

## Saves Prize Trees from Pine Beetles

By EDWARD J. WALSH

**D**URING the summer of 1925, the pine beetle was very active in the vicinity of Estes Park, Colorado. Part of the land is heavily wooded. Hundreds of fine trees were destroyed. In places the havoc wrought was confined to certain groups of trees; in other places single



A close-up of the job—the light spots are putty, used in closing up the beetle holes so successfully

trees were attacked, reports Edward J. Walsh to *American Forests*, through whose courtesy this article is printed in *GOLF-DOM*. He continues:

As is now generally known, the fact that beetles are in a tree can be determined by the presence of approximately half a thimble full of sap, which has run from the hole made by the beetle on entering, and to this sap adheres the sawdust made by the beetle. These accumulations of sap and sawdust are termed pitch-tubes, and I have seen many dead trees with only



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nine or ten of such pitch-tubes, while others have shown hundreds of them. These holes are usually only on the trunk of the tree, generally above the height of a man on the larger trees, but sometimes extending down to the ground level, or even in the exposed roots. The tree will remain in foliage during that year, but if enough beetles have been at work the tree will be dead by the following spring.

Appeals for information to the Forest Service and to the bureaus of the various States have heretofore brought forth only the advice that the affected trees should be cut down and the bark burned. This method is, of course, heroic, and with the knowledge at hand at present it seems to be the only one that can be resorted to where many trees in a small area are affected.

### Treatment Is Applied

In the month of June, 1925, we detected the presence of beetles in a tree some twenty feet from our cottage. It is a tree rather similar in formation to those at timberline, and is approximately ten inches through at the base. Because of its quaint shape and fullness of its foliage, it is a

very decided asset in its location. We had learned that several large trees had the year previous been saved by a certain treatment, and we determined to try it. I procured a sixteen-ounce can of carbon bi-sulphide, a surgeons' hypodermic syringe, a wire which I fashioned into probes, or small chisels of various shapes and a pound of ordinary putty.

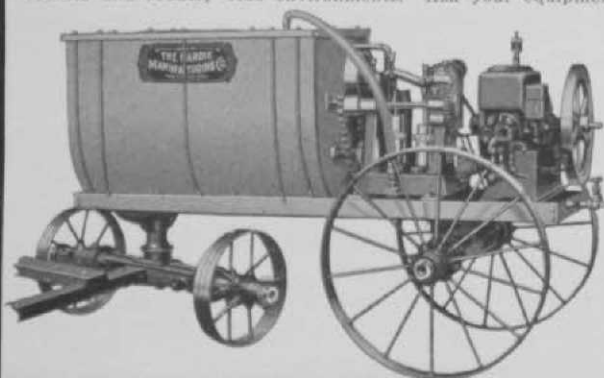
We soon found that the work we had undertaken was a tedious, dirty and smelly job. My wife must have the credit for most of the work. The wire probes were used to clean the sap and sawdust from the entrance to each hole. These holes, by the way, are about the size of the head of an ordinary safety match. By means of the syringe, with its long and slender point, carbon bi-sulphide was injected into each hole and the hole immediately sealed with putty. Two hundred and fifty-seven holes in this one tree were treated in this manner over about a week's time in 1925. In the summer of 1926 the tree was found to be alive and thriving, but either a new crop of beetles or other beetles from another tree were at work. Sixty additional holes were then treated. Three hundred and seventeen beetle holes

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in a tree not more than ten inches in diameter! As the beetles work within the cambium layer and thus girdle the tree, one-thirtieth of that number of beetles would ordinarily have killed the largest and most healthy tree.

The difficulty and slowness of this treatment would absolutely preclude its use on a large scale, but there are thousands of property-holders throughout the country who have lost valuable trees adjacent to their homes whose shade and beauty they were relying on. To save these trees they would have gone to any amount of trouble had they known the course to pursue. The tree we saved in 1925 by treating and filling the two hundred and fifty-seven holes was, as I have stated, treated in 1926 for sixty additional holes. If larvae laid in the tree by the 1925 group of beetles, which numbered two hundred and fifty-seven, were controlled to the extent that only sixty holes were present the following year—and these holes might have been made by outside beetles—the carbon bisulphide treatment cannot be derided. Three hundred and seventeen holes in the trunk of a stunted tree not more than ten inches in diameter, meant that there was a hole through the bark for approximately every six square inches of the trunk surface. The tree was alive and thriving this spring, twenty-one months after the first holes were filled.

The photograph, taken this spring, shows many of the white putty marks and also the condition of the tree. Incidentally, there was not a single new beetle hole this year, while other trees in the locality were riddled.

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