,000 " "
" Stamps	11,652 12 "	" Transfer	28245 12 9 / 37,200 " "
" Machinery and Plant	28,288 11 10	" Interest on Capital	9638 11 "
" Stock	21,168 7 8	" Pension & Bonus allowances	2093 15 2 / 145,940 10 11
" Balance of Inland Mail Cost	2228 3 7		
	201255 4 9 / 205,839 14 9	" Increase to Capital	59976 13 10 / 57,679 " 10

Total Expenses 201255 4 9 / 205,839 14 9

Total Receipts 201255 4 9 / 205,839 14 9

Audited

Examined

Capital

To Balance being the Value of Capital on 1st April 1883	177962 1 1 8	By Transfer from His Majesty's Government being the Value of Capital invested in the Bank on 1st April 1883	237945 14 11
To Decrease to Capital	59976 13 10 8		
	237945 14 11		237945 14 11

Total Rupees 237945 14 11 — Total Rupees 237945 14 11

Madras
1st July 1883

Accountant General

Examined & Passed

To Balance on 1st April 1883 ____ 109,495 7 8

By Application at 2½ ____ 2187 14 6
" Government ____ 184 2168 ____ 7 2
" Balance ____ 66,137 1 6

Total Rupees 109,495 7 8 ____ Total Rupees 109,495 7 8

Madras 20th July 1883

Asst Comr ____

Alex Anderson Visdt 28
Asst Supt Pattukottai

F

Machinery and Plant

To Balance on 1st April 1892	1083 a 10	By depreciation at 2½	1717 10 6 1
Public Department	3319 9 11	" Government	30,332 4 11 1
Raw Materials	232 11 1	" Sales	1851 5 10 1 35 7 5 2
	35 51 13 11	" Balance	53,577 13 7 1
Total Rupees	89,435 2 9	Total Rupees	89,435 2 9

Madras
20th July 1893

Wm [illegible]

Wm Brodie
Vincent & Co
C. Comptr & Ph Wardlaw

G — Cash 1

To Balance			By Government	31,913	10 8
" Government	10,000	" "	" Purchases	2,965	15 6
" Sales	2,370	2 11	" Warrant Department	31,314	11 2
" Profit & Loss for unclaimed wages	1	8 6	" Ordnance Department	9,176	" 4
			" Ordnance Contingencies	21,921	12 " 1
			" Remittances	3,348	15 9 1
			" Sales	131	10 " 1
	13,371	11 5		13,371	11 5

To Total Pages 13,371 11 5 — By Total Pages 13,371 11 5

Madras 2
2d July 1823

M C Baddeley
Lieut & Supt Ordnance Stores

8

Mechanical Department

To Balance on 1st April 1883		14598 1 3	By Sales		15506 8 5
" Coal	31314 11 2		" Public Department		97898 8 11
" Materials	38483 8 11		" Workmen of Department		1020 11 11
" Percentages for Charges General	17547 12 11		" Manufacture		2 11 11
" Stores	16860 3 11		" Iron Materials		19 1 81
" Public Department	1446 10 11	107632 14 1	" Stores		111 6 61
		122230 15 4	" Charges General		1030 10 71
" Profit		1328 5 71	" Do Coal Department	110 11	11791 14 2
			" J. B. Crane		7077 7
	Total Rupees	137577 11 11		Total Rupees	137577 11 11

Madras
20th July 1883

Examined

Accountant

Chief Supdt of Mechanical

4 Instrument Department 7

Balance on 1st April 1882		31284 10	By Sales		1490 11 6
Bank	9176 6 4		" Public Department	20991 7 6	
Raw Materials	4166 8 5				21561 11 6
Percentages for Charges General	8735 11 10				
Mechanical Department	1420 11 6	23498 13 7	" Balance		5438 12 7
		26927 4 5			
Profit		92 8 41			
Total Rupees		27019 12 7	Total Rupees		27019 12 7

Madras
20th July 1883

Vincent
Londonga P.W. Workshops

J

Treasury

10

To Cash	3348 15 9½	By Mechanical Department	16,860 3 11
" Pay Warrants	56 17 2 10		
" Mechanical Department	111 1 6½		
" Post Receipts received for Surveyor General	7772 11 7½		
	16,860 3 11		

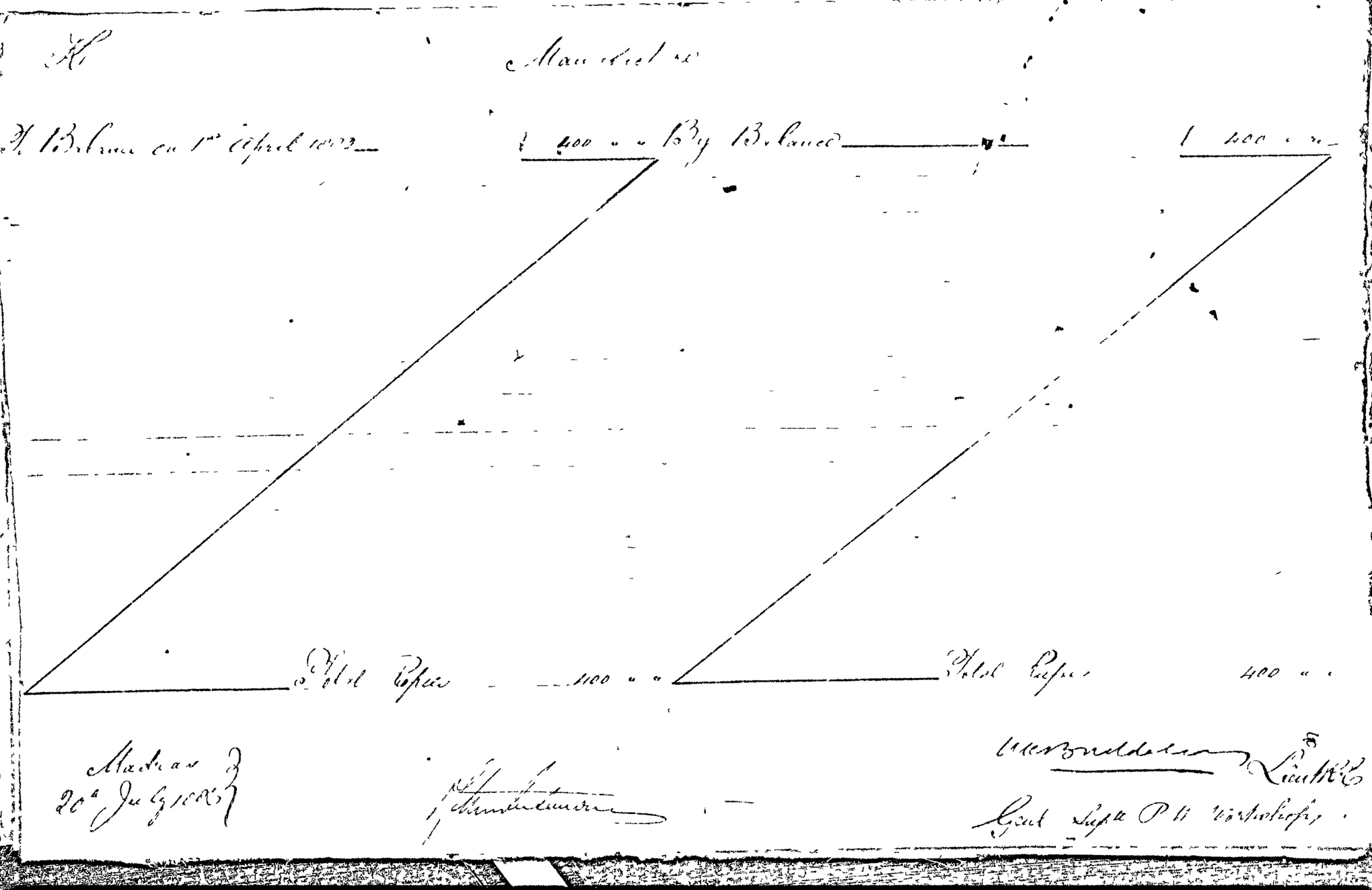
To Bal. Rests 16,860 3 11

By Bal. Cash 16,860 3 11

Audited
31 July 1803

Accountant

Treasurer


Mauvaise
Volume en 1re épaisseur
Volume
Volume
Volume
Volume

Y

Raw Materials

To Balance on 1st April 1902		25,228 11 1	By transfer to Mechanical Dept		38,483 8 1
" Purchase	27,256 15 1		" Steel manufacturing Dept		4166 8 6 1
" Public Department	23,435 6 2 1		" Foundry		5677 2 1 1
" Mechanical Department	39 1 8 1 52731 6 10		" General		3027 12 4 1
		77,960 1 11	" Sales		4952 14 11 1
To Profit		1,042 7 8 1	" Machinery and Plant		232 4 2 1
					56,560 1 10
			By Balance		22,442 7 91
Total Rupees		79,002 9 7	Total Rupees		79,002 9 7

Madras 2
20th July 1903

J Thundercliffe

W Broadbent Lieut RE
Gen Supt Public Works Dept

Purchase

To Cash		By Balance on 1st Off. Sl. No 2	1021 11 6
" Balance		" Raw Materials	29256 15 1
	Total Rupees 30278 13 7		Total Rupees 30278 13 7

Madras
20th July 1883

Errors excepted

Merchandise Credits
Cyd Supt Pr Narrikoss

[illegible]

Solde

Balance au 1er Avril N° 2		
Recouvrement Departement	15503	8 81
Recouvrement Departement	1170	11 11
Rue Maternelle	1752	11 11
Quai	131	10 11
Marchin y quai Pont	2081	5 10
Chemin Général	703	2 91
Petits Departements	28	11 11
	29268	11 11

Total Pages 29845 12

Arrêté la présente

Balance au 1er Avril N° 3 — 1811 — 8 — 13 — 28270 2 11

Balance — 28270 2 11

1575 9 0

Total Pages 29845 12

Certifié

Vu et

Public Department

To Balance on 1st April 1802	122 12 11½	By Warrants	114,657 10 = 1st Qr
" Naval Department	24035 0 0	" Ordinary	1137 12 1 = 2nd
" Ordnance Department	20091 7 0	" Naval Department	23435 6 2
" Navy	28245 12 9	" Mechanical Department	1446 18 0
	32308	" Navy	28 14 0
	146232 11 9	" Ordnance	44 2 0
	150194 15 7	" Exchequer and Stock	3317 0 11
			146132 4 9
			146816 11 9
		" Balance	3223 6 0
			3301 3 0 1
	146,355 10 9		146,355 10 9
Total Repay	150,317 14 9	Total Repay	150,317 14 9

Audited
31st January

11th January

Examined
Gal Supt Dk Yards

P

Transfers

To Public Department 114,057 10 ½ 1
118,742 1 ½ 1

" Government 28,245 12 9 ½
5208 9 ½
114,3103 6 9
150,950 10 ½

By Public Department 2,685 12 9 ½ 1
111,057 10 ½ 1
111,742 1 ½

Government 114,3103 6 9
150,950 10 ½

Total Carried 114,3103 6 9
150,950 10 ½

Total Carried 114,3103 6 9
150,950 10 ½

Madras
20th July 1883

Examined

Accountant General

Examined & checked

Balance Sheet

To Block			26,137	1	6		
" Machinery and Plant			53,577	13	7		
" Mechanical Department			7787	6	9		
" Instrument Department			5438	1	9		
" Manufacture			410	"	"		
" Raw Materials			22442	7	9		
" Sales or Bills receivable			1575	9	8		
			3223	6	"		
" Public Department			3301	3	"		
			166	15		180581	15 "
						180659	12 "
Total Rupees						180581	15 "
						180659	12 "

By Purchase bills payable			612	13	11		
			179969	1	1		
" Capital			180,046	14	1		
			166	15		180581	15 "
						180,659	12 "
Total Rupees						180581	15 "
						180,659	12 "

Madras 20th July 1883

Gnl Supt P W Works

List of Bills outstanding on the 31st March 1923

On whom	No. of Bills	Rs.	As.	Ps.	Remarks
1921-22					
Local Fund Engineer Hyderabad	311		83	5	8	
Do Do	611		1	0	0	
Superintendent School of Arts	1059		66	1	0	
1922-23					
A. Bailey Sandur	137			10	0	
Superintendent School of Arts	126		618	10	0	
Retd. Telegraph Peon	119		65	7	0	Paid
Mr. G. Miller	178		6	0	0	do
Vidyabhooshana Avadhani	246		40	4	0	
Mr. P. Webb	247		13	14	0	
Mr. J. Mills	248			6	0	Paid
"	249		3	2	0	do
A. Sebastian Nehemy	250			6	4	0
Revd. H. Powell Madras	324			2	9	0
M. Lazarus Moseley	327			3	0	0
T. Venkatarayudu Madras	340			1	11	0
L. Sebayya Moosely	350			6	0	0
Collector of Cuddapah	371	67	0	0	0	0
T. Venkatarayudu Madras	429			1	0	0
Do	430			2	2	0
Mr. J. Mills	431			2	4	0	Paid
Do	432			0	7	0	do
M. Sebayya Moosely	537			51	12	0	
M. Appa Rao	546			33	10	0	Paid
Superintendent School of Arts	547			9	7	0	
H. Crabtree	711			1	14	0	
Assistant Engineer Mysore D.P.W. Mysore Palace, Bangalore	730	38	0	0	0	0	
Carried Over		64	7	0	1670	14	8

Cr. whom	No. of Bills	Amount of Cash Remarks
Brought Cur		61 7 . 107 . 10
Mahomed Ayoub Merchant	706	21 0 . and
Mr J Willis	710	3 4 . do
Audoappa Pothary	711	5 3 .
Collector of Cuddapah	771	2 7 . Paid
Executive Engineer Gardens & Conl Della Bureau, Conflagration	703	6 2 . . .
Officer in charge General Hospital Kurnool Hosp	792	. . . . .
Asst Head Engineer Nilgiri Dn Collectorate	803	20 . . Paid
D'Cl Cryanta Pothary	806	20 . . do
Asst H C L Bn Bellary XR	809	0 5 . . do
do do	810	1 14 . . do
do do	811	0 11 . . do
Mr J Willis	812	0 6 . . do
P Chuckrawarthy Moodelly	813	2 . . .
Chockalinga Moodelly	814	0 8 . Paid
T Soobryen	815	5 3 . . .
Mr P Webb	816	1 6 .
Mr Ruttun Moodelly	817	1 15 . Paid
C Subbyah Moodelly	818	1 12 . .
Mr B & C Rozario	819	2 . . Paid
Madras Medical Stg and Hg Cr (Vaccine)	820	1 12 . . do
P M Stores	831	33 15 . . . .
Executive Engineer Cuddapah Dn	864	161 1 . . . . Adjust
Dy Collector on Charge of Flooring Tellore	870	— . 2 . Paid
Exr Engr Bangalore Dn Mysore Divn	867	15 2 . . . . Adjust
Collector of Chingleput	910	16 1 . . . .
Pres Dy Ch Ft Board North Arcot	940	11 . . Paid
Collector of Coimbatore	941	3 12 . . . . Adjust
Vice Pres Municipal Commissioners Madras	943	11 . Paid
Carried Over		360 2 . 1553 10

Cr. whom	No. of Bills	Amount of Cash Remarks
Brought Cur		360 2 . 1553 10
Messrs Parry & Co	944	10 . . Paid
Executive Engineer Nagercoil	953	1 5 . . . Adj Acct
do do Superintendent	960	292 12 . . . . do
Mr Appovelly Chetty	962	17 . Paid
Deduct Balance		361 3 . 1863 . 8 . . 27 7 .
		361 3 . 1571 2

Madras 2nd July 1851

Asst Surgeon

Gen'l Supt Ft St George

Statement of Workshops

Summary received for the year 1882-83

61

Expenditure			Earnings		
	Actuals 1882-83			Actuals 1882-83	
Establishment	220047 11 2	57 26	By Contingencies	38,594 5 2	
Contingencies	378 3 6	8 —			
Repairs to Buildings	2438 5 11	8 78			
Do to Roads	—	—			
Depreciation Block	199 6 6	5 68			
Do Machinery	1717 10 6	4 45			
Interest charges	2978 3 2	8 43			
	1883 13 7	92 62			
Balance net Earnings	6719 7 5	17 38			
Total	38594 5 2	100 00		38,594 5 2	

Madras
20th July 1883

W. C. Brodribb Lieut R
Genl Supdt P. W. Workshops

Act Revenue Account

To interest at 4½ on Co Capital of		By Land Customs	6710 7 5
Pe 240767--13--4	9638 11 -		
		" Salina of Pondicherry & Goat	2928 3 7
Total	9638 11	Total	9638 11 -

Madras
20th July 1802

Accountant

Genl Dept P. W. Storekeeper

Lieut R C

List of articles in the Presidency P.W. Workshops on the 31st March 1882.

ENCLOSURE
JUL 43
ACCOUNTS

Articles	№ Quantity	Amount
Red Hydrallorie	Lbs 27—13	26 1 2
Nickel	Oz 27	50 10 .
Webster Reducing 1/8	Lbs 6	8 10 .
——— 1/8	. 14	20 2 .
——— 3/16	. 14	20 2 .
Augers screw 1/4"	№ 12	1 8 .
——— 5/8"	. 4	2 8 .
——— 7/8"	. 11	9 16 6
——— 1"	. 7	7 . .
——— 1 1/8"	. 6	6 15 .
——— 1 1/4"	. 12	15 9 .
——— 1 1/16"	. 11	10 5 3
——— 1 1/2"	. 6	9 13 6
Agate cap small brass mounted	. 69	38 13 .
Frames for money scales country 11"	. 1	1 . .
Books Cyclopædia	. 1	. . .
——— Noad's electricity	. 1	. . .
——— Fownes chemistry	. 1	. . .
——— Harris' electricity	. 1	. . .
——— Bergeron's Electricity	. 1	. . .
——— Ure's mens metallic	. 2	. . .
Bell	. 1	253 . .
Brass, satchel with 12 keys	. 2	32 . .
Pinch legs 6 ft large	. 3	15 . .
——— ——— small	. 3	12 . .
Ib to fix 12 screw carpenters 23 to a set Lbs	5	12 . .
		613 . 5

Articles	Quantity	Amount		
		613	5	
Basket rattan large & small	№ 3	12		
Bolts punch brass 4"	" 2	5		
——— ——— ——— 6"	" 2	1		
Bands iron ½"	lbs 2—4	11	3	
——— ——— ¾"	" 1—4½	6	3	
——— ——— 1"	" 1—3	6		
——— ——— 1¼"	" 3—9	1	1	6
——— ——— 1½"	" —9¼		2	6
Borax	" 3—5	1	1	
Broom bundle	№ 19		1	7
——— rattan	" 18		3	6
Burners small for signalling lamp	" 2		7	
Box wood for barometer	lbs 92—12	28	15	9
Bell metal	" 150	131	4	
Brass sheet ⅛"	" 209—12½	124	14	
——— ——— 5/16"	" —½		4	
——— ——— Gauge № 14	" 47—11½	24		
——— ——— ——— 20	" —4½		2	4
——— ——— ——— 30	" —9		4	10
——— ——— 1/32"	" 2—6	1	3	
——— ——— Gauge № 16	" 21—9½	20	12	10
Brass Rod ½"	" 9—8	5	1	6
——— ——— 7/16"	" 5—12¾	3	2	3
——— ——— ⅜"	" 4—2	2	3	5
——— ——— ⅞"	" 16—1¼	8	10	
——— ——— 1"	" 8—8½	4	9	
——— ——— 1⅛"	" 48—7	25	15	10
		990	5	8

Articles	№ Quantity	Amount		
		990	5	8
Brass Rod 1¼"	lbs 118—1¾	63	5	7
——— ——— 1⅜"	" 111—8	59	13	1
——— ——— 1½"	" 68—13	36	14	8
Brass old	" 147—2¾	39	1	4
Brushes painting large & small	№ 5	2		6
Brass sheet 1/32"	lbs 51—2¾	25	9	4
Bags gunny	№ 4		8	
Bricks fire arch	" 300	18	12	
——— ——— Hall	" 2700	675		
Bend W. I galvanized 1¼"	" 1		10	
Chisels firmer ⅛"	" 11	1	6	
——— ——— ——— 3/16"	" 10	1	4	10
——— ——— ——— ¼"	" 10	1	7	4
——— ——— ——— ½"	" 1		2	5
——— ——— ——— ⅝"	" 7	1	8	
——— ——— ——— ¾"	" 7	2	8	
——— ——— ——— ⅞"	" 1		3	1
——— ——— ——— 1¼"	" 17	4	9	6
——— ——— ——— 1⅜"	" 8	2	9	4
——— ——— ——— 2"	" 36	18		
Cocks brass ½"	" 7	28		
——— ——— ¾"	" 8	40		
——— ——— 1"	" 7	84		
——— ——— Discharge 1¼"	" 3	30		
		2124	14	

Articles	No or Quantity	Amount
		2124 14 -
Cocks brass stand with flange 1"	№ 3	35 10 -
——— 1¼"	" 4	67 8 -
——— 1½"	" 1	23 2 -
——— 1¾"	" 2	112 8 -
——— Gunmetal stop 1"	" 3	36 - -
Calipers 7"	" 4	8 4 -
Canvas	ft 2—10	- 4 -
Chains lathe	34—5½"	16 1 3
Chains brass ⅛"	lbs 3—4	1 10 -
Cloth Emery smooth & Rough	№ 261	13 9 6
——— Coarse	Yds 1	- 3 9
——— Waste	lbs 7—13	- 15 7
Coal	" 41119	440 8 6
Coke	" 36694⅓	458 10 9
Crucible № 50	№ 58	725 - -
——— ——— 25	" 48	300 - -
——— Small	" 5	25 - -
Chimneys large	" 102	57 6 -
Couplings brass 2½"	Sets 4	104 - -
Charcoal	lbs 278½	4 5 7
Chalk	" 9—13½	- 2 5
Cast iron old	Tons 39-10-2-7	988 3 3
Casting brass	lbs 368—5⅛	230 3 3
——— bell metal	" 21—	18 6 -
——— copper	" 3—	1 14 -
		5794 5 10

Articles	No or Quantity	Amount
		5794 5 10
Copper sheet 1/16"	lbs 14—	7 - -
——— 1/8"	" 61—15	30 15 6
——— 3/16"	" 70—8	35 4 -
——— Gauge № 18	" 21—12	10 14 -
——— Rod ⅜"	" 2—9	1 7 -
——— ¾"	" 15—12	8 13 9
——— 1"	" 50—	28 2 -
——— old	" 262—12	82 1 9
——— straps	" 26—	13 - -
Casting gunmetal	" 2—12	2 1 -
Copper Rod 1¼"	" 13—	7 5 -
Clamps iron	№ 9	- - -
Electroplated parabolic reflectors	" 4	240 - -
Elbows W. P square galvanized 1"	" 1	1 - -
Frames for parallel rulers 18"	" 7	5 3 2
Firewood	Cwt 7-2-16	4 7 2
French polish	lb 11¼	8 1 3
Files round S 6"	№ 1	- 2 -
——— 12"	" 1	- 4 -
——— ½ round bastard 6"	" 10	3 2 -
——— 10"	" 3	1 14 -
——— 14"	" 1	1 3 -
——— S 6"	" 24	2 8 -
——— 16"	" 5	6 9 -
——— bastard 8"	" 6	1 8 -
		6300 3 5

Articles	Quantity	Amount	
		6300	3 5
Files ½ round bastard 9"	№ 6	3	12 -
—— R 10"	" 1	"	5 -
—— 12"	" 3	1	2 -
—— 15"	" 8	4	- -
—— 9"	" 1	"	5 -
—— 14"	" 1	"	8 -
—— D.S. 5"	" 2	"	6 -
—— Square R 6"	" 1	"	1 -
—— 12"	" 1	"	3 -
—— 14"	" 2	2	- -
—— bastard 6"	" 3	"	12 -
—— 10"	" 2	1	8 -
—— flat R 8"	" 11	2	12 -
—— 9"	" 4	1	- -
—— 10"	" 1	"	5 -
—— 14"	" 16	18	- -
—— 15"	" 13	14	10 -
—— 18"	" 6	9	- -
—— S 16"	" 1	1	2 -
—— 8"	" 7	4	6 -
—— D.S. 12"	" 1	"	8 -
—— bastard 15"	" 5	7	8 -
—— 16"	" 3	4	8 -
—— 12"	" 9	9	- -
		6387	12 5

Articles	Quantity	Amount	
		6387	12 5
Files flat S.E.S. 5½"	№ 1	"	3 6
—— 7"	" 1	"	6 -
—— 9"	" 3	1	8 -
—— 12"	" 3	1	15 6
—— S.E.D.S 3"	" 7	3	8 -
—— 3½"	" 4	2	- -
—— 4½"	" 15	7	8 -
—— S.E. Bd 5½"	" 10	1	14 -
—— 12"	" 3	1	15 6
—— S.E R 6"	" 8	2	- -
—— 12"	" 3	1	8 -
—— S E. Bd 2nd cut 8"	" 3	"	15 -
—— 7"	" 1	"	4 4
—— 2nd cut 14"	" 8	7	- -
—— R. E. Bd 9"	" 1	"	4 -
—— taper smooth 3"	" 8	1	- -
—— Smooth 6"	" 7	1	12 -
—— 12"	" 4	2	12 -
—— 14"	" 3	2	10 -
3 Square R 7"	" 2	"	8 -
—— Bd 10"	" 12	6	- -
—— D S. 12"	" 6	3	- -
Sawhand blunt 2nd cut single Bd 7"	" 1	"	8 -
sawhand little worn cut 5"	" 2	"	6 -
		1439	2 3

Articles	Quantity	Amount
		6439 2 3
Files rattail smooth 2½"	№ 3	6
——— bastard 2"	15	1 14
——— 2½"	3	6
——— W.M. ½ round S 2½"	32	4
——— B.d 2½"	8	1
——— 2"	3	6
——— round S 2½"	6	12
——— 3"	6	12
——— Square B.d 2½"	4	8
——— 2"	3	6
——— 3 Square smooth 2"	13	1 10
——— 2½"	14	1 12
——— flat smooth 2"	4	8
——— 2½"	6	12
——— flat taper B.d 2½"	5	10
——— 4½"	10	1 4
——— S 3"	4	8
——— 4"	17	2 2
——— flat S E.D.S 4"	3	6
——— B.d 3"	1	2
——— feather edge B.d 3½"	5	10
——— 4½"	1	2
——— 6"	5	10
——— flat B.d 6"	1	6
——— 8"	2	1
		6261 4 3

Articles	Quantity	Amount
		6461 14 3
Files 3 square S 6"	№ 4	3 4
Funnel tin	2	2
Glass vessel for mixing acid	1	2 8
——— cutter steel patent	2	2 5
Glaziers diamond	1	3
Gouges turning ⅛"	12	1 12
——— ¼"	10	1 7 4
——— ⅜"	7	1 4
——— ½"	4	9 4
——— ⅝"	7	1 4
——— ¾"	8	1 8
——— ⅞"	10	2 5 6
——— 1"	9	2 10 9
——— 1¼"	9	3 3
——— 1½"	12	5 8
Gate C S 7½' long 5½' broad	1	21
Glass tubes for water gauge 18"x⅝"	22	22
——— 12"x⅝"	10	9 6
Glass cistern for barometer standard 3"x1½"	2	5
Grease	lbs 320—15½	100 5
Green baize	L.ft 6—110	3 6
Glass circles 5¾" Diameter	№ 18	27
——— 4¾"	32	32
——— for A pattern signalling lamps	113	2 5 8
——— B ———	63	1 5 6
		6714 14

Articles	Quantity	Amount
		6714 14 .
Glass for C pattern signalling Lights	№ 45	6 5 3
Goglets	" 8	" 1 4
Glue	lbs 6—7½	2 5 10
Gum Arabic	lbs 2—8	" 3 9
German Silver sheet ⅛"	" 11—15½	24 6 .
——— ——— ——— 3/16"	" 25—	50 12 6
——— ——— ——— 1/32"	" "—1	" 2 "
Glass tube with spirit 6"	№ 1	1 " "
Hammers adze eye № 5	" 2	2 " "
——— ——— ——— 6	" 3	8 10 9
——— ——— ——— cast steel bell faced	№ 1	2 4 3
——— ——— rivetting	lbs 1	" 8 "
Horizontal lifting crucible tongs complete	1	2 " "
Hooks bull	" 4	6 " "
Hydrometer with brass floats	" 1	50 13 "
Hammers claw	" 10	16 7 4
Handle brass common 3"	" 24	6 " "
——— ——— for cash chest	" 24	" 30 " "
Hinges brass 1¾"	" 2	" 2 8
Hooks & eyes brass 1"	" 29	2 1 10
——— " ——— 1¼"	" 36	4 2 "
——— ——— 1½"	" 13	1 7 10
——— ——— for catgut 3/16"	" 35	21 14 "
Hide pump	lbs 46—6	46 6 "
——— ——— country	" 23—3½	17 7 "
		7019 1 4

Articles	Quantity	Amount
		7019 1 4
Hide English	lbs 1—	12 " "
Iron's Salt	№ 5	3 14 "
Iron's Paste	Pots 26¾	1 12 2
Iron's Putty	ft 22	47 12 6
Iron suction Leather	№ 10	6 4 "
Iron for plane pack 2¼"	" 1	20 " "
Ice machine	lbs 86	5 6 "
Iron flat ¾" x ½"	" 80	4 2 8
——— ——— 1¼" x ⅜"	" 103	6 7 "
——— ——— 1½" x ¾"	" 27	1 11 "
——— ——— 2" x ½"	" 187	9 11 10
——— ——— 2" x ¾"	" 60½	3 2 5
——— ——— 2¼" x ½"	" 10	" 8 4
——— ——— 2¾" x ⅜"	" 140	7 4 8
——— ——— 2¾" x ½"	" 1	" " 10
——— ——— 4½" x ¼"	" 104	6 8 "
——— ——— 5" x 1"	" 757	39 6 10
Iron round ¼"	" 78½	4 14 6
——— ——— ⅜"	" 244½	12 11 9
——— ——— ½"	" 367	22 15 "
——— ——— ⅞"	" 32½	1 11 1
——— ——— 1⅜"	" 77	4 " 2
——— ——— 1¾"	" 12½	" 12 6
——— ——— 1⅞"	" 85	4 6 10
——— " ——— 2"	" 30	1 12 "
——— ——— 2¼"	" 226	11 12 4
——— ——— 2¾	" 77	4 13 "
		7264 14 7

Articles	Quantity	Amount
		7264 14 9
Iron round 3/8"	lbs 129	8 1 -
——— 3/4"	" 147	7 10 6
——— 5/8"	" 331	17 3 10
——— 4"	" 132	8 4 -
——— 5"	" 30	1 14 -
——— 7"	" 707	63 1 -
——— Swedish 3"	" 20	4 7 4
Iron square 1/4"	" 42 3/4	" 10 7
——— 7/8"	" 26	1 5 8
——— 3/4"	" 453	23 9 6
——— 4"	" 406	21 2 4
——— 5"	" 330	17 4 -
——— 1/2"	" 10	" 8 4
——— 2"	" 41	2 2 2
——— 1 1/4"	" 122	6 5 8
——— 2 1/2"	" 320	16 10 8
Iron T. 3"x1 3/4"x1/4"	" 301	13 13 -
——— 2"x2"x3/8"	" 68	3 8 8
Iron sheet 12'x2'x3/16"	" 88	5 8 -
——— 3/8"	" 220	13 12 -
——— 3"x3/8"	" 203	12 11 -
Iron plate 9"x1/2"	" 47	2 15 -
—— sheet 6"x2 1/2"x1/16"	" 25	1 9 -
——— 1/2"	" 314	1 1 10 -
——— 9'x2 1/2"x3/8"	" 710	44 6 -
		7591 14 -

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Articles	Quantity	Amount
		7591 14 -
Iron plate 12"x1/2"	lbs 464	29 - -
—— sheet 6"x2 1/2"x1/8"	" 52	3 4 -
—— 4'x2' of each 11 lbs	" 210	13 2 -
—— 1/8" ——	" 252 1/4	15 12 3
Iron angle 1 3/8"x1 3/8"x1/4"	" 439	27 7 -
—— 2"x2"x3/8"	" 103	6 7 -
—— 2 1/2"x2 1/2"x1/4"	" 137 1/2	7 14 -
—— 2 1/2"x2 1/2"x1/2"	" 792	49 8 -
—— 3"x1/2"	" 789	49 5 -
—— 4"x4"x1/2"	" 481	30 1 -
—— 3 1/2"x3 1/2"x1/2"	" 370	23 2 -
—— 3"x3"x3/8"	" 923	57 11 -
—— 1 1/4"x1/8"	" 67—8	4 3 6
—— 1 1/4"x3/8"	" 42	2 10 -
Iron hoop 1"x1/16"	" 1/4	" 1 -
—— 2"x1/8"	" 8	" 6 8
—— 1 1/2"x1/16"	" 60/2	3 2 5
—— 2 1/2"x1/8"	" 70	3 10 4
—— 1 1/4"x1/16"	" 26	1 5 8
—— 2"x1/16"	" 3	" 2 6
Iron pig English	Tons —12-2	34 6 -
—— country	" 4-18-27	123 3 3
Iron old	lbs 229	7 2 6
Knives drawing	№ 2	1 4 -
Keys iron	" 28	2 10 -
		8088 11 1

Articles	Quantity		Amount		
			8088	11	1
Keys iron unarmeable	№	2			
Knife iron	"	12			
Lamp post for pattern		3	53	"	"
Levelling instrument unfinished	"	7	1031	"	"
Legs garden seat C S. pattern	"	2	12	"	"
Log line	Stones	" 12	"	4	9
Lenses plain 1/2" Diax 3/4" focus length	№	112	87	8	"
——— 3/4" ———	"	30	23	1	"
Lenses 1"	№	1	"	12	6
——— 5"	"	1	"	4	"
——— 6"	"	2	"	9	"
Locks Pad brass P. W. W. 3"	"	2	30	"	"
——— Chubbs 3"	"	1	15	"	"
——— brass Almerah chubbs 2 1/2"	"	6	30	15	"
——— 3"	"	6	32	4	"
——— 3 1/2"	"	2	32	"	"
——— 2"	"	68	170	"	"
——— 2 1/2"	"	22	51	9	"
——— 3"	"	8	18	12	"
Locks brass box 1 1/2"	"	28	21	4	"
——— 2"	"	18	15	"	"
——— 2 1/2"	"	81	61	9	6
——— 3"	"	26	60	15	"
——— chubbs patent 2 1/2"	"	7	39	7	9
——— 3"	"	7	42	15	9
——— 3 1/2"	"	1	15	8	
			9973	3	4

Articles	Quantity		Amount		
			9973	3	4
Locks brass draw 3"	№	34	74	6	"
——— chubbs 2 1/2"	"	6	32	4	"
——— 3"	"	5	28	3	3
Locks brass desk 3"	"	1	2	3	"
——— of an iron pillar letter box without key	"	1	1	"	"
Locks brass unfinished for pillar letter box incomplete with 2 keys	"	16	16	"	"
Locks brass incomplete for cash chest	"	18	54	"	"
——— pad iron single 2 1/2"	"	1	"	5	"
Leather bells single 1 1/2"	ft	260—	65	"	"
——— 1 1/4"	"	146	54	12	"
——— 2"	"	76—9	38	4	6
——— 2 1/4"	"	158—8	79	4	"
——— 2 1/2"	"	317—	158	8	"
——— 2 3/4"	"	154—	96	4	"
——— 3"	"	71—	53	4	"
——— double 3"	"	55—	61	14	"
——— 4"	"	54—	87	12	"
——— 5"	"	32—	77	"	"
Lead pig	Stones	112—1/2	7	"	"
Lead sheet 1/16"	"	266—4	33	4	6
Machine weighing 10 cwt	№	1	200	"	"
———	"	1	200	"	"
			11393	11	7

Articles	Quantity	Amount
		11393 11 7
Measures gallon imperial	Sets 2	71 4 .
——— glass 10 oz for rain gauge	" 4	11 8 .
——— 2½" Diameter ———	" 5	16 4 .
Mats packing	№ 92	7 3 .
Match box	" 25	" 10 5
Morgan's patent graphite	lbs 99½	47 5 11
Nails packing English 3"	" 10¼	1 . 1
——— 2"	" 5¼	" 7 10
Nuts hexagon ½" Iron	" 306–11	77 . .
——— ⅝" ———	" 390⅞	97 11 6
——— ⅞" ———	" 181½	45 6 .
——— 1" ———	" 24⅞	6 2 6
——— 1⅛" ———	№ 143	35 12 .
——— 1¼"	" 289	72 4 .
Nuts iron not tapped & incomplete	lbs 51	3 3 .
——— hexagon ¼"	Oz 2	" 4 .
——— ¾"	lbs 10–4	1 4 6
Oil cocoanut	B 47¾	13 6 11
——— lamp	" 69⅞	16 5 .
——— linseed	" 43½	19 " 6
——— castor	" 4½	" 12 .
Pens drawing large	№ 1	3 2 .
Pincers 6"	" 2	1 10 .
——— 8"	" 2	1 10 .
——— 10"	" 4	3 4 .
Pins iron steel of sizes	℔ 10–7	14 10 10
		11962 3 7

Articles	Quantity	Amount
		11962 3 7
Pinion wire steel brass	℔ " –4"	" 4 .
Pliers flat ½"	№ 4	5 4 .
Pans copper with chains	" 2	4 " "
Pump double unfinished	" 3	" " "
——— lift double barrel	" 1	302 " "
Pins drawing brass	" 63	7 14 .
Pans brass for scales	" 8	4 " "
Punches and cutters with circular shapes to be struck with hammers	" 18	45 " "
Paper sand rough & smooth	" 9	" 3 "
——— cartridge	Dz 6–20	3 6 8
——— Silvering	" 4–16	1 2 8
Paint blue	lbs 1–6	" 1 4
Paint carmine cakes	" 5–8	1 1 5
——— anticarmine chocolate	" 23 —	2 15 11
——— red ochre	" 6 —	" 5 .
——— Magnetic	" 3 —	" 3 .
——— blue ———	" 13 —	2 7 .
Powder Paris	" 3–4	9 " 4
——— Emery smooth	" " –10	" 7 6
——— White Lead	" 4–15	1 2 7
——— red	" 20 —	3 12 "
Pots earthern	№ 5	" 2 6
Prism	" 61	114 6 .
Prussian blue	Oz 5½	" " 3
Paper emery	№ 43½	1 5 9
		12472 12 6

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Articles	Quantity	Amount
		12472 12 6
Rules brass ¼"	ft 21—6"	32 15 .
——— ⅜"	" 30—1½"	45 4 8
——— ——— long 2 of 6"	Pieces 46	74 12 .
——— ——— pieces	№ 12	19 8 .
Rings dividing	" 1	9 . .
——— for pneumatic compasses	" 49	569 10 .
Rules & frame for parallel ruler 24"	" 11	. . .
——— ——— ——— 18"	" 18	479 12 .
——— ——— ——— 15"	" 6	. .
——— ——— ——— 12"	" 29	. . .
Rules folding 2 ; 2 fold	" 6	14 4 .
——— 1 ; ———	" 6	5 2 .
Rope cotton	lbs 10—1	4 6 .
Rubber Indian vulcanized ½"	" 26—9½ "	76 9 8—
——— ——— ——— ⅜"	" 10—	28 14 6
——— ——— ——— ½"	" 180—	520 5 .
——— ——— ——— 1"	" 169—	488 8 .
Rosin	" 4—½	" 1 4
Rivets iron 3"x5/8"	" 34	5 13 6
Saws hand 24"	№ 3	9 9 .
——— ——— 26"	" 3	10 8 .
——— ——— 28"	" 5	20 . .
——— ——— 30"	" 4	8 15 .
Saws circular 36"	" 1	5 . .
		14907 4 2

b

Articles	Quantity	Amount
		14907 4 2
Saws pit 7'	№ 3	21 . .
——— set	" 3	4 . 9
——— hand	ft 23	5 12 .
Salter's spring balance to weigh 80 lbs	" 1	9 8 .
Scales brass to weigh small coins	" 1	7 . .
——— ——— 100 Half Rupees	" 1	20 . .
——— ——— ——— 100 two annas	" 1	20 . .
Screw jack Halley's patent 4 tons	" 3	96 . .
——— ——— ——— small	" 1	10 . .
Screw plate 3 to a set	Sets 2	16 . .
Spades	№ 4	3 12 .
Shafting augers	" 15	72 5 2
Stone grinding 5'-10"x8"	" 1	110 . .
Steam gauge 100 lbs	" 1	30 . .
Screws with handles & nuts to part of long deb	4	" . .
Screws iron ⅜"	Dozen 11—6	" 3 8
——— ½"	" 93—8	1 15 2
——— ¾"	" 129—10	5 6 6
——— 1"	" 15—	" 10 .
——— 1¼"	" 17—3	" 15 9
——— 1½"	" 24—4	1 14 5
——— 2"	" 22—8	3 5 1
——— 2¼"	" 15—5	1 1 11
——— 3"	" 4—2	" 6 11
——— 4"	" 1—7	" 3 2
Screws brass ¼"	" 9—4	" 4 7
		15349 1 3

Articles	Quantity	Amount
		15349 1 3
Screws brass 3/8"	Doz 27—7	1 4 8
——— ——— 1/2"	" 97——	4 10 3
——— ——— 3/4"	" 13—6	" 10 1
——— ——— 1"	" 38—8	2 6 2
——— ——— 1 1/4"	" 59—6	4 10 4
——— ——— 1 1/2"	" "—3	" 3 3
——— ——— 1 3/4"	" 6—5	" 9 7
——— ——— 2"	" 8—3	1 " 6
——— ——— 2 1/2"	" 10—6	1 7 7
——— ——— 2 3/4"	" 19—4	" 14 6
Spurd bubbles 1 1/2"	№ 6	3 2 "
——— ——— 1 3/4"	" 8	" 4 8 "
——— ——— 1 3/4"	" 2	1 2 4
——— ——— 2"	" 48	30 " "
——— ——— 2 1/2"	" 82	59 12 8
——— ——— 2 3/4"	" 26	19 8 "
——— ——— 3"	" 79	158 " "
——— ——— 3 1/4"	" 22	44 " "
——— ——— 3 1/2"	" 2	4 " "
——— ——— 3 3/4"	" 9	18 " "
——— ——— 4"	" 15	30 " "
——— ——— 5"	" 17	37 3 "
——— ——— 5 1/4"	" 4	8 12 "
——— ——— 5 1/2"	" 25	54 11 "
——— ——— 6"	" 36	101 4 "
——— ——— 7"	" 43	147 13
		16088 7 8

Articles	Quantity	Amount
		16088 7 8
Spurd bubbles 7 1/2"	№ 2	6 14 "
——— ——— 7 3/4"	" 4	13 12 "
——— ——— 8"	" 75	304 11 "
——— ——— 8 1/2"	" 62	251 14 "
——— ——— 9"	" 1	4 5 "
——— ——— pinmon plate 2"	" 6	1 14 "
——— ——— ——— ——— 2 1/2"	" 7	2 12 4
——— ——— ——— ——— 3"	" 9	3 12 "
——— ——— ——— ——— 3 1/2"	" 8	3 12 "
——— ——— ——— ——— 4"	" 7	3 8 "
——— ——— dimded 2 1/2"	" 20	43 12 "
——— ——— ——— 3"	" 17	39 13 6
——— ——— ——— 3 1/2"	" 17	7 15 6
——— ——— ——— 4"	" 15	7 8 "
——— ——— ——— 4 1/2"	" 6	3 " "
——— ——— ——— 5"	" 8	4 9 4
Spurd glass tube of sizes small	" 8	2 8 "
Soap Windsor	Cake 10	" 12 6
Salamoniac	℔ 45—5	5 10 8
Solder 1/2 ℔ of tin	" 2——	" 2 "
——— ——— for iron & copper	" 24——	1 8 "
Shutters for 6 Lamp	№ 4	40 " "
Steel cast round 1/8"	℔ 38—3 1/4	9 9 2
——— ——— ——— 3/8"	" 29—13/4	7 7 2
——— ——— ——— 3/4"	" 16—13	4 3 "
——— ——— ——— 1 1/2"	" 35——	8 12
		11878 15 6

Articles	Quantity	Amount
		16878 15 6
Steel cast round 2¼"	Ctts 2 4 2	60 8 -
—— —— 1¼"	" 2 —	" 8 -
—— —— 2"	" 11 —	2 12 -
—— —— ⅝"	" 9 —	2 4 -
—— —— Square ¼"	" 62 — 3/4	15 8 10
—— —— —— 1⅜"	" 14 — 8	3 10 -
—— —— —— Steer 1"	" 21 — 12	5 7 -
—— —— Blister square 2½"	" 9 — 8	2 6 -
—— —— Square ½"	" 4 — 10	1 2 3
—— —— —— ⅜"	" 13 — 9	3 6 3
—— —— Sheet ⅛"	" 17 — 15	" 7 3
—— —— —— 3/10"	" 25 — 12	6 7 -
—— —— flat 4½" x 4¼"	" 173	43 4 -
—— —— —— 2" x ½"	" 63	15 12 -
Sand riner	Bundy 1	" 7 -
Spirit methylated	Gl 31	27 2 -
Steel bar	Ctts 3 — 2	1 2 9
Steiner	Sets 3/4	" 12 -
Tape measuring 50 ft without case	No 11	36 1 6
—— —— 25' —— ——	" 12	38 " "
—— —— 66' —— ——	" 25	126 " "
Turn screws 18"	" 1	1 2 -
Thermometer	" 1	2 8 -
Tracing glass frame only	" 1	34 8 -
Tarpaulins 12' x 10'	" 5	7 2 -
Tacks iron ¼"	Ctts 13 — 4	5 6 1
		17396 9 5

Articles	Quantity	Amount
		17396 9 5
Tacks iron ⅜"	Ctts 8 — 4	2 6 6
—— —— ½"	" " — 10	" 1 "
—— —— ⅝"	" " — 15	" 2 "
—— —— 1"	" 1 — 10	" 4 6
—— —— ½"	" 1 — 12	" 4 4
—— —— copper ⅛"	" 6 — 8	4 7 6
—— —— ¾"	" 1 — "	" 11 4
Tanks iron	No 5	121 14 -
Tubes indian rubber 2⅜" inside Dz ft	2	18 1 -
Thread lamp	Oz 12½	" 6 4
Twine gunny	Ctts 2 — 2	" 7 5
Turpentine	Gl 3	" 6 6
Tallow	Ctts 3 — 8	" 14 -
Tin sheet single	S 4	" 7 -
Tubes copper 1½" x ⅛"	Ctts 135	84 6 -
—— —— 2" x ⅛"	" 62	38 12 -
—— —— 3"	" 130	81 4 -
Tubes brass ¼"	" 2 — 12	3 5 9
—— —— ⅜"	Oz " — 15	" 6 6
—— —— ½"	Ctts 1 — 1⅜	" 8 6
—— —— 1"	" 21 — 7	10 11 6
—— —— 1⅛"	" 22 — 14	11 7 -
—— —— 1¼"	" 41 — 7¼	20 11 6
—— —— 1⅜"	" 47 — 8	23 12 -
—— —— 1½"	" 63 — "	31 8 -
—— —— 1¾"	" 30 — 12	15 6 -
		17869 9 7

Articles	Quantity	Amount
		2261 7 4
Wire copper G № 7	lbs 2 — 8	3 6 .
Wire brass 1/16"	" 6 — .	2 . 6
—— —— 1/8"	" 5 — 1/2	3 5 9
—— —— 3/16"	" 1 — 1/4	" 10 9
—— —— 5/16"	" " — 15 1/2	" 10 .
—— —— 1/4"	" 10 — 1 1/4	6 12 6
Wire cloth brass perforated 30 holes to an inch	Sft 30	22 8 .
Wire German Silver 1/16"	lbs . — 15 1/2	2 3 1
—— —— —— 1/4"	" 3 — 2 1/16	8 5 7
—— —— —— 3/16"	" 6 — 8 1/2	15 3 9
—— —— —— 1/8"	" 2 — 8	10 8 9
—— —— —— 7/16"	" 5 — 4	12 4 10
—— —— —— G № 22	" " — 2/8	" 2 8
—— —— —— 24	" 1 — 4	2 14 10
—— —— —— 26	" " — 14 21/32	2 . 10
Wire Telegraph	" 4	" 9 .
—— iron 1/8"	" " — 7	" 1 1
Washers iron 1/2"	№ 4	" 1 .
Zinc sheet G. № 7	lbs 68	15 3 3
—— —— 1/32"	" 30 — 2	6 1 10
—— —— perforated scrap	" 19 — 8	7 5 .
—— —— block	" 281 — 9	70 6 .
—— —— sheet 7"x5"	" 47 —	10 8 5
Total		22842 7 4

Madras
20th July 1858

Lieut R.E.

Genl Supdt. T. & Workshops

No 87 W 68

From

THE EXAMINER.

PUBLIC WORKS ACCOUNTS,

MADRAS,

To

The Secretary to Government,

Public Works Department.

Madras, 15th August 1883

Sir,

I have the honor to forward for information of Government, letter No. 504 W. dated 20th. July from the General Superintendent P.W. Workshops, together with the Annual Accounts of the Shops for the year 1882-83, and the Audit memorandum thereon by Mr Rainier Dy. Examiner.

2. It may perhaps be convenient to review here the changes which have affected the status and conditions of these Workshops since the Accounts for 1881-82 were submitted.

3. In August 1882, after much ventilation of the question as to the retention or abolition of the Shops, Government determined (G.O. No. 2064 W. dated 12th. August 1882) that the operations of the Shops should be limited to repairs and smaller manufactures such as the Officers of the Department could not execute locally, and that measures should be adopted to get rid of all buildings and plant except such as were necessary for the contracted operations which the Shops were to undertake.

4. The first step towards restriction was the prohibition of all orders except those of the P. W. Department, and even such orders were to be withheld as far as practicable, so that economic audit and trial might be afforded to the

...open to private enterprise. Notices were also published in the Government Gazettes at the several Presidencies regarding the intention to dispose of the Press, Plant, etc. (G.O. No. 1424 dated 25th September 1882).

3. Efforts were made with a view to having the repairs of Instruments performed by the Mathematical Instrument Department in Calcutta, but the result was not favorable, and Government ordered that the Instrument Shops should be retained for the present for the execution of Government work (G.O. No. 3183 dated 4th December 1882).

6. The original valuation of the Block and Plant was Rs. 1,24,300 and that arrived at on 31st March 1883, compared as follows with the previous valuation in 1877 -

31st March 1877.		31st March 1883.	
Block	Rs. 1,24,300	Rs.	87,300
Plant	Rs. 73,000	Rs.	58,000
	Rs. 1,97,300	Rs.	1,45,300

Depreciation Rs. 52,000/- in which amount was the value (Rs. 19,000) of the Engine House and Saw Mill Shed, which buildings were necessary to the Work Shops were sold over to the Stores Department (G.O. No. 933 F. dated 22 March 1883). The amount of depreciation therefore was Rs. 33,000/- and this adjustment should have been made in the accounts of the year so as to show the value of the Block and Plant at the revised figures. The Engine House and Saw Mill Shed above mentioned were not revalued, apparently because they were not to be part of the Block of the Shops, but opportunity should have been taken to revalue them, and to dispose of any depreciation in the same manner as in the case of the buildings retained for the Workshops' use.

7. Reports having been called for from the Superintending Engineers regarding the result of the restrictions placed on the operations of the shops as affecting the satisfaction of requirements by Divisional Officers, the general conclusion arrived at was, that no difficulties would arise from the contemplated closure. No tender worth consideration had been received for renting or otherwise taking over the premises from Government. The General Superintendent was desired to submit a definite scheme for the organisation and maintenance of a small workshop for purposes purely Departmental, and the Establishment of the Instrument Department was to be reduced as far as practicable (Chief Engineers Memo No. 1041 C. dated 31st. May 1883))

8. Another change has been effected during the year by which the contribution for leave and pension allowances has been reduced from 25 per cent to 14½ per cent (G.O. No. 1804 dated 21st. July 1883).

9. Under the conditions above reviewed, any comparison of the working of the Shops during 1882-83 with previous years avails nothing. The outturn of the year was Rs. 1,40,000 and the loss Rs. 2,928. The Superintendent has submitted two new statements, "Revenue Account for the year", and "Net Revenue Account" which my considers represent more clearly the administrative, as distinguished from the financial, results of the year's transactions. The former shews that administrative earnings exceed working expenses by Rs. 6,710- the latter, that such excess failed to meet financial liabilities on account of Interest on Capital. I do not think much advantage will be gained by introducing these new statements for the

future of the Stock. To be really useful the Statement should have gone back to the earliest days of the undertaking.

10. The accounts as rendered by the General Superintendent are incorrect in so far as concerns the adjustments entries under Block, Plant, and Government. This will be evident from the fact that the amounts at debit of Block and Plant as on 31st. March 1923 do not tally with the revaluation figures given in para 6 (above), and the result from the course adopted is that Government has been overdebited by Rs. 6,207-0-0, Block overcredited by Rs. 2,190-14-0 and Plant and Machinery overcredited by Rs. 4,017-2-0. It is too late to effect corrections now, nor is it material to do so in the Accounts concerned, as the profit or loss is not affected. The differences will be put right in the current year's Accounts, crediting Government and debiting the two other heads, by which means the amounts at debit of Block and Plant will (as on 1st. April 1923,) tally with the figures in the revaluation statement.

11. The question of the percentage to be charged in future has to be considered in connection with the revaluation of the Block and Plant. On the basis of the figures given, the following table gives the result.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

The old rate (4 per cent) is clearly insufficient. It is for Government therefore to determine whether in future the rates shall be altered to 3 per cent on Block, 4 per cent on Plant & Machinery. The rate of 3.66 per cent is of course of no importance in the consideration.

I have the honor to be,

Sir,

Your most obedient servant,

Examiner P.W. Accounts.

89. 1718

G/864 w 24.9.82
f 2064 w 12.8.82
" 2266 w 2.9.82
" 2489 w 25.9.82
" 3183 w 4.12.82
" 933 w 22.3.83

Statement

From,

The Treasurer P.W. Accounts,

Madras.

To,

The Secretary to Government,

P.W. Department.

M/87

No

Dated 18 August 1883.

Enclos. 5.

Annual Accounts of the Presidency Workshops and the Audit Explanation by Mr H.Rayner Examiner, forwarding the results

M/45
Cir 31/8 R3/9
of 22/1 Mar 5/9.

Presidency Public Works Workshops

Madras, 20th July 1883

No 504 11

From,

The General Superintendent
Public Works Workshops,

To,

The Examiner of P.W. Accounts
Madras

Present

Enclosures.
1 List of Stores
1 Book of Accounts

Sir,

I have the honor to forward for submission to Government, the accounts of the Presidency Public Works Workshops for 1882-83

2 During the year, the Workshops became liable to Government for,

1st	To cash drawn from Treasury	12000	" "
2nd	" Value of Stores received without charge	26245 / 32,209	12-9 / -19
3rd	" Interest on Capital	4638	11 "
4th	" Pensions &c. reimbursed	2013	15 "
		14,896	10 11

3 On account of this amount, the following payments were made -

1st	Payments into Treasury	34,712	10 8
2nd	" Approved invoices	114,857 / 118,742	10 " / 1 "
3rd	Difference between the book value and realisation of Stock & machinery on hand	19,456	12 6

4th Balance of interest due by Government £2754 3 7

leaving for decrease to exhibit a balance of Returns £59776-13-10

4 The gross profits were entered with £38,094 8 2

against which the Engineer's charges &c. £31422 8 7

have been debited leaving a balance £2920 3 7

interest due to Government

5 The opening and closing balances of the exhibit accounts as noted in the following table, show a decrease to exhibit of £59776-13-10

	Exhibition 31st March 1880	31st March 1882	Increase	Decrease
Block	£80137 11 1	£104140 7 8		£24003 6 7
Machinery & Stand	£33,577 13 7	£30853 4 10		£2724 8 9
Mechanical Department	£7787 0 9	£14078 1 3		£6290 0 6
Instrument Department	£3438 1 9	£3428 4 10	£2047 2 11	
Manufactures	£400	£400		
Raw Materials	£22 42 7 9	£25,228 11 1		£2786 0 11
Tiles	£1576 7 9	£1911 0 9		£336 7 0
Public Department	£3273 1 11 / £3201	£122 15	£3100 7 11 / £3177	
	£190659 12 11	£240,967 13 4	£5182 3 11	£65,496 3 5
Deduct bills payable	£190581 15 11	£5110 3 11		
	£612 13 11	£1021 14 5	£612 13 11	£1021 14 5
	£179962 1 1 / £180046 14 1	£239940 11 11	£4497 6 11 / £4573 3 11	£64,474 3 10
		£179962 1 1 / £180046 14 1		£4497 6 11 / £4573 3 11
		£59976 13 10 / £59,899 2 10		£59976 13 10 / £64,899 2 10

6 The results of the working for the year under review as compared with those of three previous years are as follows.-

	1879-80	1880-81	1881-82	1882-83
Outturn	£16876	£208888 13 2	£234363 3 4	£13936 10 4
Net profit	—	—	—	—
Net loss — or Interest unpaid	£18200 10 11	£22161 10 6	£1833 1 2	£2928 3 7

7 Block, Machinery & plant were revalued, and the difference between the book value & valuation was adjusted as per instructions conveyed in your letter No 48 S. H dated 3rd August 1878.

8 From an examination of the accounts it must be seen that the Workshops paid all the expenses for the year, and if the outturn had been larger the whole of the interest on capital would have been paid.

9 The small outturn is due to the restrictions that have been placed upon the working of the Shops, by which except in the Mathematical Instrument Department all the work that was formerly executed for the different Departments of Government both public & military, has been shut out.

These restrictions must eventually close the Work-Shop, and will in my opinion, necessitate starting small Workshops in some of the chief Stations

10 The chief points brought forward in favor of the abolition of the Workshop were,

1st That it was in a chronic state of inefficiency & consequently a loss to Government

2nd That it was a check to the development of private enterprise

11 With regard to the first I would beg to point out the facts shewn by the accounts of the last two years

In 1881-82 the accounts shewed a profit of Rs 1924, which was afterwards altered to a loss of Rs 6353, because it was decided by the Examiner P. Accounts that the loss by the sale of unserviceable stores that had been accumulated in previous years, should be deducted from the profit made on the year on which the stores were sold

12. I am well aware that it was necessary to adjust the loss, but I do not consider that it should have been adjusted on the Revenue account of the Workshop for the year, as the loss was the result of mis-management in former years.

13. It may be urged that periodical sales of useless stores, are unavoidable and that the loss must be borne by the Workshop, to this, I would reply that with ordinary care there is no reason why the Workshop should ever again be burdened with a large stock of materials &c and an examination of the accounts for the last few years will shew the great improvement that has taken place under the head of "Raw materials" & "Manufactured articles".

14. The form of account used by the Work-shop is I consider very misleading, as a clear distinction is required between "Capital" & "Revenue" and I beg to submit that the forms of account † submitted by me shew the real working of the Shops for the year far more distinctly than is possible with the forms that have hitherto been used.

† Revenue account
Net Revenue account

15. During the past year 1882-83 the Workshop has undoubtedly of the restrictions placed upon its operations, again paid all charges and 7 per cent of the interest due to Government. I must mention that the restrictions only came into force during the latter part of the year, in the earlier months there was a very fair amount of work executed.

16. With these facts before me I venture to say that the financial position of the Work-Shop at the end of 1882 was far better than it had ever been since the removal from Chepauk, and the liberty to do the work that would have been sent to it from all departments of Government I am convinced that the question of loss would not again have arisen

17 During the years immediately after the Famine the Workshop was depressed from the following causes.

1. Buildings too large and too expensive
2. Excessive amount of capital in stock in materials &c
3. Heavy interest on capital, out of all proportion to the outturn
4. High prices that the Workshop was obliged to charge in the main hope of paying the interest on capital
5. Having hastily occupied the present buildings when the Famine had commenced and when no labour was available for any work but the manufacture of Famine tools, much work required for the completion of the Shops, was left to be finished & charged for in following years

6. Over manufacture of stock articles, large purchases of stores, want of care in keeping down the expenditure of fuel, cost of repairs to machinery and contingent expenses.

18 The figures which I append in support of my statement that all these causes of depression have disappeared are as follows

	1876-77	1877-78	1878-79	1879-80	1880-81	1881-82	1882-83
Block	69,463	118,280	115,914	114,010	111,730	109,495	86,137
Stock	132,784	172,844	187,865	168,478	129,878	25,628	22,642
Interest on capital	15,221	19,897	23,587	23,829	20,897	13,386	9,633
Repairs to Machinery	5,851	12,283	25,315	15,513	8,026	4,751	3,466

Note — The Workshop was at Chepauk during part of 1876-77 and Rs 69,463 represent therefore the value of the Chepauk buildings.

Rs 115,280 represents the first debit on account of the value of the present buildings.

19. With regard to the Workshop being a bar to the development of private enterprise, there can be no doubt that as Govt Workshops take the place of comparatively

but from the fact that when the Workshops was planned for sale no one came forward, & beg to submit that a genuine competition trade in the class of work executed in this Workshop, cannot be looked for, until there are other large customers besides the Government, and in the absence of a good Workshop of this class, the trade must be almost a monopoly

20. The real utility of this Workshop consists in its being a fitting shop where every variety of work can be executed.

There is no demand for large iron constructions to be made up in this country, but no Engineering work can be carried on without assistance from some Workshop or department of Govt uses Machines or appliances which must be made or repaired locally.

21. The heterogeneous character of the work necessitates the employment of a class of men whom if once lost it will be difficult to replace; & necessitates the maintenance of a variety of machinery, so that when once completely dismembered it will be exceedingly difficult & costly to again put together a Workshop of this kind.

22. As matters now stand the Workshop cannot be satisfactorily or properly worked, for the orders

orders received are not sufficient to maintain a proper staff of workmen 75

I have the honor to be
Sir,
Your most Obedt Servant
W McDouall Lieut R E
Genl Supdt P W Workshops

Public Works Workshops

From

The Chief Engineer
P.W. Accounts
Calcutta

No 5041

Dated 20th December 1883

Rec'd 23rd "

Reply Enclosures 3.

Subject

Transmits for audit, inspection to Government, the accounts of the Workshops for the year 1882-83 with certain remarks.

HEAD OF INSPECTION BY J.RAINIER ESQUIRE DEPUTY EXAMINER PUBLIC WORKS ACCOUNTS MADRAS ON THE 9TH AUGUST 1883, OF THE OFFICE OF THE GENERAL SUPERINTENDENT PUBLIC WORKS WORKSHOPS, WITH REFERENCE TO HIS ANNUAL ACCOUNTS FOR 1882-83.

THE FINANCIAL RESULTS BROUGHT OUT IN THE ACCOUNTS OF THE PUBLIC WORKS WORKSHOPS FOR 1882-83 ARE AS FOLLOWS.-

Copied

PAYMENTS INTO TREASURY. .. RS	54715-10-6.
APPROVED INVOICES.....	114557-10-0.
DEPRECIATION IN VALUE OF BLOCK, MACHINERY AND PLANT ON THE 31ST MARCH 1883.....	43249-11-7.
LOSS.....	2938- 5-7.
	RS 195748- 3-10.

CASH DRAWN FROM TREASURY.....RS	105000-0-0
STORES RECEIVED IN TRANSFER.....	28245-12-9
INTEREST ON CAPITAL..... . ..	9638-11-0
PENSION AND LEAVE ALLOWANCES....	2093-15-2.
DECREASE TO CAPITAL.....	50769-12-11
	RS 195748- 3-10.

2. THE CHIEF EVENT OF THE YEAR IN THE BOOKS HAS BEEN THE REVALUATION OF THE BLOCK, AND THE MACHINERY AND PLANT. THE STATEMENTS SHEWING DETAILS OF REVALUATION WERE SAID TO HAVE BEEN FORWARDED TO GOVERNMENT.

3. IN THE CASE OF BLOCK THE VALUE OF ALL THE BLOCK (IMMOVEABLE PROPERTY) OF THE CONCERN ON THE 31ST MARCH 1883, WAS COMPUTED AT RS 88327/. THIS SUM HAS BEEN DEDUCTED FROM THE BALANCE ON THE 31ST MARCH 1882, AND THE DIFFERENCE, CREDITED TO BLOCK BY DEBIT TO "GOVERNMENT" AS DEPRECIATION OF THE BLOCK BY REVALUATION ON THE 31ST MARCH 1883.

THE DETAILS ARE SAID TO HAVE BEEN TO HAVE STATED -

(A) THE VALUATION OF THE BLOCK ON THE 31ST MARCH 1883 ACCORDING TO THE BOOKS, AND (B) THE VALUATION OF THE BLOCK ON THE 31ST MARCH

ABOUT 1883, ACCORDING TO VALUATION HAD TO HAVE CHARGED OF
THE DIFFERENCE. AS IT IS (A) AS ABOVE, IS NOT MUCH DIFFERENT
FROM THE BALANCE OF THE DEBT (FOR 1882, BEING IN FACT
AS 1881-14-6 LESS

4. BUT IN THE CASE OF MACHINERY AND PLANT THE DIFFERENCE
IS GREATER, AS THE FIRM CERTAIN TRANSACTIONS IN THAT
ACCOUNT DURING THE YEAR 1882-83.

5. THE GENERAL DISPOSITIONS ACCOUNTS, WHEN CORRECTED
IN THE RESPECTS, WERE BUT THE MOST CLEAR RESULTS (PROFESSIONAL
THE GOOD YEARS LOSS, (INCLUDE TO ADD TO BECOME A PROFIT
IN 1883 THE INCOME TAX AND THE WAGES CHARGED)

THE BALANCE SHEET AS AUDITED AND THE ACCOUNTS
AS AT 31 MARCH 1883, SHOWED THE "PROFIT FOR
THE YEAR" (AFTER CHARGING INTEREST ON CAPITAL, AND THE
BALANCES OF THE MAJOR ACCOUNTS, INSTEAD OF BEING AS 1883
AND AS 1882 AS RECEIVED, ARE AS FOLLOWS AND AS 1883
AN ACTION STATEMENT) WHICH SO AFFECTS THE BALANCE SHEET
THAT THE CAPITAL ACCOUNT AT 31 MARCH (AFTER ADDING PROFIT
AND DEDUCTING DRAWINGS AS 1883 INSTEAD OF AS 1882

6. THE OUTTURN FOR 1882-83 HAS BEEN AS 1,236-10-4
WHICH IS NEARLY 3 PER CENT BELOW THAT OF 1881-82.
THE ESTIMATES OF OUTTURN AND PROFIT OF LOSS IN RECENT YEARS
HAVE BEEN (IN EACH CASE ACTUAL FIGURE IS SUBJECT TO A
FEW PER CENT OF THE GREAT ACCURACY WHICH HAVE BEEN
TAKEN PLACE IN THE SCOPE OF THE WORKS BUSINESS)

	1879-80	1880-81	1881-82	1882-83
Outturn	210,042	20008	234363	130 34
Profit	"	"	"	"
Loss	11300	22160	6343	2020

7.

7. IN THE LAST THREE YEARS G.C. TO 1882 INCL AND
SEPT 1883 INCL, THE COST OF CHANGES AND THE METHOD OF
DEALING TO AFFECT PROFITS, HAVE BEEN FULLY EXPLAINED.

8. SOME OF THE DIFFERENCES (THE BALANCES OF THE
ACCOUNTS "ARCHITECTS DEPARTMENT" "INSTRUMENT DEPARTMENT"
EXPENSES FILE 100 PAGE 6 JUNE) ARE OUTSTANDING SINCE 1881.

9. THE BALANCE IN THE "MANUFACTURE ACCOUNT" AS 400/ IS
THE VALUE OF TWO WEIGHING MACHINES MADE SOME TIME AGO
NOT SOLD, THESE SHOULD BE RE-CHARGED TO THE STORES.

10. THE [illegible] HAS BEEN RECOVERED, BUT IT WAS
STATED THAT BOOKS ARE BEING TAKEN FOR RECOVERY.

11. THE ACCOUNT OF SALARIES, AND ITS RELATION TO
NOTES, THE REQUISITIONS, AND THE NOTES (PAGE 3,
WERE AUDITED, FULLY LOOKED INTO. THE TIME IS SUFFICIENTLY
SHORT, AND ALLOCATED, BUT IT HAD NOT IN SOME CASES,
BEEN BROUGHT UP, AND THE NOTES POSTED FOR JULY 1883,
THOUGH IN ONE OR TWO INSTANCES THE WORKS WERE COMPLETED
WITHIN THREE WEEKS OF THE LAST. THE NOTES (PAGE 3,
TO BE THERE IS EVIDENTLY SOME SPECIAL DELAY IN FINISHING OFF
JOBS, THE FIGURE GIVEN AS THAT IN ACCOUNTS FOR 1882-83
HAVE BEEN SPOILED THE ENTIRE EFFECT TO THE EXCLUSION OF GOOD
KEEPING ETC.

(General Expenses Drawing Sheet).

12. THE IMPREST CASH BALANCE ON THE 31ST JULY 1883,
WAS PROVED AND FOUND CORRECT.

13. THE OFFICE CASH IS GENERALLY FROM 100/ TO 150/
IT IS KEPT BY THE HEAD CLERK (COMMISSARIAT PRIVATE), WHO
MAKES ALL CASH PAYMENTS AND ALSO KEEPS THE CASH BOOK.

14.

Genl Dept

No 2503W PUBLIC WORKS DEPARTMENT.

78

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 6th Sept 1883

READ the following

From the Examiner P.W Accts No N° 87 a/ 18th August 1883.

With his letter above recorded the Examiner P.W. Accounts submits the annual accounts of the Provincial P.W Works for the year 1882-83

2 The distribution during the year amounted to Rs 195,748 which the Circle works Rs 1,93,820 showing a net loss on the year's transactions of Rs 2,928

3 The outturn of the year was Rs 1,39,937 but, as stated by the

the Examiner P. W. accounts
after the recent changes
which the Office have
undergone, any Confusion
now between this Year
and the ensuing would
prove a loss of previous
years, would be unavoidable

4 The Suggestion
in the last Para of the
Examiner's letter, that it
rests for determination
how we shall be enti-
tled to Black and White
Cent on Plant and A
[illegible] Machinery

Dec 15/7
4
Gen Certificate for Machinery
" Exam? P.W. Records
" Office Copy Letter Book
[illegible]

PUBLIC NOTICE

2503

Annual Accounts

of the President

for the year ended