May 10, 1927. 1,628,458

T. FRENCH

DUST LAYING SPRAYING DEVICE

Filed March 5, 1926

Fig. 1

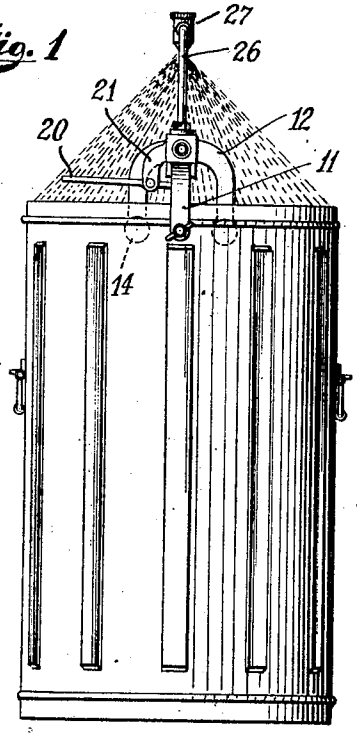


Fig. 2

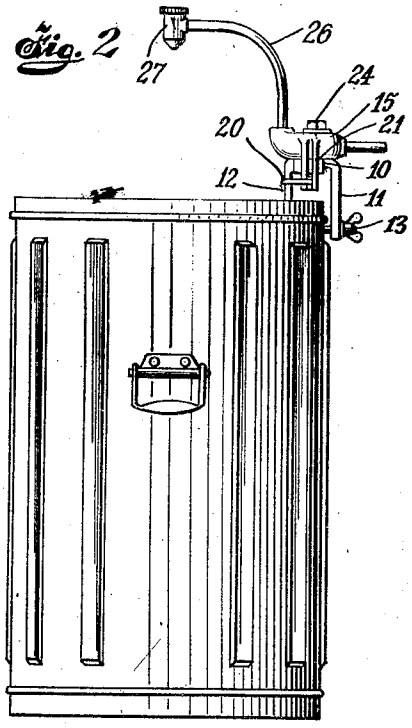


Fig. 3

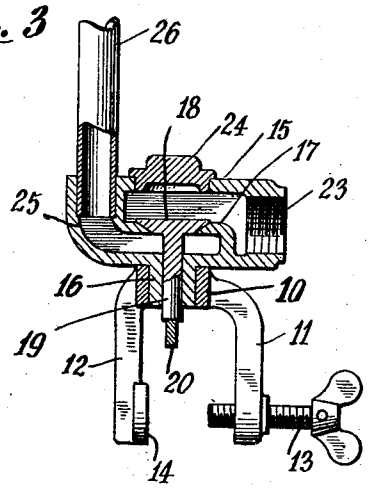
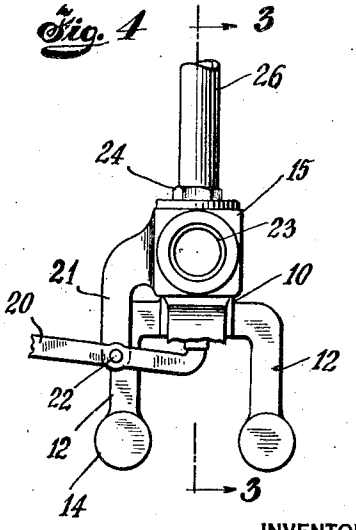


Fig. 4



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UNITED STATES PATENT OFFICE.

THOMAS FRENCH, OF RUMFORD, MAINE.

DUST-LAYING SPRAYING DEVICE.

Application filed March 5, 1926. Serial No. 92,449.

My invention relates to improvements in spraying devices such as are adapted for use in laying dust, and more particularly laying the dust as it is being placed in a receptacle, bin, or the like. For example in taking up ashes the fine ashes and dust do not fly to any appreciable extent until they are dumped, and one object of my invention is to provide a spraying device which can be conveniently applied to an ash can or receptacle, and in which as the ashes are dumped, a fine film of water will be discharged over the top of the receptacle so as to enclose the dumped material and prevent any ashes or dust from flying. I have found by experiments that the amount of water necessary to produce this fine film is so small that it does not sufficiently wet the contents of the receptacle so as to cause them to freeze or leach, but it does effectually lay the dust. The above illustrates a common application of the invention. My invention is also intended, however, to produce a structure of this kind which can be conveniently applied to most receptacles, and which with a very small amount of water will serve to prevent dust from flying, and the apparatus which I have devised is therefore useful in handling ashes, coal, coke, or other fuels, or in fact dusty material which is not injured by the application of a small quantity of water.

To provide for the easy application and use of the structure, I combine with a spraying nozzle a control valve and clamp which can be secured to the top or other part of the receptacle, and which has a supply pipe extending from the valve to the nozzle, and performing the double function of a water supply and the part of nozzle supporting bracket. This will be better understood from the following description.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar reference characters indicate corresponding parts in all the views.

Figure 1 is a side elevation of my improved spraying device as applied to an ash can.

Figure 2 is a side elevation at right angles to the illustration in Figure 1.

Figure 3 is an enlarged broken section on the line 3—3 of Figure 4 showing a type of valve and clamp for carrying the invention into effect, and

Figure 4 is a broken elevation of the valve supporting clamp and water pipe.

In carrying my invention into effect it is of course essential to provide a simple and efficient means for supporting the spraying nozzle in the right position to do its work. To this end I use a clamp 10 which can be of any approved kind, but which is preferably of the kind shown having one arm 11 extending downward so as to be opposite the outer wall of a receptacle, in the example shown an ash can, and having spaced inner arms 12 adapted to fit against the inner wall of the receptable. These arms 12 are preferably provided with broadened flanges 14 at their extremities, and the arm 11 is fitted with a thumb screw 13 which can be turned inward so as to impinge against one wall of the receptacle to which the clamp is applied, and thus securely hold the clamp in place. Obviously other tightening clamps might be used without affecting the invention.

On the clamp is supported a valve casing 15 which is preferably pivotally supported, having to this end a trunnion 16 on its under side which turns in the upper part of the clamp 10 as shown in Figure 3. The object of this is to enable the valve casing to turn or swivel so as to provide a flexible connection with a supply pipe or hose. While I have shown the preferred type of valve, any suitable valve can be used. As illustrated the valve 15 has a web 17 with an opening therethrough in which seats the vertically movable valve proper 18, this having a stem 19 sliding in the trunnion 16 of the valve casing. The valve is closed by the water pressure, and is raised by a lever 20 which is pivoted as shown at 22 between the arms 21 on the valve casing, and extends outward as shown so that it may be pushed downward by hand to raise the valve 18 and open it to the flow of water, or when arranged as illustrated the person dumping the ashes can let his shovel handle rest on the lever 20 as he dumps the ashes in the can, and the weight of the shovel will open the valve. This is a convenient and preferred arrangement.

It will be seen by reference to the drawings that the valve has a threaded inlet 23, though obviously other means can be provided for connecting with a hose or pipe, and I also have a removable plug 24 in the top of the casing 25 so that in case of clog-

ging or for other reasons the interior of the valve casing can be readily reached.

The outlet side of the valve casing 25 connects with a pipe 26 which serves the double purpose of a bracket arm and water supply pipe for the spraying nozzle 27. Thus in the example given the pipe 26 is shaped so that when the valve casing 15 is supported on the edge of the can as in Figures 1 and 2, the spraying nozzle 27 will be centrally above the can. I have not shown the spraying nozzle in detail because there are so many varieties of these nozzles that a standard or preferred kind can be used, but I select one which will project downward a conical film of water as shown in Figure 1, so that this film will cover the can top and prevent any ashes from flying.

Thus it will be seen that in the examples given a person can take a shovel full of ashes, extend his shovel over the top of the can, allow it to drop slightly so as to strike the handle 20 and open the valve 18, and as he dumps the ashes a film of water will be projected from the nozzle 27 so as to effectually prevent any dust from flying, and yet these nozzles 27 are of such a kind that very little water is used in projecting the film. As he raises his shovel the pressure of water on the top of the valve 18 will close it.

From the example given it will be evident that while I have shown the application of my invention to an ash can, it can be readily applied and adapted to various other receptables, as for example, the edge of a coal bin, and the parts can be shaped and of such size so as to direct the water film in a manner to cover the deposited material and prevent any dust from flying.

It will be evident, therefore, that the shape and arrangement of the clamp for supporting the apparatus can be varied, and the pitch and length of the pipe 26 changed so as to bring the spraying nozzle 27 in the desired position, without affecting the invention.

I claim:—

1. A spraying device comprising a spraying nozzle, a supply pipe therefor, a valve casing supporting said supply pipe and provided with a depending trunnion, a valve in said casing and having the stem thereof extending through and beyond said trunnion, a clamp pivotally supporting said valve casing at the trunnion on the latter, a depending arm secured to the valve casing and a cooperating lever pivotally secured to said depending arm and connected with said valve stem to actuate said valve.

2. A spraying device comprising a nozzle, a supply pipe therefor, a valve casing supporting said supply pipe and provided with a depending trunnion on the base thereof, a clamp having a portion thereof engaging said trunnion to pivotally support said valve casing whereby said valve casing and said nozzle may be rotated in a horizontal plane, a valve in the casing, a valve stem extending through said trunnion, and means for actuating said valve.

In testimony whereof, I have signed my name to this specification this 20th day of February, 1926.

THOMAS FRENCH.