

E. JEANMAIRE.  
SPRAYING DEVICE.  
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1,412,468.

Patented Apr. 11, 1922.

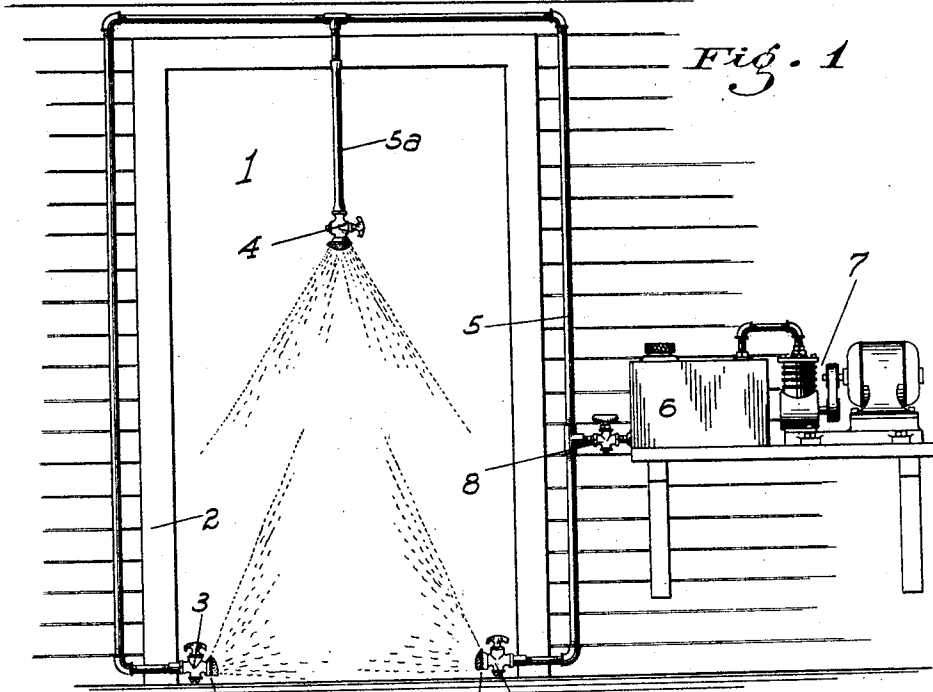


Fig. 1

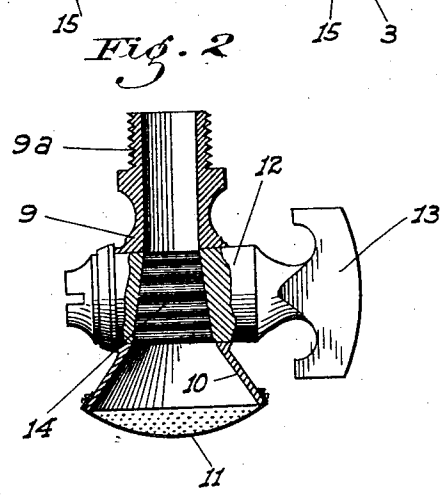


Fig. 2

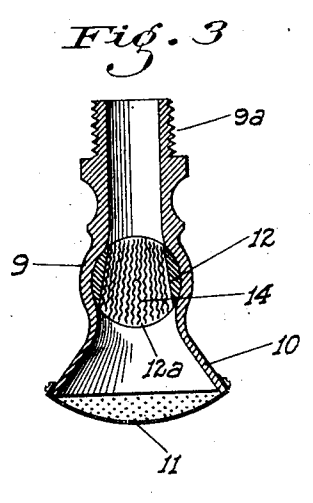


Fig. 3

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# UNITED STATES PATENT OFFICE.

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## SPRAYING DEVICE.

1,412,468.

Specification of Letters Patent. Patented Apr. 11, 1922.

Application filed July 17, 1920. Serial No. 396,916.

*To all whom it may concern:*

Be it known that I, EDWARD JEANMAIRE, a citizen of Switzerland, residing at Linden, county of San Joaquin, State of California, have invented certain new and useful Improvements in Spraying Devices; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this application.

The principal object of the invention is to provide spray members to be used in connection with a system for spraying animals so constructed that the fluid will issue therefrom and will spread out over a large area, with practically equal force throughout, with the use of a comparatively small spray member.

A further object is to so construct the individual spray nozzles that the liquid being forced therethrough will be agitated and finely broken up before issuing as a spray.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purposes which it is designed. These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views.

Fig. 1 is a view illustrating one and the preferred use to which my improved spray members may be applied.

Fig. 2 is a vertical section through one of the spray members.

Fig. 3 is a cross section of the same.

Referring now more particularly to the character of references on the drawings, the numeral 1 denotes a doorway of suitable size to allow live stock of various descriptions to pass therethrough in single file.

At each of the lower corners of the door projecting toward each other just inside the frames 2 thereof are sprays 3 while central of the door and above the sprays 3 is another spray member 4.

A common supply pipe 5 is connected to all the sprays and leads to a tank 6 in which the cleansing solution is mixed and kept, and which is then sealed air tight so that a pressure may be generated therein by means of a suitably driven air compressor 7. A

common valve 8 controls the flow through the pipe 5. Between the upper spray member 4 and the pipe 5 is a flexible hose 5<sup>a</sup>, so that the said spray member is flexibly suspended. In this manner, it may be hung relatively low in the door so that the spray therefrom will forcefully wash a low animal, such as a hog, while at the same time a tall animal such as a cow striking its head thereagainst will merely swing it ahead or to one side without harming either the animal or the spray member.

Each spray member comprises a casing or cock 9 connected at one end 9<sup>a</sup> to the pipe 5, and terminating at the other in a bell shaped nozzle 10, over the other end of which a finely perforated cap 11 is removably mounted, so that it may be taken off at will to clean the same.

In the casing is transversely and turnably mounted a closure member 12 of the usual form having a handle 13 whereby it may be turned to regulate the flow therethrough. This member is provided with an orifice 12<sup>a</sup> which when the cock is wide open, flares outwardly from the end 9<sup>a</sup> to the nozzle end.

In this orifice, I place a plurality of closely spaced and thin plates 14 corrugated transversely of the pipe 5 and spread out fan-wise so that they are proportionately spaced both at the narrow and wide ends of the orifice. This construction serves to agitate the water passing therethrough and aids in deflecting the stream equally to all over the entire area of the perforated nozzle, instead of having the greatest force of the water issuing through the center of the nozzle directly below the cock, as would otherwise be the case.

It will be noted that the closure member or valve 12 is circular in cross-section.

The plates 14 are therefore longer at the center than at the edges of the closure-orifice. Therefore the resistance surface through which the water must pass is greater at the center of the orifice than at the sides, equalizing the pressure of the water in the nozzle area below the closure.

The nozzles 11 are so arranged and shaped that the flow therefrom will cover almost the entire doorway, and especially the lower portion, the lower sprays 3 throwing the fluid both transversely of the door and upward, while the upper member 4 throws its spray the full width of the door, mingling with the flow from the others.

Since there is no need of the lower sprays deflecting any of the fluid passing there-through downward, the under sides of the nozzles thereof are flattened to be horizontal, as shown at 15 in Fig. 1, so that the lowest flow of liquid thereof will be horizontal. With my improved spraying device therefore, it will be seen that the entire surface of any animal passing therethrough—back, sides, belly and legs, will be thoroughly sprayed at one time, and without any attention being necessary on the part of the operator other than to control the force of the flow and the speed and line-up of the animals, thus saving considerable time and labor, and insuring that the animals are thoroughly washed and cleansed.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to and do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described my invention, what I claim as new and useful and desire to secure by Letters Patent is:

1. A spray member comprising a casing adapted to be connected at one end to a pipe and having an outwardly flaring nozzle at the other end, a turnable closure member mounted in the casing intermediate its ends, such member having an orifice adapted to provide communication between the pipe and the nozzle, and a plurality of closely spaced and corrugated plates in the said orifice, the

corrugations extending transversely of the direction of flow through the casing.

2. A spray member comprising a cock adapted to regulate the volume of flow there-through, a bell shaped nozzle projecting from said cock, and means in the cock whereby a liquid being forced therethrough will be directed with equal force over substantially the entire area of the nozzle.

3. A spray member comprising a casing adapted to be connected at one end to a pipe and provided with a flared nozzle at the other end, a perforated cap on the nozzle, a turnable closure member mounted in the casing intermediate the ends, such member having an orifice adapted to provide communication between the pipe and nozzle, said orifice when in that position flaring outwardly from its pipe end to its nozzle end, and a plurality of closely spaced corrugated transversely of the direction of flow through the casing, the plates being spread so as to be proportionately spaced at both the small and large ends of the orifice.

4. A spray member comprising a cock adapted for connection to a pipe, said cock including a circular closure member, a nozzle projecting from the cock opposite the pipe connection, the cock having a transverse orifice therethrough, and a plurality of corrugated plates positioned in the orifice and extending parallel to the axis of the closure member, whereby the plates are longest at the center of the orifice than at the opposite sides, and the corrugations of the plates extending transversely of the direction of flow through the orifice.

In testimony whereof I affix my signature.  
EDWARD JEANMAIRE.