

size of the wound and consequently extensive treatment later.

There are four operations in treating wounds: (1) trimming, (2) shellacking, (3) sterilizing, (4) waterproofing.

Trimming Wounds.

In the case of freshly made wounds, the border of the wound is frequently left in a ragged condition by the saw or other tool used. To facilitate the formation of the callus or new growth by the cambium, it is advisable to trim the margin smooth with a sharp knife. Wounds which are somewhat square or broadly rounded in shape at the upper and lower edges will in many cases heal more rapidly if they have been slightly pointed, as indicated in Fig. No. 5a. The shape of the wound affects the rate at which the cambium can form a new growth over it. Wounds with their longer diameter parallel to the axis of the trunk or limb will heal more rapidly than those which have it at right angles to the axis, since new wood is formed more abundantly on the side of the wound where the greatest flow of food passes, (Fig. 3). This fact should be borne in mind whenever making an opening in a tree to remove any decayed portion as will be described later in these articles.

In the case of large irregular wounds such as frequently result from accidents, as the scraping of wheel hubs against the trunk or the biting of horses, all ragged projecting tongues of bark should be cut off and the margin trimmed smooth with a sharp knife, somewhat after the manner indicated in Fig. 6. In the case of old wounds of the kind where there is evidence of a new growth forming, this trimming may not be necessary. All dead projecting strips of bark, however, may be removed.

Shellacking Wounds.

When a cut is made through healthy fresh bark and wood, the cambium layer about the margin will usually dry out and as a result, die back from a small distance under the bark. As far as possible this should be prevented, for it simply means a large area over which a new growth must be formed. A coat of shellac applied immediately after the cut is made will do much to prevent this drying. If the margin is to be trimmed smooth, as is usually advisable, the shellac should be applied immediately after the trimming. Use a brush and spread the shellac gently over the edge of the bark, cambium layer and adjoining sapwood. If the margin of the wound is very wet with sap it may be necessary to allow it to dry slightly first. The best results, however, are obtained if the delay is not more than two or three minutes. In the case of a very large wound this shellacking and trimming should be done at the same time. That is, trim only a small portion at a time and immediately apply the shellac, and after

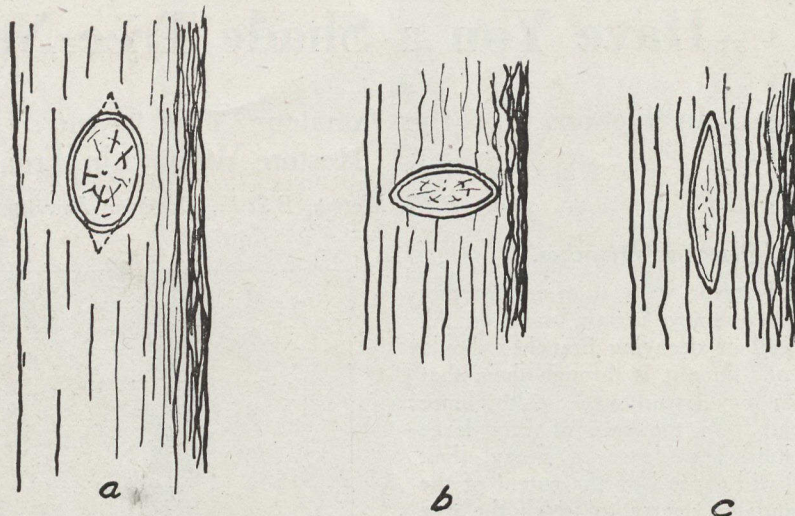


Fig. 5.—Wounds with their longer diameter parallel to the axis of the trunk or limb (c) will heal more rapidly than those which are at right angles (b). Slightly pointing broadly rounded wounds as indicated at (a) will assist the healing.

this fashion gradually work around the whole margin. This method will prevent any portion drying while the remainder is being trimmed.

Disinfecting Wounds.

After a wound has been trimmed and shellaced, the next step is to disinfect the surface so that any spores of decay producing fungi which may have become lodged on it, will be destroyed. There are several materials which may be used for this purpose. They include creosote, copper sulphate, (blue stone), bi-chloride of mercury and formalin. Creosote, the product derived from the distillation of coal tar and which can be purchased from many paint dealers, is perhaps the most widely used. It should be applied with a brush over the entire surface of the wound. It is very penetrating and therefore some tree repairers object to its use near the margin of the wounds because of the danger of its killing the cambium.

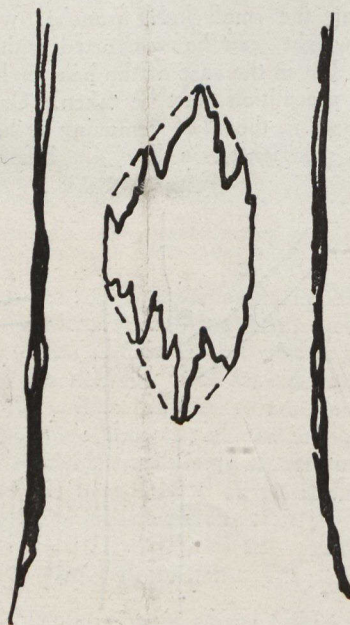


Fig. 6.—Ragged bark wounds should be trimmed as indicated by the dotted lines as soon as possible after the injury is received and treated as described in text.

On large surfaces, however, it can be applied without much danger. If there is any fear of this injury, a copper sulphate solution made of one pound of copper sulphate to 3 gallons of water may be used. Or else, use the bi-chloride of mercury solution in the proportions of 2 ounces to 15 gallons of water, or a 7 grain tablet to a pint. The bichloride of mercury is exceedingly poisonous if taken internally. Also it is a corrosive agent and should not be kept in a metal retainer or allowed to come in contact with the skin. Formalin may be used diluted, 2 ounces in 2 gallons of water.

Water-proofing Wounds.

The time it takes a scar to heal completely depends upon the size of the wound and the vigour of the tree. Some species which are rapid growers, such as the cottonwood and willow, can heal a scar in one-quarter of the time it would take a sugar or oak to accomplish the same result. On a large wound it may take many years for the callus to overgrow the scar. During this time, if the bare wood is exposed to the weather it dries and checks and affords an excellent starting place for decay-producing fungi and an entrance for boring insects. The disinfecting solution is not a permanent dressing and cannot be depended upon to keep such pests from gaining an entrance through the cracks formed by the checking. It, therefore, becomes necessary to apply some kind of a more permanent nature. On small pruning wounds, not over half an inch in diameter, the new growth may be so rapid that water-proofing is unnecessary, but on large wounds it should always be done.

The materials most commonly used for this water-proofing coat include paint, asphalt and liquid grafting-wax.

A good quality of paint made of pure white lead and linseed oil makes a satisfactory coat for small wounds which will heal rapidly, and where the surface is

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