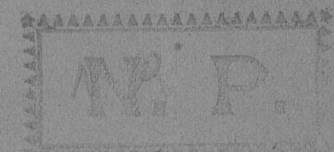


Educational (1902) Department.

ORDINARY PRINTED.

G.O., No. 720

DATED 21. 11. 02



INDEXED.



ORIGINAL.

[Despatch Abstract.]

School of arts

Stating that no orders will be passed on the proposal to purchase more machinery in connection with the weaving experiments carried on at the — until the receipt of the orders of the Govt of India upon the report on industrial education.

20/11

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

Government {1902} of Madras. EDUCATIONAL.

Recd.

Regd.

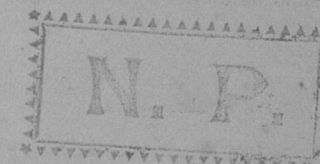
} 1902.

Enclosures

Spare copies

ORIGINAL

G.O., No. 720, 21st November 1902.



NOVEMBER.

School of Arts.

Stating that no orders will be passed on the proposal to purchase more machinery in connection with the weaving experiments carried on at the — until the receipt of the orders of the Government of India upon the report on industrial education.

GOVERNMENT OF MADRAS.

EDUCATIONAL DEPARTMENT.

READ—again the following papers :—

G.O., No. 588, Educational, dated 23rd September 1902.

Read—the following paper :—

From the Hon'ble Mr. G. H. STUART, M.A., Director of Public Instruction, to the Secretary to Government, Educational department, dated 12th September 1902, Ref. on C. No. 6023.

I have the honour to submit, in triplicate, an indent for Europe stores required for the weaving department of the School of Arts, and to request that it may be forwarded to the Secretary of State for sanction. Mr. Chatterton states that the stores may be procured from Messrs. Butterworth and Dickinson, Burnley, England, with whom he has been in correspondence regarding the possibility of providing suitable preparatory machinery for weaving with hand-looms.

2. The total cost, including freight, will be slightly over Rs. 6,000, and may be met partly from the provision of Rs. 5,000 under the head "Tools and Plant" in the budget of the School of Arts, and the balance by transferring to this head a sufficient sum from the allotment for materials.

Order—No. 588, Educational, dated 23rd September 1902.

The Director is requested to explain and justify the proposed expenditure fully.

(True Extract.)

A. T. PRINGLE,
Assistant Secretary to Government
in charge.

To the Director of Public Instruction.

READ—also the following paper :—

From the Hon'ble Mr. G. H. STUART, M.A., Director of Public Instruction, to the Secretary to Government, Educational department, dated 14th October 1902, Ref. on C. No. 6023.

With reference to G.O., No. 588, Educational, dated 23rd September 1902, I have the honour to submit a copy of a letter from Mr. Chatterton, in which he fully explains the necessity for the weaving machinery indented for.

The work in the weaving department of the School of Arts has so far been purely experimental : as far as can be judged at present there seems good reason to suppose that the experiments will be successful if Government gives its full support.

Experiments naturally cost money, and for some time to come it must be expected that the expenses of the weaving department will exceed its receipts.

ENCLOSURE.

From A. CHATTERTON, Esq., Officer in charge of the School of Arts, to the Director of Public Instruction, dated Madras, 6th October 1902, No. 710.

In reply to your Reference on C. No. 6023, dated the 14th October 1902, I have the honour to submit the following report.

The weaving department of the School of Arts is entirely engaged, in endeavouring by means of experiments, to ascertain if the system of weaving in vogue among the natives of this country can be improved. The monthly expenditure averages Rs. 800 and the monthly value of the goods turned out is about Rs. 350, so that the cost of maintaining the department at the present time is about Rs. 450 a month, or Rs. 5,400 a year. The expenditure may be divided under the following sub-heads :—

	RS.
Superintendence	200 a month.
Establishment	42 "
Rent	75 "
Miscellaneous	33 "
Cost of materials and weaving	450 "

The last item may be sub-divided into three heads—

- (1) cost of materials,
- (2) cost of dressing and preparatory processes, and
- (3) cost of weaving.

For the last three months I have had these items carefully worked out and I submit them in a tabular form below :—

								Expenditure.					
								RS.			A. P.		
July 1902—													
Dressing	..	..	..	..	..	..	..	114	5	6			
Materials	..	..	..	..	..	..	..	104	12	0			
Weaving	..	..	..	..	..	..	..	187	10	4			
								406			11 10		
August 1902—													
Dressing	..	..	..	..	..	..	..	155	11	3			
Materials	..	..	..	..	..	..	..	134	4	11			
Weaving	..	..	..	..	..	..	..	189	10	11			
								479			11 1		
September 1902—													
Dressing	..	..	..	..	..	..	..	145	14	4			
Materials	..	..	..	..	..	..	..	122	1	3			
Weaving	..	..	..	..	..	..	..	168	9	4			
								436			8 11		

Value of outturn.

1902—				
July		323	13	4
August		321	0	7
September		360	3	8

From these statements it will be seen that the value of the outturn of goods produced is considerably less than the cost of manufacture. In an experimental stage this of necessity must occur, but from the analysis of the expenditure it is obvious that it should be susceptible of considerable diminution, and, in fact, if the system on which we are working is to become successful, it is absolutely necessary that, instead of being less, the value of the outturn should materially exceed the cost of these items. Under the heading "Dressing" come all preliminary processes previous to the actual weaving of the cloth in the loom. These charges are very high and in fact the material is more than doubled in cost before the weaver actually touches it. The cost of the yarn is an item beyond our control and cannot be reduced. The cost of weaving is not excessive when compared with native methods of working under similar circumstances,

and there is no doubt that it would be greatly reduced if the preliminary processes were carried out in a more satisfactory manner. As you are aware we have substituted the European hand-loom for the native hand-loom in weaving with the result that we undoubtedly turn out a class of goods which the dealers report to be equal to the best quality supplied by the native weavers. The outturn of each loom averages about the same as the outturn of native looms, but when the circumstances are favourable the outturn is sometimes more than double and I am quite convinced that if the dressing processes were of a more satisfactory nature the average outturn of the European hand-loom will be at least double that we now obtain. If the outturn of the loom was doubled the cost of production would be diminished under this head by about one-third, as of course we should have to pay more to each individual weaver for his day's work though the amount would be less for each yard of cloth. It therefore appears that the cost of dressing yarn and preparing for the loom is excessive and the result unsatisfactory. If better processes were introduced, I think it is quite possible that fully 50 per cent. of the expenditure under this head could be saved and a much better warp produced. I have therefore devoted considerable attention to this part of the weaving processes, and I have carefully studied the various methods employed in this country and elsewhere. I have been in correspondence with the principal makers of warping and dressing machinery at home and, as the result of my investigations, I submitted the indent for machinery which was forwarded with my No. 467 of the 12th August 1902. I am by no means certain that this machinery will solve the hand-weaving problem, but I have convinced myself that it offers the best probable solution of the difficulties which we have to overcome. The individual machines are in common use all over the world and as to the certainty of their working there is no doubt; the only point is whether this combination of machines will enable us to produce thoroughly well-sized warps arranged with mechanical accuracy at a cost considerably less than that we are now paying for imperfect sizing and irregular warping. Should the plant prove successful the cost of warping should be reduced by from one-third to one-half and the superior quality of the warps should enable the weavers to turn out double that they are now doing. The devising of this experimental dressing plant is practically the outcome of all our work up to date, and I hope that Government will allow it to be purchased in order that it may be given a fair trial. If, with this plant, we succeed in realizing our anticipations, it will effect a considerable change in the methods of work now pursued by the weavers in this country. This plant, costing slightly over Rs. 6,000, will be sufficient to keep about 200 weavers supplied with warps, and if we can practically demonstrate that its introduction is a profitable business, it will probably lead to the establishment of small warping and dressing mills all over the country from whom the weavers will receive ready-prepared warps and will return finished woven goods. Our first step then will be to ascertain the possibility or otherwise of successfully working a small factory equipped with this machinery and with European hand-loom. If success is attained, I think there is but little reason to doubt that capital will flow into the weaving trade and that our installation will be the forerunner of many similar ones.

ORDER—No. 720, Educational, dated 21st November 1902.

The Government will not pass orders on the proposal to purchase more machinery in connection with the weaving experiments until they are in receipt of the orders of the Government of India upon the report on industrial education. The Government of India have now that report under consideration.

(True Extract.)

M. HAMMICK,
Secretary to Government.

To the Director of Public Instruction.

EDUCATIONAL DEPARTMENT.

NOTES CONNECTED WITH G.O., No. 720, EDUCATIONAL, DATED 21ST NOVEMBER 1902.

[SUBJECT.—*Machinery required for the weaving department of the School of Arts.*]

From the Director of Public Instruction, dated 12th September 1902, No. 6023.

The value of the stores is estimated at £394: this comes to about Rs. 6,000. The Honourable Member said the other day that weaving was not expected to develop; if so, it seems inadvisable to incur this heavy outlay on machinery.

P. T. THARYAN—18-9-02.

If weaving is to be developed, it is not certain that the present Superintendent is specially qualified—his industry and commercial proclivities apart—to develop it, and Mr. Coombes doesn't appear good for much.

2. But however this may be, I venture to think that until the Government see their way more clearly than at present, such a large expenditure is undesirable.

A. T. PRINGLE—19-9-02.

The Director now is getting beyond all understanding. I suppose there is only his letter and these indents for I see no other papers. Tell the Director to explain and justify this proposed expenditure fully.

J. T[OMSON]—21-9-02.

The draft placed below may issue.

P. T. THARYAN—22-9-02.

A. T. PRINGLE—23-9-02.

[G.O., No. 588, Educational, dated 23rd September 1902.]

From the Director of Public Instruction, dated 14th October 1902, No. 6023.

Orders are solicited as to whether the indents may be forwarded to the Secretary of State for sanction. As observed on the previous occasion, the whole thing is an experiment and a rather costly experiment too.

P. T. THARYAN—17-10-02.

Perhaps Mr. Hammick or the Honourable Member might go into this question on the spot in November? If the experiments succeed, it cannot be said that the money will have been wasted. What I venture to think, however, is that even now there is too much "generality." We are told that certain common * machines are to be combined, and that if the combination

* As according to the indent.

A. T. PRINGLE.

is successful, the cost of warping will be reduced and the quality of the warps so improved as to enable weavers to double their outturn. As clever inventors as Mr. Chatterton have of course given attention to much the same point before—have invented and patented manufactures which promised success—and then in practice some little flaw ruined everything: the patent publications of America and England are full of the specifications of such inventions, and inventors come to shipwreck

oftener over combinations than over any other class of inventions. If it is decided to send home the indent, it might be well to require Mr. Chatterton to state clearly the method of combination in each case and to ask the Secretary of State to obtain expert opinion in England on the *prima facie* probabilities of success.

A. T. PRINGLE—18-10-02.

Until Mr. Chatterton pleases to put his devisings clearly on paper so that they can be submitted to and judged by experts on the subject we cannot be rushed.

2. Best let the matter alone till we get to Madras and can get some understanding from Mr. Chatterton direct.

J. T[OMSON]—19-10-02.

This may perhaps be now resubmitted to the Honourable Member.

P. T. THARYAN—27-10-02.

Now.

A. T. PRINGLE—30-10-02.

I have not been able to arrange a meeting yet with Stuart and Chatterton. If the Secretary can do so I shall attend.

J. T[OMSON]—9-11-02.

I do not understand the Assistant Secretary's remarks. There is no question of invention; the only question is Mr. Chatterton is to test combination of machines to produce a given result. This is simply the work of any business manager. Mr. Chatterton may have hit upon the best kind of plant or may not, but in any case there is no invention about the business.

2. Please telephone to Mr. Stuart and ask him if he can meet Mr. Thomson and myself and Mr. Chatterton on Wednesday next at 7-30 A.M. at the weaving place on the Mount Road, and tell him if he can tell Mr. Chatterton to be there with Mr. Coombes and to telephone a reply, and then I can tell Mr. Thomson on Council day.

M. HAMMICK—9-11-02.

With all respect to the Secretary, and writing as an *ex-Patents* Secretary to the Government of India for three and-a-half years, I beg to state that it will not be lawful for Mr. Chatterton in certain circumstances to combine "machines to produce a given result", and such combining is a combination as likely as not to be an infringement of existing patents. And the "very process" may have been patented in some cases.

A. T. PRINGLE—10-11-02.

Telephone to the Director, dated 10th November 1902.

Telephone from the Director, dated 10th November 1902.

I submit these papers again. The Honourable Member has seen Mr. Chatterton and the Director at the weaving premises on the Mount road this morning.

2. Briefly put the matter stands thus. Mr. Chatterton was told by Government to try and find out by experiment whether hand-weaving in this country could be improved, that is to say, whether he could find methods of economy in labour to enable a larger profit to be made than is now possible on the outturn.

He has made experiments and he is satisfied that if he could, for instance, slightly cheapen the production of the "Madras" handkerchief, weavers in Madras and elsewhere would find plenty of work for their looms at a profit.

He finds that in the cost of materials, dressing the thread and weaving, the best chance of effecting economy is in the dressing, and that if he could at once cheapen the cost of dressing and make the process more effective possibly a real solution would be found of the question of making hand-weaving a paying industry.

Mr. Chatterton has therefore devoted his attention to discovering the best combination of machinery for dressing—machinery that can be worked effectively by handpower.

3. He now proposes to send home and get out this machinery at a cost of Rs. 6,000. The machinery will replace the rough native processes which are used at present for the preparation of the warp.

It must be distinctly understood that the whole thing is an experiment and as likely as not will fail, that is to say, it may be found that the process and machinery do not cheapen production, that natives will not take to the system, or that climate, etc., is against it.

If the thing succeeds Mr. Chatterton would apparently then set up the machinery in Madura or Salem to show the weavers on the spot how they can work it, and try to get them to combine to set up machinery for themselves.

4. Mr. Chatterton points out that no private enterprise can be expected to start a costly experiment of this kind merely on a chance that it may succeed. He says that the result of his work in this weaving experiment, so far, is to show fairly conclusively, that nothing can be done to help the hand-weaver except in the direction he now proposes. He cannot make the handloom very much more efficient than it is at present, and the only direction for economy seems to be in the matter of dressing the thread for the warp.

5. It must be further understood that as the machinery Mr. Chatterton proposes to get out will produce material enough to keep 200 weavers employed, he will—if it proves a success—ask Government to extend the weaving operations—he has now only 30 looms—and purchase more looms and employ more weavers. There will be no objection to this, and no doubt if the experiment is to be a really sound one it must be tried upon a larger scale than is now the case.

In this case—different from aluminium—there are probably no manufacturers in India who will begin to howl at interference with their trade.

6. The question now is—shall Mr. Chatterton be allowed to go on with the experiment or shall the weaving experiment be stopped?

It is quite clear from conversation with Mr. Chatterton that personally he has not much hopes of success, and it is more likely than not, that the experiment will prove futile.

7. But the same may be said of half the experiments that are made, especially in agriculture, and this of course is the very reason why Government and Government alone can conduct the experiments. The weaving industry in Southern India is certainly not in a condition to carry out such experiments and won't do so, and granted that the only chance of maintaining hand-weaving in Southern India is the discovery of more effective and cheaper processes for preparing the warp it seems quite within the proper province of Government to see the experiments made and pay a small sum for the work.

8. The aluminium business about which we have had so much trouble stands on entirely different footing from weaving. There we were more or less competing with persons who were trying to do the same work as a private enterprise, and Government was obliged to enter into a retail business for which it is eminently unsuited. However, even as regards aluminium—if Mr. Chatterton succeeds in parting with the business now without much loss, Government will have succeeded in establishing an industry in Madras which will give employment to a considerable number of workmen and bring a not inconsiderable amount of wealth into the country.

9. As regards weaving it is different: here we are trying to keep going an industry which gives employment to a large section of the population, but which

owing to competition with modern machinery is gradually dying out. It seems worth the sum proposed to make the experiment, but if the Government sanctions the proposal, it should do so with full recognition of the fact that it may as likely as not be a failure.

Even if the experiment succeeds it will be a work of great difficulty to get the weavers anywhere to adopt it. It involves the expenditure of a considerable amount of capital and hand-weavers could only succeed by effecting large combinations. Three or four hundred families would have to combine to start the new methods and purchase the machinery required, or some independent company would have to start separately the business of preparing the warp—in which case the weavers who now prepare their own material would have to find other directions for the female and child labour now used in doing this work. All these and other considerations make it difficult to suppose that in India any experiment of the kind proposed will succeed; but as long as there is a chance of success, it seems worth while making the attempt.

10. The matter is submitted for orders.

M. HAMMICK—12-11-02.

See paragraphs 32, 33, 34, pages 5, 10, 11, 19, 20, 21 of volume 1 of the Report on Industrial Education, sent herewith. With reference to proposals therein and pending Government of India's orders, I think we ought to incur no expenditure on experiments in weaving in Madras.

J. T[HOMSON]—13-11-02.

With reference to the Honourable Member's remarks, it seems clear that, if the Government of India adopt the scheme of the Industrial Commission, weaving experiments must cease in Madras. I mentioned this matter to Sir Edward Law who was talking very sympathetically of Mr. Chatterton's efforts. He remarked that he thought there was no reason for Madras to stop work—on what he considered a most valuable experiment. He seemed, however, to have most extraordinary ideas of the Madras weaver's power of adapting himself to circumstances and said, if the employment of women on preparing the thread ceased, weavers would of course employ their wives in working looms instead! He expected in a very short time to see the weaver's wife seated at a fly shuttle loom, throwing the shuttle!

2. Perhaps we might write to India and point out the difficulty and say that, not knowing their intentions, this Government does not like to spend the money and ask for their opinion.

M. HAMMICK—15-11-02.

The matter is not pressing us and India has already indicated its intention of issuing orders soon. I would let things rest.

J. T[HOMSON]—19-11-02.

The draft placed below may issue.

P. T. THARYAN—20-11-02.

A. T. PRINGLE—20-11-02.

M. HAMMICK—20-11-02.

[G.O., No. 720, Educational, dated 21st November 1902.]

Educational (1902) Department.

CURRENT No. 1534

From

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

[Designation] *Director of Public Instruction*

[Station] *Madras*

DESPATCHED

14 OCT. 1902

Referral No. *6023 of 01*

Received *15 OCT 1902* 190 .

Dated *14th October* 1902.

Enclosures *one* Registered *S* 190 .

SUBJECT.

Sub: for the information of Govt. copy of a letter from Mr. Chatterton in which he fully explains the necessity for the weaving machinery indicated for.

BACK PAPERS.

FURTHER PAPERS.

To

The Secretary to Government,

Educational Department.

Sir,

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The work in the weaving department of the School of Arts has so far been purely experimental: as far as can be judged at present there seems good reason to suppose that the experiments will be successful if Government gives its full support.

Experiments naturally cost money, and for some time to come it must be expected that the expenses of the weaving department will exceed its receipts.

I have the honour to be,

Sir,

Your most obedient servant,

G. H. Stuart

Director of Public Instruction.

The matter is not pressing
as Lord India has already
decided its intention of issuing
orders soon. I would let the
rest be.

Kindly to please the
papers by the order -

"Government will not pass orders
on the purchase of machinery in connection
with the weaving experiments,
until they are in receipt of the
report of the Govt of India upon the
Report on Industrial Education.
The Govt of India have now
under consideration that
report -

20.11.20

Further communication to the Govt of India so that
they know what is the position of the
report of the Govt of India upon the
Report on Industrial Education.

48
With reference to the Hon. Member's remarks - it seems clear that if the Govt of India adopt the scheme of the Industrial Commission, leaving experiments must cease in Madras. I mentioned this matter to Sir Edward Daulton who was talking very sympathetically of Mr. Chatterton's efforts. He remarked that he thought there was no reason for Madras to stop work - in which he considered a most valuable experiment. He seemed, however, to have most extraordinary ideas of the Madras weavers' power of adapting himself to circumstances. He said if the employment of women in preparing the thread ceased, weavers would of course employ their wives in working looms instead! He expected in a very short time to see the weavers wife seated at a fly shuttle loom, throwing the shuttle!

Perhaps we might write to India & point out to the difficulty & say that with knowing their intention, the Govt does not like to spend the money & ask for their opinion.

W. H. A.
15

A typed copy of the draft is placed below.

PH
207/1/2

(See page 8)

” ” ” ” ” ” 190

C. No. 1534, From the D. P. I. , No. 6023, dated 14th October 190

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20/11/2

M.H.
20-11-02.

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21/11

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ENCLOSURES TO G. No.

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LETTER OF GOVERNMENT.

STATEMENT WITH DITO.

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