March 29, 1932. C. R. HUTCHINS 1,851,430

FUMIGATING DEVICE

Filed March 27, 1931

Fig. 1.

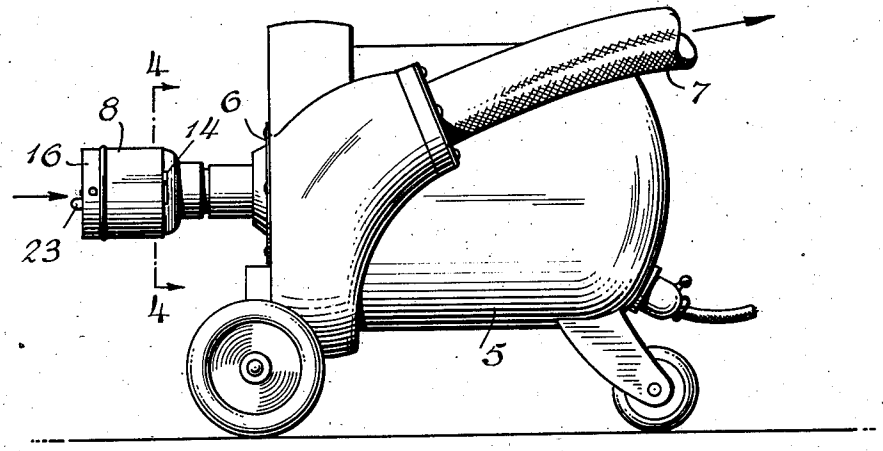


Fig. 2.

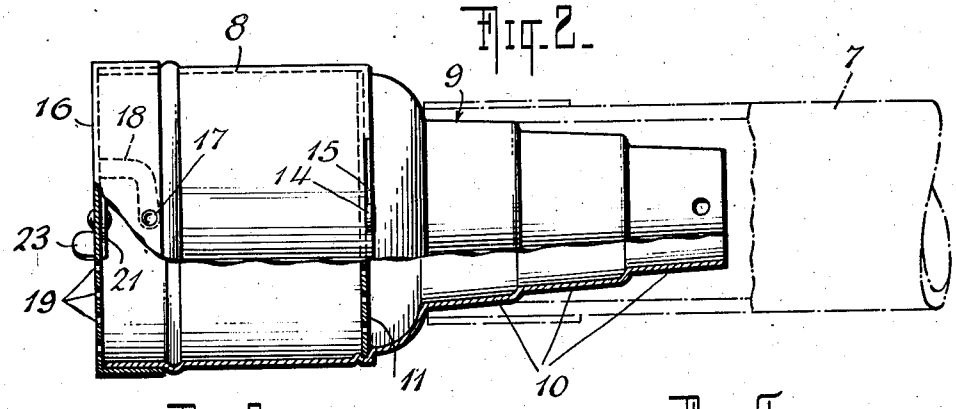


Fig. 3.

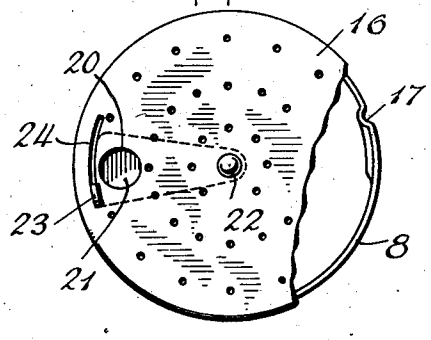
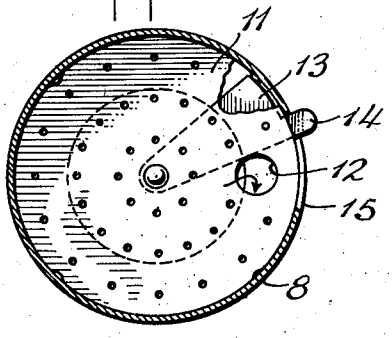


Fig. 4.



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Patented Mar. 29, 1932 1,851,430

UNITED STATES PATENT OFFICE

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FUMIGATING DEVICE

Application filed March 27, 1931. Serial No. 525,684.

This invention relates to improvements in fumigating apparatus, and has particular reference to an attachment for vacuum cleaners which is utilized to disseminate insecticides.

An object of the invention is to provide an improved device of simple and practical construction which can be attached to various known types of vacuum cleaners and the operation of the latter employed to disseminate an insecticide or the like contained within said device.

The above and other objects will appear more clearly from the following detailed description, when taken in connection with the accompanying drawings, which illustrate a preferred embodiment of the inventive idea.

In the drawings—

Figure 1 is a fragmentary side elevation of a conventional type of vacuum cleaner, showing the present invention attached to the suction plate of the cleaner;

Figure 2 is an enlarged side elevation, partly in section, of the device shown in Figure 1, illustrating its adaptation to the hose connection of a cleaner;

Figure 3 is an end elevation, partly broken away, of the device; and

Figure 4 is a section on the line 4—4 of Figure 1.

The present device is so constructed that the same may be attached to known vacuum cleaners, either to the suction plate thereof, or to the hose connection, to which are ordinarily connected the various instrumentalities used in connection with a vacuum cleaner. The drawings illustrate more or less conventionally a vacuum cleaner 5 having a suction plate or connection 6 and the flexible hose 7 through which air suction or exhaust passes. The attachment, which includes the essential features of the present invention, is made of any suitable material and comprises a casing 8, preferably cylindrical in cross-section, and having an adapter nozzle generally indicated by the numeral 9 extending from one end thereof. This nozzle is of tapered formation and comprises a series of sections 10, each of different diameter for snugly fitting into the hose 7 of any particular vacuum cleaner, the sizes of these hose varying on different types of machines. The end of the casing adjacent the adapter 9 is constituted by a perforated plate 11, the periphery of which is seated in the wall of the casing, and said plate is provided with an opening 12 of considerably larger diameter than the perforations. Said opening is utilized for the discharge of material from the casing during certain operations which will hereinafter be referred to, and is controlled by a shutter 13 of segmental form pivoted to the plate 11 at the center thereof and provided with a finger piece 14 which projects through a slot 15 in the wall of the casing 8. When desired, the shutter 13 may be moved to covering and uncovering positions relative to the opening 12 by grasping the finger piece 14.

The other end of the casing 8 has mounted thereon a removable closure plate 16 having a stud 17 which engages in a bayonet slot 18 formed in the wall of the casing whereby the plate may be locked in position thereon. This closure plate is also provided with perforations 19 and an opening 20 similar to the opening 12 in the plate 11. This opening 20 is likewise controlled by a shutter 21 pivoted to the plate at 22 for movement to covering and uncovering positions relative to the opening 20, a finger piece 23 projecting through a slot 24 in the plate 16 being utilized for the purpose of adjusting said shutter.

In practice, the casing is opened by removing the closure plate 16, after which a quantity of insecticide of any kind, such as crystals, is poured into the casing and the plate 16 replaced. If it is desired to disseminate the crystals in the form of a spray, the device is fitted to the suction plate of the vacuum cleaner by means of the adapter 9, or, in one known type of machine in which the opening in the plate is larger than any of the sections 10 of said adapter, the device may be reversed from the position shown in Figure 1 and the end of the casing carrying the closure 16 may be inserted into said opening. If the device is mounted as shown in Figure 1, the opening 20 in the closure 16 is covered and the opening 12 in the plate 11 uncovered to permit of egress of the crystals through the latter opening when the vacuum cleaner is

operating and a suction is being created by the fan of the machine. In other words, the operation of the fan draws air through the perforations in the plates 16 and 11 and thereby creates sufficient suction to agitate the crystals within the casing and draw them through the opening 12. These crystals are then finely comminuted by passage through the fan and are discharged through the hose 7 in the form of a spray. Should the device be mounted in the reverse position from that shown in Figure 1, the same action takes place and, in this instance, the opening 12 is covered while the shutter 21 is adjusted to uncover the opening 20 for the passage of the crystals from the casing to the fan. When it is desired to simply utilize the odor of the insecticide or other material within the casing 8 for fumigation, the device is removed from the suction plate and the adapter inserted into the free end of the hose 7 in the same manner that various attachments of a vacuum cleaner are now mounted in position. When thus attached, the shutters 13 and 21 are both adjusted to cover their respective openings so that there will be no discharge of the material from the casing, but the current of air which is blown through the perforations in the plates at the two ends of the casing will carry with it the fumes from the material in said casing.

What is claimed is:

1. In a fumigating device adapted for attachment to a vacuum cleaner, a casing for containing an insecticide, a plate forming one end of said casing and having perforations for the passage of air, and further having an opening for the passage of the insecticide, and means to cover and uncover said opening.

2. In a fumigating device adapted for attachment to a vacuum cleaner, a casing for containing an insecticide, perforated plates forming the ends of said casing and each provided with an opening larger than the perforations therein, and means to cover and uncover said openings.

3. In a fumigating device adapted for attachment to a vacuum cleaner, a casing for containing an insecticide, perforated plates forming the ends of said casing and each provided with an opening larger than the perforations therein, and a shutter pivoted on each plate and movable to covering and uncovering positions relative to the opening in said plate.

4. In a fumigating device adapted for attachment to a vacuum cleaner, a casing for containing an insecticide, a perforated plate forming one end of said casing and having an opening therein, means extending from said end of the casing for attaching the device to a vacuum cleaner, a removable closure plate for the other end of said casing also having perforations and an opening, and a shutter pivoted on each plate and movable to covering and uncovering positions relative to the opening in said plate.

In testimony whereof, I have affixed my signature.

CLARENCE R. HUTCHINS.