

From

H.C. 224. 6-1-82

P. H. C. No. 2822

Handwritten initials and scribbles on the left page.

Recd to May 1882

Handwritten signature or name.

B. No. 1238 Tra 16th May 1882
Communicated to

the Supr. Engineer, 1st Circle, for Mr. Laminier information, with advertisement to H.C. No. 224, dated 6th January 1882.

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7/5/82

Lt. 1st Circle
Sept 16/5
Estd. in Receipt Regr

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All communications
should be addressed
to the Secretary.

No. 664 G.

GOVERNMENT OF INDIA.
PUBLIC WORKS DEPARTMENT.
GENERAL.

To,

The Secretary to the Government of Madras,
Public Works Department

Simla, 28 April, 1882.

Sir,

Referring to your letter No. 23 N. dated
6 January 1882, transmitting a Memorial
addressed to the Secretary of State for India
from J. C. Larminie, Executive Engineer, I
am directed to state that the Secretary
of State has declined to accede to Mr.
Larminie's request to be allowed to count,
as qualifying, his service from the date
of his Covenant, and he should be so informed.

I have the honor to be,
Sir,

Your most Obedt. Servant

W. Sampson

Under Secy to the Govt of India

26TH APRIL 1882, No. 1024 W., PUBLIC WORKS.

GOVERNMENT OF MADRAS.
PUBLIC WORKS DEPARTMENT.

General.
Account.

No. 83.

Read—the following Proceedings of the Government of India, Public Works Department, (Account—General,) dated Simla, 15th April 1882, No. 175 A.—G.:—

Read—the following Proceedings of the Government of India, Department of Finance and Commerce, (Accounts and Finance—Stores,) dated Calcutta, the 21st March 1882, No. 1620, and Endorsement thereon.

Read—the under-mentioned papers having reference to the mode of preparing indents for Stores upon Her Majesty's Secretary of State for India:—

Letter from the Surveyor-General of India, No. 542 F., dated 6th October 1881, and enclosures, to the Revenue and Agricultural Department.

Despatch from the Revenue and Agricultural Department, to the Secretary of State, No. 1, dated 31st October 1881.

Despatch from the Secretary of State, No. 6, dated 10th February 1882, in reply to the foregoing.

Order—

Ordered, that a copy of the despatch from the Secretary of State, No. 6, of February 1882, together with the enclosures in original, be forwarded to the Revenue and Agricultural Department* for information, with a request that the instructions of the Secretary of State may be carried out as far as practicable in transmitting indents for European stores.

Ordered also, that the foregoing Resolution and the papers read in the preamble, be communicated to the Home, the Public Works, and the Military Departments, as also to all Local Governments and Administrations, for the purpose indicated.

Also to the Mint Masters, Calcutta and Bombay.

(Signed). R. E. HAMILTON,
Offg. Asst. Secy. to the Govt. of India.

ENCLOSURES.

From HARRY DUHAN, Esq., Personal Assistant to the Surveyor-General of India, to the Secretary to the Government of India, Revenue and Agricultural Department, dated 6th October 1881, No 524 F.

I am directed to forward herewith, in triplicate, the annual indents for stores required during 1882-83 for the use of the Mathematical Instrument Department and Lithographic and Photographic Branches of the Surveyor-General's Office in Calcutta, and to request the favor of your submitting these indents to the Right Hon'ble the Secretary of State for India for compliance.

2. Copies of explanatory letters* from the Superintendent, Mathematical Instrument Department, and the Officer in charge, Photographic Branch Office, accompany.

* No. 1785, dated 26th September 1881.
,, 342P., ,, 21st ,, ,,

From Major S. H. COWAN, S.C., Officiating Superintendent, Mathematical Instrument Department, to the Surveyor-General of India, dated 26th September 1881, No. 1785.

I have the honor to submit the annual indent of this Department for instruments and other stores for the year 1882-83, and to explain that the delay in preparing it has been caused by the investigations made with the object of substituting, as far as efficiency and economy admit, articles procurable locally for those imported from England.

2. To show that this object has been kept in view, I have the honor to offer the following remarks upon each item which has been allowed to keep its place in the indent:—

Anemograph.—Twelve of these instruments are in use in the Meteorological Department, and one of the same pattern is required: it is not procurable here.

Arithmometers.—These are made only by M. Thomas of Colmar, and by an American house. The American ones are of inferior pattern and are not indented for. They are not made in India.

Barometers, Aneroid and Mercurial.—These instruments are turned out by numerous makers in Europe and America, but the better class of them in England only by a few firms, such as Hicks and Murray & Co., who provide considerable numbers of them for other purchasers as well as for the India Government. They cannot be made in India.

Camera lucida.—These cannot be advantageously made up in India. The brass work of the English instruments is of better quality. The prisms, in any case, must be imported.

Cases, sketching, Sandhurst pattern.—Twelve of these are indented for to meet pressing applications; because there are none in store, and the Ordnance Department was unable to supply a standard pattern, although this article is on the list of Ordnance stores. A few cases of what used to be known as the Addiscombe pattern were made up by contractors here during the late Afghan war; but they were very expensive.

Compasses, common, drawing, bows, of sorts, &c., &c.—These are said to be procurable from Roorkee in Mr. Buck's letter No. 65, dated 23rd August 1881, to the Surveyor-General of India, and therefore the Superintendent of the Canal Foundry Workshops was asked at what rate he can supply them; but it appears from his reply that he cannot meet our indents nor any part of them. These instruments are turned out by a very large number of makers in England, so that they all work under the pressure of keen competition; and yet Mr. W. F. Stanley has achieved a marked pre-eminence in this branch of the trade: consequently it is highly improbable that the Roorkee Workshops can give anything like so good value as the Indian Store Department obtains for us from Mr. Stanley.

Compasses, magnetic, pocket, in metal cases.—These instruments can be made up in India, and often have been; but cannot compete with the English article either in price or workmanship.

Compasses, prismatic, Hunter's pattern.—A newly-introduced pattern of prismatic compasses, requiring superior skill and material, not made in India.

Compasses, proportional, curves, French.—The remarks on compasses, drawing, common, apply to these.

These are machine-made from well-seasoned pear wood. In India we have neither the machinery nor the wood to make them. They are very cheap in Europe.

Horizons, mercurial.—These are made of cast-iron, and might be procured from some of the private firms in Calcutta, but dearer than from the firms at home, who possess all the moulds, and who give us the benefit of any newly-introduced pattern.

Hydrometers.—These are made only by a few firms in England. The materials cost little, but the bulbs and floats, &c., are troublesome to make and graduate, and it would not be worth while to attempt their manufacture in India. One set is required here, as a standard by which to check instruments after repair.

Hypsometers, Henderson's.—These are of a new pattern, only procurable from one maker in England.

Instruments, drawing, Mathematical, of electrum and brass, of sorts.—The remarks on compasses, drawing, common, apply to these; which also generally come from Mr. W. F. Stanley.

Lenses, reading, of sizes.—No establishment is known of in India where lenses are manufactured.

Machines, map-printing, Ordnance pattern.—This is a trial indent, as these have heretofore been made up here; but it is expected that they will be procured from England cheaper than we can make them. Their manufacture occupies a great deal of time and labor which would be more profitably employed in repairing some of the damaged instruments in store. It is also desired to have the benefit of any improvements that may be suggested by the home makers.

Magnets, Horse-shoe, 6-inch.—The number used in India is very small, and they are procured at very reasonable rates in England, so there is no object in commencing to manufacture them here.

Pens, bordering or dotting.—the remarks on compasses, drawing, common, apply to these.

Pentagraphs, English, 2½ feet.—Not many English mathematical instrument-makers supply these. The largest maker is probably Monsieur A. Gavard, of Paris; but lately Mr. W. F. Stanley has been making pentagraphs that are preferred to all others. They could not be manufactured advantageously in India.

Pins, drawing, brass and electrum.—These are turned out in very large quantities by several English makers, with whom no maker dependent on the Indian market alone could compete.

Planimeters, electrum.—Patented by Professors Amsler, of Schaffhausen, and only made and sold by his agents. Require very fine workmanship and cannot be made here, not probably by any establishment in India.

Pickers, ivory handles.—Part of the furniture of mathematical instrument boxes. See remarks on instruments, drawing, mathematical.

Protractors, plain, circular, electrum, 6-inch.—Require special machinery for dividing, and are not made in India.

Rules, carpenter's.—Made in many places by many firms in England, so that there has been keen competition. Messrs. Rabone stand now at the head of this branch of the trade, and no Indian maker could hope to compete with them.

Rules, parallel bar, ivory and wood.—These are noted in the list given with Mr. Buck's letter No. 65, dated 23rd August 1881, among the articles which it is understood are made at Roorkee. They were for years made here, and the manufacture was only given up when it was found that neither in price nor quality could ours compare with the English-made goods. In reply to a reference made to the Superintendent of the Canal Foundry Workshops at Roorkee, that officer states that he cannot undertake to supply us.

Scales of sorts, architect's plotting standard, of wood, paper and metal, &c.—A few of these are made here, but only when our stock of English-made scales runs short, or when a very small number of one special kind is required. It is decidedly advantageous to get all ordinary scales from England where Holtzapffel graduates them by special machinery.

Sectors, ivory and wooden.—These are made in large numbers by several firms in England and particularly by W. F. Stanley, who gives better value than any factory in India could hope to give.

Squares, set, ebonite.—Not made in India.

Sundials, universal.—Sundials, 4" dial, are included in Mr. Buck's list of articles to be procured in India. They should have been designated as "Sundials, universal," in which case Mr. Buck would probably not have included them in his list, for they are not manufactured in India, whereas the ordinary sundial to which Mr. Buck probably refers can be and is manufactured in India.

Tapes, measuring, metallic, 50', 66', 100'.—These are not made in India. In England Chesterman has no rival in this line, and our tapes are procured from him by the India Store Department.

Telescopes.—Are not made in India.

Thermometers, common, maximum, minimum, and other sorts.—These are not made in India, and even in England the trade in the better class of thermometers is in the hands of a very few firms.

Trammel heads for beam compass.—Made by Mr. W. F. Stanley, who has taken the lead in their manufacture in spite of much competition. They could be manufactured in India, and have occasionally been made in this workshop; but the cost was prohibitory and the quality not equal to that of the English articles.

Implements and tools.—These might be purchased in the local market, but as they are all made in Europe, the price would of course include the dealer's commission. The implements and tools required must, with few exceptions, be of the very best quality—not obtainable of local manufacture.

Saw-blades, files, planes, iron.—Suitable articles of this description cannot be made in India.

Crucibles, plumbago.—Not made in India, and only by one company in England.

Machine for dividing small scales.—As explained against "scales," it is not proposed to inaugurate a new manufacture, but this machine is required for redividing of old scales and for making up any small special scales that may be required. It is to be made by Messrs. T. Cook & Sons after the pattern of an instrument in their own shop, and it is not procurable in India.

MATERIALS.

Agates mounted.—Agates, plain, small, are included by Mr. Buck in his list of articles to be procured in India, and as the agates imported into England are brought principally from Arabia, India, and Saxony, the rough agates could probably be procured as cheaply here as in England; but what we require are agates cut, bored and mounted ready for use on magnetic needles of all sorts.

Cards, mounted, for Barrow's marine compass.—Ready-made parts of the instruments not procurable in India.

Catgut, English.—Used for straps (round) for driving lathes. Required to be of good quality and brought to a fairly uniform thickness—not so made in India.

Cloth, velvet.—Is not procurable here except at prices that include dealer's commission, and is therefore indented for.

Glasses, bubble, spirit, ground and divided.—Not procurable in India.

Glasses, lenses, for eye-pieces and object glasses.—Not procurable in India.

Glasses, for heliostopes 4".—Not procurable in India, though they might be made up; but Indian silvering on glass is very inferior to English, and soon becomes spotted.

Glass, plate, for tracing glasses.—Not made in India.

Glass tubes for barometers.—The tubes required to be of good glass and the bore of uniform calibre throughout the length of each tube. They are not made in India.

Gold band for mending aneroids.—Not made in India.

Knives for instrument boxes.—The remarks on instruments, mathematical, drawing apply to these also.

Mercury.—The mercury imported into England is brought chiefly from Austria, Spain, and South America. None is found in India, so that procuring it from England involves little or no unnecessary carriage.

Wire, German silver.—Is not made in India.

From Major S. H. COWAN, S.C., Officiating Assistant Surveyor-General, in charge Photographic Branch, Surveyor-General's Office, to the Surveyor-General of India, dated 21st September 1881, No. 342 P.

I have the honor to submit the indent for the stores required for this branch of your office for the year 1882-83.

2. With reference to the recent orders of Government nothing has been included in this indent which can be purchased with equal advantage in the local market: this is the case with protosulphate of iron, which formerly was procured from England, but which is excluded from this indent. Alcohol and ether for the manufacture of collodion must be very pure and of low specific gravity: the proper quality is not made in India, and the ether and alcohol now procured by the India Store Department from the London Agents of Schering of Berlin are extraordinarily cheap compared to former supplies from English makers, viz., for alcohol 1s. 8d. per litre as against 8s., and for ether 1s. 10d. as against 4s. The nitrate of silver made by Dr. Waldie has been tried; and though it cannot compare in quality with the pure dry crystals sent out by Messrs. Johnson and Mathey, answers well enough for our work, but it is Rs. 11 per kilo. dearer than the English article; a large proportion of the nitrate of silver sold in England is merely a by product of the refineries, which explains its cheapness there.

3. As has been the practice since this office undertook the publication of cadastral maps, the litho-printing paper for them is included in this indent, and also the special atlas bank post required for carbon transfers, as well as the other papers required for general zinc printing. The reason for continuing this practice instead of indenting for paper through the Stationery Department is that it is much more convenient to receive all the stores on one indent, and that, without keeping a very large stock, it is hardly possible to foresee our requirements two years in advance, as we must do when indenting through the Stationery Department. The paper, should, if possible, be obtained from Waterlow and Sons, as their tenders for the contracts offered by the India Store Department appear to be much lower than those of other makers, and it should arrive here in September 1882 at the latest.

4. The only article among the printing materials calling for special remark is the scarlet lake which has always, except on one occasion, been supplied of a dirty brick dusty tint. A sample is enclosed showing what is required, and if this quality cannot be procured, this item should be struck out of the indent, as we have a sufficient stock of the inferior kind.

5. Two new dark slides are wanted for the cadastral cameras, as the old slides are fast giving way owing to the lower corners of each frame being eaten away by the bath solution. They should be obtained from the maker of the cameras, Mr. Dallmeyer, who should be asked to make some special arrangement to prevent the bath solution soaking into the lower corners of the frames. These slides are wanted as soon as possible.

6. Cases from Zimmerman & Co. should be tin lined. There was some loss of alcohol in the last goods invoiced by this firm, which would not have occurred had this precaution been taken.

From the Government of India, to the Secretary of State for India, dated 31st October 1881, No. 1.

In continuation of our despatch No. 23, dated the 9th November 1880, we have the honor to forward, in duplicate, the undermentioned indents for stores required during 1882-83, and to recommend compliance therewith:—

- (1.) Indent for the Mathematical Instrument Department.
- (2.) Indent for the Lithographic Branch.

(3.) Indent for the Photographical Branch.

(4.) Indent for the Trigonometrical Branch.

(5.) Indent for the Solar Photography Branch.

2. We enclose copy of a letter from the Surveyor-General of India, No. 524F., dated the 6th instant. We beg to request that the instructions contained in the accompaniments thereof may, as far as practicable, be attended to.

From the Secretary of State for India, to the Government of India, dated 19th January 1882, No. 6.

I have considered in Council your letter in the Revenue and Agricultural Department, No. 1, dated 31st October 1881, forwarding five indents for stores required for the various branches of the Surveyor-General of India, and I have sanctioned compliance with the indents, with the exceptions shown in the enclosed list.

2. The explanatory letters from the Superintendent, Mathematical Instrument Department, and the Officer in charge of Photographic Branch Office, which accompany these indents, are interesting and useful, not only on account of the practical information they contain, but as evidence of the pains taken in preparing the demands. I request that, when practicable, similar reports may be transmitted with future indents from the Surveyor-General's and other Departments.

Order—dated 15th April 1882, No. 175 A.—G., Public Works.

Copy forwarded to the Secretary to the Government of Madras, Public Works Department, with the request that the explanatory reports asked for by the Secretary of State may be submitted with future indents.

(By Order.)

(Signed) L. CONWAY-GORDON, Major, R.E.,
Under Secy. to the Govt. of India.

No. 84.

ORDER—dated 26th April 1882, No. 1024 W., Public Works.

Communicated for information and guidance to the General Superintendent, Public Works Stores, and the Superintendent, Madras Harbour Works.

(True Extract.)

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

To the General Superintendent, Public Works Stores.
„ Superintendent, Madras Harbour Works.

Exd. S. T. Austin.

Spare Copies

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GENERAL
ACCOUNT.

Govt. of 1882 Madras.
PUBLIC WORKS.

To
The GENERAL SUPERINTENDENT,
PUBLIC WORKS STORES,
&c. &c. &c.

Dated April, 26th.

Issued

Recd.

Encl.

G.O., 26th April 1882, No. 1024 W.

APRIL.

Nos. 83-84.

Preparation of Indents for Stores.—Proceedings of the Government of India forwarding papers relative to the —, communicated for information and guidance to the General Superintendent, Public Works Stores, and the Superintendent, Madras Harbour Works.

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