W. H. ROSE.

DRY SPRAY GUN.

APPLICATION FILED OCT. 23, 1919.

1,406,903. Patented Feb. 14, 1922.

FIG. 1.

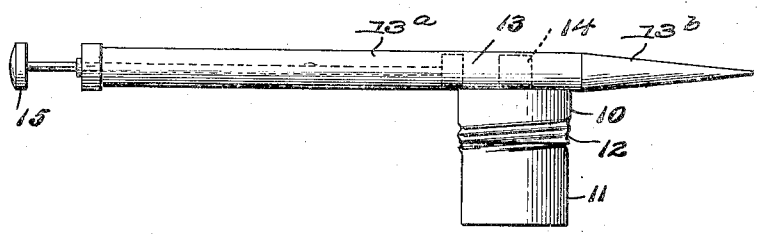


FIG. 2.

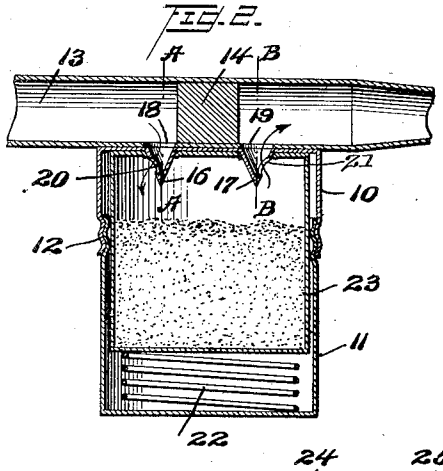


FIG. 3.

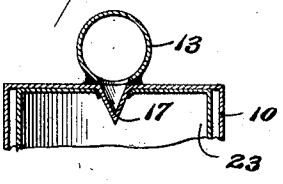
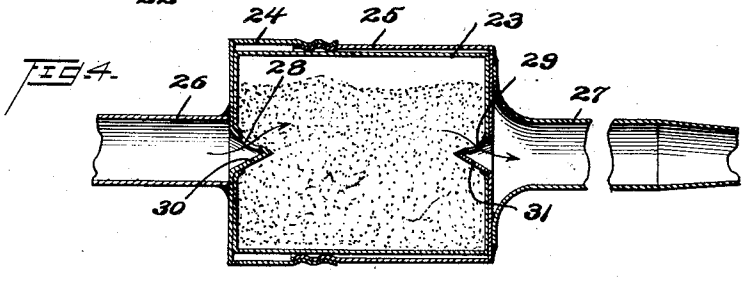


FIG. 4.



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DRY-SPRAY GUN.

1,406,903. Specification of Letters Patent. Patented Feb. 14, 1922.

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To all whom it may concern:

Be it known that I, WILLIAM H. ROSE, a citizen of the United States, and residing at Jersey City, Hudson County, State of New Jersey, have invented certain new and useful Improvements in Dry-Spray Guns, of which the following is a specification.

This invention has for its object the provision of an improved device for use in spraying dry and finely powdered material, such as Paris green, arsenate of lead or other insecticide or fungicide. In most devices of this kind it is necessary to open the original package or carton containing the powdered material and transfer the same to the spraying device. This is not only disagreeable but at times dangerous as such materials are frequently of a highly poisonous nature. Furthermore, in such form of devices where the material is not all used it has to be again transferred to the original or some other package where preservation is desired or in case the device is to be used for a different material. This results in waste as well as the danger and inconvenience in handling the material. The present invention aims to overcome these objections by providing an arrangement in which the original package of material in certain forms of the invention is placed in the device before being opened and is afterwards perforated so as to permit air to be blown therethrough and produce a spray or in another form, the package is merely perforated at suitable points before being placed in the device. By this improved arrangement handling of the material or changing the same from one receptacle to another is thus avoided, and when a package is only partly used it may be removed from the device for use in a subsequent operation. The disadvantages and defects above mentioned are therefore obviated.

In the accompanying drawing forming part of this specification

Figure 1 is a longitudinal elevation of the device;

Figure 2 is a longitudinal cross-section showing the principal portions of the device, and

Figure 3 is a transverse section showing the construction on lines 3—3 or 3—3 of Fig. 2.

Figure 4 shows a modified form of the invention.

Referring to Figs. 1, 2 and 3, the numerals 10 and 11 represent the parts of a receptacle adapted to receive the package of powdered material 23. These parts of the receptacle are telescopically connected and are provided with suitable means such as screw threads 12 by which one part can be forced in the other. On the part 10 of the receptacle there is arranged a tube 13 in which there is placed a suitable stop or dam 14. This dam divides the tube into two parts 13^a and 13^b, one of which 13^a serves as a means for conveying air to the receptacle and the other 13^b as an outlet or nozzle through which the air and powered material escape. The part of the tube 13 through which air is conveyed to the receptacle may constitute part of an air pump as shown at 15 in Fig. 1, or any suitable means for supplying air through such tube may be provided. The upper part of the receptacle 10 is further provided with inwardly extending hollow cone-shaped perforating members 16 and 17 which serve to puncture and open the package of material when forced toward the upper end of the receptacle. The tube 13 is provided with openings 18, 19 which register with the hollow perforating members and in the sides of these members there are formed openings 20 and 21 which are so placed that they will lie within the package when the same is forced against the perforating members. If desired a suitable spring 22 may be placed in the part 11 of the receptacle for purposes hereinafter pointed out.

In the form of the device shown in Fig. 4, the receptacle for the package of material is made up of two parts 24, 25, which are connected by screw threads in the same manner as shown and described in connection with Fig. 2. In this form of the device the air inlet tube 26 is suitably attached to the part 24 of the receptacle and the outlet tube or nozzle 27 is connected to the part 25 of the receptacle. In this form of the device cone-shaped perforating members 30 and 31 are provided which register with the inlet end of the air conveyor or inlet tube and with the outlet end or the nozzle. The sides of these cone-shaped members are provided with suitable openings 28 and 29. In this form of the device there is also shown at 23 a package of the material which is to be sprayed.

From the foregoing description the operation of the different forms of the device will be apparent. In the form shown in Fig.

2 the package of material is placed in the part 11 of the receptacle and when the two parts of the receptacle are assembled and forced together, the package of material will be forced against the perforating members 16, 17 and openings will thus be produced. Air from the conveyer or inlet is then caused to enter the package and the air and powdered material pass into the nozzle. The spring is serviceable in assisting to force the package firmly against the perforating members and also in ejecting the same from the receptacle after the parts are dismantled.

In the operation of the invention as shown in Fig. 4 the package of material is placed in one part of the receptacle and the two parts of the receptacle are then forced together. The result is that the perforating members puncture the package upon opposite sides which affords a passage of air through the package. The air is supplied through the inlet or conveyor tube 26 and along with the powdered material escapes through the nozzle 27.

Various modifications and changes in the specific forms shown and described may be made within the scope of the claims without departing from the nature of my invention.

What I claim is:

1. In an apparatus for spraying powdered material, the combination of an original package of such material, a receptacle adapted to receive the package, means projecting permanently into the receptacle and adapted to perforate the package at two points when placed therein, and means for blowing air through said perforations and through said package.

2. In an apparatus for spraying powdered material, the combination of an original package of such material, a receptacle adapted to receive the package, hollow perforating means projecting into the receptacle having openings therein, said perforating means serving to perforate the package and enter the same, and means for blowing air through said hollow perforating means and the openings therein and through the package.

3. In an apparatus for spraying powdered material, the combination of a receptacle for receiving a package of such material, said receptacle being composed of a plurality of parts provided with means for uniting the same so that one part may be moved relative to the other, means projecting permanently into the receptacle and adapted to perforate the package of material when the parts of the receptacle are moved together, and means for blowing air through said perforations and through the package.

4. In an apparatus for spraying powdered material, the combination of an original package of such material, a receptacle adapted to receive the package, devices projecting permanently into the receptacle and adapted to enter the package at two points, each of said devices having an opening, and means for blowing air through said openings and through said package.

5. In an apparatus for spraying powdered material, the combination of a two-part receptacle for receiving a package of such material and provided with means whereby the same may be assembled and caused to move toward each other, one part of said receptacle being provided with two hollow perforating devices projecting thereinto, each perforating device having an opening in its wall, an air conveyor tube communicating with one of said hollow perforating devices and a nozzle member communicating with the other of said devices.

6. In an apparatus for spraying powdered material, the combination of a two-part receptacle for receiving a package of such material and provided with means whereby the same may be assembled and caused to move toward each other, one part of said receptacle being provided with two hollow perforating devices projecting thereinto, each perforating device having an opening in its wall, an air conveyor tube communicating with one of said hollow perforating devices and a nozzle member communicating with the other of said devices, the other part of said receptacle having resilient means therein adapted to engage beneath the package of material and force the same toward said perforating devices.

7. An apparatus for spraying powdered material comprising a receptacle for receiving a package of such material, a hollow perforating device secured to said receptacle and projecting inwardly from one of the walls thereof, said device having an opening in its walls, means for conveying air to said perforating device, a second hollow perforating device also secured to said receptacle and projecting inwardly from one of the walls thereof, said last named device also having an opening in its walls, and a nozzle communicating with said last named perforating device.

8. An apparatus for spraying powdered material comprising a receptacle for receiving a package of such material, two hollow perforating devices secured to a wall of said receptacle and projecting inwardly thereof, each of said perforating devices having an opening in its walls, means for conveying air to one of said devices, and means for conveying air and powdered material from the other.

In testimony whereof I affix my signature.

WILLIAM H. ROSE.