

June 9, 1953

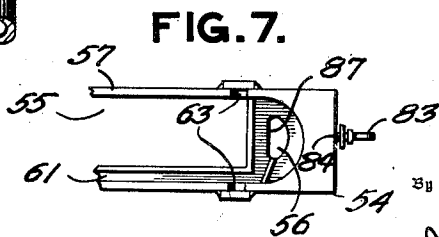
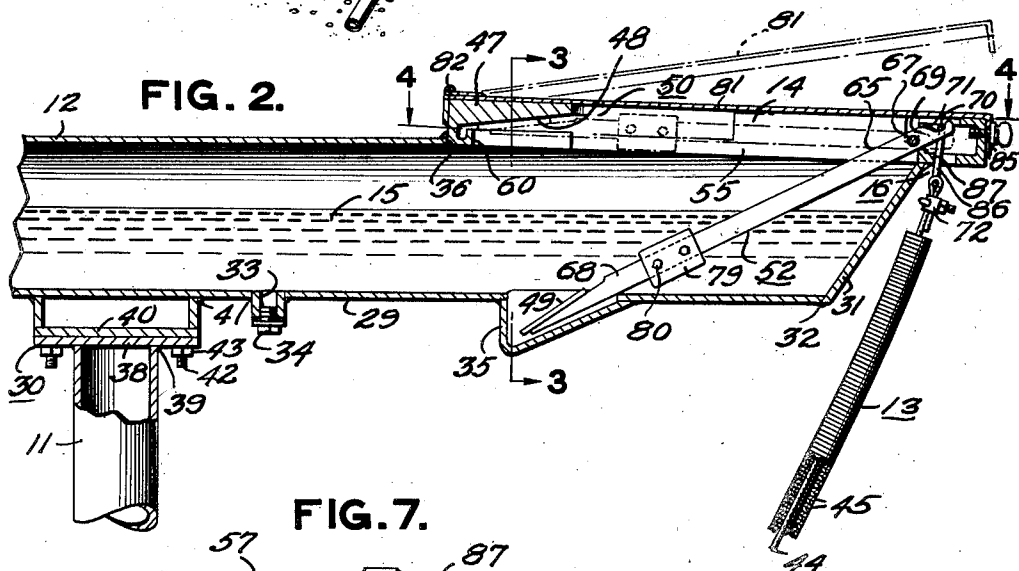
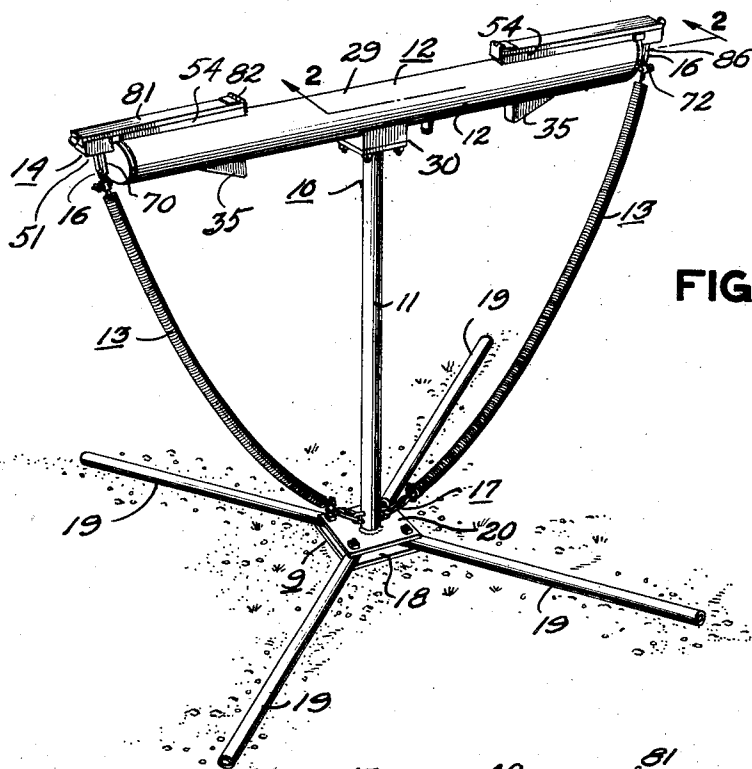
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2,641,225

ANIMAL RUBBING AND OILING STATION

Filed Dec. 27, 1951

2 Sheets-Sheet 1.



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FIG. 4.

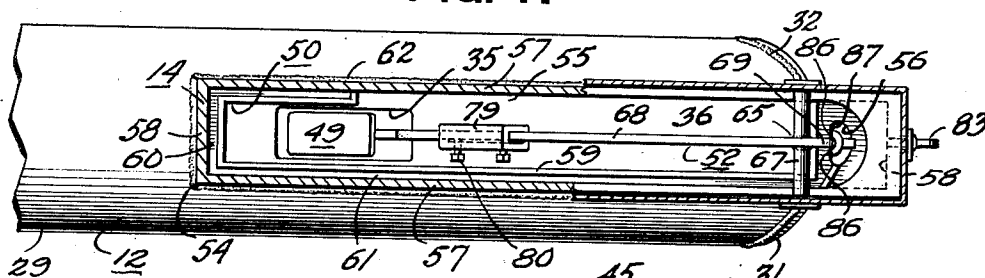


FIG. 5.

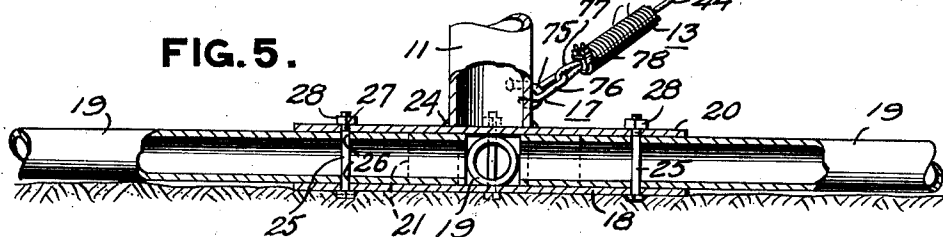


FIG. 6.

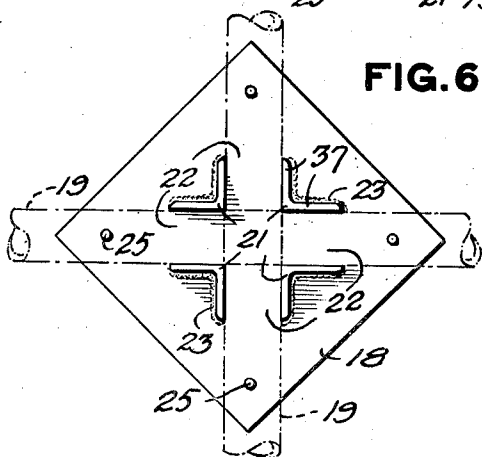


FIG. 8.

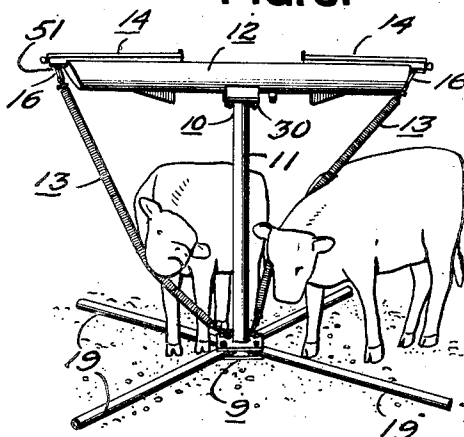
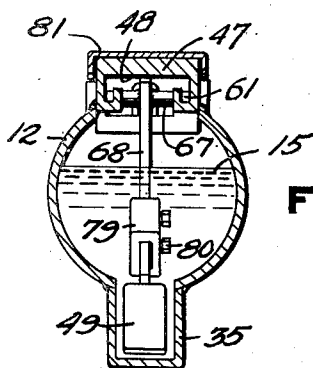


FIG. 3.



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2,641,225

ANIMAL RUBBING AND OILING STATION

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Application December 27, 1951, Serial No. 263,571

7 Claims. (Cl. 119-157)

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The present invention relates to animal rubbing and oiling stations of the general type shown in my copending application for patent filed April 24, 1950, Serial No. 157,767, now Patent No. 2,581,028.

The principal objects of the present invention are to provide stations of this character which are simple in construction and capable of production at a low cost, so that the invention may be brought within the means of a vast number of live stock raisers who may be confronted with the problem of ridding live stock of such parasites as warbles, lice, ticks, mange mites and insects in general and in keeping healthy the hide and hair of live stock.

Another object is to provide such stations which are sturdy and simple in operation, requiring no valves, or similar relatively small parts likely to become broken or distorted and no relatively small parts likely to become clogged with foreign matter.

A further object is to provide apparatus which may be shipped and stored in compact, knocked-down condition, and readily assembled in the field, and adjusted to be best suited to the type and size of live stock which frequent the station.

The present invention utilizes, for each piece of apparatus, one or more flexible, elongated rubbing elements or portions normally disposed in the shape of a catenary, and extending downwardly from the upper portion of an upstanding rigid support, as generally disclosed in the aforesaid application. This rubbing element or portion may be of any suitable construction or formation, such as a chain or cable, or as specifically disclosed in said application, may comprise a cable on which is strung a great number of perforated members, such as metal washers. I have found that the latter are very efficient, since the oil, insecticide and/or medicament delivered to the upper end of the catenated rubbing portion of the station, flowing down the cable and between confronting portions of washers, does not readily evaporate, or become contaminated by dust, yet may be readily taken up by the hide and hair of the animal rubbing against and along the catenated rubbing portion.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawings wherein a preferred embodiment of the present invention is clearly shown.

In the drawings:

Fig. 1 is a perspective view of the apparatus.

Fig. 2 is a fragmentary, enlarged view partly in vertical section on substantially the line 2-2 of Fig. 1, and partly in elevation.

Fig. 3 is a vertical cross sectional view on the line 3-3 of Fig. 2.

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Fig. 4 is a horizontal sectional view on the line 4-4 of Fig. 2.

Fig. 5 is an enlarged fragmentary view at the base portion of the apparatus, partly in vertical section and partly in elevation.

Fig. 6 is an enlarged plan view of a portion of the base.

Fig. 7 is an enlarged fragmentary plan view of a portion of oil conducting means for association with the catenated rubbing element or portion.

Fig. 8 is a perspective view of the apparatus, on a small scale, in use.

In the example illustrated, the apparatus preferably comprises a base 9; an upstanding rigid support 10, carried by the base, including a standard 11 and an oil supply reservoir 12; an elongated flexible rubbing element 13 disposed to extend downwardly from the upper portion of support 10; means 14 carried by the support 10 for feeding or transferring oil 15 in the reservoir 12 to a zone exteriorly of the reservoir and to the upper end portion of the rubbing element 13, when it is actuated by an animal rubbing thereagainst or thereupon, this means 14, in the example shown including a device 16 for suspending the upper portion of the rubbing element 13; and means 17 anchoring the lower end portion of the rubbing element so that the rubbing element is normally in the shape of a catenary.

The support 10 preferably comprises a base plate 18, a plurality of horizontal arms 19 detachably arranged upon the plate with their axes radiating from a common center, and a cap plate 20. I prefer to provide the assembly with cooperating wall members 21 which provide sockets 22 for the adjacent ends of the arms 19 as indicated in Fig. 6. The members 21 may each be of right angular cross section, the legs 37 of which have their lower ends secured upon the base plate 18 by welds 23. The standard 11 may have its lower end secured upon the cap plate 20 by weld 24. As suitable means for detachably securing the arms 19 and the cap plate 20 to the base plate 18, I provide the latter with upstanding bolts 25 adapted to extend through diametrical openings 26 in the arms 19 and through aligned openings 27 in the cap plate; the bolts 25 receiving nuts 28 which may be turned tight against the upper face of the cap plate. Thus the standard may be detachably connected to the base, and the base dismembered for convenient shipment and storage of these parts of the station.

The reservoir may be made mainly from tubular metal body 29, detachably connected to the standard 11 by means 30. The ends of the body 29 may be cut diagonally in planes converging downwardly toward the base 9 and closed by

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end walls or plates 31 secured to the body 29 by welds 32. A suitable drain opening 33 in the bottom of the body 29 may be provided, closed by a plug 34 or other suitable device. The body 29 may also be fabricated to provide a sump 35 adjacent each of its end portions for a purpose to be subsequently described. In the example shown, the body is also fabricated to provide an upper elongated opening 36 extending longitudinally of the body, from each end wall 31, through which oil or other liquid may be introduced into the reservoir and for accommodation of portions of the oil feeding means 14.

The means 30 may comprise a cap plate 38 secured as by weld 39 to the top of standard 11, a saddle 40 secured to the underside of the body 29 at its central portion, as by weld 41, a plurality of bolts 42 depending from the saddle 40 to extend through openings in the cap plate 38, and nuts 43 on the bolts turned tight against the underside of plate 38.

As previously set forth, the rubbing elements may each be of any suitable elongated and flexible character, but in the example shown, each comprises a wire or cable 44 upon which is loosely strung a great number of metal washers 45 normally in face to face contact.

The means 14 are preferably fabricated as units which may be carried by the reservoir 12, one at the zone of each opening 36 as hereafter described. Each of these units comprises an abutment 47 having a striking face 48 above and confronting the level of the oil 15 in the reservoir 12; a paddle member 49 adapted, in a first position, shown in full lines in Fig. 2, to be submerged in the oil in the reservoir and gather oil thereon, and to be moved to a second position, shown by dot and dash lines in Fig. 2, out of the oil to impinge against the abutment face 48 and thereby splash oil laterally from between the paddle member and abutment; means 50 to receive oil thus splashed by impingement of the paddle member with the abutment 47 and conduct the oil to the zone 51 exteriorly of the reservoir; and means 52 connected with the paddle member 49 and the rubbing element 13 to actuate the former from its first position to its second position upon downward movement of the upper portion of the rubbing element, incident to an animal rubbing along the latter, as shown in Fig. 8.

In the example shown, the abutment 47 and the means 50 may be a single casting comprising an elongated body portion 54 to fit in the opening 36 of the reservoir. The body portion is cast to provide a major opening 55 extending from its inner end beneath the abutment 47 toward its outer end adjacent the wall 31 and a minor opening 56 exteriorly of the wall 31 in the zone 51, and has cast as a part of the side walls 57 and one end wall 58 of the body portion 54 a substantially J-shaped trough 59, as shown in Figs. 2 and 4. The hooked portion 60 of the trough skirts, and is spaced below the abutment 47, and the stem portion 61 of the trough extends longitudinally of the body portion 54 to one side of the major opening 55. The end of the stem portion of the trough, opposite the hooked portion 60 delivers the oil to the minor opening 56, the body portion being secured, as by weld 62 to the reservoir body 29 and wall 21, in a downwardly and outwardly slanting position. The body portion 54 may also be cast to provide confronting bearing slots 63 in its side walls 57 open at the top of the casting, for a purpose to be subsequently set forth.

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The means 52, in the example shown, includes a lever 65 pivotally carried by the body portion 54, to swing about a horizontal axis, by trunnions 67 received in the bearing slots 63, a first arm 68 of the lever having the paddle member 49 secured thereto at its free end portion and a second arm 69 detachably receiving at its free end portion the device 16 for suspending the rubbing element 13 to extend downwardly from the support 10. By way of example, the device 16 may consist of link 70, the upper loop of which is received in a notch 71 open to the upper portion of arm 69 and the lower loop of the link having looped thereabout the upper end portion of wire or cable 44, held in looped fashion by a suitable clamp 72.

It is preferred to slope the striking face 48 downwardly toward the hooked portion 60 of trough 59 as shown in Fig. 2, so that even after the paddle member 49 has returned to a normal position, any oil adhering to the striking face, due to the viscous nature of the oil, will gradually flow downwardly therefrom and into the trough, thereby ultimately supplying some oil to the rubbing element even after same has long been inert. The major supply of oil delivered to the rubbing element is, however, as a result of oil being splashed into the trough by the impingement of the paddle member with the abutment.

The means 17 for anchoring the lower end portion of the rubbing element, so that it is normally in the shape of a catenary may comprise a hook 75 secured to the standard 11, adjacent to the base 9, and a link 76, one end of which is received by the hook and the other end receiving a looped portion 77 of the wire or cable 44 held in place by a suitable clamp 78, shown in Fig. 5, which also serves as a lower stop for the washers 45.

Since it is desired to normally dispose the rubbing element 13 in the shape of a catenary and various types of rubbing elements may vary as to weight, it is preferred to provide means for overbalancing the weight of the rubbing element and normally retain it catenated. This may be accomplished by providing a weight 79 slidable along the arm 68 and held in adjusted position by a set screw 80. This weight 79 may also be used to adjust the mechanism to operate most satisfactorily according to the size of animals frequenting the station. By moving the weight toward the pivotal axis of the lever 65, less effort on the part of small animals rubbing along the rubbing element 13 will be required, in order to bring about feeding of oil to the upper end of the rubbing element, and conversely, moving the weight toward the paddle member 45 will require greater effort on the part of the larger animals.

It is also preferred to provide a flanged cover 81 for the body portion 54. In the example shown, the cover is preferably connected to the body portion by a hinge 82 at the inner end of the latter. A thumb screw 83, the shank 84 of which extends through a slot 85 in the flange of the cover at its end opposite the hinge 82, and has screw threaded engagement with the wall of the body 54, may be provided to retain the cover against accidental displacement.

If the reservoir 12 is provided with a sump 35 the latter may be so located as to receive the paddle member 49 when in an inactive position as shown by full lines in Fig. 2. Thus the paddle member will agitate the heavier liquids, etc. which may settle at the bottom of the reservoir and mix such with the bulk of liquid in the reser-

voir, and will also collect liquid even when the supply in the reservoir is almost depleted.

It will be noted that the side bars 86 of link 70 preferably engage a straight wall 87 of minor opening 88, as shown in Figs. 2 and 4. This arrangement aids in flowing the oil delivered by trough 59 to the lower end portion of the body portion 54, to the rubbing element 13.

It is believed that operation of the mechanism of the station will be clear from the foregoing description. While the station preferably embodies a plurality of rubbing members and means for feeding or transferring oil from the reservoir to the latter, it is of course understood that the apparatus may be constructed to embody one only of the rubbing elements and associated parts, however, the construction shown is economical and well balanced and preferred.

I claim:

1. In an animal rubbing and oiling station of the class in which an upstanding rigid support, including an oil supply reservoir, supports a movable, elongated rubbing element disposed to extend downwardly from the upper portion of said support; the improvement which comprises: an abutment having a striking face above and confronting the oil level in the reservoir, a paddle member, a first means carried by said support, movably mounting said paddle member so that it will be, in a first position, submerged in the oil in the reservoir and gather oil thereon, and will, in a second position, out of the oil, impinge against the said face of the abutment and thereby splash oil laterally from between the said face of the abutment and the paddle member, second means receiving oil thus splashed by impingement of the paddle with the abutment member and conducting same to the upper end portion of the rubbing element, and third means operatively connecting the rubbing element with said paddle member actuating the latter from its first position to its second position upon downward movement of the upper portion of said rubbing element, incident to an animal rubbing along said elongated rubbing element.

2. Apparatus as specified in claim 1 in which said striking face slopes downwardly toward a portion of said third means and has its lower end above same in such position that oil flowing to said lower end will find its way to said last mentioned means.

3. Apparatus as defined in claim 1 in which said second means comprises a trough sloping downwardly from said abutment to the zone of the upper end portion of the rubbing element.

4. In an animal rubbing and oiling station of the class in which an upstanding rigid support, including an oil supply reservoir, supports a loosely flexible, elongated rubbing element disposed to extend downwardly from the upper portion of said support; the improvement which comprises: a lever pivotally carried at an intermediate portion thereof by said support to swing about a horizontal axis with a first arm of the lever disposed in said reservoir and a second arm of the lever extending exteriorly of the reservoir, means suspending the upper end portion of the rubbing element from said second arm, a device anchoring the lower end portion of the rubbing element, a weight adjustable along said first arm normally overbalancing the weight of the suspended element and normally retaining the rubbing element in the shape of a catenary, and means oper-

able by upward swinging movement of said first arm, upon downward swinging movement of said second arm, incident to an animal distorting the rubbing element from its normal catenated condition by rubbing engagement therewith, dispensing oil from the reservoir upon the upper end portion of the rubbing element.

5. In a station of the character described, the combination of a base, a standard, means detachably securing the standard to the base, an oil reservoir, means detachably securing the reservoir to the upper portion of the base, feeding means for transferring oil from said reservoir to a zone exteriorly of the reservoir, an elongated flexible rubbing element, means detachably connecting one end portion of said rubbing element to said feeding means in said zone, and depending therefrom, and operatively connecting said rubbing element with said feeding means to actuate same upon downward pull exerted upon said rubbing element, and means detachably connecting the lower end portion of said rubbing element adjacent to said base.

6. In an animal rubbing and oiling station, the combination of a base unit providing a plurality of sockets, the axes of which are horizontal and radiate from a common center, a plurality of arms detachably connected with said base unit and disposed with ends in said sockets, so that the arms radiate from said common center, a cap plate detachably connected to said base unit, a standard secured to said cap plate in upstanding relationship thereto, a horizontally disposed elongated oil reservoir detachably connected to the upper portion of said standard, an elongated flexible rubbing element disposed to extend downwardly from each end portion of said reservoir, means transferring oil from said reservoir to the upper end portion of said rubbing element when it is disturbed by an animal rubbing thereagainst or thereupon and a device anchoring the lower portions of each of said rubbing elements adjacent the lower portion of said standard, with the rubbing elements normally in the shape of a catenary.

7. In a station of the character described, the combination of a base plate, a plurality of horizontal arms disposed upon said plate with their axes radiating from a common center, means providing sockets for the adjacent end portions of said arms, a cap plate above said end portions of the arms, means detachably connecting said arms and said cap plate to said base plate, an upstanding support carried by said cap plate, and elongated flexible rubbing elements having their one end portions anchored adjacent to said base plate and their other end portions depending from the upper portion of said upstanding support, in the shape of a catenary.

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