Archives I—10,006—16-8-77.

(1) Number of pages 38

(2) Date of repair 17-11-86

(3) Initials of the Referencer

TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

PUBLIC WORKS DEPARTMENT

G.O. No. / B.P. No.	2702 . W	Press. / Mis.
Dated	27.10.1879	

M.Y.

Not to be folded or roughly handled

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

27th October 1879, No. 2,702 W.

Buildings and Roads.
Civil Works.

Read the following papers :—

No. 56. From Lieutenant W. L. C. BADDELEY, R.E., Acting General Superintendent, Public Works Stores and Workshops, to the Deputy Chief Engineer, Public Works Department, dated Madras, 9th August 1879, No. 454-S.

I HAVE the honor to forward herewith a list of unserviceable barometers, thermometers and steam gauges for boilers in the Public Works Stores, and to request that the sanction of Government may be obtained for sending them to England for repair, as there is no one in the workshop able to undertake the works.

2. Many of these instruments have been in store for a considerable time, and their numbers are increasing by receipts from divisional officers.

3. I am of opinion that most, if not all of these instruments can be repaired by competent workmen, and as their sale by public auction would realise but a very small price, I respectfully recommend that they be sent to England, where they can be thoroughly repaired at a small cost.

LIST of repairable Instruments to be sent to England for repair.

Description.	No.
Barometers, Aneroid ...	35
Do. Marine ...	3
Do. Mountain ...	16
Thermometers, maximum, self-registering ...	4
Do. minimum, do. ...	3
Do. standard ...	2
Do. not registering ...	1
Do. maximum and minimum self-registering ...	1
Steam gauges for boilers ...	11

(Signed) W. L. C. BADDELEY, Lieut., R.E.,
Ag. General Supt., P. W. Stores, &c.

9th August 1879.

No. 56-A. From Lieutenant W. L. C. BADDELEY, R.E., Acting General Superintendent, Public Works Stores, to the Deputy Chief Engineer, Public Works Department, dated Madras, 12th September 1879.

WITH reference to your memorandum No. 2,737, dated 13th ultimo, I have the honor to subjoin the replies received from the different officers and firms whom I

addressed on the subject, from which it will be seen that the repair of the instruments cannot be effected in India :—

(1.) Superintending Engineer, Northern Division, Bombay. — States that the instruments referred to cannot be repaired by his office.

(2.) Superintendent, Mathematical Instrument Department, Calcutta. — States that the present pressure of work prevents his establishment being able to undertake the required repairs.

(3.) Superintendent, Roorkee Workshops. — States that instruments of the kind referred to are repaired in his workshop, but regrets that he cannot undertake any such work at present, owing to the large number of theodolites, levels and other instruments in hand for repair.

(4.) Executive Engineer, Workshop, Madhopore. — States the workshops are closed for further orders for work for the present.

(5.) Messrs. P. Orr & Sons, Madras. — State that they cannot undertake the repair of the instruments referred to, nor do they know of any firm in Calcutta competent to undertake the work. They would however be glad to receive the instruments for transmission to England for the necessary repairs.

(6.) Messrs. Treacher and Co., Bombay and Poonah. — State that they do not undertake repairs to scientific and other instruments as they have no staff for the purpose.

2. In my No. 4,098* submitting a list of repairable instruments, dated 1st February 1879, to the Superintending Engineer, Third Circle, through the Executive Engineer, Presidency, I pointed out that there are a number of instruments, chiefly theodolites and levels, which there is no probability of repairing in the instrument department of these workshops for want of a sufficient number of skilled workmen, and I would therefore beg to be allowed to pick out those instruments which from the nature or extent of injury cannot be repaired here, and despatch them to England for repair, or to be replaced by new ones when this is impossible except at excessive cost.

* Copy enclosed.

3. If this suggestion is approved of not only will the instrument department be relieved of an undue pressure of work, and be able to keep pace with the continual demands for repairs from the Revenue Survey Department, but there will also be no necessity for the purchase of new instruments for several years.

4. Further, I would beg to observe that the Revenue Survey Department has a number of theodolites in store which require re-dividing, and which have been kept in India in the hope that the work might be done on the dividing machine which was purchased several years ago for the instrument department here; at present there is no one in the workshops who can work the machine, and I would therefore recommend that these theodolites should be sent to those manufacturers who make a speciality of this work, for I am not at all certain that even should Mr. Doderet or any other first-class workman resume charge of the instrument department they would be able to execute work of such a special nature.

5. The list forwarded with my No. 4,098 refers only to the workshops, and does not include all the repairable instruments in the Public Works Stores.

6. With regard to the suggestions contained in letter No. 971, dated 26th February 1879, (copy of which is enclosed,) received in reply to my letter quoted above, I would observe that both the Gun Carriage Factory and the Grand Arsenal send instruments to the workshops for repair, and therefore they evidently have no means of executing similar works.

7. I have made inquiries in Bombay, Calcutta and Roorkee regarding obtaining workmen, but without success.

2/2702

From Lieutenant W. L. C. BADDELEY, R.E., Acting General Superintendent, Public Works Workshops and Stores, to the Superintending Engineer, Third Circle, (through Executive Engineer, Presidency,) dated Madras, 27th January 1879, No. 4,098.

I HAVE the honor to ask for permission from Government to send the instruments, as per enclosed statement, to Calcutta for repair.

My reasons for making this request are, that I find the number of repairable instruments lying in stock is increasing, and owing to the apprentice system not having been thoroughly carried out, there are not enough qualified men to work off the arrears.

Between June 1876 and May 1878 no apprentices were entertained in the Instrument Department, and the consequence is that there are now only six men (one of whom is acting for Mr. Doderet) who are capable of doing the work required.

In future I would recommend that the pay of the Mathematical Instrument-maker should depend to some considerable extent upon the number of apprentices entertained, and upon their becoming duly qualified.

From Major S. C. CLARKE, R.E., Acting Superintending Engineer, Third Circle, to the General Superintendent, Public Works Workshops, dated St. Thomas' Mount, 26th February 1879, No. 971.

WITH reference to your No. 4,098 of the 1st instant, I have the honor to inform you that the Chief Engineer does not approve of your suggestion to send certain instruments to Calcutta for repair, and that he is desirous that you should endeavour to have them repaired in Madras, either by the Gun Carriage Factory or Arsenal mechanics, or if that plan cannot be followed, by putting the instruments into the hands of some local firm, such as Messrs. Oakes & Company.

No. 56-B. From Lieutenant W. L. C. BADDELEY, R.E., Acting General Superintendent, Public Works Stores and Workshops, to the Deputy Chief Engineer, Public Works Department, dated Madras, 9th October 1879, No. 708-S.

WITH reference to your memorandum No. 2,970, dated 16th September 1879, I have now the honor to forward a list of the instruments which I would recommend being sent to England for repairs.

One list of instruments.
" valuation statement.

2. The list does not comprise the whole of the repairable instruments in the Public Works Stores, but leaves ample work still to be done by the instrument department before the stores are in as complete a state as they ought to be. I may add that formerly all mathematical instruments were in the immediate charge of the Instrument-maker, which arrangement has not worked at all satisfactorily, and the present system, by which instruments are merely issued to the instrument department for repairs, is far better in every way.

3. It will be observed that I have noted against each of the 7-inch theodolites "new axes required;" the fault in these instruments is, that the axes originally were made too slight, and in order to put them into thorough order the male axis of each should be straightened and bushed, and a new female axis made, as the present ones will not bear enlarging.

4. Should Government approve of the instruments being sent to England, I have to request that their value may be written off the Store Accounts, and on their return they be taken on at their full value.

5. The probable cost of the repairs to the Public Works Department instruments, inclusive of freight to and from England, is estimated at Rs. 2,588, and of those belonging to the Revenue Survey Department at Rs. 583, the cost of the repair of the latter will form a charge against the workshop, which will recover the amount from the Revenue Survey Department.

LIST of Instruments proposed to be sent to England for repair from the Public Works Stores and probable cost of repair and freight to and from England.

No.	Names of Instruments.	Maker's Name.	Number engraved on.	Probable Cost of Repair.	Remarks.
				RS.	
1	Theodolite 5" with stand ...	Thomas Jones ...	283	25	
1	Do. 5" do. ...	H. Barrow ...	270	30	
1	Do. 5" do. ...	Do. ...	584	20	
1	Do. 7" do. ...	Do. ...	109	50	New axes required.
1	Do. 7" do. ...	Do. ...	118	50	Do.
1	Do. 7" without stand ...	Do. ...	111	50	Do.
1	Do. 7" do. ...	Do. ..	119	50	Do.
1	Do. 7" with stand ...	Troughton and Simms.	120	50	Do.
1	Do. 7" do. ...	H. Barrow ...	112	50	Do.
1	Do. 7" do. ...	Do. ...	1,200	50	Do.
1	Levelling instrument Y 20" with stand.	Do. ...	734	20	
1	Do. do. Y 14" do. ...	Do. ...	754	20	
1	Do. do. Y 14" do. ...	Do. ...	758	18	
1	Do. do. Y 14" do. ...	Do. ...	664	18	
1	Do. do. Y 14" without stand.	Do. ...	696	30	
1	Do. do. Y 14" with stand.	Elliott Brothers.	2,661	20	
1	Do. do. Dumpy 14" without stand.	Cook and Sons.	945	24	
1	Do. do. 14" do. ...	Troughton and Simms.	600	32	
1	Do. do. 14" do. ...	H. Barrow ...	715	30	
1	Do. do. 14" do. ...	Cook and Sons.	379	30	
1	Do. do. 12" do. ...	Do. ...	24	24	
1	Do. instrument, Troughton's, Improved 20" without stand.	Troughton and Simms.	373	32	
1	Do. do. 14" with stand.	Do. ...	415	20	
1	Compass, Prismatic, without stand.	H. Barrow ...	1,204	16	
1	Do. do. do. ...	None.	766	16	
1	Do. do. do. ...	do.	2,304	16	
1	Sextant, large, in box ...	Gilbert and Sons.	None.		
1	Do. do. do. ...	Do. ...	Do.		
1	Do. do. do. ...	H. Barrow ...	Do.	300	At 60 rupees each.
1	Do. do. do. ...	Troughton and Simms.	Do.		
1	Do. do. without box ...	Thomas Jones ...	Do.		
1	Barometer, Aneroid	E. J. Dent ...	15,020		
1	Do.	Do. ...	15,032		
1	Do.	Do. ...	15,019		
1	Do.	Do. ...	15,010		
1	Do.	Do. ...	11,619		
1	Do.	Do. ...	15,036		
1	Do.	Do. ...	11,589		
1	Do.	Do. ...	17,091	192	At 12 rupees each.
1	Do.	Do. ...	15,012		
1	Do.	Do. ...	13,147		
1	Do.	Do. ...	15,031		
1	Do.	Do. ...	15,004		
1	Do.	Do. ...	15,013		
1	Do.	Do. ...	13,170		
1	Do.	Do. ...	15,016		
1	Do.	Do. ...	19,255		

3/2702

LIST of Instruments proposed to be sent to England for repair from the Public Works Stores, and probable cost of repair and freight to and from England—*cont.*

No.	Names of Instruments.	Maker's Name.	Number Engraved on.	Probable Cost of Repair.	Remarks.
				RS.	
1	Barometer, Aneroid ...	E. J. Dent ...	15,030		
1	Do.	Do. ...	15,021		
1	Do.	Do. ..	15,024		
1	Do.	Do. ...	11,587		
1	Do.	Do. ...	17,085		
1	Do.	Do. ...	17,092	108	At 12 rupees each.
1	Do.	Negretti and Zambra.	2,429		
1	Do.	Newman ...	4,676		
1	Do.	None.	None.		
1	Thermometer, maximum ...	Negretti and Zambra.	8,657		
1	Do.	Newman ...	1,206	15	
1	Do.	None.	None.		
1	Thermometer, minimum ...	Newman ...	1,231		
1	Do. do. ...	Negretti and Zambra.	2,324	10	
1	Do. standard ...	Murray and Heath.	None.	5	
1	Do. maximum and minimum.	Do. ...	Do.	5	
1	Barometer, Mountain	Negretti and Zambra.	516		
1	Do.	Do. ...	519		
1	Do.	Do. ...	523		
1	Do.	Do. ...	525		
1	Do.	Do. ...	518		
1	Do.	Do. ...	517		
1	Do.	Do. ...	522		
1	Do.	Do. ...	None.		
1	Do.	Do. ...	Do.		
1	Do.	Do. ...	Do.	437	At 23 rupees each.
1	Do.	Dwitron ...	Do.		
1	Do.	Do. ...	Do.		
1	Do.	Murray and Heath.	Do.		
1	Do.	Do.	Do.		
1	Do.	Newman ...	Do.		
1	Do.	Do. ...	1,054		
1	Do.	None	None.		
1	Do.	Do.	Do.		
1	Do.	Adie	692		
3	Barometers, Marine	Newman ...	None.	75	At 25 rupees each.
10 { 8	Pressure Gauges, steam ...	Gwynnes ...			
1	Do. ...	Do.	Do.	150	
1	Do. ...	Do.			
	Probable freight to and from England ...		...	2,088 500	
	Total ...		...	2,588	

LIST of Instruments proposed to be sent to England for repair from the Public Works Stores and probable cost of repair and freight to and from England—*cont.*

No.	Names of Articles.	Maker's Name.	Number Engraved on.	Probable Cost of Repair.	Remarks.
				RS.	
	Public Works Workshop Instruments.				
1	Barometer, Mountain ...	Newman's ...	None	23	
1	Do.	Do. ...	do.	20	
1	Do.	Do. ...	56	35	
1	Theodolite 5" with stand ...	Henry Barrow & Co.	1,095	30	
1	Do. 5" do. ...	Do. ...	593	80	
1	Do. 5" do. ...	Elliott Brothers.	8	35	
1	Do. 5" do. ...	Do. ...	10	35	
1	Do. 5" without stand ...	Do. ...	12	35	
1	Do. 5½" do. ...	Do. ...	1,010	35	
1	Do. 5½" with stand ...	Do. ...	27	35	
1	Do. 6" do. ...	Do. ...	6	25	
1	Do. 6" do. ...	Do. ...	56	25	
1	Do. 6" do. ...	Troughton and Simms.	85	70	
		Do. ...	...	480	
	Probable freight to and from England ...		...	100	
		Total ...	...	583	

(Signed) W. L. C. BADDELEY, Lieut., R.E.,
Ag. General Supt., P. W. Stores, &c.

MADRAS,
8th October 1879.

ABSTRACT of Instruments proposed to be sent to England from the Public Works Stores.

No.	Name of Instrument.	Orginal Value. Rate. RS. A. P.	Orginal Value. Amount. RS. A. P.
3	Theodolites 5"	198 4 0	594 12 0
7	Do. 7"	418 12 0	2,931 11 0
1	Levelling instrument Y 20"	200 0 0	200 0 0
5	Do. do. Y 14"	191 2 0	955 10 0
4	Do. do. Dumpy 14"	154 10 0	618 8 0
1	Do. do. do. 12"	134 1 0	134 1 0
1	Do. do. Troughton's improved, 20"	200 0 0	200 0 0
1	Do. do. do. do. 14"	189 0 0	189 0 0
3	Compasses, Prismatic, with stand	51 0 0	153 0 0
5	Sextants, large	223 2 0	1,115 10 0
25	Barometers, Aneriod	47 10 7	1,191 8 7
3	Thermometers, maximum	11 0 0	33 0 0
2	Do. minimum	10 12 0	21 8 0
1	Do. standard	25 8 0	25 8 0
1	Do. maximum and minimum	14 11 0	14 11 0
19	Barometers, Mountain	73 4 0	1,391 12 0
3	Do. Marine	55 7 0	166 5 0
10	Pressure Gauges, steam	28 2 0	281 4 0
	Total ...	.....	10,217 12 7

(Signed) W. L. C. BADDELEY, Lieut., R.E.,
Ag. General Supt., P. W. Stores, &c.

MADRAS,
8th October 1879.

4/2702

No. 57. ORDER THEREON, 27th October 1879, No. 2,702 W.

THE instruments contained in the lists furnished by the General Superintendent will be sent to England for repairs.

2. The whole cost, including freight and insurance, will form a charge against the workshops.

3. The proposal made in the ~~third~~ fourth paragraph of the General Superintendent's letter of the 9th October is sanctioned.

4. Ordered that the Secretary of State be addressed.

(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 of P.W. Accounts.

Exd. S. T. Austin,
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1879} Madras.

PUBLIC WORKS.

To

THE GENERAL SUPERINTENDENT,
PUBLIC WORKS STORES,
AND WORKSHOPS.

Dated October 27th.

Issued

Recd. Expd.

G. O. 27th October 1879, No. 2202 W.

OCTOBER
Nos. 56-57.

The Instruments entered in the list furnished by the General Superintendent ordered to be sent to England for repairs. The whole cost, including freight and insurance, to form a charge against the workshops.

P1

PUBLIC WORKS STORE DEPARTMENT,

Madras, 9th August 1879.

No. 454-S.

E/2202

From

THE GENERAL SUPERINTENDENT,
PUBLIC WORKS STORES AND WORKSHOPS,
MADRAS,

To

The Deputy Chief Engineer
Public Works Department
Fort St. George

SIR,

Enclosure.

I have the honour to forward herewith a List of Unremovable Barometers, Thermometers and Steam Gauges for Boilers in the P.W. Stores and to request that the sanction of Govt. may be obtained for sending them to England for repairs as there is no one in the Workshops able to undertake the work.

2. Many of these instruments have been in Store for a considerable time, and their numbers are increasing by receipts from Provincial Officers.

3. I am of opinion that most, if not all of these instruments can be repaired by competent workmen, and as their sale by public auction would realize but a very small price I respectfully recommend that they be sent to England, where they can be thoroughly repaired at a small cost.

I have the honour to be
Sir
Your Most Obedt. Servant

R. C. B. Addeler
Lieut. R.E.
Offg. Superintd. Digdt. P.W. Stores

P.W.D.
12878

Public Works Store Department.

From No. 5000

The General Superintendent,
P. W. Stores and Workshops,
Madras,

To
The Deputy Chief Engineer
Public Works Dept.
Fort St George

No. 464 S.

Dated 9

Despd. 9 August 1879.

Recd.

No. of Enclosures.

Ex. No. 2737 & 13 8 79

Unserviceable Barometers in the Public Works Stores. Solicite sanction of Government for sending them to England for repair

Ins Ly. 9-27-10-79 No. 2702 78

Ly Cr

It would be worth while advising the Bd Engrs whether the repairs can be done in Calcutta or Bombay

~~Before~~ Cr 12-8 Yes

List of repairable Instruments to be sent to England for repair.

6/2902 N

Description	No.	Remarks
Barometers Aneroid	35	
" Marine	3	
" Mountain	16	
Thermometers Maximum Self registering	4	
" Minimum "	3	
" Standard	2	
" Not registering	1	
" Maximum and Minimum Self registering	1	
Steam Gauges for Boilers	11	

P. W. Store
9 August 1879.

Lieut. R.
Ag. Supdt. Supdt P. W. Stores

[illegible] would recommend that the pay of the Mathematical

Public Works Store Depa
P.W.D.
12-78
No. 5000

Subp. No 27027 to 27-10-77

56

No 4098. Madras 27th January 1879.
Presidency. P.W. Workshops.

From

The General Superintendent
P.W. Workshops & Stores

To

The Superintending Engineer
3rd Circle
thro: Ex: Engineer Presidency.

Sir

I have the honor to ask for permission from Government to send the instruments, as per enclosed Statement, to Calcutta for repair.

My reasons for making this request are that I find the number of repairable instruments lying in stock is increasing, and owing to the apprentice system not having been thoroughly carried out, there are not enough qualified men to work off the arrears.

Between June 1876 and May 78 no apprentices were entertained in the Instrument Department, and the consequence is that there are now only six men (one of whom is acting for Mr Dodered) who are capable of doing the work required.

In future I would recommend that the pay of the Mathematical

Instrument maker should depend to some considerable extent upon the number of apprentices entertained, and upon their becoming duly qualified.

I have the honor &c &c

(Signed) H. L. C. Baddeley Lieut R.E.

Ag Genl Supt R.O. Workshops.

(True Copy)

H L C Baddeley Lieut R.E.

Ag Genl Supt R.O. Workshops.

In No 2702 of 27-10-79

L. 56 A

No 971

3rd Circle Superintending Engineer's Office
St Thomas' Mount 26th February 1879.

From

The Superintending Engineer
3rd Circle

8/2702

To

The General Superintendent
Public Works Workshops

Sir

With reference to your No 4098 of the 1st instant.

I have the honor to inform you that the Chief Engineer does not approve of your suggestion to send certain Instruments to Calcutta for repair, and that he is desirous that you should endeavour to have them repaired in Madras, either by the Gun Carriage Factory or Arsenal Mechanics, or if that plan cannot be followed, by putting the Instruments into the hands of some Local Firm - such as Messrs Oakes &c.

I have the honor to be &c

(Signed) J C Clarke Major R.E.

Ag Supg Engineer 3rd Circle

(True Copy)

H L C Baddeley Lieut R.E.

Ag Genl Supt R.O. Workshops.

G.O. No. 2702 of 1879

No. 1256 of

No.

Presidency P.W. Stores
Madras 12th September 1879.

125

From
The General Superintendent,
P.W. Stores.

To
The Deputy Chief Engineer,
D.P.W.

Encl:- 1

Sir,

With reference to your Memo. No. 2737, of 15 ultimo I have the honor to submit the replies received from the different Offices and Firms whom I addressed on the subject, from which it will be seen that the repair of the Instruments cannot be effected in India:-

1) Supdg. Engineer, N. Division, Bombay -

State that the instruments referred to cannot be repaired by his Office.

2) Supdt. Math. Inst. Depot. Calcutta.

State that the present pressure of work prevents his Establishment being able to undertake the required repairs.

3) Superintendent Public Workshops.

State that instruments of the kind referred to are repaired in his Workshop, but regrets that he cannot undertake any such work at present, owing to the large number of Theodolites, Levels and other instruments in hand for repair.

4) Exy. Engineer, Workshops Madhapore.

State the Workshops are closed for further orders for work for the present.

5) Mess. E. Orr & Sons. Madras.

State that they cannot undertake the repair of the Instruments referred to, nor do they know of any Firm in Calcutta competent to undertake the work. They would however be glad to receive the instruments for transmission to England for the necessary repairs.

6) Mess. Tracker & Co. Bombay & Poona.

State that they do not undertake repairs to Scientific and other instruments as they have no Staff for the purpose.

2) + Copy enclosed

In my No. 1098, + submitting a List of repairable Instruments dt. 1st July 79 to the Superintending Engineer 3rd Circle, thro' the Executive Engineer Presidency, I omitted

out

that there are a number of instruments, chiefly Theodolites and Levels, which there is no probability of repairing in the Instrument Department of these Workshops, for want of a sufficient number of skilled workmen, and I would therefore beg to be allowed to pick out these Instruments, which from the nature or extent of injury cannot be repaired here, and despatch them to England for repair, or to be replaced by new ones when this is impossible, except at expensive cost.

3) If this Companion is approved of, not only will the Instrument Department be relieved of an undue pressure of works and be able to keep pace with the continual demands for repairs from the Revenue Survey Department, but there will also be no necessity for the purchase of new Instruments for several years.

4) Further I would beg to observe that the Revenue Survey Department has a number of Theodolites in store which require re-dividing, and which have been kept in India in the hope that the work might be done on the Dividing Machine which was purchased several years ago for the Instrument Department here, at present there is no one in the Workshops who can work the machine, and I would therefore recommend that these Theodolites should be sent to those manufacturers who make a speciality of the work, for I am not at all certain that even should Mr. Dodwell or any other first class workman assume charge of the Instrument Department, they would be able to execute work of such a special nature.

5) The List forwarded with my No. 2092 refers only to the Workshops and does not include all the repairable Instruments in the Ph. Store.

6. With regard to the suggestions contained in letter No. 971, dt. 26th July 1879 (Copy of which is enclosed) permit me to reply to my letter quoted above, I would observe that both the Gun Carriage Factory and the Grand Arsenal send Instruments to the Workshops for repair, and therefore they evidently have no means of executing similar work.

7. I have made enquiries in Bombay, Calcutta and Roorkee regarding obtaining workmen, but without success.

I have the honor to be,
Sir,
Your most obedient Servant,
R.E. Boddeler Lieut. R.E.
Ag. Genl. Supt. Ph. Store.

10/2202

P.6

No. 2737 - 13. 9. 79

No. 698. S.
P.W.D.
1379279

To
The Dy. Chief Engineer
D.P.W.

Dated September 1879.

Subject
Suggests to have all the repairable Instruments sent to England to be repaired as they cannot be repaired in India:-

G.O. No. 2702 of 27-10-79

56 cf

87

11/2702

PUBLIC WORKS STORE DEPARTMENT,
Madras, 9th October 1879.

No. 708-S.

From
THE GENERAL SUPERINTENDENT,
PUBLC WORKS STORES AND WORKSHOPS,

To
THE Deputy Chief Engineer
Public Works Department
Fort St. George

SIR,

With reference to your memo No. 2979, dated 16th September 1879. I have now the honor to forward a List of the Instruments which I would recommend being sent to England for repairs.

Enclosures. 2.
1. List of Instruments
2. Valuation Statement

2. The List does not comprise the whole of the repairable Instruments in the P.W. Stores, but leaves ample work still to be done by the Instrument Department before the Stores are in as complete a state as they ought to be. I may add that formerly all Mathematical Instruments were in the immediate charge of the Instrument-maker, which arrangement has not worked at all satisfactorily, and the present system by which Instruments are merely issued to the Instrument Department for repairs is far better in every way.

3. It will be observed that I have noted against each of the 7 "Theodolites" "new axes required"; the fault in these Instruments is, that the axes originally were made too slight, and in order to put them into thorough order, the male axis of each should be straightened and bushed, and a new female axis made, as the present ones

ments will not bear enlarging

4. Should Government approve of the Instruments being sent to England, I have to request that their value may be [illegible] of the Store Accounts, and on their return they be taken on at their full value

5. The expense attendant upon repairs to the P.W.D. Instruments, inclusive of freight to and from England, is estimated at Rs. 3555/- and of those belonging to the Revenue Survey Department at Rs. 553/-, the cost of the repairs of the latter will form a charge against the Works to which will recover that amount from the Revenue Survey Department

I have the honor to be
Sir
Your Most Obedt. Servant

H. W. Bridgeley Lieut. R.E.
Ag. General Supt. P.W. Store & Workshops

12/2902

b.b. No. 2737 — 10-8-79
— " 2776 — 11-9-79
Gr. 188 A. 22.1.75
— " 459. 17-2-75
— " 1003. 14-4-75
— " 1412. 21-5-75
— " 1742. 21-6-75
— " 2128. 26-7-75
— " 2129 — "
— " 2289/90 9-8-75

5613

Recd 20.10.79. Rtd 25.10.79.
Cir 13.9.79. Rtd 20.10.79
to Rly 11-10

12/2702

Public Works Store Department.

P.W.D.
1000179

From
The General Superintendent,
P. W. Stores and Workshops,
Madras,

To
The Deputy Chief Engineer
Public Works Dept.
Fort St George

No. 705-S.

Dated 9th
Despd. 9th October 1879.
Recd.
4 o'clk P.M. 27 & 27-10-79

No. of Enclosures. 2.

Forwarding a List of the Instts. recommending to be sent to England for repair with observations.

Abstract of Instruments proposed to be sent to England from the P.W. Stores

No.	Names of Instruments	Original Value Rate			Amount		
3	Theodolites 6"	198	4	"	594	12	"
7	" 7"	418	13	"	2931	11	"
1	Levelling Instrument Y 20"	200	"	"	200	"	"
5	" " Y 14"	191	2	"	956	10	"
4	" " Dumpy 14"	154	10	"	618	8	"
1	" " " 12"	134	1	"	134	1	"
1	" " Troughtons Imp.d 20"	200	"	"	200	"	"
1	" " " " 14"	139	"	"	139	"	"
3	Compasses Prismatic with Stand	51	"	"	153	"	"
5	Sextants large	223	2	"	1115	10	"
25	Barometers Aneroid	47	10	7	1191	8	7
3	Thermometers Maximum	11	"	"	33	"	"
2	" Minimum	10	12	"	21	8	"
1	" Standard	26	8	"	26	8	"
1	" Maximum & Minimum	14	11	"	14	11	"
17	Barometers Mountain	73	4	"	1391	12	"
3	" Marine	55	7	"	166	5	"
10	Pressure Gauges Steam	28	2	"	281	4	"
				Total Rupees	10317	12	7

Madras
8th October
1879

Lieut. R.E.
Ag. General Supt. P.W. Stores & Workshops.

No 27.28 of 27.10.77

Entn No 5 6 B

9

List of Instruments proposed to be sent to England for repair from the R.N. Stores and probable cost of repair and freight to and from England

1C
2702

No.	Names of Instruments	Makers name	Original cost	Probable Cost of Repair	Remarks
1	Theodolite 5" with Stand	Thomas Jones	283	75 " "	
1	" 5" "	H. Barrow	270	30 " "	
1	" 5" "	"	534	70 " "	
1	" 5" "	"	109	50 " "	New Axes required
1	" 7" "	"	118	50 " "	do
1	" 7" "	"	111	50 " "	do
1	" 7" without Stand	"	119	50 " "	do
1	" 7" "	"	120	50 " "	do
1	" 7" with Stand	Troughton and Simms	112	50 " "	do
1	" 7" "	H. Barrow	1200	50 " "	do
1	" 7" "	"	734	70 " "	
1	Levelling Instrument Y 20" with Stand	"	764	70 " "	
1	" " Y 14" "	"	768	18 " "	
1	" " Y 14" "	"	664	18 " "	
1	" " Y 14" "	"	696	30 " "	
1	" " Y 14" without Stand	"	2661	20 " "	
1	" " Y 14" with "	Elliott Brothers	945	24 " "	
1	" " Reversing 14" without Stand	Cook and Son	600	82 " "	
1	" " " 14" "	Troughton and Simms	718	30 " "	
1	" " " 14" "	H. Barrow	379	30 " "	
1	" " " 14" "	Cook and Son	74	24 " "	
1	" " " 12" "	"	373	32 " "	
1	" Troughton Simms 20" without Stand	Troughton & Simms	416	20 " "	
1	" " 14" with Stand	"	1204	16 " "	
1	Compass Prismatic without Stand	H. Barrow	768	16 " "	
1	" " "	Nord	2304	16 " "	
1	" " "	Nord			
		Carried Over Rs	2791	" "	

No 13

No.	Names of Instruments	Makers Name	Number of Instruments	Probable cost of Repairs	Remarks
		Brought Over		791 " "	
1	Sextant Large in box	Gilbert and Sons	New		
1	" " " "	"	"		
1	" " " "	H. Burrows	"	300 " "	@ 60 Rs. Each
1	" " " "	Troughton and Simms	"		
1	" " " without box	Thomas Jones	"		
1	Barometer Aneroid	E. J. Peck	15030		
1	"	"	15032		
1	"	"	16019		
1	"	"	15010		
1	"	"	11619		
1	"	"	15026		
1	"	"	11639		
1	"	"	17091		
1	"	"	15012		
1	"	"	13147		
1	"	"	15034		
1	"	"	16004		
1	"	"	15313	300 " "	@ 12 Rs. each
1	"	"	13170		
1	"	"	15016		
1	"	"	19266		
1	"	"	15030		
1	"	"	15071		
1	"	"	15074		
1	"	"	11537		
1	"	"	17086		
1	"	"	17092		
1	"	Negretti & Zambra	2029		
1	"	Newman	1676		
1	"	None	None		
1	Thermometer Maximum	Negretti & Zambra	8657		
1	"	Newman	1206	15 " "	
1	"	None	None		
		Carried Over Rs.		1406 " "	

No.	Names of Instruments	Makers Name	Number of Instruments	Probable cost of Repairs	Remarks
		Brought Over Rs.		1406 " "	10 15 292
1	Thermometer Minimum	Newman	1231	10 " "	
1	" "	Negretti & Zambra	2324		
1	" Standard	Murray & Heath	New	5 " "	
1	Maximum & Minimum	do	"	5 " "	
1	Barometer Mountain	Negretti & Zambra	516		
1	"	do	519		
1	"	do	523		
1	"	do	525		
1	"	do	515		
1	"	do	517		
1	"	do	522		
1	"	do	None		
1	"	do	"		
1	"	do	"	407 " "	@ 50 Rs. Each
1	"	Fortin	"		
1	"	do	"		
1	"	Murray & Heath	"		
1	"	do	"		
1	"	Newman	"		
1	"	do	1054		
1	"	None	None		
1	"	"	"		
1	"	Adie	672		
3	Barometer Marine	Newman	None	75 " "	@ 25 Rs. Each
10	Pressure Gauges Steam	Guagmos			
1	" " "	"		150 " "	
1	" " "	"			
				2088 " "	
	Probable freight to and from England			500 " "	
		Total Rupees		2588 " "	

Continued

No.	Names of Articles	Makers Name	Number of Instruments	Probable Cost of Repairs	Remarks
	P.W. Workshop Instruments				
1	Barometer Mountain	Newmans	New	23 " "	
1	" " "	"	"	20 " "	
1	" " "	"	56.	35 " "	
1	Theodolite 5" with Stand	Henry Barrow & Co	1095	30 " "	
1	" 5" " "	"	593	80 " "	
1	" 5" " "	Elliott Brother	8.	35 " "	
1	" 5" " "	"	10.	35 " "	
1	" 5" without Stand	"	12.	35 " "	
1	" 5½" " "	"	1010.	35 " "	
1	" 5½" with Stand	"	27	35 " "	
1	" 6" " "	"	6.	25 " "	
1	" 6" " "	Troughton & Simms	56.	25 " "	
1	" 6" " "	"	85.	70 " "	
				480 " "	
	Probable freight to and from England			100 " "	
			Total Rupees	580 " "	

Madras
8th October 1877

H C Baddeley Lieut
Ag. General Supdt. P.W. Stores & Workshops

12

To 12/2/78

The Right Honble
the Secy of State
for India

My Lord,

We have the honor to state that it has been represented by the Supt. of the Madras Workshops and Stores that he had in stock a number of instruments requiring repair, and that there is no mechanic who is competent to undertake the work.

2. It has been ascertained that none of the other Indian Workshops are able to execute the repairs, nor are there any firms professing

a staff who could do what is required.

3. Under these circumstances we have sanctioned Lieut. Baddeley's proposal to forward the instruments in question to England, where they can be thoroughly repaired at a small cost.

4. We would respect attention to the remarks contained in the 3d para: of the General Supt's letter of the 9th October in regard to the axes of the theodolites.

5. A list of the instruments is appended.

A.G.P. 25/10 25/10/79

P. W. Department.

Read the following:—

From the Gen. Supt. P.W. Stores & Workshops No: 708-S dated 9th October 1879.

FOR ORDERS.

W. Lambey Colonel R.E.
Secy: to Govt. P.W. Dept.

13th Octr/79.

Sd. Counter Cost
Attach the whole
cost to the Estimate
for Workshops &c
are required to be
transferred to Works
of a Permanent
Nature

10.10

FOR ORDERS.

2702 W

Recd 20.10.79 - Rtd 25.10.79
Cir 13.10.79 - Rtd 20.10.79
Lo Doty 11-10

B & R
Stores

P. W. Department.

No. 2702 W

PROCEEDINGS of the MADRAS GOVERNMENT,

Under date the 27th Oct/79.

READ the following

From the Genl. Supt.
Ro. Stores & Workshops
No. 708 S. 29th Oct/79.

The instruments contained in the lists furnished by the General Supt. will be sent to England for repairs.

2. The whole cost including freight and insurance will form a charge against the Workshops.

3. The proposal made in the third para. of the Genl. Superintendent's letter of the 9th Oct. is sanctioned

4. Ordered that the Secy. of State be addressed.

H. E. Ro. 29
25/10

Superintending Engineers.
Chief Engineer for Irrigation.
Consulting Engineer for Railways.
Examiner, Public Works Accounts.
,, Railway Accounts.
Consulting Architect.
Superintendent, Madras Harbour Works.
General Superintendent, P. W. Stores and Workshops.
~~Do. do. P. W. Stores Department.~~
Chief Engineer and Manager, Madras Irrigation and Canal Company.
Examiner Irrigation and Canal Company's Accounts.

Despd
7-11-79

19/2202

Ch 72

Govt. of Madras.

(1879)

PUBLIC WORKS.

To

Dated

Issued

Recd. Encl.

G.O., 27 Oct 1879, No. 2702 b

Nos. 56 - 57

Entered

The instruments contained in the lists furnished by the Kent Depot ordered to be sent to England for repairs the whole cost including freight & insurance to form a charge against the workshops.

~~Intimate~~ states that certain instruments belonging to the Presidency Workshops have been authorised to be sent to England for repairs 6-9-11-79