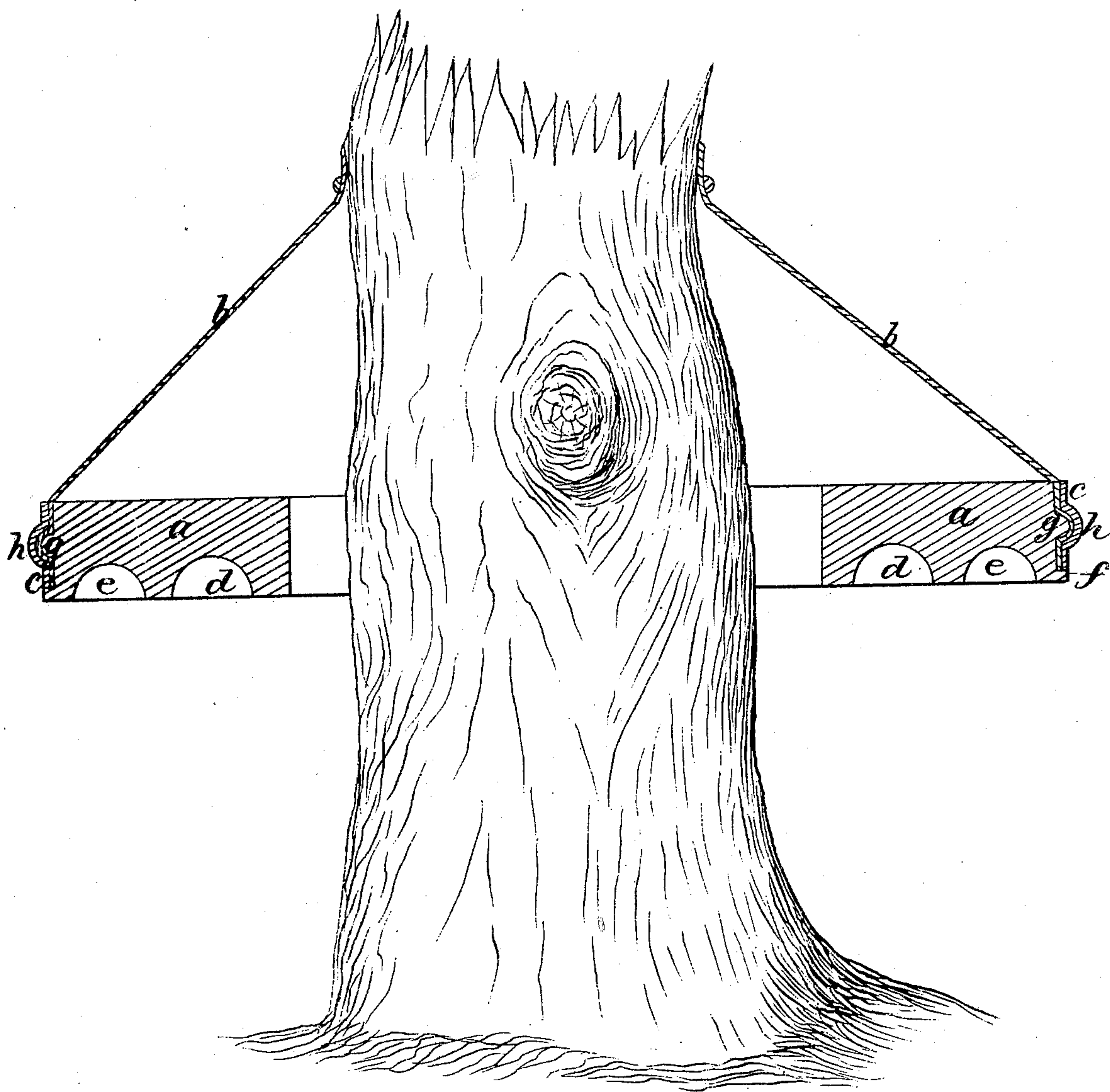


B. Merritt Jr.
Tree Protector.

Nº 59623

Patented Nov. 13. 1860.



Witnesses;
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IMPROVEMENT IN TREE-PROTECTORS.

Specification forming part of Letters Patent No. 59,623, dated November 13, 1866.

To all whom it may concern:

Be it known that I, BENJAMIN MERRITT, JR., of Newton Corner, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Tree-Protectors; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

This invention relates particularly to improvements in the detail of the construction patented to me November 15, A. D. 1864, under the number 45,065.

Experience has now shown me that, while one groove such as is shown in my patented device prevents the passage over it of the majority of canker-worm grubs, there are yet some of the grubs which are so small that they are enabled by the shortness of their bodies to pass one groove, which in size is such as to prevent effectually the passage of grubs grown to the average size. Grooves of semicircular cross-section, and of such width as will prevent the passage of these small grubs, are so narrow that they can be spanned by the length of the bodies of the large grubs. Therefore to prevent the passage of large, medium, and small grubs, I have devised the combination of two or more grooves of different widths or sizes, substantially semicircular in cross-section so that grubs which from their size are enabled to cross one groove are defeated in their attempts to cross the other groove or grooves, and it is in this combination that the first part of my invention consists.

In this improved construction, as well as in the before-referred-to patented construction, the grooves referred to are made in glass, earthen, or stone ware, or other hard smooth material, in the form of segments of circles, these being held together by a clamp.

In my patented construction referred to the clamp was a circle made of segments of cast-iron, the cross-section of the segments being L-shaped, and glass or other grooved segments rested on the internally-projecting flange of the clamp, the suspending material being held fast between the clamp and the

segments thereby surrounding. This construction proved somewhat faulty, first, because filaments from the edge of the suspending web were directed by the clamp toward the tree-trunk and upon the grooved segments, so that the grubs could seize and make bridges of them; and, secondly, because in the crack or joint between the segments and the clamp the grubs could get such a hold as to assist them in passing the protector.

The second part of this invention consists in making the grooved segments with an outward-projecting flange, so that the joint or crack between the segments and their clamp comes on the vertical edge of the protector, and not on the horizontal face thereof, and so that there is enough of width from the edge of the outer groove to the edge of the grooved segment to prevent the grubs from obtaining a grasp to aid them in passing the protector.

The third part of my invention consists in making on the outer vertical edge of the segment a fillet or bead to be encompassed by a corresponding formation in the clamp.

The drawing shows in vertical cross-section a tree-protector embodying my present improvements.

a denotes the segments, made of glass or other suitable smooth hard material. *b* is the close conical web by which the segments *a* are suspended from the tree-trunk, and *c* is the clamp which confines the segments together and holds the flexible web *b* thereunto. In the segments *a* and concentric therewith are formed grooves of unequal size, two grooves, *d* and *e*, being shown, the inner groove, *d*, being larger than the outer groove, *e*, and both being as to size and form what I prefer to use in practice.

Grubs of medium or large size in attempting from the base of the tree to ascend it are checked at groove *d*; but very small grubs, which from their minimum size are enabled to crawl over the concave surface of groove *d*, are checked at groove *e*, on account of their bodies forming chords longer in proportion to the circle of the cross-section of the small groove than they do to the circle of the cross-section of the large groove.

The outward-projecting flange from the segments *a* is seen at *f*, and it will be obvious

that this will give an outward direction to any filaments of the web *b* which are not closely trimmed off, and that the width between the outer groove and the edge of the flange *f* is considerable without crack or joint to afford a chance for the grubs to hold by.

The bead or fillet on the vertical edge of the segments is marked *g*, and the corresponding formation in the clamp is marked *h*. It will be obvious how, with the web *b* between the segments *a* and the clamp *c*, the web is made to sustain the weight of the protector when fastened to a tree-trunk, as shown.

I claim—

1. The combination of two or more grooves

of unequal size when arranged in the segments of a tree-protector, substantially as described.

2. In combination with the segments *a*, the outwardly-projecting flange *f*, arranged as and for the purpose specified.

3. The bead *g* on the segments *a*, when combined with a corresponding formation of the clamp *c*, as seen at *h*, for the purpose of securely holding the parts of the protector together.

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Witnesses:

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