

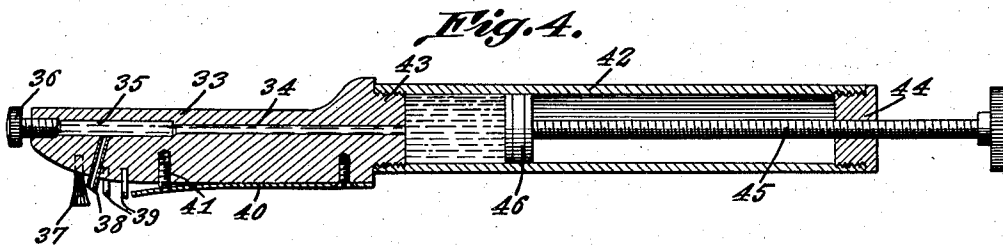
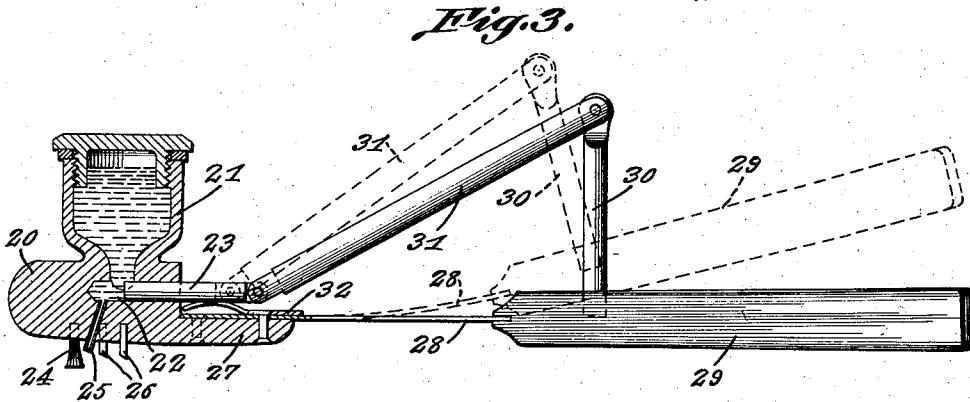
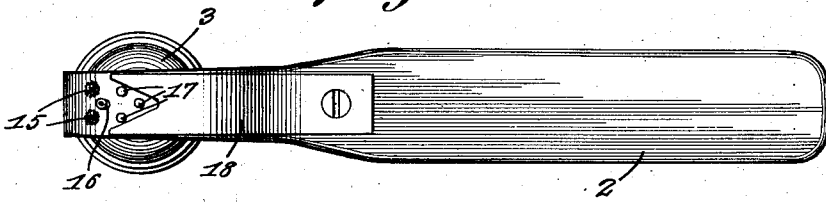
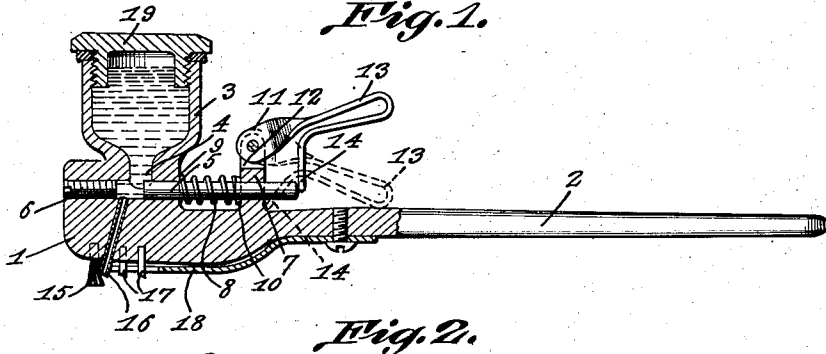
Dec. 13, 1938.

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2,140,409

VACCINATOR

Filed Sept. 21, 1937



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2,140,409

VACCINATOR

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thirty per cent to Henry F. Hein, Bexar County,
Tex., and twenty-five per cent to Geo. W.
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Application September 21, 1937, Serial No. 164,923

8 Claims. (Cl. 128—253)

This invention relates to vaccinators, and its general object is to provide a fountain vaccinating instrument that is capable of performing a complete vaccination merely by drawing the same across the skin, in that it includes scarifying means and vaccine receiving skin brushing means, as well as a reservoir for the vaccine which can be released therefrom in sufficient quantities for use when needed to be applied to the brushing means, and the vaccine is brushed on the skin immediately following the scarifying action, with the result it will be seen that positive and maximum vaccinations can be made with my instrument in minimum time, and with no waste of the vaccine.

A further object is to provide a vaccinating instrument that is primarily designed for vaccinating animals, particularly sheep and goats and due to the quick action by which the instrument can be used, very little difficulty is experienced in vaccinating the animals.

Another object is to provide a vaccinating instrument that is simple in construction, inexpensive to manufacture and extremely efficient in operation, use and service.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawing and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawing wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is a side view partly in section of one form of my vaccinating instrument and illustrates parts in full and dotted lines.

Figure 2 is a bottom plan view of the form as shown in Figure 1.

Figure 3 is a side view of a modified form partly in section, and with parts in full and dotted lines.

Figure 4 is a longitudinal sectional view taken through another modified form.

Referring to the drawing in detail, and particularly to the form as shown in Figures 1 and 2, it will be noted that the instrument of that form includes a head 1 which is relatively narrow and formed on and extending therefrom is a relatively flat handle 2.

The reservoir of the form of Figures 1 and 2 is shown as being a cup 3 that is formed on and rises from the head 1 and includes a restricted lower portion for directing the vaccine there-

from to a passage 4 that extends horizontally through the head and provides a guide for a valve plunger rod 5 that is slidably mounted in the passage 4 for ejecting the vaccine from the passage to the brush as clearly shown in Figure 1. The passage 4 extends through the forward end of the head, and that portion is closed by a threaded stud 6 having a kerf therein to facilitate the application and removal thereof. When the stud is removed, it will be obvious that the passage 4 can be readily cleaned by the use of a pin, tube or the like, not shown.

Formed on and rising from the head 1 at the juncture of the handle therewith is a lug 7 having an opening therethrough, that acts as a guide means for the plunger rod, and the rod is normally held in open position as shown in full lines in Figure 1, by a coil spring 8 that surrounds the rod and has its end convolutions engaging a shoulder 9 formed on the head, and a pin 10 that extends through the rod.

In order to move the rod to closed position, against the action of the spring 8 I provide an operating member for the rod which includes a reduced end 11 that is pivotally mounted between ears 12 formed on the upper end of the lug 7, and the operating member extends rearwardly to provide a handle portion 13, thence is looped upon itself, and terminates in a depending portion 14 disposed in contacting engagement with the outer end of the rod 5.

Mounted in the lower surface of the head 1 adjacent the forward end thereof are tufts of bristles providing a brush 15 and extending through the head with its inner end terminating in the passage 4 and its outer end adjacent to the brush 15 is a tube 16 through which flows the vaccine to supply the latter to the brush.

Arranged directly to the rear of the brush 15 are scarifying pins 17 which are beveled rearwardly, and secured to the handle and extending forwardly therefrom to underlie the head 1 is a leaf spring 18 that has a notch in the forward end thereof disposed upon opposite sides of the pins, as best shown in Figure 2. The leaf spring not only provides protecting means for the pins, but also facilitates the use of the instrument, as will be apparent.

The cap is provided with a cap 19 having a threaded skirt which is threaded within the body of the cup and disposed between the body and the cap is a gasket as shown to provide a leak proof connection.

Inasmuch as the cap closes the reservoir in an air-tight manner, the vaccine is retained therein

against the action of gravity, but is ejected through and from the tube 16 by the action of the plunger rod 5, which upon its return stroke will create suction to draw a sufficient quantity of air within the reservoir, to cooperate with the plunger rod for the latter to eject the vaccine through the tube and onto the brush, as will be apparent.

The modified form of Figure 3 also includes a head 20 having a reservoir formed on and rising therefrom, which is likewise a cup 21, and the cup is provided with a cap similar to the cap 19. The lower end of the cup is restricted and communicates with a passage 22 that extends through the rear end of the head 20 and the passage has mounted therein a plunger rod 23 for ejecting the vaccine from the passage to the brush 24, through a tube 25 that is similar to the tube 16 and is arranged accordingly, as shown. Scarifying pins 26 are secured to and depend from the head 20 to the rear of the brush, consequently it will be seen that this form includes many of the elements of the form of Figures 1 and 2. The head 20 is also provided with a shoulder that forms a reduced portion 27 to which is riveted or otherwise secured one of the ends of a flexible section 28 for the handle 29, the opposite end being fixed to the rigid section of the handle, as shown.

Secured to and rising from the rigid section is an upright 30, and a link 31 has one of its ends pivotally secured to the upper end of the upright, while its opposite end is pivotally secured to the outer end of the plunger rod 23, so that by flexing the rigid portion of the handle 29, it will be obvious that the plunger rod is moved to open and closed positions, as shown in full and dotted lines. The rod 23 is held against undue movement or stabilized by a leaf spring 32 that is secured to the reduced portion 27 and has a bowed portion contacting the underside of the rod.

In the modified form of Figure 4, the head 33 is relatively long and has a passage 34 extending longitudinally therethrough from end to end the passage being enlarged at its forward portion as at 35 and the outer end thereof is threaded to receive a headed stud 36 for closing the same.

The brush 37 of this form is also secured to the forward end of the head 33 for disposal in the path of the outer end of a tube 38 that has its inner end communicating with the passage 34, and scarifying pins 39 are disposed to the rear of the brush 37.

Secured to the underside of the head 33 is a leaf spring 40 that has its forward end terminating adjacent to the pins 39, to act as means to facilitate the use of the instrument, and of course to regulate the depth of the scraping action of the pins, as will be apparent, and the spring 40 is adjusted by a set screw 41.

The reservoir of this form of the invention is a tube 42 that extends rearwardly from the head for disposal in substantially the same plane therewith, and the tube has its forward end threadedly secured to a nipple 43 formed on the rear end of the head in a manner to provide a shoulder for receiving the tube, as shown. The outer end of the tube is closed by a cap 44 threadedly mounted therein, and threaded in the cap 44 is a plunger rod 45 of the screw type, the latter having a piston 46 secured to the inner end thereof for forcing and controlling the flow of the vaccine through the passage 34 and the tube 38, to the brush 37.

The enlarged portion 35 of the passage 34 is adapted to receive a pin, tube or the like, not shown, for cleaning and removing foreign matter from the passage, as will be apparent. The tube just mentioned can also be used for priming the instrument, if such is found to be necessary.

It will be apparent that the tube 42 of the form of Figure 4 also provides a handle for the instrument.

From the above description and disclosure of the drawing, it will be obvious that I have provided a vaccinating instrument that is capable of performing a complete vaccination, merely by drawing the same across the skin, in that the vaccine is supplied to the brush or spreader, therefore upon rearward movement of the instrument to cause the scarifying pins to scrape the skin, the vaccine will be applied to the scraped portion.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:

1. A vaccinating instrument comprising a vaccine reservoir, vaccine receiving and spreading means, means for conveying vaccine from the reservoir to the spreading means, means for ejecting the vaccine through the conveying means, and scarifying means arranged adjacent to the spreading means.

2. A vaccinating instrument comprising a head, a vaccine reservoir mounted on the head, vaccine receiving and spreading means depending from the head, means for conveying vaccine from the reservoir to the spreading means, means for ejecting the vaccine through the conveying means and scarifying means on the head adjacent to the spreading means.

3. A vaccinating instrument, comprising a head having a passage therein, a vaccine reservoir mounted on the head and communicating with the passage, spreading means depending from the head adjacent the forward end thereof, means for conveying vaccine from the passage to the spreading means, means for ejecting the vaccine from the passage and through the conveying means, scarifying means on the head adjacent to and rearwardly of the spreading means, and means for operating the forcing and controlling means.

4. A vaccinating instrument comprising a head having a passage therein, a vaccine reservoir mounted on the head, vaccine receiving and spreading means depending from the head adjacent the forward end thereof, means for conveying vaccine from the passage to the spreading means, plunger means mounted in the passage and for ejecting the vaccine through the conveying means to the spreading means, a handle for the plunger means, scarifying means depending from the head adjacent to the spreading means and rearwardly thereof, said passage extending through the forward end of the head to receive means for cleaning the passage and for priming the instrument, and a closure for the passage.

5. A vaccinating instrument comprising a head having a passage therein, a vaccine reservoir in the form of a cup secured to and rising from the head and communicating with the passage, a cap for the cup, vaccine receiving and spreading

means depending from the head adjacent the forward end thereof, means for conveying vaccine from the passage to the spreading means, a spring pressed plunger mounted in the passage for ejecting the vaccine therethrough and through the conveying means to the spreading means, operating means for the spring pressed plunger, scarifying means depending from the head adjacent to the spreading means, and a handle for the head.

6. A vaccinating instrument comprising a head, having a passage therein, a vaccine reservoir mounted on and rising from the head and communicating with the passage, vaccine receiving and spreading means depending from the head, means for conveying vaccine from the passage to the spreading means, a plunger mounted for slidable movement in the passage for forcing the vaccine therethrough and through the conveying means to the spreading means, a handle for the instrument and including flexible means secured to the head, means between the handle and plunger rod for operating the latter upon movement of the handle, and scarifying means ar-

ranged adjacent to the spreading means and rearwardly thereof.

7. A vaccinating instrument comprising a head having a passage therein, a vaccine reservoir mounted on the head and being in the form of a tube extending therefrom and communicating with the passage, vaccine receiving and spreading means depending from the head, means for conveying vaccine from the passage to the spreading means, a plunger mounted in the tube and including a piston for forcing the vaccine through the passage and conveying means to the spreading means, a handle for the plunger and scarifying means arranged adjacent to the spreading means.

8. A vaccinating instrument comprising a head, a vaccine reservoir mounted on the head, vaccine receiving and spreading means depending from the head, means for conveying vaccine from the reservoir to the spreading means, means for ejecting vaccine through the conveying means, scarifying means on the head adjacent to the spreading means, and spring means secured to the head and associated with the scarifying means to regulate the depth of the scraping action thereof.

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