M.R.O. 14—18,000—27-9-84

MADRAS RECORD OFFICE.

Government of Madras.

Revenue **DEPARTMENT.**

G.O. No. 1343 Press Mis.—

453-454

Dated 27 — 7 — 1864

Not to be folded or roughly handled

Proceedings of the Madras Government, Revenue Department,
27th July 1864.

No. 453. Read the following letter from T. SUTHERLAND, Esq., to Sir W. T. DENISON, K.C.B., Governor of Madras, &c., dated —— 1864:—

SIR,

1. I had the honor to receive your letter in due course. I now enclose you printed and more full particulars as to the Turbine, and a sketch of one for high falls, they are cheaper than those for low falls, they work horizontal, the low falls vertical; they are very simple, any intelligent laborer can put them up and work them. The same makers are famed for their centrifugal pumps. I enclose a list of prices and sizes, and will be glad of an order from you, it will be shipped direct; if you decide on a Turbine, kindly give the height of fall and as near as can be the quantity of water falling and the horse power you would wish the Turbine to work to. I have now here on consignment a very excellent Steam Engine of 10-H. P. with a self-feeding saw bench and 4 feet saw; it is the best engine of the kind I have met with, it may be set down any where, and set to work, it requires no building of any kind, it is what is termed a bottle shaped boiler but much improved and simple; I have sold several and they are all worked by natives and give great satisfaction, the price is (3,500) three thousand five hundred Rupees for engine and saw frame complete; it is next to impossible to put them out of order. I have also in stock a Turbine of nominally 20-H. P. for a fall of 9 feet, but the same at 12 feet gives 30-H. P., 15 feet fall 37-H. P., 18 feet fall 55-H. P.

2. Your suggestion to pump by wind is good, and will cost less than any motive power to erect and work. In America they build them with four posts in a conical shape and bind the posts together with a few battens. I saw many work there of this kind; they cost but a trifle, are simple for the work; if introduced would be of great service.

3. By first direct ship I will send you samples of Rice in the various stages of manufacture; the quality we produce is equal to the finest cleaned London sample if passed through all the processes; but for cheapness many purchase it without polishing, this last is done by brushes five feet long, each made of fine steel wire driven at a speed of 750 to the minute. Each Husking Mill will husk 150 cwt. in 12 hours, that is will give from the paddy that of clean Rice the 100 baskets of Paddy gives 61 baskets of Rice, thus 61 baskets of clean husked rice gives 50 baskets of fine table Rice. I invented a most simple pounder here, and have ninety working in my new Mill; I find it better than stones when the grain is mixed much with red grains as it is here and I learn at Madras. We give first 200 blows of the pounder, then it is taken out and sifted by machinery to rid it of dust, it is then put into other pounders and gets 100 blows more, it is then sifted and fanned by machinery; and if it is wished to be of fine polish it then passes through cylinders with steel brushes, it is then finished. Nearly all labour is done by elevators and screws that remove the grain from one process to another; each pounder produces 20 cwt. in 12 hours, but besides this my Cargo Rice Department turn out when in full work 250 tons daily. The mortars are all cut out of large logs of Teak timber, the pounders are made of iron wood, they rise and fall 40 times a minute and require about half a horse power each; the Husky Mills require about 4-H. P. each. Should you at any time require any machinery, I will gladly supply it on as good terms as it can be had and guarantee its efficiency in all respects.

No. 454.

Forests No. 14.

ORDER THEREON, 27th July 1864, No. 1,343.

Referred to the Acting Conservator of Forests for his opinion. Captain Beddome will report whether it would not be advisable to saw up timber into scantling in the Annamalay Forest.

(True Extract.)

(Signed) J. D. SIM,
Secretary to Government.

To the Acting Conservator of Forests.

Exd. S. T. Augustin.

Revenue Department

1. The following is a
-ct of the correspondence
which has taken pla-e
-garding the introduction
of the Machinery for the
purposes of the Roads and
-ewd Department.-

2. Captain Morgan who
in charge of the Segoo-To
-ests in 1859/60 recommende
that so soon as the work
at Wellington Barracks w
finished the steam saw
mill in use there should
removed to Ootacamund
and made over to the Nee
-dle-rai and Segoo-To
-ests.- He pointed out that
the want of sawyers w

Vide Appendix A, to the Conservator of Forests' report for 1859/60.-

a good deal cheaper to the
ale of timber in Dobyshan
the defect was remedied
e Public Works could be
adily supplied and the
urplus sawn timber dis-
posed of by auction.-

Later on, in reporting
n the operations of 1860 for,
aptain Price, Assistant
onservator in charge of
e Arnaudale Forests made
the following remarks.- It will
be noted that Capt. Moggan the Conservator
did not agree with him.

"I consider that a
saw-mill on the American
principle, worked by water
power, would be of great
advantage by the saving
it would effect. The loss
of good timber by the present
rough mode of literally dig-
ging out the planks with
axes is enormous.- One
saw-mill would not of course
entirely supersede the use
of the axe; but it would un-
doubtedly be of great ser-
vice in converting into planks

Vide Appendix A Forest
Conservator's report for
1860/61 para 6.-

*: Note by Capt. Moggan
"The Establishment through
"fear cannot get through their
"ordinary work, & accordingly
"would not pay." H.M.

all the fine logs of timber
now lying in depôt on the
road side.- The best locality
for erecting this mill would
be on the banks of the
stream, where this road cro-
-sses it about ¾ of a mile from
Sundeadavei, that being the
most central position with
reference to the timber to be
sawn, as well as the most
convenient for superintend-
ence.- I estimated 600 Rupees
for this mill, but that was
only for the mere cost of
putting it up, and adapting
the stream to it, but does
not include of course the
cost of machinery."

4. Captain Moggan
subsequently alluded to this proposal
in his report for the year 1860/61, but
in a manner that left
any further mention
follows:- "The proposition to
establish a saw-mill, which
I fear be interdicted, as the
present establishment has
very strong apparently

for a 10 Forest Report for
1860/61 dated 24th September
1861.-

work turned out, as
scarcely able to get through
the ordinary demands of
saw-mill would require a
skilled establishment, and
the chances are that some
would soon incapacitate
them from labor. And as only
in these very favorable jun-
gles it does not pay to attempt
any thing beyond what can
be accomplished by the cheapest
labor."

9. At the same time Lieu-
tenant Morgan renewed
his application for a saw
mill in Ooty. He said "a
saw-mill of much greater ca-
pacity, by which very large
trees of saw-mill dimen-sions, by the
employment of elephants from the best
places established, it would
be a boon to the public and
a saving to Government. A
small plank-saw or paddock
mill to the east of the town
and another of larger dimen-sions
to be erected by the public would pro-
bably amount to 10,000 Rupees
per month."

In the 12th paragraph
of the same letter the above

21 Sept 1861 para 9.

×26th April 1862, No 894 para 9.-

*Recorded in Bo: Madras Govt R" Septr 26th 1862, No 2084.-

the want of buyers of jun-
gle woods such as Teak
used to the expense of draw-
ing Ooty, and remarks that
good and economic dawing
would lead much to a large
consumption of the superior
jungle woods.-

7. In regard to the sug-
gestion to erect a saw mill
at Ooty the Govt observed
that they did not concur in
Major Morgan's proposition
of moving the steam saw
mill from Wellington.-

8. In commenting upon the
reports from which the above
are extracts Sir C. Wood in
a despatch* dated 26th August
6th 1862 says "I think it
would be highly desirable
that you should separately
consider whether it might
not be expedient to introduce
one or two easily moveable
steam sawing machines for
use in those forests in which
there is most difficulty in pro-
curing labor, and where the
timber is most valuable. In
regard to the apprehension

Captain Thorpe on the
case of the prevalence to
fever in the Andaman Islands,
it follows to me that, if the
machines are of a simple
construction, and easily mov-
able from place to place,
they ought not to require any
great amount of skill to
keep them in working order,
and that the much larger
amount of work which they
are capable of executing
short time would obviate
the necessity of so long a
stay in feverish localities
and be requisite in the case of
"mere hard labor. At all events,
"though the subject is not free
"from difficulty, I recommend
"to your notice to consider whether
"such machines could not be
"profitably employed in these
"forests."

"The establishment of
"one of these machines at Port
"Cornwallis, to be worked by wind
"power, is supported by Captain
"Thorpe on the grounds that
"it would be a boon to the pas-
"sengers arriving to your Govt
"ports, and it could be worked at
"scarcely any little expense,
"when not employed otherwise."

The Surveyor Genl of Engd

requested Captain Beddome
to report upon the question
of the expediency of introd-
ucing steam saw machine
for use in the forests, al-
so regarding the one propo-
to be worked by water po-
er at Doly.-

10. In reply to this requi-
sition the officiating Conser-
vator submitted a report
dated 12th November 1862
No 265 upon which the Gov
passed the following remark
"Captain Beddome is of opin
"on that owing to the heart
"shake in all Malabar Teak
"the introduction of the saw
"however worked, will not
"answer, and the attempts
"made to introduce its use
"in 1859/60, he states, prove
"a total failure. Captain
"Beddome further observes
"that the saw being useless
"for dockyard plank should
"only be used in sawing up
"the heads and butts, which
"would not pay. Under the
"circumstances the Govern

Council is not prepared to sanction the settling up of steam saw machinery in the Crown valley forest.

"Captain Reddome does not mention any other forest, as suitable for the introduction of saw machinery, probably because there is no other in which the transportation of logs are sufficiently large for the purpose.

"As to the proposal to establish a saw mill at Boo-ee-ee-ee, Captain Reddome states that one would be convenient to the public, he forwards a Memorandum of Major Morgan on the subject. Major Morgan would set one up at the outlet of the lake, to be worked by water power for nine months of the year, and for the other three months by a horizontal wind engine. The charge for sawing at Boo-ee-ee-ee per 24 square feet first quality Major Morgan would charge 1 Rupee per 100 square feet, and for second quality 75 annas per 100 square feet. The expenses of working are estimated at 10 rupees per month. The original cost for machinery and fixtures

"by steam at Rupees 370-0-
"working expenses would be
"Establishment, 2 ea, as per particulars } 120-"
"in Major Morgan's Memorandum }
"Wear and tear 2 ea at 10 per cent. — 30-"
"Per annum — 150-"
"Returns at 60 square feet for the Rupee — 200-"
"Monthly profit — 50-"

"The estimate is considered
"approximate."

"It seems to the Co
=mittee in Council that, a
"far as the Forest Depart
"=ment is concerned, there
"is no need for a sawing
"machine at Boo-ee-ee-ee
"If required anywhere, it
"should be in the forest
"or at the Depot, so as to
"save the heavy expense
"of carriage up the Khawa
"=s at the present rate. As the
"Home Govt have specially
"noticed the subject, Capt.
"Saw Reddome will be
"requested to report explic
"=itly on this proposition, be
"fore having a saw mill at
"the Legoon Depot. The wi

ie able to procure from
the Superintendent of the
Gun Carriage Manu=
factory accurate Sta=
tistics of the cost of setting
up, maintaining and work=
ing the machinery."

"When the Laborers
Asylum, &c, are commenced
"there will be a great
"demand for timber; and
"it will then be considered
"in the Public Works
"Department whether it will
"be cheaper to use the
"steam saw Machine
"at that Department now
"at Dalhousie, or to
"set up one to the work=
=ed by wind or wa=
=ter."

Captain

11 Captain Baddeley
accordingly, after com=
=municating with the
Gun Carriage Manufac=
=factory recommended
that Major Morgan
be allowed to set up
a Segon or Marmiquod,
or Saw Mill to be worked
by water-power. He
remarked that there
would always be a
deficiency in these
forests for the supply
of the Neighbourhood, and
that large quantities
of timber must always
be brought out from
other forests in this
direction.

12. The Government
then passed orders in
the following terms

Major

"From the report of
"the Superintendent
"of the Government
"Manufactory it is
"clear that the use
"of Steam Power
"to Machinery in the
"Forests in lieu of the
"present, at the
"Factory, the cost of
"sawing 100 superficial
"feet by steam power
"is found to be Rupees
"1-15-3; while the same
"quantity can be sawed
"by manual power for
"Rupees and 6 Pice.
"But though steam
"power would not answer
"in Forests where it
"would be difficult to
"procure the machinery
"owing properly located
"or after,
"may probably be of
"advantageously made
"use of. But the
"Govt. cannot act on
"Captain Beddome's
"recommendation to
"this effect, as it is not
"accompanied by any
"reliable Estimate of
"the cost of machinery,
"buildings and establish-
"ment, and there is
"nothing to show whether
"sufficient water-power
"is available at all
"seasons, or at least
"for a period sufficiently
"long to render it
"worth while to incur
"the expense of establish-
"ing a regular Saw Mill"

Captain

Captain Beddome will
furnish plans of a simple
Saw Mill to be used by
Native Planters, with informa-
tion as to the amount of
water available, the fall
to be got, the distance the
timber will have to be
brought to the Mill, and
the probable quantity to
be sawn, &c. &c. With these
particulars before him the
Governor in Council will
be able to form an opinion
as to the expediency of the
proposition."

13. In paras 25 of his
Despatch dated 24th April
1863 - No 114. the Secretary
of State made the following
remarks -

"With reference to
"paragraph 11 of my Des
"patch, No 31, of the 11th
"February last, as to the
"employment of steam
"sawing machines, in the

Vide G.O. 4th July 1863
No 1191. Reference
Department. —

No 9 and 10, pages 3, 342 to 3345.

"the forests, I observe by
"your Proceedings for the
"December 1862, that, in
"consequence of a report
"from Captain Beddome,
"in which he states that
"on account of the liability
"of the Malabar timber to
"heart shake," a steam saw-
"saw-mill would not suit
"the Anamallais, you are
"not prepared to sanction
"one for those forests. But
"you remark that Capt.n
"Beddome has omitted to
"state whether there are
"not other forests in which
"such machinery might
"be advantageously employed,
"and have specially called
"his attention to the Sispara
"Depôt. I see also, by the
"Report now under review,
"that both in the Salem

and

"and the Mediterranean
"forces to operations are
"therefore carried with the very
"utmost dispatch, if the same
"objections did not apply
"to them as to the Armies
"in Italy, the experiment
"might be tried in them
"With this suggestion
"I shall await your
"reply to my Despatch
"on this point."

"Captain Broderick's
"conduct in carrying
"the Despatch to Portugal
"has met with
"Lord Castlereagh's
"approbation."

"By reply Captn
"Broderick was furnished with
"Letters for Genl Marquis
"of Marialva Marshal
"the

the views of establishing an Army in Navarre Mill in general the Inquiries which receiving Circumstances, whether, if Government retained our present Army, the experiment, Mills, were to be attempted by Guerrillas, or by regular Troops. Marquis still adhered to his proposal to march to Navarre Mill, with the Portuguese Cavalry, and the Division that which was destined to act with Longa and Mina, and to expose to the risk of transmitting

would not be advisable. Captain Beddoe was also of opinion that there were obstacles against the introduction of Saw Machinery into the Segúi Forests, and the same would occur in the Annamallais or Wynaad teak Forests.

15. The Govt. desired the officers of the Forest Dept^t to consult with Capt^n Terrell and survey for and report on definite proposition. A saw engine, they thought, would not answer. The following instructions were required

G. O. 25 Aug^t 1863
No 1561.

Head - Statement of the quantity of land to be cut annually.

Second - The cost of the Engine & Saws.

Third - The amount of work which such Engine will do.

Fourth - Cost of sawing by hand and also whether sufficient force could be obtained at Ootacamund, and whether a

[illegible] available about

Feathers.

16. Upon the papers [illegible] submitted on behalf of the Government Council that the [illegible] Forests were more suited to the work of sawing by hand, but the question of [illegible] of the difficulty of obtaining

and the enormous expenditure which would consequently be necessary

17. Upon the information subsequently received with reference to the other points detailed above the Government remarked as follows. "The quantity of timber required for Government purposes is set down at "200,000 square feet per annum "for the next four years, and "the private demand at 100,000 "square feet per annum. It "appears to the Governor in "Council that the machinery "ordered at once would "hardly be prepared, sent "out, fitted and at work

G.O 16th Nov/63 to 2025.

"for a couple of years hence, so that "the benefit to be derived by the "Government from the saving of "the expense of sawing would be "limited to that upon 400,000 "square feet of timber, while at "the end of three years the machine "would have only the private "demand to look to.

"The cost of the machinery "is not stated, but the Governor "may be taken as the approximate "cost of the scheme:—

Sale for the steel and plate in the present stock at Hyson 2,150 Tons, cost of sawing, Charge for sharpening the saws, fuel, &c.	40,000
Cost of the Engine House, Chimney, Boilers, Machinery, &c. &c.	25,000
Cost of the House for the Engineer, Workmen, Stores, &c.	

Total

"The annual payment on
"account of this capital will be
5 per cent on 4,000 = 200
20 per cent on 25,000 = 5000
10 per cent on 8,000 = 800
Total.... 6,000.

"The cost of Mill-Sawing,
"on which this is believed all
"the working expenses are in-
"cluded, is given as 50 square
"feet for a Rupee; or looking
"to the fact that 2,000 square
"feet is the estimated daily
"outturn, the expenses daily
"would be 40 Rupees, while
"the cost of hand-sawing the
"same amount of timber at
"24 square feet the Rupee
"would be 83 Rupees. The
"Gain would thus be 43
Rupees

"per per five days, or rather of 300
"feet per 2,000 square feet of
"timber, and as the quantity of
"timber to be sawn by the Govern-
"ment is estimated, as already
"remarked, at 2,00,000 square feet
"per annum, the annual sa-
"ving would be Rupees 3,000,a
"sum which would soon cover the interest
"of the money expended. It is
"also noticed that the Government
"Saw-pit would not last for more
"than five years, and that the
"persons to steward would require
"work for only forty days in the
"course of the year, for these
"reasons the Expenses in connec-
"tion with not considered chargeable
"to be given the expenses of
"erecting the expensive Saw-pit

18. This decision was duly reported to the Home Government

19. The receipt of this letter was acknowledged in Sir Charles Wood's Despatch on the introduction of new chemical agency in agricultural operations. General Frederick Cotton had it appears when in communication with the India office on the general subject, perused the correspondence on dam mills above mentioned, and in answering to the Secretary of State the above in the following terms.

To Secretary of State 10th Sept 1863 No 119.

Dy 16th Jany 1864 No 4.

General Cotton to the Revenue Board 24th June 1864.
Rec. 2d. Exam 31/32.33!
435 Recorded in Exam 5.6.11 Chancery
1862. No 627.

"The drawings
"of machine, a letter covered by
"letter, number, or cable from
"myself, be introduced to come
"into Calcutta in all parts of
"India. Rail Rates, by there re-
"ports drawn attached Cattle
"received on the Orissa Coffee,
"that there are no demand made
"for them at present.
"It was true that the
"Dam was not found to answer
"on the Irrawaddy for used for
"carrying the long pleasures de-
"scribed for the Bombay Dock
"yard, as every Dam failed by
"stone and effect upon the
"Centre of it, on each road to
"be crossed by the Rail

"killed on the spot, but was
"recoverable by the law. To
"obtain the planks, however
"by the saw, caused the loss
"of a great quantity of valuable
"wood, but, while the fo[illegible]
"was worked for that pur-
"pose plank, the loss was un-
"recoverable.

"In or near forests
"worked for the supply of
"building timber, the Saw is
"used to advantage, and
"saw-machinery no doubt
"ought to be introduced.
"Water power is economical
"in itself, but as the trans-
"port of timber, even for
"short distances, is very
"expensive

"expensive, so long as wood
"can be better be sawn where
"cattle power within can be more
"from place to place, rather than
"to take the timber out of it may
"be sawn, very
"cheap saw-machinery is used,
"worked by horse power, and,
"if the Government approves of
"it, I will make further inquiry
"into the application used in the
"country most likely to suit
"the forests, but the saws used
"in Sweden, for the same purpose,
"would be recommended that every
"application for sight should
"immediately be forwarded to
"the Board of Trade
"Or the Board
"Trade the following Remark
"&c

see the same points

"In your letter of
"the last named article of
"machinery, and its enclosures,
"from another reply, you report
"that you do not think that
"steam saw-mills could be
"advantageously used in the
"forests at present. But if
"General Cotton should
"succeed in finding some cheap
"sawing machine of this cha-
"racter which has been
"found of use in the American
"forests, which seems to me likely
"to cannot fail of being made
"available in India, of such
"for timber, at all events
"for sawing up firewood;
especially

Copy of despatch from
the Secretary of State
of 16 January 1862. No.
4.

* 10 Nov 1863 No. 119
(vide para 18 supra)

especially as I am glad to find
by the minute dated 8 June in your
letter No. 117, that you are taking
steps for encouraging the growth
of wood for general consumption
in your Presidency, which
will, of course, be of still more
consequence should the applica-
tion of steam machinery not
effect the object of this cor-
respondence to any great extent
"Cotton effects General Cot-

Con. Remarks on this

paragraph

"point seem worth
"of your attention."

21 No immedi- + See additional note at end of Memorandum.
-ate notice of the subject
was taken by this Govern-
-ment, & instructions
were sent to the Governor
on the subject in question.

22. In July last G. O. 27th July 56.
& No 1343.

Captain Beddome was

desired to report

whether it would not

be

+ proceed to Canada in the Steamer
to examine & report upon the Canals
& Locks on the Ottawa River, & to
see what additional power
would be required to work the Locks
after dark, & also to report upon
the Steam and Sailing Vessels
employed on the Ottawa River
& the Lakes.

23. Captain Beddome
returned to Quebec on the 2nd
of September 1856
& on his return reported
upon the Canals & Locks
& the Steam and Sailing Vessels
employed on the Ottawa River
& the Lakes.

Note Marked in red ink in para 21 as letter
was taken off this subject in the order book
dated 20th Nov. 1863 & is obliterated that in the reply this
was read & that declaration the
Dated Nov 6th 1863. No. 17 matter was left to the Secretary
Revenue Office of State that would be
pleasing & receive him any thing
and effective manner, whether Civil General
Letter might warrant in finding in answer
declaration to the above date (No. 20) in re-
ference upon Captain Braddocke's report
of the Gunboat and Steamer Speed this

Annulled & Cancelled Note of Secret Service Money
granted in excellent opportunity for
Service in Chief & Effective Discharge
Civil Secret Service Money in accor
dance with Secretary of State
Circular dated 16 June 1864. No. 27. accom
panied by Sir Charles Wood's
letter dated 16 June 1864. No. 27. accom
panied by Sir Charles Wood's
letter dated 29 July 1864. No. 1353.

1

1 Penna Cons 27th July 1864
Re 45384 54

Whereas Peter Beadle, late
of Pennsylvania in the United
States of America, Lumber-
man, hath represented
unto Her Majesty's Commissioners
of Patents that he is the inventor
of certain Improvements in
Machinery for cutting Veneers
and Laths, which cannot be properly
described without reference to the
Drawings hereto annexed and
upon the due performance by
the said Peter Beadle of the
conditions hereinafter contained
on his part to be observed and
performed, Her Majesty is
graciously pleased to grant
to the said Peter Beadle
his Executors Administrators
and Assigns Her Royal Letters
Patent for the sole use and
exercise of the said Invention
within England, the Dominion
of Wales and Town of Berwick-
upon-Tweed, the Islands of
Guernsey, Jersey, Alderney
and Sark and the Isle of Man
and other Her Majesty's Dominions
and Plantations abroad, and
Her Majesty is further pleased
to direct that Her Royal Grant
shall be made and passed under
the Great Seal of the United
Kingdom of Great Britain and
Ireland in such manner and
form as is hereinafter mentioned.

Recd 1864 depart
Dpo: of post Offices
No 1927

From
Wm Thomas Sutherland
Dated
Receive 25th July 1864.

Forwarding the Chief Conservator of Forests Dept's letter of 23rd

Furnishing particulars regarding the use & sale of timber and giving his opinion on the working of proposed Railway.

No 1343 - 27 July
Sent an order

No 1343.

Referred to the Asst Conservator of Forests for his opinion. Captain Beddome will report whether it would not be advisable to saw such timber into scantling in the Amarawlai Forest.

Fort St George
27th July 1864

To
The Asst Conservator of Forests Dept 28 July

No 453 - 1654