[ Edl. / 6. ]

800—15-7-01.

# Educational (1903) Department.

ORDINARY MS.

G.O., No 300 ✓

DATED 20. 6. 03

INDEXED.

[Despatch Abstract.]

Manufacture of Chrome Leather.

Stating that Mr Chatterton should be requested to formulate in full detail his proposal regarding the ——.

Printed in S.O. No 434 dated 12-9-03

PRINTED IN G.O., dated 12 9

Sept 1903, No. 434

## BACK PAPERS.

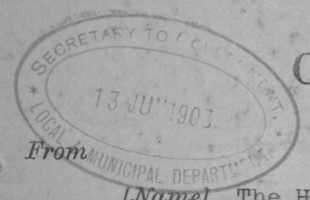
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## FURTHER PAPERS.

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1,000-11-3-01.

# Educational (1903) Department.




## CURRENT No. 943

*From*

*[Name]* The Hon'ble Mr. G.H. Stuart, M.A.,

*[Designation]* Director of Public Instruction,

*[Station]* MADRAS.

*Reference No.* 4111 of 03,

*Dated* 11th June *1903.*

*Received* 13-6- *1903.*

*Enclosures* Nil

*Registered* 13-6- *1903.*

SUBJECT.

Submitting, with remarks, letter from the Officer in charge, School of Arts, Madras regarding the manufacture of chrome leather.

BACK PAPERS.

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FURTHER PAPERS.

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To

The Secretary to Government,

Educational Department.

Sir,

Mr. Chatterton reports that in connection with well irrigation in this Presidency about ten lakhs of hides are annually used in making water buckets, that the buckets so made decay and become unserviceable in a very short time owing to the inferior quality of the leather, that chrome tanned leather being peculiarly adapted to resist the action of water and air is an almost ideal substance for water bags, and that if it can be successfully manufactured in this country it would be of great advantage to the ryots. He adds that no private agency will take the initiative in the matter but that if Government will take the initial steps he has no doubt private enterprise will follow. He accordingly requests that he may be permitted to make preliminary experiments in the manufacture of chrome tanned leather and that a sum of Rs 2 000/- may be sanctioned for the purpose. He does not hope to be able to manufacture chrome tanned leather of the superior quality turned out in England and in America but he thinks it is very probable that his experiments will lead to the manufacture of a leather which will be decidedly superior to and more durable than the country hides of which water bags are now made. The proposal seems to be a good one and I have therefore the honour to submit for the favourable consideration of Government a copy of his letter on the subject. If Government be pleased to approve of the general outlines of the scheme I shall ask Mr. Chatterton to state in greater detail what he proposes to do with the Rs 2 000/- or such other sum as may be needed.

2. Mr. Chatterton considers that a valid patent could be obtained for water bags made of chrome tanned leather. I am very doubtful about this. There is nothing to prevent the people who make water bags from using chrome tanned leather for the purpose if they can get it here. At present, they cannot. The acquiring of patent rights is however not essential to the success of the enterprise.

I have the honour to be,

Sir,

Your most obedient servant,

J. A. Scott

For Director of Public Instruction.

No. Al./885. Dated 28th May 1903.

From

The Officer in charge,

School of Arts,

Madras.

To

The Director of Public Instruction,

Madras.

Sir,

I have the honour to report that during the progress of my enquiries into the state of the leather industries in this Presidency I have come across certain facts and from them have arrived at certain conclusions which I think it desirable to bring to your notice.

From a return furnished to me by the Board of Revenue for the year 1900-01 I find that there are 471,157 wells irrigating 1,028,667 acres and 144 363 wells which afford a certain amount of supply to 142 679 acres, making a total number of 615 520 wells irrigating 1 171 346 acres. From many of these wells the water is lifted by some form of piccotah or other in which an iron bucket is used for holding the water. But in the vast majority of cases the water is drawn from the wells in leathern buckets. These buckets are usually made by trimming two hides to the requisite shape and sewing them together. In constant use they seldom last more than six months and when only used occasionally their life varies from 9 months to perhaps two years, at any rate it will not be far wrong to assume && that as many as 500 000 new buckets are manufactured every year, costing an average of Rs 6 each, so that on this well irrigation a sum of Rs 30 lakhs is annually expended in providing buckets for lifting water. These buckets are made of country tanned leather of a very inferior tannage and their short life is due to the carelessness with which they are handled. Constant immersion in water and subsequent exposure to a hot sun rapidly destroys the leather and it is a well known fact that water buckets are a serious trouble to ryots. I have carefully studied all the

information available on the subject of chrome tanning and I have come to the conclusion that the manufacture of chrome tanned leather for water buckets offers very considerable prospects of commercial success. In this case it will not be necessary to manufacture a leather to compete with the finest products of Europe and America but simply to turn out something superior to the very inferior, locally made, article. It is probable that the native leather now used, but I think there is no doubt that the chrome tanned leather would cost somewhat more than even moderately well tanned chrome leather will outlast native leather employed for water buckets many times over; and, if the ryots once became convinced of this, there is not the least doubt that they would ~~rapidly~~ readily pay a considerably higher price for chrome tanned leather water buckets. In this connection I may be permitted to quote from a recent book on the manufacture of leather the following paragraphs headed "Characteristics of Chrome Leather" "Chrome leather has special and peculiar qualities which distinguish it from all kinds of leather and these special features cause it to be a superior fabric for all the purposes for which the leather is used. It has been often stated that chrome leather is water-proof, but this is not a proper term to use in connection with it. It should more properly be called "non-absorbent". All kinds of leather produced with tanning absorb water readily, like a sponge, while chrome leather does not absorb the water but resists it or sheds it like the feathers of a duck. In fact it is a difficult matter to thoroughly wet chrome leather when once it is dry. Again, water and air are the agencies in Nature, which promote decomposition and decay, and as tannin and hide substance are both organic materials, and when combined, as in the case of bark tanned leather and subjected to a process of wetting and drying, such leather will eventually, but surely, deteriorate and become rotten. Chrome leather, on the other hand, being a combination of inorganic material with a hide substance and subjected to the same process of wetting and drying, shows no effect whatever; in fact the oftener chrome leather is wet and dried the softer and more flexible it becomes. Even subjecting to boiling water apparently has

no

no effect upon it, while any other sort of leather produced with tanning and placed in boiling water is utterly destroyed.

Moreover, chrome leather is of much lighter weight than bark leather and this is a decided advantage for almost all purposes for which leather is used."

From this statement it will be seen that chrome leather is almost an ideal material for water bags, and if it could be successfully made in this Presidency it would be of great advantage to the ryots. It therefore appears to be desirable that we should undertake some experiments with a view to ascertaining the possibility of making chrome tanned leather for this purpose. I have not the least doubt that, if I could show that chrome leather could be manufactured successfully in this country and if the processes of manufacture could be patented, there would be little difficulty in placing the industry on a commercial footing. I am not quite sure but I think a valid patent could be obtained for water bags made of chrome tanned leather and if so, it would be desirable to secure one, so that, in the event of the industry being started, the original promoters might be protected and reap a fair reward for their enterprise in this matter. I have discussed the matter with one of the largest exporters of hides and skins from Madras and he is of opinion that it is not worth troubling about the improvement of any local industry unless the essential part of the process can be patented. In the interest of Indian Industries two courses seem to be open; first, I might publish these facts and the conclusions I have ~~arrived~~ derived from them; or secondly, I might pursue the matter further and make experiments to see if chrome tanning could be successfully carried out and then, if a favourable result is obtained, enter into negotiations with private people to work the process. If the first alternative is adopted, I think it is probable that nothing will come of it, but if Government empower me to carry on investigations in this matter I shall probably be able to carry the matter to a practical stage. The cost of the preliminary experiments would not be very great. I should require the services of an assistant with a knowledge of Chemistry and a certain amount

amount of chemical apparatus which might possibly be borrowed from one of the Government Laboratories, and I should require a few tools and machines for working the process, besides a fair number of hides for experimenting on. I do not think the experiments would cost more than Rs 2 000/-, at any rate, when that sum has been expended there will be something to show for the money and it will be possible to then consider whether it is worth while going on any further. I attribute great importance to the obtaining of patent rights if possible in the matter in view to subsequently inducing private enterprise to invest capital in the industry. If we succeeded in manufacturing chrome leather good enough for water bags, there is no doubt that it would be employed for many other purposes as well, and though I am of opinion that there is very little chance of establishing a successful export trade in chrome leather, there is a very strong probability that chrome leather could be made of sufficiently good quality to meet the internal demands of the country. Chrome tanning is a much more scientific process than bark tanning and requires the services of trained Chemists so that the establishment of chrome tanneries will afford a not inconsiderable field of employment for the Science Graduates of our Colleges. Unless Government move in the matter, I am of opinion that nothing is likely to be done, but if Government carry out the initial steps and produce chrome leather on an experimental scale, there is but little doubt that private enterprise will soon follow it up. I should therefore be glad if you would kindly place these remarks before Government and obtain their orders on this subject

I have the honour to be,
Sir,
Your most obedient servant,
(Sd) Alfred Chatterton,
Officer in charge.

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(True Copy)

For Director of Public Instruction.

[E. 2] 1,000—5-12-02.

EDUCATIONAL DEPARTMENT.

C. No. 943 From the D.P.I. No 4111 dated 11-6- 1903.

SUBJECT.

Manufacture of Chrome leather.

Mr. Chatterton desires to carry out some experiments in the production of Chrome leather and asks for a grant of Rs 2000 for the purpose. He thinks that about 500000 leather buckets are annually made by the ryots at a cost of about 30 lakhs, that these buckets are easily spoiled and that if Chrome leather buckets are supplied the ryots will be only too glad to buy them. He wants to take out a patent for these buckets but as observed by the Director it seems doubtful whether a valid patent can be obtained. If however Chrome tanned leather can be supplied to the ryots at a reasonable cost and if they will substitute that leather for the ordinary leather now used it will apparently be enough for this purpose.

2. Mr. Chatterton's hypothesis does not seem to be altogether reliable. He makes out that out of 615520 wells in the Presidency from which water is drawn for irrigation, in about 500000 leather buckets are used and that on an average each well wants a bucket a year. However this may be, there appears to be no objection to the proposed experiments being carried out provided the cost is limited to Rs 2000, but this Mr. Chatterton cannot, it is submitted, be certain.

The Director gives no reasons for his views. The mere substitution of one material for another in a "water bag" would not be patentable, but it is quite possible that Mr C's process of making the bags or the chrome leather has as a material thing produced whatever may be. It is idle to discuss such a point before the "claim" is formulated. But there is nothing in Mr C's letter to raise doubts. D.P.I.

VVo

subject to this condition.

The general outlines of the scheme may be approved and detailed proposals may be called for. The Director should also point out the source from which the expenditure can be met. These will be savings in the Educational budget.

3. At the meeting of the Legislative Council held on the 16th December last the Hon'ble Ratna Sabhapathi Pillai asked whether the Govt. will cause enquiries to be made in view to the method of chrome tanning being introduced in this Presidency. The Govt. replied that enquiries were being made vide page 14 of Part IV of the Gazette of 13th January 1903. These enquiries ended in nothing as Mr. Chatterton considered it very undesirable and practically impossible that Govt. should take any active steps to establish a factory for chrome tanning in Madras & Govt. agreed with him - vide page 598 G.O. No 302 Revenue of 18th March 1903. Experiments may however be made as now proposed.

PH 16/6/3

There is, I submit, a prima facie case for calling for detailed proposals.

HP

HM

I agree with the Asst Secretary's suggestion that Mr. Chatterton may be called on to formulate his proposals in detail. He is able & enthusiastic, & though he may have the defects of his qualities, Govt, I submit, can't afford to lose the opportunity of investigating his suggestion.

AGJ 18.6.03

HM

may be done. We shall have the money provided, for Mr C requires only a beginning.

Please draft

AGJ 19.6.03.

The draft placed below may issue. The order notes will then be put in type.

PH 19/6/3

AGJ 20.6.03

[E. / 12]
1,000—7-5-02.

EDUCATIONAL DEPARTMENT.

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READ AGAIN G.O., No. ..... , dated ..... 190 .

" " " " ..... , " ..... 190 .

*READ ALSO:—*

C. No. 943 , From the D.P.I. , No. 4111 , dated 11 - 6 - 1903 .

" " ..... , " " ..... , " ..... , " ..... 190 .

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**ORDER** mi

No. 300 , dated 20 - 6 - 1903 .

Drop & Then put the whole letter on type - Thursday's sitting as read again.
20/6/3

Mr. Chatterton should be requested to formulate his proposals further in detail, showing more definitely what establishment would be required, & what other expenditure is involved

DGI
20.6.03

PM
19/6/3

Sent to me after despatch
7/7
22.6.03

To the D.P.I. 23/6/3

When given for copying ____
When copied ____
When examined ____ } 190 .
When signed ____

READ AGAIN G.O , No. , DATED
190 .

CURRENT No.

ENCLOSURES TO C. No.

ORDER OF GOVERNMENT .. .. .. A A A A A A A

LETTER OF GOVERNMENT.

STATEMENT WITH DITTO.

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