

Educational (1902) Department.

ORDINARY PRINTED.

G.O., No. 11-12

DATED 7. 1. 02

INDEXED.

ORIGINAL

N. P.

[Despatch Abstract.]

Aluminium Industry

Informing the Govt of India that the Governor-in-Council is not in favour for the present of restricting the work of the School of Arts to army requirements & furnishing them with fuller information on the nature of experiments in manufacture that are being made at the School & of the Control exercised over importation of the raw material.

# BACK PAPERS.

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# FURTHER PAPERS.

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## Government {1902} of Madras. EDUCATIONAL.

Recd.

Regd.

} 1902.

Enclosures

Spare copies

ORIGINAL

G.O., &c., Nos. 11, 12, 7th January 1902.

N. P.

JANUARY.

### Aluminium Industry.

Informing the Government of India that the Governor in Council is not in favour for the present of restricting the — at the School of Arts to army requirements, and furnishing them with fuller information about the nature of the experiments in manufacture that are being made at the school and of the control exercised over the importation of the raw material.

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29.64

## GOVERNMENT OF MADRAS.

## EDUCATIONAL DEPARTMENT.

READ—again the following paper:—

G.O., No. 664, Educational, dated 15th November 1901.

READ—also the following paper:—

From the Hon'ble Mr. G. H. STUART, M.A., Director of Public Instruction, Madras, to the Secretary to Government, Educational Department, dated 11th December 1901, Ref. on Cur. No. 8519.

Referring to G.O., No. 664, Educational, dated 15th November 1901, communicating for remarks a letter from the Revenue and Agricultural department of the Government of India requesting fuller information regarding the nature of the experiments in aluminium being made at the School of Arts and of the control exercised over importation of the raw material, I have the honour to submit herewith copy of a letter from Mr. Chatterton, the officer in charge of the aluminium department of the School of Arts, furnishing detailed information on these points. This letter, taken with the correspondence ending with G.O., No. 522, Educational, dated 16th September 1901, will probably be found sufficient to enable Government to form an opinion on the whole subject of the continuance of the aluminium industry at the School of Arts.

If the Government of India wish, as they apparently do, to impose a limit on the operations of the aluminium department of the school, the best way of doing this is to fix a numerical limit, and to say that the sales at the school shall not exceed four lakhs annually. This is the limit proposed by Mr. Chatterton, and with less it is improbable that the object aimed at can be attained, this object being the establishment of the use of aluminium in India on such a scale that it may pay a manufacturing company to take up the manufacture of the metal in this country. If this limit is once fixed, Government will know exactly where they are, and will be relieved from the very natural fear of being involved in a series of indefinitely expanding commercial transactions. Manufacturing and trading companies will also be able to make their arrangements in full confidence that they will not have to meet a continually increasing Government competition.

Apart from these considerations, the amount of business mentioned, in aluminium and other metals combined, is required in order to run on proper lines a school of metal work such as at present forms part of the School of Arts. When this amount of business has once been secured, this branch of the school may be maintained for purely educational purposes, sufficient work being obtained to keep up and improve the outside standards of design and finish and to train apprentices in metal work so as to provide a continuous supply of efficient and artistic workmen. It will not be necessary nor even desirable that metal work should be confined to aluminium: as the use of the latter metal spreads, it may be convenient to withdraw somewhat from working it at the School of Arts and to consider what can be done locally with other metals, the limit of four lakhs for the whole of the metal work turned out being always observed.

The proposal to confine the work of the school to the requirements of the army is not, I submit, so good as the financial limit here suggested. Army work is almost all of one class and there is not much room for experiment and none for artistic development in regard to it. Work limited in this way would not help to spread the use of aluminium among the people, and thus the object aimed at in taking up this special industry would be defeated.

## ENCLOSURE.

From A. CHATTERTON, Esq., Officer in charge of the aluminium department of the School of Arts, to the Director of Public Instruction, Madras, dated 23rd November 1901, No. A/3913.

In reference to G.O., No. 664, dated 15th November 1901, communicated to me for report, I have the honour to submit the following remarks on the two main points raised by the Government of India in the department of Revenue and Agriculture in their letter No. 3007-37-2, dated 29th October 1901.

*Control of supply of Aluminium.*—To carry on the aluminium manufacturing trade in India a comparatively large stock of metal is required, and till August last this was held by the British Aluminium Company through their agents, Messrs. Best & Co., in Madras. Quite recently the funds at my disposal enabled me to take over the stock on hand, and I did so on the following verbal agreement: That the metal should be sold to me in India at the current prices ruling in London and that I should pay in addition for freight, packing, insurance and duty. That as long as I continued (as officer in charge of the aluminium department) to hold a sufficient stock to meet the trade requirements of the country no other metal would be imported into Madras except on my requisition and to my specification. That Messrs. Best & Co. would undertake to make such arrangements in connection with the supply of metal shipped to Bombay as would enable an effective control to be exercised over the quality. In virtue of these arrangements the School of Arts practically controls the supply of metal as the great bulk of the trade is centred in this presidency.

To carry on business operations I have entered into an agreement with the Indian Aluminium Company to supply them with metal till the end of 1902, and Messrs. Best & Co. have agreed to obtain all their requirements from me at a rate about 2½ per cent. in excess of what I pay for the metal when it is landed in Madras. Under these conditions I have practically a monopoly of the supply of metal to local purchasers as it would not pay any one else to attempt to compete. At the present time I hold a stock of raw metal worth about one lakh of rupees, and as I sell it to manufacturers at rates just sufficient to cover expenses, the trade gets the benefit of Government capital to that extent. If the School of Arts abandoned its present policy the firms dealing in aluminium would have to hold, each of them, large stocks on their own account and if the business did not fall off (which, however, would certainly occur) the total stock of metal would have to be probably double what is now found sufficient when it is all centred in the School of Arts, and every merchant engaged in the trade knows that he can get it on unusually favourable business terms. In this way a small amount of Government capital can be very effectively employed to assist the development of an industry. Government incur no risk, as the metal can always be sold, and they can easily at any time withdraw from the business by simply giving due notice of their intention to do so to the trade. To illustrate the economies that have been effected I may cite the fact that till I took over the whole of the British Aluminium Company's stock, the price I had to pay for sheet metal was Rupees 148-8-0 per cwt., now it averages Rs. 135 to Rs. 136 per cwt., or a saving per ton of about Rs. 250. The present rate of consumption is about 50 tons per annum, so that the saving amounts to Rs. 12,500 in a year. Formerly it was necessary to hold about half a lakh of rupees worth of stock, now I hold about a lakh, so that roughly the extra capital invested in the business yields a return of 25 per cent. The whole of the advantage I have thus obtained has been transferred to the trade and the agreement with the Indian Aluminium Company is evidence of their appreciation of it.

The object with which the aluminium department was started was to create a market for the metal so that eventually it might be made in the country. That object has not been lost sight of, and now that there is some chance of it being attained, I think it would be unwise to abandon the enterprise to the chances of private effort. The small aluminium manufacturing companies which have sprung up are not interested in the question at all. They want metal on the most favourable terms possible, but whether it comes from America, Germany, England or is made in India is to them a matter of indifference. They want to get the whole metal trade in their hands and oust the petty bazaar workers. The School of Arts places all on an equal footing and the individual workman can buy metal as cheaply if he only takes a pound or two as if he takes a hundredweight.

Under this system numerous sales of small parcels of metal occur and every effort is made to encourage them. Ultimately the bazaar will purchase the bulk of the metal and it is on the development of the bazaar trade that the success of the scheme for making metal in the country depends. In the School of Arts I am trying to develop the industry as far as I can upon the lines which seem to me to promise the greatest benefit to the country as a whole. If the work so far done be handed over to private enterprise it will then be developed in the interests of the few capitalists who are lucky enough to be able to put their money into it. In considering the question it should, I think, be borne in mind that we have of set purpose interfered with the indigenous metal trade in the hope of putting it on a better footing.

The greater our success the more interference and dislocation there will be and it is only through the agency of a Government department that this revolution can be affected without serious injury to some sections of the traders. A Government department has no private ends to serve, no necessity to make its servants sweat for their livelihood in order that a good rate of interest may be paid on its capital and it can, therefore, proceed by gentler means than a private company which is always struggling for its existence.

The Indian Aluminium Company is in a position to make its voice heard—other combinations of capitalists are similarly situated but the great mass of the metal workers of the country are unfortunately dumb and they, I think I can state with confidence, appreciate Government assistance and would be strongly in favour of its continuance. The intelligent native community look upon the metal work department of the School of Arts with great favour and would, I know, be glad to see help rendered in other directions to the industries of the country. This does not mean that they would like to see the department gradually monopolize the whole trade but simply that the scale upon which it is working now is sufficiently large to enable it to render effective help in opening out new markets, in introducing improved tools and methods of working and furnishing new designs. The department holds a commanding position in the trade and is a centre which can gradually be made an extremely important factor in the industrial development of India. To a large extent it has demonstrated what can be done by simply organizing hand labour, it has yet to show how much more can be done with skilled hand labour when it is effectively aided by suitable machinery. Practically my proposition that the metal work department should be allowed to turn out work up to a maximum of 4 lakhs a year means that it would interfere with private trade to the extent of 1 per cent. of the metal trade of the country but as it would nearly always be working on the debatable ground between indigenous and imported manufactures the actual interference with vested manufacturing interests in this country would be very small.

*Experimental work.*—The starting of the Aluminium department opened out a new field of what may be called industrial research. The whole thing was an experiment and in the earlier stages every piece of work done was experimental. Much has now been placed on a firm basis and the results are the common property of the trade. The work, however, still progresses and we are continuously trying new methods of working, making new designs and attempting to compete with imported goods. Most of these experiments end in failure but the few that succeed pay the cost of the failures. An immense amount of work has been done for the native army and the very large number of experimental sets that have been made and tried has resulted, I understand, in the equipment of native regiments being the best and most convenient of any army in the world. Similar work has been done and is still being done for British troops but for reasons with which the Government of India are well acquainted it has not been found possible to make such rapid progress. The problems to be solved are more difficult both from the manufacturers' and from the administrators' point of view and the only success we have so far met with is entirely confined to the supply of articles in which commanding officers and men have some voice in the selection. It is, I think, a doubtful matter if any private firm engaged in trade in India could afford or would be willing to undertake the experimental work now done in the School of Arts. As I have before explained it absorbs the greater part of our profits and the results justify the expenditure. Besides our own experiments we are always making up new designs and patterns for other firms and such work though very useful and occasionally resulting in profitable business, generally gives us an immense amount of trouble and worry which is never paid for directly.

I have always borne in mind that the only justification for Government intervention in commercial and manufacturing affairs is that it should have a perfectly definite object in view and one which if successfully attained would be of general benefit to the community at large. In the case of the Aluminium industry the ultimate object has always been clearly defined and in the efforts to prepare the way very considerable subsidiary problems have had to be attacked and the successful solution of some of these should not be regarded as in any way affecting the real end of all our work. The manufacturing work we have had forced upon us because no one else would take it up has become an important technical development but it should not be allowed to obscure the main issue which is the establishment of a factory for producing the metal by electrical methods from raw materials.

I hope the above statement of the case will enable the Government of India to come to a conclusion other than that they have expressed in the letter you have referred to me.

ORDER—No. 11, Educational, dated 7th January 1902.

The Government of India will be addressed.

(True Extract.)

C. J. WEIR,  
Ag. Secretary to Government.

LETTER—No. 12, Educational, dated Fort St. George, 7th January 1902, to the Secretary to the Government of India, Department of Revenue and Agriculture.

In reply to your letter, No. 3007—37-2 of the 29th October last, on the subject of the trade in aluminium carried on in the Madras School of Arts, I am directed to forward copy of a communication dated 23rd November 1901, No. 3913, from the officer in charge of the aluminium branch of the school, furnishing the information required by the Government of India regarding the nature of the present experiments in manufacture as carried out in the school and of the control exercised over the importation of the raw material. The Committee on industrial education mentioned in Mr. Hewett's letter, No. 570 (Education) of the 4th ultimo, will presumably review the experiments while on tour here next month, and His Excellency the Governor in Council proposes to invite their criticisms.

2. With reference to the suggestion of the Government of India that the operations of the School of Arts should in future be restricted to the supply of military requirements, I am to observe that the work for the army is almost entirely of one class and affords little room for experiment and none for artistic development. If such a limitation were to be decided upon, it would not help to spread the use of aluminium among the people, and the object aimed at in taking up this special industry would be defeated. The Governor in Council is not, therefore, in favour, for the present, of any restriction of the kind suggested. He does not however contemplate the indefinite continuance of the connection of Government with the business. He has placed a financial limit on the operations and decided that during 1902-1903 the gross expenditure should not exceed 2.50 lakhs. The experience gained during next year will, it is hoped, place him in a better position to decide what financial and other limitations may appropriately be prescribed.

C. J. WEIR,  
Ag. Secretary to Government.

NOTES CONNECTED WITH G.O., Nos. 11 AND 12, EDUCATIONAL,  
DATED 7TH JANUARY 1902.

[SUBJECT.—*Aluminium Industry.*]

*From the Director of Public Instruction, R.C. No. 8519, dated 11th December 1901.*

*For the Assistant-Secretary—*

In the letter from the Government of India printed in G.O., No. 664, Educational, dated 15th November 1901, that Government expressed the opinion that the work in aluminium at the School of Arts should be limited to the supply of army requirements. Before, however, passing final orders they desired to have the views of the Governor in Council on this suggestion. They desired also to have further information regarding the nature of the experiments now being carried on at the School of Arts and of the control exercised over the importation of the raw material.

2. In regard to the restriction of the manufacture and sale, the Director says that army work is almost all of one class and that in it there is not much room for experiment and none for artistic development. He thinks that work limited in this way would not help to spread the use of aluminium among the people and that the object aimed at in taking up this special industry would thus be defeated. In his opinion a better plan would be to fix a financial limit for the sale at the school and to say that this sale shall not exceed four lakhs annually. Should these views be accepted and the Government of India informed accordingly? The financial limit seems to be out of the question, especially without any limit as to time. The amount, if any, should, it seems, be left for settlement at the time the annual budgets are prepared and the decision thus arrived at should hold good only for the year to which the budget relates. For 1902-1903 a grant of Rs. 2,50,000 has been allowed for aluminium alone: whether anything can be given for 1903-1904 has been left for consideration next year. Matters should go on in this way from year to year.

3. The further information required by the Government of India about the nature of the experiments and of the control exercised over the importation is furnished in Mr. Chatterton's letter, copy of which is forwarded by the Director. A copy of this letter may be sent to the Government of India.

4. Mr. Chatterton's action in entering into agreements with the British and Indian Aluminium Companies seems to be of doubtful propriety as it is capable of being viewed differently by different people. In G.O., No. 323, Educational, dated 10th June 1901, Mr. Chatterton was distinctly told that he could enter into agreements

This is a side point and can be considered when the more important questions in the current have been disposed of.

A. T. PRINGLE.  
17-12-01.

P. T. THARYAN.  
14-12-01.

*Secretary—*

In his note dated the 16th instant, His Excellency said that Government could not contemplate the continuance of the aluminium business "for much longer", and the latest order on the subject (G.O., No. 741, dated 13th December 1901) permits

on his own responsibility only up to a limit of Rs. 5,000. The agreements just mentioned must be beyond this limit, and the Director does not say whether they were made with his approval. He may perhaps be asked to report.

the manufacture to go on for a year from 1st April next. If this is adhered to, it will be rather contradictory to discuss thus early the sales, and limitations to four lakhs, and so on, in 1903-1904\* and subsequently. The danger to the continuance of the business is probably in England; if questions are asked in the House of Commons and the Secretary of State has to say that sales to the extent of four lakhs of rupees to the public as well as to the army and Government departments are permitted, pressure may be put on him to cancel any such arrangements.

2. It is believed the safest plan will be to abide by the temporary † arrangement of the 13th instant; to tell the Government of India that under the circumstances the restriction of sales to the Military department would be prejudicial to the experiment; and to ask for leave to go on as at present within the  $2\frac{1}{2}$  lakhs limit.

A. T. PRINGLE.  
17-12-01.

Honourable Member—

We may forward Mr. Chatterton's letter to Government of India and inform them of the limitation imposed on the transactions by our recent order. Also that for the present we think for the reason given by the Director it is undesirable to restrict the output to requirements of the Military department. Government of India may probably find something to criticise Mr. Chatterton's description as to how he has secured control of the supply of raw material, but his method is apparently effective.

C. J. WEIR.  
17-12-01.

Yes.

I don't know if it is necessary to point out that the committee on industrial education will no doubt review the experiment when on tour here.

J. T. [HOMSON].  
18-12-01.

We might say something about this in draft and say we would invite the criticisms of the committee.

C. J. WEIR.  
19-12-01.

Secretary—

The draft placed below may issue.

P. T. THARYAN.  
24-12-01.

A. T. PRINGLE.  
24-12-01.

Honourable Member—

I think the words between square brackets might be omitted. We need not promise an early withdrawal though this is no doubt what we contemplate; but it might be advisable to continue aluminium manufacture for the army and Government institutions even after the industry was established for the reason that this would furnish Government with an extensive self-supporting industrial school. If this view is accepted, we might alter the last part of the draft slightly and say that Government did not favour the proposal to limit the output to army requirements during the present experimental stage, but that it did not expect that it would be necessary for Government to "pioneer" the experiment for more than a very few years, and that thereafter if its connection with the aluminium industry was continued Government's activity would be limited to the supply of goods required by the army and other

Government departments. We might add that we think the continuance of Government's connection with the development of industry for supply of army, etc., might be justified by the consideration that an industrial school under the control of Government officials would be thereby furnished.

C. J. WEIR.  
26-12-01.

The less we say now the better till we can speak with better knowledge. The draft may go.

J. T. [HOMSON].  
28-12-01.

A clean proof.

A. T. PRINGLE.  
30-12-01.

A clean proof is placed below: the letter may now issue.

P. T. THARYAN.  
2-1-02.

To issue.

A. T. PRINGLE.  
2-1-02.

## Educational (1901) Department.

CURRENT No. 1729

From

[Name] The Honble Mr. G. H. Stuart, M.A.,

[Designation] Director of Public Instruction,

[Station] Madras.

Put in type with  
notes & draft order  
& show proof  
2/2  
20/12/01

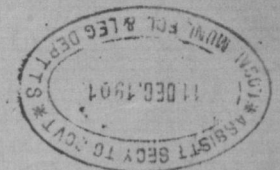


Exhibit No. 8519/01.

Dated 11<sup>th</sup> December 1901.

Enclosures One

Received 1901

Registered 11-12-1901

## SUBJECT.

Submitting remarks on letter from the Govt. of India on the subject of limiting the Aluminium industry at the School of Arts to the supply of army requirements.

## BACK PAPERS.

G.O. 664 of 15-11-01  
" 522 of 16-9-01  
" 323 of 10-6-01  
" 40 of 24-1-01

} Copy

G.O. 675 of 20-12-00  
" 670 of 7-11-00  
" 174 of 10-9-00  
" 506-05 of 5-8-99

} Copy

## FURTHER PAPERS.

To

The Secretary to Government,

Educational Department.

Sir,

Referring to G.O.No 664, Educational, dated 15th

November 1901 communicating for remarks a letter from the Revenue and Agricultural Department of the Government of India requesting fuller information regarding the nature of the experiments in Aluminium being made at the School of Arts and of the control exercised over importation of the raw material, I have the honour to submit herewith copy of a letter from Mr. Chatterton, the officer in charge of the Aluminium department of the School of Arts furnishing detailed information on these points. This letter taken with the correspondence ending with G.O.No 522, Educational, dated 16th September 1901 will probably be found sufficient to enable Government to form an opinion on the whole subject of the continuance of the aluminium industry at the School of Arts.

If the Government of India wish, as they apparently do, to impose a limit on the operations of the aluminium department of the school, the best way of doing this is to fix a numerical limit, and to say that the sales at the school shall not exceed 4 lakhs annually. This is the limit proposed by Mr. Chatterton, and with less it is improbable that the object aimed at can be ~~obtained~~ <sup>attained</sup>, this object being the establishment of the use of aluminium in India on such a scale that it may pay a manufacturing Company to take up the manufacture of the Metal in this country. If this limit is once fixed, Government will know exactly where they are, and will be relieved from the very natural fear of being involved in a series of indefinitely expanding commercial transactions. Manufacturing and trading Companies will also be able to make their arrangements in full confidence that they will not have to meet a continually increasing Government Competition.

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READ AGAIN G.O., No.  
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CURRENT No.

ENCLOSURES TO G.No.

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LETTER OF GOVERNMENT.

STATEMENT WITH DITTO.

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