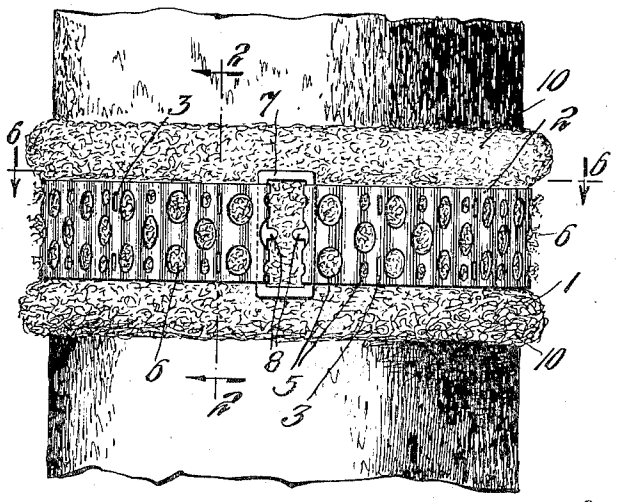
Aug. 29, 1939. W. B. KIRKPATRICK 2,170,822

TREE BAND

Filed May 12, 1937

Fig. 1.



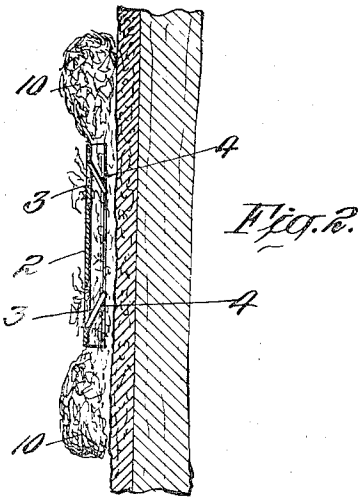


Fig. 2.

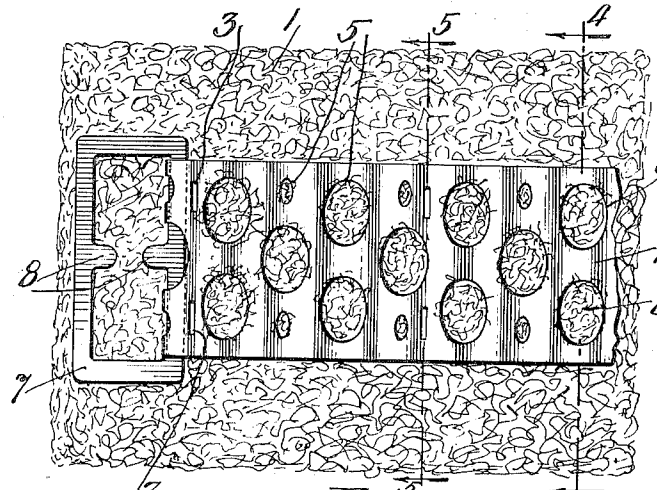


Fig. 3.



Fig. 4.

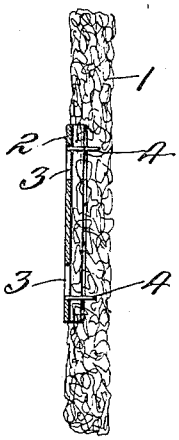
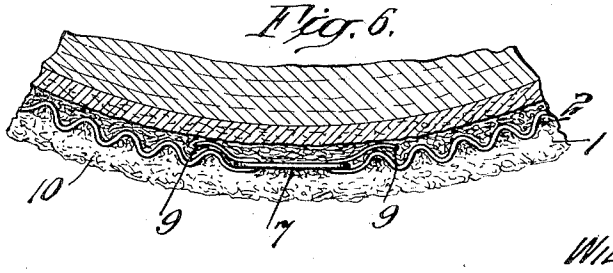


Fig. 5.

Fig. 6.



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UNITED STATES PATENT OFFICE

2,170,822

TREE BAND

Willis B. Kirkpatrick, Scarsdale, N. Y.

Application May 12, 1937, Serial No. 142,084

4 Claims. (Cl. 47—24)

This invention relates to tree bands of the type disclosed in my Patent #2,022,937 of December 3, 1935, and has for its object to provide trees with an improved permanent barrier against crawling insects, thus prolonging their life and preserving their beauty.

The tree band of this invention, which I have found particularly effective for the above purpose, comprises an elongated body of inorganic wool in attenuated form and an extensible retaining strip which is superimposed upon the wool and is preferably provided with a terminal member or buckle which permits the ends of the retaining strip to be drawn together and fastened in a manner somewhat similar to the fastening of a belt upon the body.

While mineral wool, glass wool and similar non-metallic materials can be used in the construction of my tree band, I have found special advantages in metal, and preferably non-rusting wool, of which steel wool commonly used for scouring and other abrasive purposes, is a common example. Preferably, where long service is desired, I use bronze, brass or other non-rusting wool made from pure metals or alloys, and similar materials may likewise be employed in the construction of the retaining strip.

In constructing my improved tree band I preferably make the retaining strip narrower than the body of inorganic wool so as to permit the wool to bulge out above and below the retaining strip when fastened on a tree, and, after the band is in place, a viscous insect-holding material is preferably applied or tamped upon the surface of the retaining strip in any suitable manner as hereinafter described. A band of this character is very economical to manufacture, does not absorb and hold moisture, holds the viscous material, is readily deformable or set by slight pressure to fit inequalities of the tree, can be cut off to the desired length to fit the circumference of each individual tree, and can be readily applied and fastened by ordinary unskilled labor. A very important advantage of bulging out the wool as referred to above is that it makes it difficult for leaves to form a bridge for insects to crawl over.

In the preferred form of the invention the above-mentioned retaining strip, which is superimposed upon the elongated body of inorganic wool, is made of readily deformable material such as bronze or zinc and may be punched out at intervals to form prongs which extend into the mass of wool in such a way as to hold the strip in engagement with the wool. In addition, the retaining strip is preferably corrugated in a transverse direction to permit expansion to compensate for growth of the tree to which the band is applied. Another feature of the invention resides in forming a multiplicity of holes in the retaining strip so that, when the band is applied to the tree under slight pressure, the wool will protrude out through the holes, thereby facilitating the retention of the viscous insect-holding material on the retaining strip and impeding the passage of insects. The band may be fastened upon a tree in any suitable manner, but for this purpose I prefer to use a terminal loop or buckle into which the ends of the retaining strip may be inserted and doubled over to provide a secure joint as hereinafter described.

These and other features and advantages of the invention will be described in connection with the accompanying drawing, in which:

Fig. 1 shows a tree with my improved band attached thereto;

Fig. 2 is a transverse section on line **2—2** of Fig. 1, showing the prongs on the retaining strip for holding same in engagement with the wool;

Fig. 3 is a longitudinal view showing the wool and superimposed retaining strip before being applied to the tree;

Fig. 4 is a transverse section taken on line **4—4** of Fig. 3;

Fig. 5 is a transverse section taken on line **5—5** of Fig. 3; and

Fig. 6 is a longitudinal section through the terminal joint and tree, same being taken on line **6—6** of Fig. 1.

In the drawing, **1** represents the band proper comprising an elongated body of inorganic or non-textile wool such as mineral or glass wool, but preferably a non-rusting ferrous or non-ferrous metallic wool such as bronze wool, while **2** represents the retaining strip which is narrower than the body of inorganic wool and is preferably made of non-rusting, readily deformable material such as zinc.

In the form illustrated, the retaining strip **2** is corrugated in a transverse direction to permit expansion to compensate for the growth of the tree to which the band is applied, although other extensible means may be employed to compensate for expansion as by providing a suitable expansible joint for connecting the ends of the retaining strip together. At intervals throughout the length of the strip **1**, slots **3** are punched out to form prongs **4** which pierce the wool and are bent over into the body of the wool when the band is fabricated thus fastening the strip securely to the wool.

I also prefer to provide the retaining strip 2 with a multiplicity of holes 5 of substantial size as best shown in Figs. 1, 3 and 4 of the drawing. When the band is fastened upon a tree under slight pressure, as shown in Figs. 1 and 2, the strands of wool protrude out through the holes 5 in small tufts 6, thus presenting a barrier which impedes the progress of crawling insects over the surfaces of the retaining strip. In addition, these protruding tufts of wool facilitate the retention of the viscous insect-holding material which is applied to the surface of the retaining strip as hereinafter described.

The fastening means illustrated in Figs. 1 and 3 comprises a buckle or terminal loop 7 having an elongated transverse slot and inwardly projecting lips 8 which are inserted in holes 5 of the retaining strip 2, after which the ends of the retaining strip are bent over and thereby permanently secured to the buckle, eliminating the possibility of slippage, as illustrated at 9 in Fig. 6 of the drawing.

In practice, the composite tree band comprising the elongated body of inorganic wool 1 and the superimposed retaining strip 2 is cut off to a length approximating the circumference of the tree, which may be done with ordinary household shears or scissors, and the band is circled about the trunk of the tree. Even in the case of a large tree it is unnecessary to use tacks since slight pressure on the band causes the wool to cling to the bark, which makes it easy for one person to attach the band without assistance. When the band has been circled about the tree the meeting ends of the body of wool 1 are lightly pressed together, causing them to unite in a continuous mass as shown in Fig. 1, after which the ends of the retaining strip 2 are slipped through the buckle 7 and bent over at 9 with the application of as much tension as is necessary to take up the slack in the band.

When the above-described band is applied to the tree with slight pressure the retaining strip, being narrower than the body of inorganic wool, causes the wool to bulge out above and below the retaining strip as illustrated at 10 in Figs. 1, 2 and 6, thus lessening the likelihood of leaves forming a bridge for insects to crawl over. After the band is in place the viscous insect-holding material is applied, and I find it sufficient to apply such material only to the retaining strip 2 which is disposed centrally of the band as shown in Fig. 1. The viscous material may be applied to the retaining strip in any suitable or convenient manner.

It will be evident that my improved tree band possesses many advantages over the various common forms of insect repelling means which have been employed in the past. A common form of tree band employed in the past comprises a fabric band, ordinarily of burlap, paper or pulp, which is tied or tacked to the tree to be protected, and having a viscous insect-holding composition smeared on the outside. This type of band has several defects. One is that the band, simply wrapped around the tree, with or without tension, fails to fill the interstices in a tree having a rough bark or an irregular cross section; it is injurious to the tree; and it is disapproved by tree surgeons to smooth off the bark before applying such a band.

Also, textile fabrics such as burlap, or soft wool, pulp, cotton and twisted or braided textile bands have the further objection of being absorbent to and holding water even after being impregnated with the viscous, sticky material. Hence, such bands absorb and hold moisture, lead to bark decay, and are ineffective to stop the progress of the insects unless the bark of the tree is particularly smooth and the band tightly applied. When tightly applied, the contour of the tree is not fitted. Also, such bands do not allow for the normal growth of the tree, are unsightly, and only partially effective, because the soft material next to the bark makes a harbor for injurious insects.

I have also found that the viscous materials furnished by manufacturers for trapping worms and other crawling insects quickly lose their effectiveness when applied to moisture-absorbent textile fabrics or paper bands, and in any event have to be renewed yearly, and in many cases several times a year during the crawling insect season, in order to have any value at all.

My improved tree band has many distinct advantages over the foregoing prior art constructions. For one thing, it is formable to fit in the bark interstices and the contour of the tree, and extensible to allow for the growth of the tree, without injury to tree or band. The length of my tree band is easily adaptable to the circumference of the tree to be protected, and is easily applied and fastened by unskilled labor. The material of my tree band is not absorbent to water, and it is easily treated with the viscous material. The material is also repellent to insects, so that they do not build nests or weave cocoons within its structure. In addition, the appearance of my tree band on the tree is as inconspicuous as possible, especially since the particular material which I prefer soon takes on a greenish cast and therefore blends into the foliage of a tree and is not noticeable a few feet away. Another important advantage of my improved construction is that it is very economical as it can be fabricated entirely by machine without any special or intricate forming operations.

The invention is capable of various modifications and adaptations, and I do not restrict myself to the example shown except as required by the appended claims.

The invention claimed is:

1. A tree band comprising an elongated body of inorganic wool in attenuated form for encircling a tree, and an extensible retaining strip superimposed upon said wool for fastening same on a tree, said retaining strip having a multiplicity of holes of substantial size permitting said wool to protrude therethrough so as to facilitate the retention of a viscous insect holding material and impede the passage of insects.

2. A tree band comprising an elongated body of inorganic wool in attenuated form for encircling a tree, and a retaining strip superimposed upon said wool for fastening same on a tree and having a multiplicity of holes of substantial size permitting said wool to protrude therethrough so as to facilitate the retention of viscous insect holding material and impede the passage of insects, said retaining strip being of extensible material and being corrugated in a transverse direction to permit expansion to compensate for growth of the underlying part of the tree.

3. A tree band comprising an elongated body of inorganic wool in attenuated form for encircling a tree, an extensible retaining strip of readily deformable material superimposed upon said wool for fastening same on a tree, said retaining strip having a multiplicity of holes of sub-

stantial size permitting said wool to protrude therethrough so as to facilitate the retention of a viscous insect holding material and impede the passage of insects, and a terminal buckle adapted to receive the ends of said retaining strip for connecting said ends together.

4. A tree band comprising an elongated body of inorganic wool in attenuated form for encircling a tree, an extensible retaining strip of readily deformable material superimposed upon said wool for fastening same on a tree, said retaining strip having a multiplicity of holes permitting said wool to protrude so as to facilitate the retention of a viscous insect holding material and impede the passage of insects, and a terminal buckle having a transverse slot adapted to receive the ends of said retaining strip, and means for engaging the holes in said strip when said ends are bent over said buckle so as to connect said ends together.

WILLIS B. KIRKPATRICK.