March 4, 1958 H. H. TATGE 2,825,305

HOG OILER

Filed Aug. 8, 1956 2 Sheets-Sheet 1

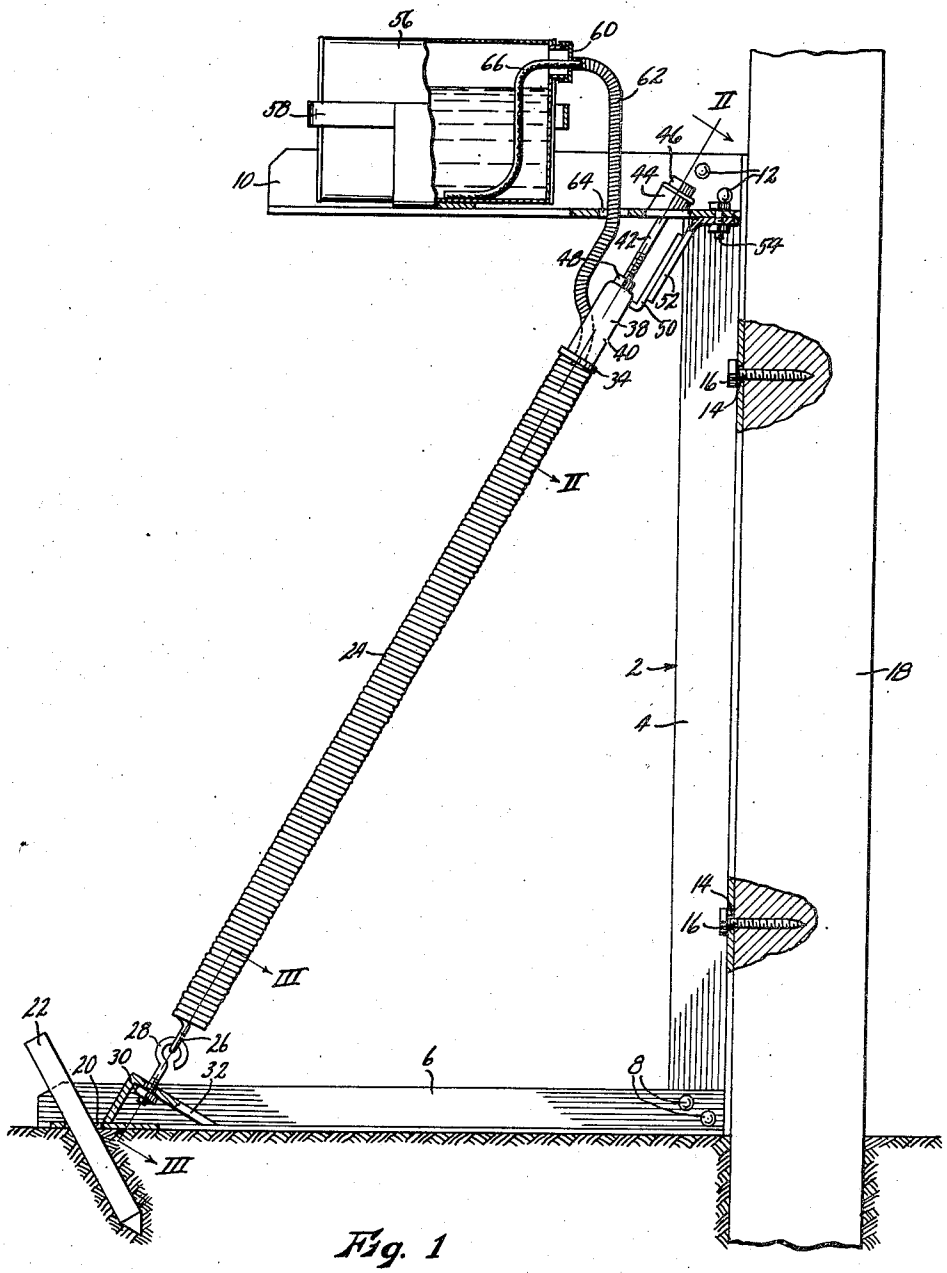


Fig. 1

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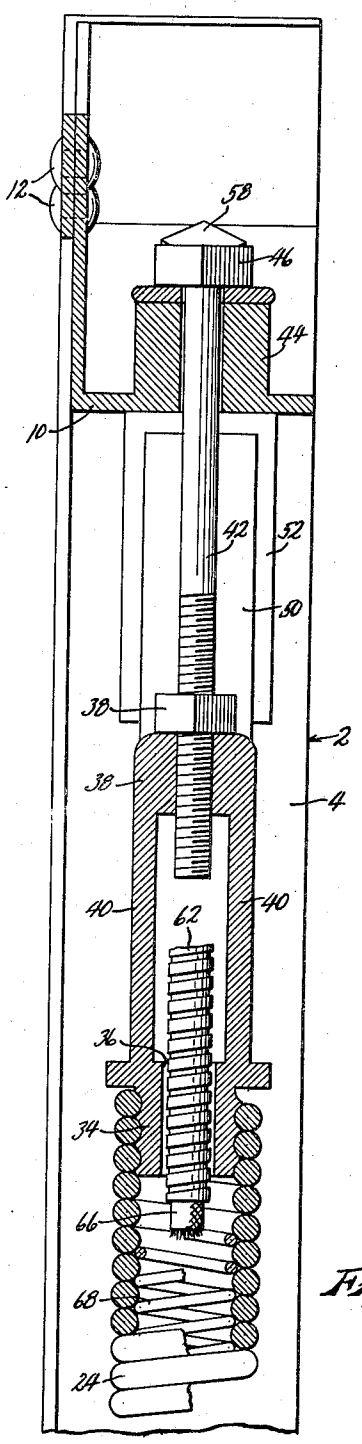


Fig. 2

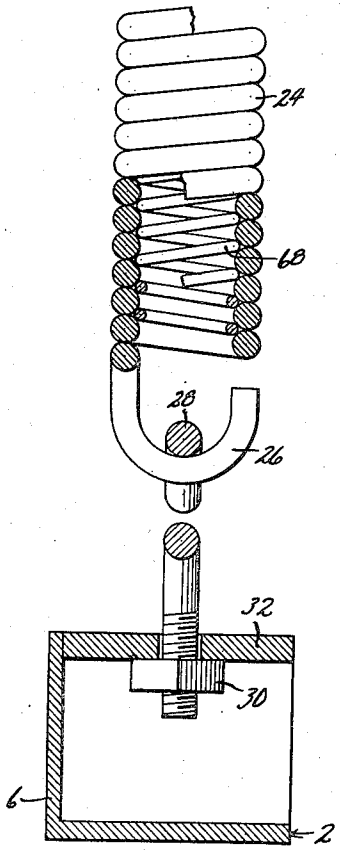


Fig. 3

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HOG OILER

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Application August 8, 1956, Serial No. 602,712

3 Claims. (Cl. 119—157)

This invention relates to new and useful improvements in devices for applying an oil containing and insecticide to the hides of hogs or cattle, and relates particularly to that class of applicators characterized by the provision of an applicator member kept saturated or covered with the insecticide treated oil, and conveniently placed so that the oil will be transferred to the hides of the animals as they instinctively rub themselves against it.

The principal objects of this invention are the provision of an applicator unit which is extremely durable, being substantially impervious to wearing by the coarse hair and bristles of the animals, which is formed of steel or other hard metal and which will nevertheless be kept covered with a substantially uniform coating of oil at all times so as to be ready for use, which will not become fouled by mud or other foreign matter which may be rubbed thereon, and which is very sanitary and can be easily cleaned.

Other objects are simplicity and economy of construction, efficiency and dependability of operation, and flexibility of application.

With these objects in view, as well as other objects which will appear in the course of the specification, reference will be had to the drawing, wherein:

Fig. 1 is a side elevational view of a hog oiler embodying the present invention, shown attached in operative position to a fence post, and

Figs. 2 and 3 are enlarged fragmentary sectional views taken respectively on lines II—II and III—III of Fig. 1, with parts left in elevation and partially broken away.

Like reference numerals apply to similar parts throughout the several views, and the numeral **2** applies to an angle-iron frame including an upright vertical standard **4**, a horizontal base member **6** attached at one end to the lower end of standard **4** as by rivets **8**, and a horizontal arm **10** fixed at one end to the upper end of standard **4** as by rivets **12**, and extending from said standard in the same direction as base member **6**. Standard **4** is perforated as **14** to receive screws **16**, whereby the standard may be fixedly secured to a fence post **18** or the like. Base member **6** is adapted to contact the ground throughout its length, and is provided at its outer end with a hole **20** for receiving a stake **22** driven into the ground, whereby the frame is secured against movement.

The actual oil applicator unit includes a helical steel spring **24** which is disposed obliquely so as to extend between the outer end portion of base **6** and the inner end portion of arm **10**. At its lower end, said spring is formed to present a hook **26** which is engaged in a bolt hook **28**, said bolt hook being secured by nut **30** in a suitable bracket **32** welded to base **6**. At its upper end, the spring has a threaded plug **34** screwed therein, the spaces between successive convolutions of the spring serving as threads for receiving said plug. Said plug has an axial aperture **36** formed therethrough for a purpose to be described. Formed integrally with said plug is a yoke **38** having spaced apart arms **40**. Threaded in the outer end of

said yoke is a screw **42** which extends upwardly through a boss **44** formed on arm **10**, and provided with a head **46** engaging the upper end of said boss. It will be apparent that by turning said screw the tension of spring **24** may be adjusted at will. A lock nut **48** threaded on said screw and engaging yoke **38** prevents accidental rotation of the screw. Accidental rotation of the yoke is prevented by a plate **50** fixed thereto and extending parallel to the axis thereof. Said plate is disposed in planar sliding contact with a second plate **52** which is fixed to arm **10** by bolt **54**.

A tank **56** containing the insecticide oil is supported freely in a suitable bracket **58** fixed to arm **10**. Said tank, which conveniently may be the container in which the oil is purchased, is provided adjacent its upper side with an ordinary screw cap **60** in which is interconnected a flexible metal conduit **62**. Said conduit is led downwardly through a positioning hole **64** formed in arm **10**, then downwardly between arms **40** of yoke **38** and through aperture **36** of plug **34**, terminating in the upper end portion of spring **24** as indicated in Fig. 2. Extending through said conduit is a wick **66** which extends through said conduit and is of sufficient length to reach to the bottom of tank **56**. Threaded into spring **24**, and extending substantially the full length thereof, is a smaller helical spring **68**. Spring **68** is formed of a smaller diameter of spring wire than spring **24**, and is so proportioned that each convolution thereof substantially contacts the two adjacent convolutions of spring **24**, as shown.

In use, it will be seen that insecticide oil is conducted by wick **66** from tank **56** through conduit **62**, and is dripped slowly into the upper end of the applicator formed by springs **24** and **68**. A dripping rate of one drop about every 20–40 seconds has been found satisfactory for most circumstances, but obviously the dripping rate may be regulated by changing the viscosity of the oil used, or by using wicks of different densities and fluid-conduction properties.

Oil entering at the top of applicator unit **24—68** will of course flow downwardly through the springs by gravity, and will be caused to follow the convolutions of the springs circumferentially around the springs by capillary action in the narrow spaces between the convolutions of the springs. Thus the entire surfaces of the springs are evenly coated with oil which will be transferred to the hides of animals rubbing themselves thereagainst. The outer surface of spring **24** will be coated with oil despite the fact that said spring is shown as "closed" with the successive convolutions in engagement, since even a "closed" spring is rarely so perfectly formed that there is a true and continuous line contact between the convolutions thereof. Actually such contact is only intermittent, leaving minute spaces between the convolutions of the spring along the major portion of its length, said spaces being ample to permit the passage of oil to the external surface of the spring. Moreover, if it should happen that there is a solid line contact between convolutions along any substantial portion of the length of the spring, so that any substantial portion of the external surface is not continuously bathed with oil, screw **42** may be turned to exert greater tension on spring **24**, whereby the convolutions thereof will be slightly spaced apart.

The applicator has been found to function fairly efficiently with spring **24** only, spring **68** being omitted. However, without spring **68** there is a tendency for the oil to concentrate along the side of the spring which is lower due to the oblique position thereof, leaving the upper side with an inadequate oil coating. The use of spring **68** provides a much evener coating of oil around the entire circumference of the spring. This is believed due to the fact that the use of spring **68** provides three paths along

which oil is conducted around the spring by capillary action, one along the line of contact or near-contact between the convolutions of spring **24**, and two along the lines of contact or near-contact between spring **68** and spring **24**, whereas without spring **68** there is of course only the single path between the convolutions of spring **24**.

Thus it will be seen that a "hog oiler" or insecticide applicator possessing several advantages has been produced. Besides the efficient distribution of oil already discussed, it will be seen that the oblique disposition of the applicator permits the hog or other animal to rub virtually any portion of his body against the applicator, by either entering between the applicator spring **24** and standard **4**, or by engaging the outer surface of the spring. The spring will yield resiliently to conform to the contour of the animal's body. The applicator is virtually impervious to wear by friction with the bristly hides of animals, whereas the usual rope or padded canvas applicators are rapidly worn out and require frequent replacement. It is not fouled or clogged by mud, manure or the like which often renders fibrous applicators virtually useless. If such foreign matter does enter the springs, it falls freely therefrom at their lower ends, which are open as clearly shown in Fig. 3. When necessary, the applicator is very easily disassembled for cleaning.

While I have shown and described a specific embodiment of my invention, it will be apparent that numerous minor changes of structure and operation could be made without departing from the spirit of the invention as defined by the scope of the appended claims.

What I claim as new and desire to protect by Letters Patent is:

1. An insecticide applicator for livestock comprising a frame, a first helical member supported in said frame with one end thereof higher than the other, a second helical member of smaller diameter than said first helical member threaded into said first helical member, each convolution of said second helical member being retained between the two adjacent convolutions of said first helical member, and means operable to deliver a liquid insecticide at a slow rate into the interior of said helical members at the upper ends thereof, whereby said insecticide will flow downwardly through said helical members by gravity, the convolutions of said first helical member being minutely spaced from each other and from the convolutions of said second helical member, whereby said liquid insecticide will be conveyed circumferentially around said helical members by capillary action between said convolutions, and whereby said insecticide will be conveyed to and will cover the external surface of said first helical member.

2. The structure as recited in claim 1 wherein both said first and second helical members constitute resilient coil springs.

3. The structure as recited in claim 1 wherein both said first and second helical members constitute resilient coil springs, and with the addition of means operable to adjust the tension of the spring constituting said first helical member.

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