This invention appertains to oil and insecticide applicators for livestock, of the general type shown in my pending applications Ser. Nos. 757,486 and 805,230, filed respectively on August 26, 1958, and April 9, 1959.

One of the primary objects of my present invention is to provide a novel and simple means for accurately controlling the flow of oil or insecticide to the oil distributing and wiping apron according to the amount of use of the oiler, i.e., the number of head of livestock using the oiler.

Another prime object of my invention is to provide a cattle oiler of what I term the "seep" type, embodying hand controlled valves for governing the flow of oil from the supply tank to the oil distributor, whereby the oil can constantly seep from the tank to the distributor at an exact desired rate of a certain predetermined number of drops or pints per minute.

A further salient object of my invention is to provide a cattle oiler equipped with a "seep" type valve having a positive control and adjustment.

Another further object of my invention is to provide a "seep" type cattle oiler in which the control valve or valves, as the case may be, can be located either within the tank or exteriorly of the tank at the terminals thereof.

A further important object of my invention is to provide a cattle oiler which does not depend on the rocking of the tank for oil delivery, so that the first cattle using the oiler will be effectively treated, as well as the last and without any waste of oil.

A still further important object of my invention is to provide a cattle oiler which will be durable and efficient in use, one that will be simple and easy to manufacture and one which can be placed upon the market at an economical price.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described and claimed and illustrated in the accompanying drawings, in which drawings,

Figure 1 is a front elevational view of my improved "seep" type cattle oiler;

Figure 2 is an enlarged front elevational view with parts thereof broken away and in section and illustrating the use of a "seep" type hand controlled valve;

Figure 3 is an enlarged fragmentary detail sectional view illustrating the type of valve used in Figure 2 of the drawings;

Figure 4 is a transverse sectional view through the "seep" type oiler taken on the line 4--4 of Figure 2, looking in the direction of the arrows;

Figure 5 is a front elevational view partly broken away and in section and illustrating another type of my "seep" type oiler, and

Figure 6 is an enlarged fragmentary detail vertical sectional view illustrating the type of valve employed with my oiler, shown in Figure 5.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter O generally indicates my improved "seep" type oiler for livestock and the same includes a horizontally disposed tank 10. The tank is preferably cylindrical in shape and can be fabricated in any desired way, and includes a cylindrical body 11 having end closure heads 12. The tank 10 can be suspended in the same manner as shown in my pending application S.N. 805,230. Hence, the end heads 12 can have welded or otherwise secured to their axial centers outwardly extending stub shafts 13. These stub shafts 13 receive the end links of supporting chains 14. The upper ends of the chains in turn can be carried by a suitable frame 15.

Disposed below the tank 10 and extending the full length thereof is an oil distributing trough 16. The trough can be formed from angle iron with its apex disposed lowermost and the trough at its apex is provided with a longitudinal row of spaced openings 17 through which oil drips. If preferred, the openings 17 can increase in diameter from the transverse center of the trough toward its ends. The lower end of the tank has welded or otherwise fastened thereto a plurality of depending studs 18. These studs 18 constitute supports for the oil distributing trough 16 and the studs extend through the trough and the trough is held on its studs by suitable nuts 19.

The distributing trough 16 carries an applicator or distributor apron 20 which is of the same type as is shown in my pending applications. Hence the distributor apron is formed from flexible material and preferably from a fabric such as canvas which will readily absorb and distribute oil. The apron 20 includes a lower applicator section 45 and an upper flap section 46. Prior to the securing of the trough 16 in place, the upper flap section 46 is draped over the trough so as to enclose the trough, after which the studs 18 are passed through the flap and through the trough as heretofore stated. The upper section 46 depends from the trough 16 and the lower applicator section 46 is secured to the side flaps of the upper section 46, by means which will now be described. The lower section 45 is preferably formed by folding the fabric upon itself and the folded portion is inserted between the side flaps of the upper section 46. Pieces of strap iron 47 are placed on opposite sides of the flap portions of the upper section and bolts 48 are passed through the strap irons 47 and through the flaps of the upper section and the folded portion of the lower section.

The opposite sides of the tank 10 above the applicator apron 20 can be provided with back scratchers 21. The scratcher 21 can be formed from heavy gauge, reticulated, expanded metal and this metal can be welded or otherwise fastened to the tank.

As brought out in the objects of this specification the primary purpose of my invention is to provide means for permitting an accurate flow or seeping of the oil from the tank 10 to the distributing trough 16. This means must be adjusted by hand so that the oil will seep from the tank at a desired rate of so many drops per minute according to the amount of use to which the applicator or oiler is subjected.

Hence, in that form of my invention shown in Figures 1 to 4, inclusive, I arrange centrally within the tank 10 a valve 22. This valve is of the conical plug type generally known as a pet cock. The valve 22 includes a casing 23 having formed centrally therethrough a passageway 24. The passageway 24 is interrupted by the conical valve seat 25 and this seat rotatably receives the tapered valve plug 26. The plug 26 has formed therein a diametrically extending way 27 which can be brought into alignment with the passageway 24. Obviously, by turning the plug 26 the passageway 24 can be entirely opened or partially closed, or opened to any desired degree between its full open and full closed position. As in the usual plug type
valve, the plug is normally urged down on its seat by a spring 28. Formed on the upper end of the valve plug 26 is a stem 29 and this stem has formed thereon or secured thereto an operating handle 30. One end of the passageway 24 is left open and the same communicates at all times with the interior of the tank 10, as is best shown in Figure 2 of the drawings. The opposite end of the passageway receives an elbow 31 and this elbow extends through the tank 10 for communication with the distributor trough 16.

Also in accordance with my invention I form a boss or an enlargement 32 on the upper end of the tank directly above the handle 30 of the valve. Threaded into the boss 32 is an operating rod 33. The lower end of the operating rod 32 terminates in a fork 34 and this fork 34 grips the handle 30 of the valve so that upon the turning of the rod the valve plug will be turned. The upper end of the rod 33 extends out of the tank 10 and is provided with any preferred type of manipulating handle 35.

It can be seen that the valve 22 can be regulated from the exterior of the tank and that the valve can be accurately and positively set to permit a predetermined flow of oil from the tank to the distributor trough 16.

Casting worked under the oiler and engaging the apron 22 will thus be effectively treated with the desired amount of oil or insecticide or a mixture of oil and insecticide as may be desired.

In Figures 5 and 6, I have shown another preferred type of my "seep" type cattle oiler and in this form of my invention I arrange control valves exteriorly of the tank. These exterior valves are indicated in Figures 5 and 6 by the reference character 36. As illustrated, I arrange a valve 36 at each end of the tank 10. The valves 36 can be of the needle type. Thus, each valve includes a casing 37 having a vertically extending passageway 38. The lower end of the passageway is provided with a tapered valve seat 39. Communicating with the passageway 38 intermediate its ends and above the valve seat 39 is a threaded nipple 40. The nipple 40 of each valve is threaded into an end head 12 of the tank 10. The lower end of the casing 37 of each valve carries an elbow coupling 41 which extends into an end of the distributor trough 16. Threaded into the upper end of each valve casing 37 is the stem 42 of a needle valve 43. The upper end of each stem 42 carries a manipulating handle 44. Obviously, by turning a handle 44 the needle valve 43 can be moved on and off of its seat 39. With the use of the needle valves, an exceedingly fine adjustment of the feed of the oil can be had.

Where tanks of comparatively great length are used, the form of my invention shown in Figures 5 and 6, is preferred, in that, oil is fed to each end of the distributor trough 16. In relatively short tanks the central feed is desirable.

It is to be also understood that I can use the needle valve in that form of my invention shown in Figures 1 to 4, inclusive, in lieu of the pet cock type valve, and it is also to be understood that I can use the pet cock type of valve at each end of the tank, in lieu of the needle valve.

In view of the fact that my improved "seep" type cattle oiler does not depend on the rocking of the tank for the feed of the oil, I can dispense with the studs 13 shown in Figures 1 and 2, and can weld the end links of the chains 14 directly to the end heads 12 of the tank at the upper end thereof.

Various changes in details may be made without departing from the spirit or the scope of this invention, but what I claim as new is:

1. A rubbing and oiling station for animals comprising an overhead support, a horizontally disposed elongated reservoir tank for liquid freely suspended from said overhead support for rolling and tilting movement, a liquid distributing conduit in liquid receiving relationship with the tank and rigidly carried by the bottom of said tank for movement therewith and extending substantially the full length of the tank and having a plurality of outlet openings therein throughout its length, a flexible applicator against which the animals are adapted to rub surrounding said conduit and depending therefrom for movement therewith and for receiving liquid therefrom through the openings, and adjustable means in the tank supplying liquid to the conduit upon the rolling and tilting movement of the tank, said adjustable means including an oil "seep" valve mounted on and adjacent to the bottom of the tank including a control handle disposed exteriorly of the tank.

2. A rubbing and oiling station for animals comprising an overhead support, a horizontally disposed elongated reservoir tank for liquid freely suspended from said overhead support for rolling and tilting movement, a liquid distributing conduit in liquid receiving relationship with the tank and rigidly carried by the bottom of said tank for movement therewith and extending substantially the full length of the tank and having a plurality of outlet openings therein throughout its length, a flexible applicator against which the animals are adapted to rub surrounding said conduit and depending therefrom for movement therewith and for receiving liquid therefrom through the openings, adjustable means in the tank supplying liquid to the conduit upon the rolling and tilting movement of the tank, and back scratching elements secured to the opposite sides of the tank and projecting a material distance beyond the same and disposed directly above the applicator.

3. A rubbing and oiling station for animals as defined in claim 2, and said back scratching elements including reticulated expanded metal defining a plurality of angularly related edges for scratching contact with the hide of an animal.

References Cited in the file of this patent

UNITED STATES PATENTS

987,433 Crawford Mar. 21, 1911
2,133,899 Mansfield et al. Oct. 18, 1938
2,702,020 Worden Feb. 15, 1955