

MADRAS RECORD OFFICE

Government of Madras

Revenue DEPARTMENT.

G.O. No. 378

Press

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Dated 13 - 2 - 18 66

Not to be folded or roughly handled

*Proceedings of the Madras Government, Revenue Department,
13th February 1866.*

No. 222. Read the following Proceedings of the Board of Revenue, dated 16th January 1866, No. 360 :—

Read the following letter from the Superintendent, Government Central Museum, to the Secretary to the Board of Revenue, dated Madras, 5th December 1865, No. 236.

I have had under consideration the correspondence contained in Proceedings of the Revenue Board, No. 7,078 A., dated 3rd November 1865, upon which I take the liberty to offer a few remarks.

1st.—Mr. R. C. Walker, Honorary Secretary to the Madras Cotton Cleaning Company, says, the Directors of his Company have arrived at the following conclusions :—

(1).—The fibres of the samples cleaned by the Emery Gin appear to be the best generally.

(2).—Those cleaned by the Macarthy and Wanklyn Gin come next.

(3).—Those by the Dharwar Gin last.

These gentlemen, it will be seen, declare in the first place, that the samples cleaned by the Emery Gin appear to be the best generally, and yet so far as can be judged, the Macarthy and Wanklyn Gins appear to be the best suited to clean the country cotton, *i. e.*, the Gin which cleans the cotton best. It is an opinion that best adapted to the country cotton: this involves a contradiction. If the Emery Gin turned the cotton out in the best condition, that alone should give it the first place; but when in addition it has been proved to do infinitely more work, its merits as the best cotton cleaning machine tried here would appear to be placed beyond question, and it is difficult to comprehend why it should be set aside for those confessedly inferior.

2nd.—The Honorable R. C. Campbell, Vice-Chairman of the Chamber of Commerce, observes :—

“ Paragraph 2. As regards the new Orleans and Egyptian samples, those cleaned by the Macarthy Gin are decidedly the best. The staple in each case is comparatively uninjured, and the only objection raised to the samples is that they are both discoloured and seedy. This drawback he considers can hardly be attributed to the Gin, but thinks it probably inferior Kappas was supplied to it. Why? Because the samples cleaned by the other machines are not discoloured to the same extent! Surely it would have been more reasonable to attribute the fault to the machine particularly when it was observed, on the morning of the trial of the machines, that the Saw Gins turned out the cleanest cotton, and no such reason was then given for their doing so.”

“ Paragraph 3. The Wanklyn Cottage Gin appears to have injured the new Orleans and Egyptian cottons, and the staple is irregular in each case. The Emery patent Saw seems still more unsuited to these cottons, and the Dharwar 18-Saw ruins the staple completely; this result being more marked in the Egyptian than in the other cotton.

The Cotton Cleaning Company says, the fibre turned out by the Emery Gin was the best; the Chamber of Commerce says the Emery Gin is quite unsuited to the new Orleans and Egyptian, and the Dharwar Gin is utterly condemned.”

"Paragraph 4. The four Oopum samples were then carefully compared, and preference was unanimously given to that cleaned by the Wanklyn Cottage Gin; but though this Gin is, in the opinion of the Chamber, decidedly the best adapted for Oopum cotton, the Members are not prepared to state that it can be confidently recommended for the treatment of short stapled cotton.

Furthermore, the samples cleaned by the Emery and Macarthy Gins are declared almost equally irregular and deteriorated, and in the opinion of the Chamber they are decidedly unadapted for indigenous cotton. The Macarthy is not a Saw Gin: how did it injure the staple? The samples are said to be irregular. I suppose of unequal length. Surely the Members of the Chamber do not suppose that all the cotton taken off the same tree is of the same length. They are very much mistaken if they suppose all the cotton from the same pod is so.

The Dharwar, it is said, cuts the cotton; but notwithstanding, that the cotton is thought to be superior to that cleaned by the Emery and Macarthy Machines; so that cutting is not always injurious apparently. But what does the Chamber mean by cutting the cotton? Do they mean that by looking at a sample of cotton in the hand they can see what cannot be discovered with the help of a microscope? It should be remembered that cotton hairs measure, upon an average, about 1,1000th of an inch, and any minute examination of them with the naked eye, or even with a hand-lens, is quite impossible. I believe, I may safely assert, that I took at least as much trouble with the cotton sent to me as was taken by the Chamber, and I found the length and character of the staple entirely unaffected by the Gin. With a magnifying power of more than 40,000 I could find no flaws: no injuries caused by the Gin. I could have used a power of five millions and more, had I considered it necessary, but I did not. I have, however, frequently examined cotton with that power, viz., 2,400 diameter, but I never found it injured by the saw.

It may be urged that cotton may be cut, although I have never seen it, I will admit the possibility of this, for the sake of urging that those who say the Saw Gin cuts the staple are bound to prove it. I ask nothing impossible, or even difficult. If the cotton is cut, as the Chamber say it is, there is nothing easier than to demonstrate it to the satisfaction of every one. For myself, I will accept no other evidence but a view of the injured cotton as exhibited by a good microscope. Until that proof is afforded me, I must be excused if I prefer my own opinion, which is, that no satisfactory proof has yet been offered that the Saw Gin, is injurious to Indian grown cottons.

The two reports upon which I have taken the liberty of commenting, appear to me eminently unsatisfactory; particularly that of the Chamber of Commerce; for instance, this body has declared that the Wanklyn Gin, which injured two superior cottons, the New Orleans and the Egyptian, is the best suited to clean a cotton generally of an inferior strength, viz., the Oopum. They have said the Saw Gin cuts the fibre; but they have tendered no proof, except their opinions; and we are not even informed on what grounds that opinion is based.

In April 1862, His Excellency the Governor, did me the honor to entrust me with the examination of certain samples of cotton, amongst which No. 17, sent out by the Cotton Supply Association, was marked "Saw-ginned." Upon this sam-

ple I remarked, "I have not seen any indications of the injury said to be done by the Saw Gin to Indian cottons, the fibre is as sound as any I have looked at." I sent copies of that report to the Manchester Microscopical Society, and it was published as a part of their proceedings in the London Microscopical Journal. It has been before Microscopists all over the world since July 1864, and the justice of my remark has, I believe, never been questioned. The Honorary Secretary of the Society, a Member of a Manchester Firm, called upon me in the early part of this year, and we spent three or four hours in the Microscopical examination of growing cotton, upon which, at the request of the Society, I had previously reported. We had a great deal of conversation on cotton generally, and if any opinion had been entertained in Manchester that Indian cotton is injured by the Saw, I think I should have been told so.

In the course of my examination of growing cotton, a fact came under my notice, which it seems to me has a very important bearing upon the subject of cotton-cleaning. The Testa, Episperm, or Ectosperm, (all of which terms are used by Botanists to designate the outer coat of a seed), of the cotton seed is reticulated, and in the intervals between the net work, the surface is depressed and forms a small pit. From these pits the cotton hairs arise; and this is the fact to which I refer; they are tapering and more delicate at the point of origin than a little further from the seed, *i. e.*, that part of the hair is an inverted cone of which the truncated apex is next to the seed. Nature has thus provided the means of ensuring the separation of the cotton in such a way as to insure the maximum length of fibre. Such facts as this frequently came under the notice of the student of nature, and are too common to occasion surprise. The application of this fact is plain enough. If that part of the hair is the weakest, it is evident the fibre will yield there, no matter what kind of pulling-force is applied. If this were not the case, the hairs would break in any part of their length; but there is ample evidence that is not the case; they break off close to the seed. A small quantity of cotton is sometimes found adhering to the seed; but this is easily accounted for; if the seeds were turned round and round so as to present every part to the roller (or saw), of course all the cotton in turn would be subjected to its action; but it is not so turned round, and the only marvel is that so little cotton is left behind.

I have gone into this subject at some length, because I think neither the makers of the Saw gin, or the Government, have had justice done them. The merchants may think, and I believe they do so, that Government has no business to meddle with what they consider their own proper business, and it certainly is not the interest of the Cotton Cleaning Company to assist in introducing a machine that would render their services unnecessary to the cotton grower. But the influential men of Manchester and Liverpool have repeatedly put pressure upon the Home Government, and have stated over and over that the Indian Government have done nothing to help them in developing a supply of good and clean cotton. Among other steps taken by Government, that of sending out certain Gins for trial and report was not the least important one. So far as I have had an opportunity of judging, the Emery Gin is a very good machine, working well, and not likely to get out of order. To compare its efficiency with any roller Gin yet

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13th February 1866.*

exhibited at Madras is, I must say it, an absurdity. But notwithstanding its excellence, it stands every chance of being thrown aside, simply because certain people choose to believe it cuts the cotton; but of which they have not yet adduced any satisfactory proof, I might say any proof at all.

1. Ordered to be submitted for the information of Government, and to be communicated to the several gentlemen who have taken part in the testing of the several patterns of Cotton Gin.

2. The Board are much obliged to Captain Mitchell for his Report.

No. 223. ORDER THEREON, 13th February 1866, No. 378.

Miscellaneous.

Ordered to be recorded.

(True Extract.)

(Signed) J. GROSE,

Acting Under Secretary to Government.

To the Board of Revenue.

Exd. S. T. Augustin.

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(A true Copy and Extract.)

Secretary.

To J. D. Sim, Esq., Secretary to Government, R. D.

Exd. R. H. Lee.

St. Lawrence 1887

Dec 1886
Department of the Interior

No. 228.
PROCEEDINGS OF THE BOARD OF REVENUE.

Date 16th January 1886.
Dec 22 9

No. 360.

Submitting for the information of Government letter from the Superintendent Government Museum offering remarks on the opinions delivered by the Chamber of Commerce and Cotton Cleaning Company on the merits of the Cotton Gins sent to them for trial

14. To the Board of Revenue 15. Feb

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22 Feb 1887

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Dec 1886
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