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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

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524-55

Dated 8-10- 1857.

Not to be folded or roughly handled

No. 54. Read the following.

CIRCULAR.

PUBLIC WORKS DEPARTNENT.

General.

FORT WILLIAM, 17TH SEPTEMBER 1859.

I am directed to circulate for information the accompanying memorandum on measures that have been adopted, in certain cases, for the preservation of buildings from the ravages of White-ants, and as they have proved efficacious, they are deemed worthy of attention.

(Signed) R. BAIRD SMITH, Colonel,
Offg. Secy. to the Govt. of India.

REMEDIES TO ARREST THE RAVAGES OF WHITE-ANTS.

MEMO. BY CAPT. A. FRASER, ENGINEERS.

In 1856 the flooring and the powder racks in the King's Magazine in Fort William were so far destroyed by white-ants, that it was found necessary to renew entirely the former, and nearly the whole of the latter, at a very great expense.

I was then Garrison Engineer, and on a suggestion of Major Weller, of the Engineers, who had tried the experiment at Loodianah on his own premises on a small scale, I adopted the following plan in renewing the floors, &c., of the building :

1st. The whole of the old floor was removed, and the plaster of the walls stripped off to a height of 4 feet above the floor line.

2nd. The earth in the interior was dug out about one foot in depth.

Two seers (4lbs.) of the yellow arsenic to the 100 cubic feet of concrete.

3rd. The excavated portion was filled in with concrete containing a portion as per margin of yellow arsenic called in the bazaar " hurtal."

4th. Above this floor were raised pillars with proper foundation upon which rested the joists which were painted ; the floors were laid with 3 inch planking but not painted.

In the mortar used for the pillars was also an admixture of the arsenic, in the proportion of ½lb. to 100 cubic feet of brick masonry, and in the paint a small quantity of the arsenic was in like manner used.

5th. The first 4 feet in height of the Magazine was re-plastered with sand plaster, in which was also contained arsenic in the proportion of 4 chittacks (½lb.) to 100 superficial feet of plaster.

6th. The whole of the racks were painted with white paint, and the whole of the interior of the Magazine white-washed, both the paint and the white-wash also containing small quantities of the " hurtal."

In 1856 not only the building, but the whole immediate neighbourhood was swarming with white-ants, and in 1859, the Town Major was requested by the Government to make a report as to the effect of the above measures, and annexed is copy of his reply :

From Lt.-Colonel ORFEUR CAVENAGH, *Town Major, to Major* R. STRACHEY, *Officiating Secretary to Government, P. W. D., No.* 1, *dated 6th January* 1859.

SIR,—In reply to your letter No. 6220 of the 10th ultimo, I have the honor to state that, it appears from a report furnished by the Commissary of Ordnance, in charge of the Arsenal, that the flooring and powder racks in the King's Magazine have been carefully examined, and that no traces of white-ants have been found either inside or outside the building.

MEMO. BY CAPTAIN MAN.

In 1819 I substituted a planked for a tiled flooring in a room on the ground-floor of my house at Singapore. This was entirely destroyed by white-ants in a few months. I re-laid fresh joists and planking painted over with the gambier composition, and within two or three days the white-ants made their appearance through the crevices between the tiles of the adjoining room, being apparently unable to remain in the vicinage of the protected planking.

I lived in the house for several years afterwards, and the flooring seemed to be in excellent order when I left. I have tried gambier as a preservative against the "teredo navalis" and with equal success, but then I substituted tar or black varnish for dammar oil. I have used it largely on the piles of wooden bridges near the sea and other exposed situations, and after several years' trial found the timber perfectly free from those destructive animals. I recommended this composition to my successor, Captain McPherson, and he has adopted it with equal success on many occasions.

GAMBIER COMPOSITION.

Dissolve 3 pints of gambier in 12 of dammar oil over a slow fire; then stir in 1 part of lime, sprinkling it over the top to prevent its coagulating and settling in a mass at the bottom; it must be well and quickly stirred. It should then be taken out of the cauldron and ground down like paint on a muller till it is smooth, and afterwards returned to the pot and heated. A little oil should be added to make it tractable, and the composition can then be laid over the material; to be treated with a common brush.

Against the teredo I substituted the same portion of black varnish or tar for dammer oil. I of course omitted the grinding down which would not answer with tar.

EXTRACT FROM MILBURN'S ORIENTAL COMMERCE, 1813.

"Gutta Gambier is juice extracted from the leaves of a plant of the same name (*Uncaria Gambier*) growing in Sumatra—inspissated by decoction, strained, suffered to cool and harden, and then cut into cakes of different sizes or formed into balls. Chief places of manufacture—Siak, Malacca, and Bittang. It is used by the Malays with the leaves of betal in the same manner as *Cutch* (or *Catechu*) in other parts of India. For this purpose the finest and whitest is selected; the red being stronger tasted and rank; is exported to Batavia and China for the purposes of tanning and dyeing."

Now exported to England to some small extent.

From Colonel W. SCOTT, *Acting Chief Engineer at the Presidency, to the Right Hon'ble Lord* ELPHINSTONE, G. C. H., *Governor and President in Council, Bombay, No.* 6318, *dated 24th December* 1858.

MY LORD,—In reply to the 2nd paragraph of the Government Resolution under Mr. Chief Secretary Young's Memorandum, No. 3473 of the 11th instant, I have the honour to report that a rule has been in force for some years, to eradicate white-ants' nests near public buildings. It has, in some cases, been found very effective, but in others white-ants abound in places where the nest cannot be discovered, and not unfrequently there are several queens in one nest.

2. Major North used to soak his timber at Belgaum in a hot solution of sulphate of copper, and the immediate effect was very satisfactory, but Captain DeLisle, from careful experiments with deal, found that the penetration was scarcely appreciable, the effect, therefore, cannot be permanent.

3. When timber is boiled in an antiseptic solution under pressure, the result is very satisfactory, but considerable apparatus is requisite, and the system cannot be economically employed except on a large scale.

4. A mixture of sulphate of copper, or of arsenic, with the lime in immediate contact with timber, offers, perhaps, the most ready method of preserving it from insects, corrossive sublimate combines with lime, and forms an inert substance (yellow wash of medicine.)

5. I have circulated the receipt given below which is said to answer in the Madras Presidency, and requested Executive Officers to apply it where necessary, taking precautions that it is not applied where it may be accessible, or over any extensive surface.

Poison for White Ants.

	lb.	oz.	
Arsenic	2	4	
Aloes	2	4	
Chunam soap	2	13	Common country soap.
Dhobies' mud	2	8	Khar.

Pound the arsenic and aloes, scrape the soap, mix with mud, and boil in a large chatty half full of water until it bubbles, let it cool, and when cold, fill up with cold water, the mixture should be boiled for an hour; it is applied as a wash.

No. 6506.

Copy forwarded to the Government of Madras.

(Signed) R. BAIRD SMITH, Colonel,
Offg. Secy. to the Govt. of India.

No. 55. ORDER THEREON, 8th October 1859, No. 2400.

Ordered to be communicated to the Chief Engineer.

(Signed) T. PYCROFT,
Chief Secretary.

5x

REMEDIES

TO ARREST THE RAVAGES

OF

WHITE ANTS.

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Memo. by Captain Man.

In 1849 I substituted a planked for a tiled flooring in a room on the ground-floor of my house at Singapoor. This was entirely destroyed by white ants in a few months. I re-laid fresh joists and planking painted over with the gambier composition, and within two or three days the white ants made their appearance through the crevices between the tiles of the adjoining room, being apparently unable to remain in the vicinage of the protected planking.

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From Colonel W. Scott, *Acting Chief Engineer at the Presidency, to the Right Hon'ble Lord* Elphinstone, G. C. H., *Governor and President in Council, Bombay, No.* 6348, *dated* 24*th December* 1858.

My Lord,—In reply to the 2nd para. of the Government Resolution under Mr. Chief Secretary Young's Memorandum, No. 3173 of the 14th instant, I have the honour to report that a rule has been in force for some years, to eradicate white ants' nests near public buildings. It has, in some cases, been found very effective, but in others white ants abound in places where the nest cannot be discovered, and not unfrequently there are several queens in one nest.

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W2626/59.

PUBLIC WORKS DEPARTMENT PRESS.
O. T. CUTTER.
1859.

CIRCULAR.

PUBLIC WORKS DEPARTMENT.

General.

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R. BAIRD SMITH, *Col.*,
Offg. Secy. to the Govt. of India.

No. 6506

Copy forwarded to the Govt of Madras.

Offg. Secy. to the Govt. of India.

P.W. 1839 Departt.
Proceeds Govt. 21st Octr.
No. 2627.

From the Offg. Secy.
to the Govt. of India

Dated 17th Septr.
Received 8th Octr. } 1839.

Enclos. 1. No. 6506.

A 2400. 8th October
From Chief Engr. 9th Jany. [illegible]
[illegible] 10th [illegible] 23d Janu
A 158

Forwarding a [illegible]
[illegible] on measures
adopted for preserving
buildings from the
[illegible] ants.

William [illegible]

No. 2400
Ordered to be communicated
to the Chief Engineer.

No. 54 & 55.

[illegible] 8th Octr. 39

A Copy to the Chief Engr. [illegible] Enclosures 12.