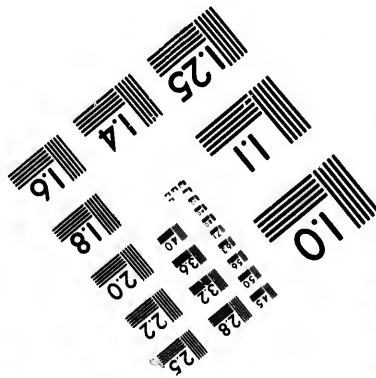
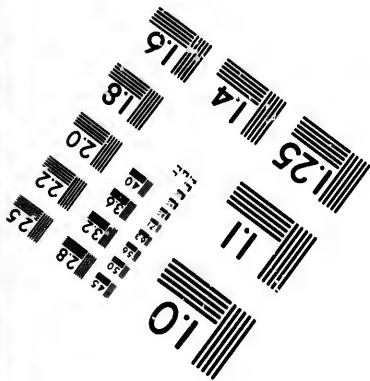
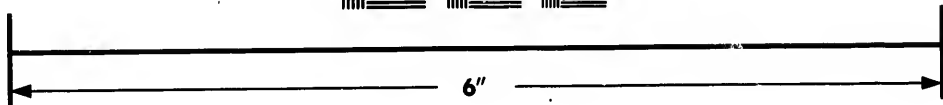
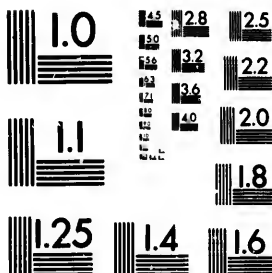


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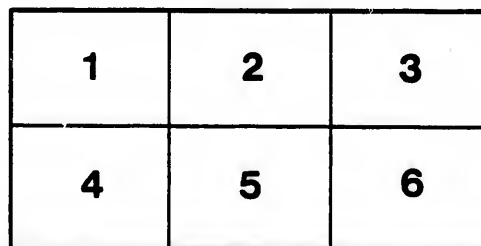
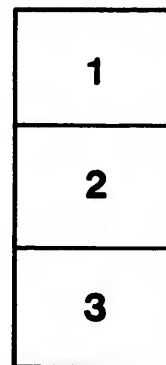
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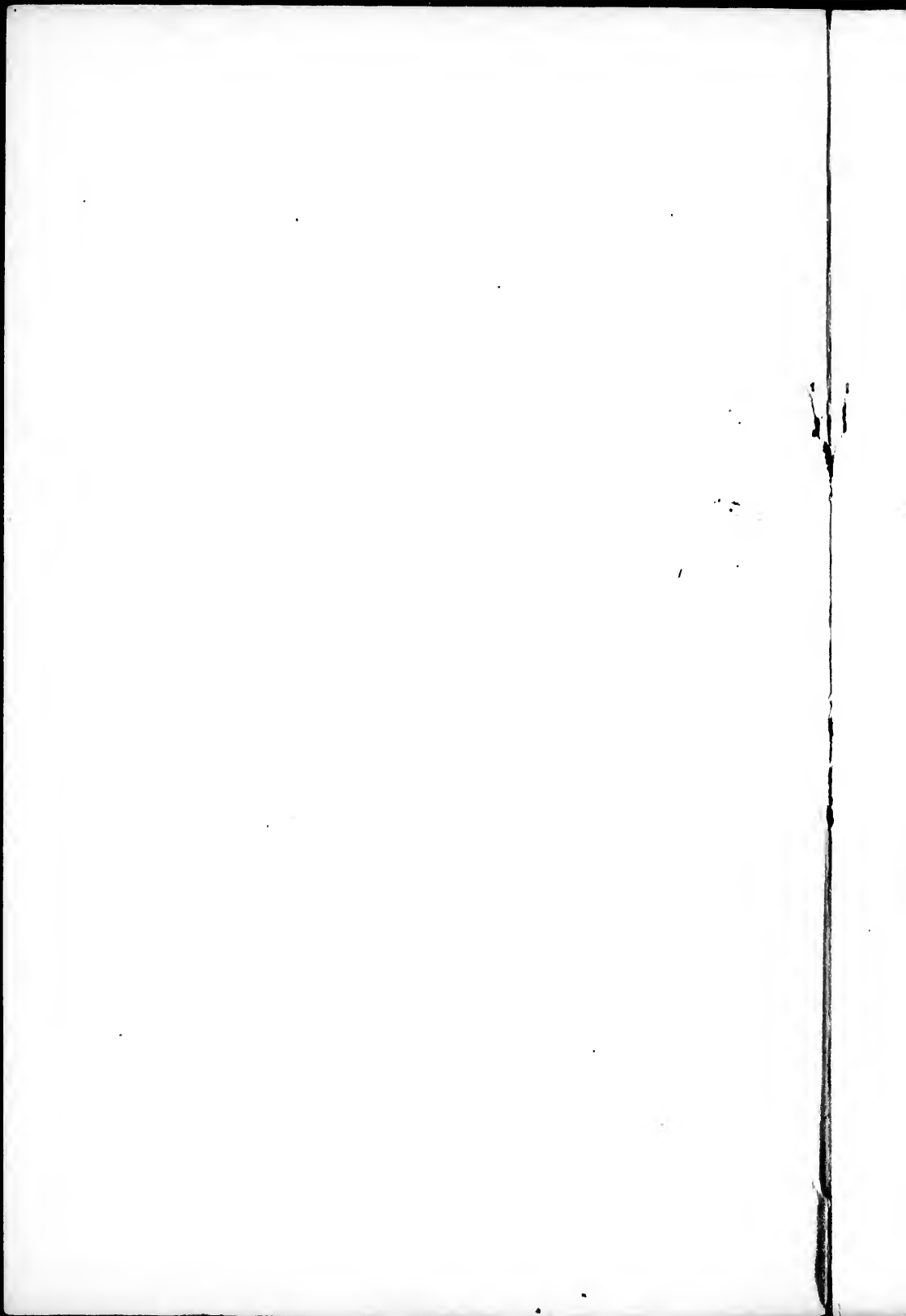
[REPRINT FROM "THE CANADIAN PRACTITIONER," TORONTO,  
NOVEMBER, 1884.]

*The Actions and Uses of  
Naphthalin.*

By JAMES STEWART, M.D., L.R.O.S. & P. Edln.,  
Professor of Materia Medica and Therapeutics,  
McGill College, Montreal.

Read at the Montreal Meeting of the Canada Medical Association,  
August, 1884.

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THE

## Actions and Uses of Naphthalin.

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**N**APHTHALIN is one of the most recent additions to the already large group of antiseptic agents. It is one of the products of the distillation of coal. When pure it occurs in large, white, glossy crystals. It is, however, often sold in an amorphous condition, and having a greyish colour.

In this impure condition its antiseptic qualities appear to be little, if at all inferior to those possessed by the purest specimens; but as it often causes considerable irritation, it is well to employ the agent in its resublimed state. The odor of naphthalin is very penetrating, but not disagreeable.

ACTIONS.

I. *On Micro-Organisms.*—It is one of the most powerful agents that we possess in preventing the decomposition of organic fluids. Urine can be preserved for an almost indefinite

length of time by the addition to it of even a small quantity. I was able to preserve eight ounces for three weeks by the addition of twenty grains.

There is no fluid more prone to undergo decomposition than the serum of milk when it is exposed to a warm atmosphere ; if, however, the atmosphere is saturated with naphthalin, no micro-organisms will develop in the fluid.

If fresh pus taken from a recently-opened abscess be exposed to the air for a day or two, it teems with an innumerable number of bacteria and micrococci ; but the addition of naphthalin, even in minute quantities, will prevent for weeks the formation of these micro-organisms.

An infusion of pancreas is probably more difficult to keep from undergoing decomposition than any other fluid. From an extensive series of experiments, Fischer, of Strasbourg has shown that naphthalin is even more efficacious than iodoform in effecting this.

Vegetable and animal parasites of all kinds are quickly killed by naphthalin.

II. *On Man and the Higher Animals.*—Animals compelled to breathe an atmosphere saturated with naphthalin for twenty-four hours are not visibly affected in any way.

Even when a strong ointment is well rubbed into the skin of the whole body of a dog the animal does not present any symptoms whatever.



When applied to the unbroken human skin it does not cause any irritation. When applied to a wound it seldom causes more than a sensation of slight and transient pricking. At times, however, it causes a sensation of decided smarting.

When applied to a wound in a state of putrefaction, it is surprising how soon it renders it antiseptic; even wounds of considerable depth are soon made sweet.

Its application to a wound does not prevent free discharge.

We know little or nothing about its internal actions or uses, and what, if any, changes it suffers in the organism.

It will no doubt prove a remedy of great value in cases of putrefactive gastric and intestinal catarrh.

That it is absorbed into the blood is proven by its being not uncommon to find the urine dark coloured after its free application to a wound, not unlike the colour produced by the local use of carbolic and salicylic acids. In the case of both the latter agents the change in the urine is of some significance, as being the commencement, at least when well marked, of a train of untoward effects; but in the case of naphthalin, although the urine becomes dark, it is a sign of no significance. It does not indicate any danger.

## USES.

It is my intention here only to speak of its uses in the treatment of wounds and ulcers.

From a very considerable experience of its use as an antiseptic, I have been led to consider that in a certain class of cases it possesses advantages over all other antiseptic agents at present in use. These cases are septic chronic ulcers and septic burns, which show no tendency to heal.

The first case where I had the opportunity of testing its antiseptic properties was in a burn of the forearm, in a middle-aged woman, received eighteen months previously. The left forearm was the seat of two extensive and deep-seated ulcers, both in a septic condition. Naphthalin was applied to one, and iodoform to the other. Of the two ulcers, the one in the worse condition was purposely treated with the naphthalin. In the course of a week both sores showed signs of improvement, which soon became rapid; and in the case of the one treated by naphthalin complete, while the iodoform-treated one failed to make any advance after a time. When the dressing was changed to naphthalin the cicatrization rapidly advanced.

It is unnecessary to describe very similar results obtained in a number of other cases of slowly-healing ulcers as the result of burns and in chronic indolent ulcers.

In all, nine cases have been treated, and in all the results were good.

For the treatment of the class of cases described, naphthalin is certainly superior to iodoform. Both agents appear to act equally well up to the time that the tissues become antiseptic, but afterwards their action is different. Iodoform, after this stage in the treatment is reached, appears frequently to do more harm than good; it makes the granulations flabby. Naphthalin, on the other hand, on account of its stimulating properties, promotes the healing of antiseptic wounds.

If, in the treatment of an ulcer, all that is required is an antiseptic action, then both agents act equally well; but if, in addition to an antiseptic action, a slightly stimulating one is required, which is frequently the case in ulcers in broken-down people, then naphthalin is to be preferred.

Naphthalin possesses another important advantage over iodoform, in its being a much cheaper agent.

Compared with carbolic acid, it is just as powerful, and probably less irritating. It is free from grave untoward effects. It, however, in common with iodoform, possesses the great disadvantage of being insoluble in water, and therefore useless for spray and irrigation purposes.

**MODE OF APPLICATION.**

Naphchalin can be applied either finely powdered or in the form of a gauze.

In treating cases of putrid ulcers, it is advisable to use it in the form of finely divided powder ; and after the sore has become anti-septic, all that is necessary to do is to keep a few layers of the gauze applied until the healing process is completed.

