Dec. 25, 1951 B. L. GOLDEN ET AL 2,580,169

DEHORNING PASTE APPLIER WITH MAGAZINE FEED

Filed July 21, 1949

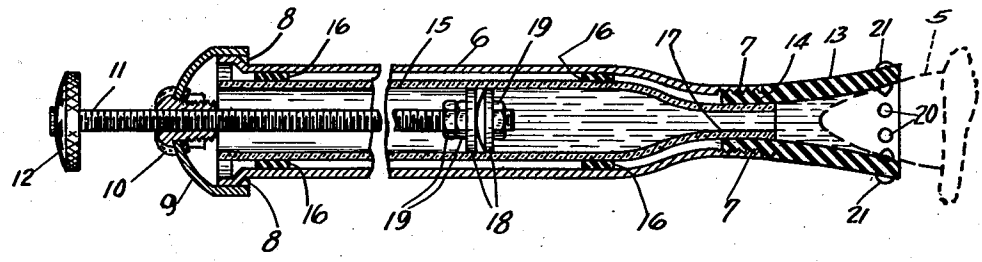



Fig. 1.

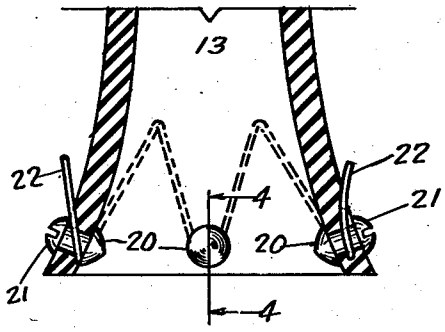



Fig. 3.

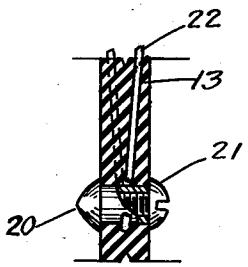



Fig. 4.

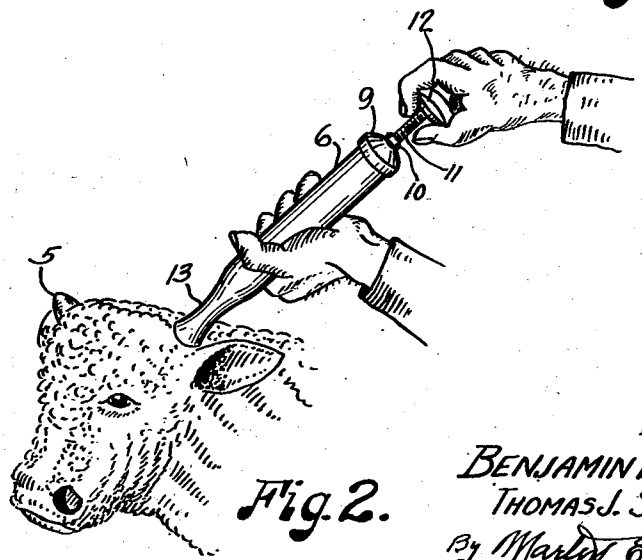



Fig. 2.

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2,580,169

## DEHORNING PASTE APPLIER WITH MAGAZINE FEED

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9 Claims. (Cl. 128—235)

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This invention relates to improvements in devices for applying dehorning paste to the horns of young cattle.

It is well known that the growth or development of horns can be arrested by applying to the horns of young cattle a paste containing certain chemicals which have this effect. Since such pastes are well known and readily obtainable on the open market, their compositions will not be described in detail except to state that they frequently contain a powerful hydroxide that will cause blindness if it comes into contact with the animal's eye and which may also injure other animals that may come in contact therewith.

Horns, even on young cattle, have a hard surface layer that protects the interior and makes it necessary to apply the paste as close to the base of the horns as practicable.

It has been found that by scraping the horns adjacent their bases so as to destroy the protective action of the hard outer layer the paste will be more effective and a less quantity may be used than where the horns are not scraped.

In U. S. Patent 2,420,582, granted May 13, 1947, a dehorning paste applicator is disclosed which is provided with means for scraping the horns near the base.

Where a cattle raiser has many cattle it is, of course, desirable to employ a tool or appplicator of such construction that its operation is rapid and which has means for replenishing the paste from a reservoir carried by the tool, and it is the object of this invention to provide such a tool.

It is a further object to produce a tool having an elastic applicator nozzle that can adapt itself to horns of various sizes and into which paste is fed from the reservoir.

It is another object to produce an applicator that can be operated without the necessity of coming in close contact with the paste and which therefore removes the danger of injury from this source.

The above and any other objects that may become apparent as this description proceeds are obtained by means of a construction and an arrangement of parts that will now be described in detail and for this purpose reference will be had to the accompanying drawing in which the invention has been described and in which:

Figure 1 is a longitudinal diametrical section through the applicator,

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Figure 2 is a view showing the manner of using the applicator,

Figure 3 is a fragmentary view, partly in section, showing the construction of the applicator nozzle, and

Figure 4 is a fragmentary section taken on line 4—4, Figure 3.

In the drawing, reference numeral 5 designates the incipient horn growth of a horn, which growth is to be arrested.

The applicator consists of an outer metal housing 6 that is cylindrical for the greater part of its length and has one end that tapers to a cylindrical section 7 that is threaded on its inner surface. The other end of the cylindrical member has a narrow zone 8 pressed outwardly to form a bayonet connection for holding a cover 9 in place. The cover 9 has an opening in which is secured a short tubular member having a head 10. The opening in head 10 is threaded for cooperative engagement with the threaded plunger rod 11, the outer end of which has a hand wheel 12 by means of which it may be rotated.

A nozzle 13 has its inner and smaller end 14 threaded for cooperative engagement with the threads on the inner surface of section 7. The opening in the nozzle flares outwardly and is of a size suitable for receiving the incipient horn 5 shown dotted in Figure 1.

A glass reservoir 15 of a shape generally the same as the inside of housing 6 but of an outside diameter smaller than the inside diameter of housing 6 is positioned in the housing. Spacers 16 of rubber or some similar elastic material are provided to hold the reservoir in axial alignment with the housing. The reservoir tapers towards the nozzle and terminates in a cylindrical section 17 of an outside diameter slightly larger than the normal inside diameter of the nozzle; the end of the reservoir serves to force the threads of the nozzle into the thread of the housing thereby holding the nozzle in place. The telescoping relation between the nozzle and the reservoir makes a tight seal that prevents paste from leaking into the housing.

The end of threaded rod 11 that terminates within the reservoir carries a piston, which in the present disclosure comprises two slightly spaced disks 18 held in place by nuts 19. The piston and the manner in which it is attached to rod 11 has been illustrated in a general way only. It is to be understood that any suitable piston construction may be substituted for the one shown.

In order to scrape or abrade the horns near their bases the outer end of the nozzle has been provided with a plurality of scrapers whose inner and pointed scraper ends have been designated by reference numeral **20**. The scraper or abrading elements may be constructed in any suitable manner but for the purpose of illustration they have been shown as formed from two parts, one of which has a tubular internally threaded stem and the other of which comprises a screw **21**.

For convenience of holding the scrapers in position during the moulding of the nozzle, they have been shown as being interconnected by a wire **22**. The specific construction of the scrapers described is merely illustrative and intended to illustrate, broadly, means for this purpose.

The fact that the nozzle is slightly elastic is of importance as by this means a better fit is effected with the horns and the scrapers are brought into proper operative engagement with horns of different sizes.

In operation the calf is held by some suitable means and the tool applied to the horn as shown in Figure 2. The tool is then rotated slightly to abrade the outer surface of the horn. Paste is forced into the nozzle by turning hand wheel **12**.

Owing to the tight fit of the nozzle with the horns the paste is applied directly to the surface of the horns near their bases. The abraded surfaces of the horns permit the paste to contact with the softer portion of the horns and thereby reach the nerves controlling the growth.

Having described the invention what is claimed as new is:

1. An applicator for dehorning paste, comprising; an elongated tubular reservoir having a reduced neck portion at one end thereof, a flexible tubular nozzle member having an opening at one end thereof adapted to telescope over the neck portion and being open at its opposite end, so constructed to fit over the horn of an animal, scraping means adjacent the open end of the nozzle projecting inwardly of the inside surface thereof, a piston disposed within the tubular reservoir, and means for moving the piston therein to feed paste from the reservoir to the nozzle.

2. An applicator in accordance with claim 1 wherein the reservoir is formed of material which is non-reactive with the paste.

3. An applicator in accordance with claim 2 wherein the material is glass, or the like, and a protective casing is provided thereabout, one end of which engages one end of the flexible member to retain it between such end and the neck portion.

4. An applicator in accordance with claim 3 wherein said one end of the casing is internally threaded.

5. An applicator in accordance with claim 3 wherein the reservoir is retained in spaced relation to the casing.



6. A tool for applying a growth inhibiting material to the horn of an animal, comprising; a reservoir containing the inhibiting material, a nozzle member secured to the reservoir, the nozzle member being open at one end and adapted to telescope over the horn, scraping means projecting inwardly from the inside surface of the nozzle member adjacent the open end of the nozzle member for scraping the horn adjacent the base thereof, means communicating the inside of the nozzle member with the reservoir, and means for feeding the inhibiting material from the reservoir and through the last named means to deliver it to the inside of the nozzle.

7. A tool for applying a growth inhibiting material to the base of the horn of cattle, comprising; a tubular reservoir for the material, a flexible tubular nozzle member connected at one end of the reservoir in fluid communication therewith, the member being open at its other end and constructed to telescope over the horn, scraping means adjacent the open end of the nozzle member for scraping the horn adjacent the base thereof, and a piston movable longitudinally in the reservoir for feeding material from the reservoir to the tubular member.

8. A tool for applying a growth inhibiting material to the base of the horn of cattle, comprising; a reservoir for the material, a flexible tubular nozzle member connected at one end of the reservoir in fluid communication therewith, the member being open at its other end and constructed to telescope over the horn, scraping means projecting inwardly from the inside surface of the nozzle member adjacent the open end of the nozzle member for scraping the horn adjacent the base thereof, and means for feeding material from the reservoir to the tubular member.

9. A tool in accordance with claim 8 wherein the tubular nozzle member is sufficiently flexible to telescope over and scrape horns of various sizes.

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## REFERENCES CITED

The following references are of record in the file of this patent:

### UNITED STATES PATENTS

| Number | Name | Date |
|---|---|---|
| 2,043,633 | Strauch | June 9, 1936 |
| 2,146,472 | Heintz et al. | Feb. 7, 1939 |
| 2,185,536 | Borland et al. | Jan. 2, 1940 |
| 2,420,582 | Bowman et al. | May 13, 1947 |
| 2,431,985 | Bowman et al. | Dec. 2, 1947 |
| 2,433,947 | Gereke | Jan. 6, 1948 |

### FOREIGN PATENTS

| Number | Country | Date |
|---|---|---|
| 252,587 | Great Britain | June 3, 1924 |