

MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No. 387	<u>Press</u> ~~Mis.~~
418-219	
Dated	22 - 2 - 1865.

Not to be folded or roughly handled

1048

*Proceedings of the Madras Government, Revenue Department,
22nd February 1865.*

No. 418. Read the following Circular, from Colonel R. STRACHEY, R. E., Secretary to the Government of India, Public Works Department (Revenue—Forests), to the Secretary to the Government of Bombay, Revenue Department, dated Fort William, 10th January 1865, No. 1 :—

SIR,

The Governor General in Council, considering that information as to the best mode of manufacturing Tar from the refuse timber of Deodar and other Pines, would be found useful by Officers of the Public Works and Forest Departments, has directed that the accompanying Memorandum on the subject, prepared by Dr. Cleghorn, should be circulated to all Public Works and Forest Officers.

2. Copies are forwarded herewith.

(Signed) E. C. S. WILLIAMS, Captain, R. E.,
Under Secy. to the Govt. of India.

No. 419.

ORDER THEREON, 22nd February 1865, No. 387.

Forests, No. 12.

Communicated to the Board of Revenue, the Conservator of Forests, and the Department Public Works.

(True Extract.)

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

To the Board of Revenue.

„ the Officiating Conservator of Forests.

„ the Public Works Department.

Exd. S. T. Augustin.

Enclosure to Revenue—Forests Circular No. 1 of 1865.

MEMORANDUM ON THE MANUFACTURE OF TAR.

It seems desirable, as a matter of economy, to turn our attention to the preparation of Tar, an article much required in Public Works, and of which there is a very large consumption.

Native Process.—The natives of the outer Himalaya prepare tar in a simple way from fragments of Chil, (*Pinus longifolia*). The dry chips are put into a large earthen pot, with a narrow neck, containing about 10 seers, and in the bottom four or five small holes ($\frac{1}{4}$ th inch) are drilled. The pot so filled, is luted over with stiff wet mud on the top and sides. A hole being dug in the ground, a smaller pot holding $\frac{3}{4}$ seer is placed in it, and the larger one on the top; (See Fig. 1) the joint being luted, and the surrounding space filled up with earth, a heap of cow-dung bratties (15 seers) is piled over the whole, and as much more as is required to keep up the fire for 8 or 9 hours.

The residue of each pot gives 5 chitaks of Tar and one seer of charcoal; four men will easily make $2\frac{1}{2}$ Maunds, or nine large pots full of Tar in the month, and the cost will be—

	Rs.
Four men at Rs. 5	20
Purchase of pots	1
Total	21

on $2\frac{1}{2}$ maunds = 3 annas 8 pie per seer. The value of the charcoal, near the rail or a large town will reduce the cost of Tar to 3 annas per seer, or probably less. The product appears to be equal to the Tar imported from Europe which is prepared on a larger scale.

Mr. Smithe's Method.—Mr. J. D. Smithe, Civil Engineer, adopted a modification of this plan at the Madhopore Workshops. On the large pot, holding twelve seers and filled with chips he placed a smaller one inverted, luting the joint and upper surface with stiff mud, 5 inches thick; these vessels thus prepared, are put on the top of a third which we may call the receiver, and as in the former method, the joint being luted, the whole is covered with fuel and a fire lighted.—(See Fig. 2.)

Four to eight hours are necessary to extract all the Tar. After the fire has been extinguished and the vessels have cooled, the ashes should be raked out, until the under vessel or receiver is visible; the large pot should then be carefully lifted off with a thick cloth in the hands. As the layer of mud is essential for the preservation of the vessels, time and fuel will be saved, if by careful management, the coating is not broken; each time it is renewed, a considerable expenditure of fuel takes place. Care is necessary in lifting the large pot to prevent lute or ashes falling into the receiver which contains the Tar. The charcoal should then be taken out of the large vessel and the Tar out of the receiver, when they are ready to be charged again, as at first. Common bazar pots may be used, and with good management, they may be fired 10 or 12 times: the economical working of the Tar Factory very much depends upon care and attention. The pots may be worked in a row $1\frac{1}{2}$ foot apart—by this arrangement there will be a great saving of fuel. The average produce according to Mr. Smithe is as follows.

“One seer of wood yields 2-6 chitaks of Tar, and 4-3 chitaks of charcoal, giving 6-9 chitaks as the produce of each seer of wood put into the pot, or 43-1 per cent. To procure a seer of Tar 6 seers and 4 chitaks of fresh chips are required for charging a pot, and 2 maunds 6 seers and 9 chitaks of chips for fuel.” *Selections from the Public correspondence of the Punjab Administration Vol. ii. p. 251.* The estimated cost is about one anna per seer, which, however seems to be too low.

The preparation of Tar will be found useful for clearing the timber yard of chips which accumulate rapidly and are usually unsaleable. The pots should be charged with chips about 1 or 2 inches thick and 3 to 5 inches long.

Uses of Tar.—The tar produced by the above process, from the chips of Deodar,* Chil,† or Kail,‡ is of a superior description equal to Swedish tar. It is a mixture of resin, and oil of turpentine, more or less blackened by the admixture of empyreumatic products: it thickens after exposure to the atmosphere, and may be used for coating boats; it is valuable as a preservative for all the wood work of dams, regulating bridges and Railway sleepers, also for telegraph posts and wooden fencing.

It is supposed that the European overseer or native subordinate in charge of timber depots might with advantage superintend this manufacture, which in many cases would contribute an appreciable item to the Forest Revenue of the Division.

29th December, 1861.

H. CLEGHORN,
Conservator of Forests.

FIG. 1

TAR STILL

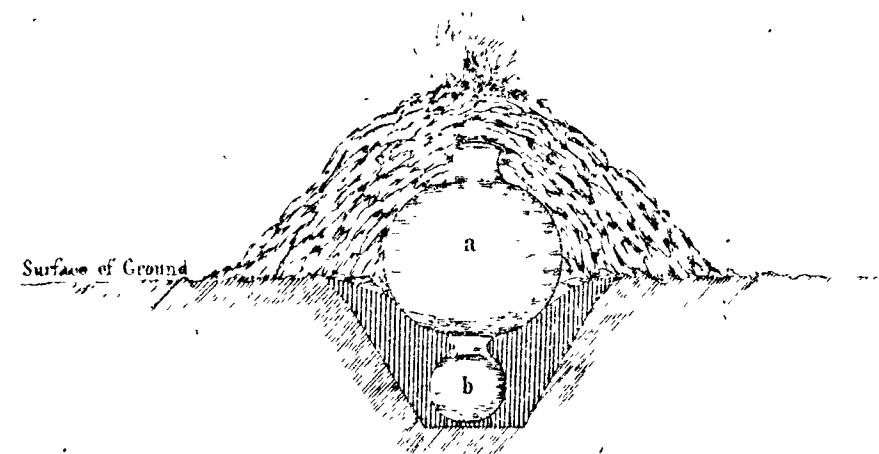
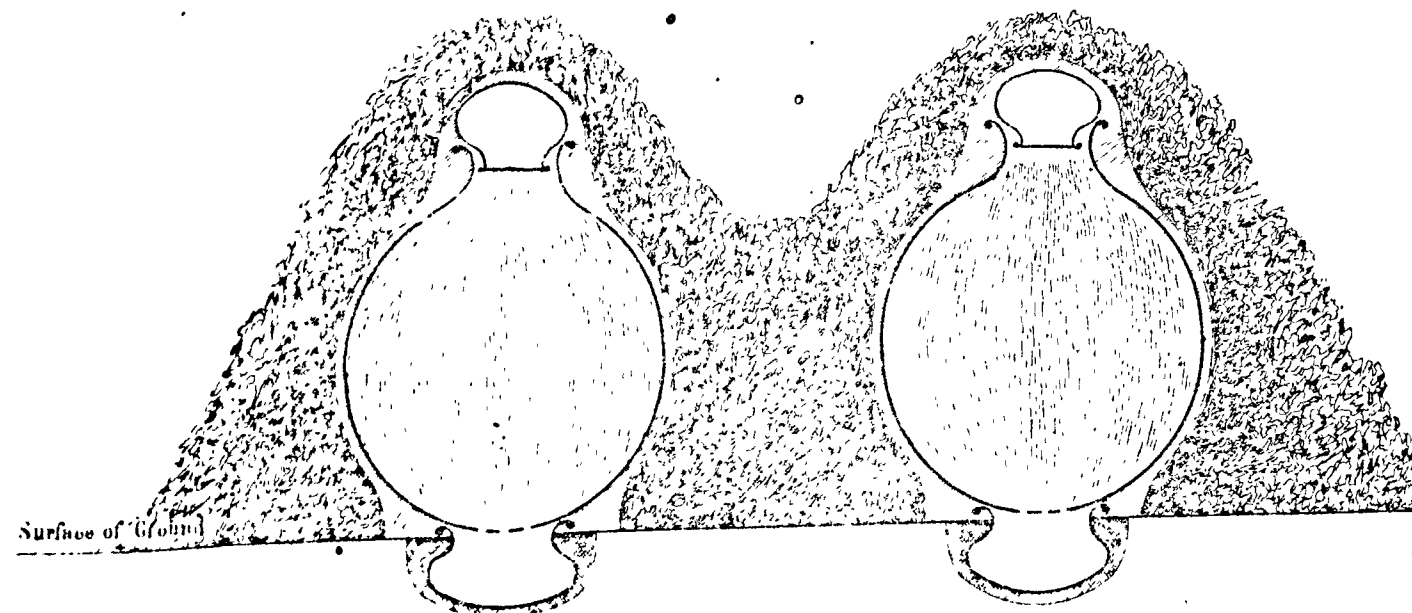


Fig. 1 Exhibits a Sectional view of the native process of distilling tar. a is the pot in which the wood is heated. b that in which the tar is collected.

FIG 2

SECTION THROUGH 2 POTS READY FOR FIRING.



CIRCULAR No. 1 of 1865.

REVENUE—FORESTS.

FROM

COLONEL R. STRACHEY, R. E.,
SECY. TO THE GOVT. OF INDIA,

TO

*The Secretary to the Govt. of Bombay.
Revenue Department.*

PUBLIC WORKS DEPARTMENT,

Fort William, 10th January, 1865.

Revenue.
Forests.

The Governor General in Council, considering that information as to the best mode of manufacturing Tar from the refuse timber of Deodar and other Pines, would be found useful by Officers of the Public Works and Forest Departments, has directed that the accompanying Memorandum on the subject, prepared by Dr. Cleghorn, should be circulated to all Public Works and Forest Officers.

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(Signed) R. STRACHEY, Colonel, R. E.,
Secy. to the Govt. of India.

G. Williams Captain, R. E.,
Under Secy. to the Govt. of India.

1865-01/05/10
 1865-01/05/10
 1865-01/05/10

Revenue
 Circular No. 1.

FROM

SECT. TO GOVT. OF INDIA,
 IN THE PUBLIC WORKS
 Dated 10th January, 1865.

Received 18th January

Memorandum of the preparation of Tar.

1865-01/05/10
 1865-01/05/10

1865-01/05/10

Communicated to the
 Board of Revenue, the
 Government of Madras and
 the Department of Works

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