No. 728,892. PATENTED MAY 26, 1903.

J. W. FLOW.

SPRAYING DEVICE.

APPLICATION FILED NOV. 4, 1902.

NO MODEL.

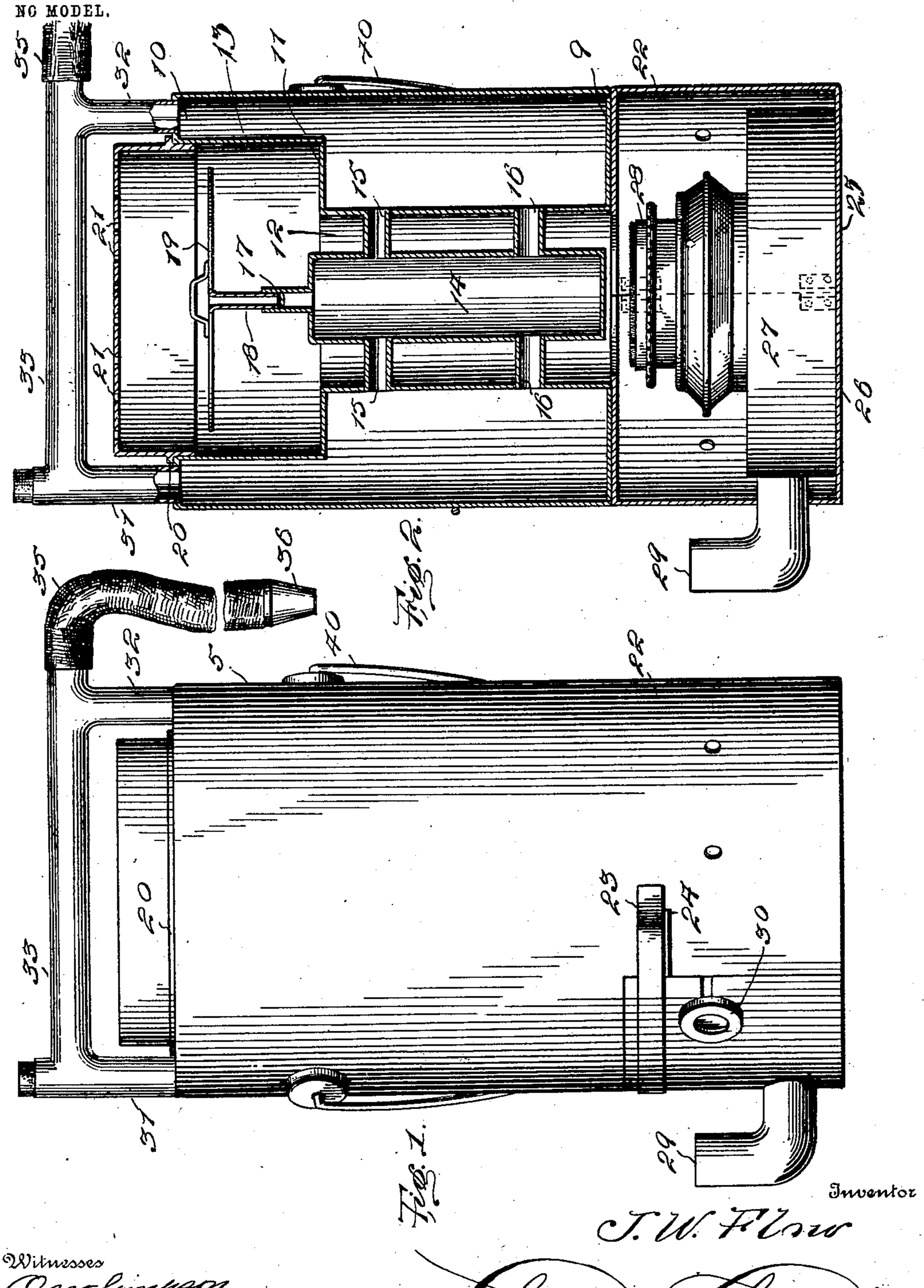

Fig. 1.

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UNITED STATES PATENT OFFICE.

JACOB W. FLOW, OF MATTHEWS, NORTH CAROLINA.

SPRAYING DEVICE.

SPECIFICATION forming part of Letters Patent No. 728,892, dated May 26, 1903.

Application filed November 4, 1902. Serial No. 130,045. (No model.)

To all whom it may concern:

Be it known that I, JACOB W. FLOW, a citizen of the United States, residing at Matthews, in the county of Mecklenberg, State of North Carolina, have invented certain new and useful Improvements in Spraying Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to spraying devices such as are employed in killing of vermin; and it has for its object to provide a construction including a convenient style of portable steamer in which the liquid to be sprayed is held and heated and from which it is discharged in the form of steam through a suitable hose and nozzle.

A further object of the invention is to provide a construction wherein there will be an efficient heating of the liquid and a consequent quick and economical generation of steam and in which a sufficient steam-pressure may be readily obtained to insure efficient operation of the device.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is an elevation of a sprayer embodying the present invention. Fig. 2 is a central vertical section through the sprayer.

Referring now to the drawings, the present sprayer comprises an upper cylindrical boiler 5, comprising an outer shell, having the ring-shaped heads 9 and 10 at its ends, the ring 10 at the upper end of the boiler having a greater interior diameter than the ring at the lower end of the boiler, while substantially midway of the ends of the boiler is a third ring-shaped head 11, the exterior diameter of which is substantially the same as the interior diameter of the head 10, while the interior diameter is the same as that of the lower head. Connecting the heads 9 and 11 at the inner edges thereof is a tube 12, while a second tube 13 is disposed upon the head 11, flush with its outer edge and reaching to the upper head 10, to which it is secured flush with the inner edge thereof.

Within the lower tube 12, which is cylindrical, as shown, is a cylindrical drum 14, which extends throughout the length of the tube and the ends of which are closed, said drum being connected with the boiler through the tube 12, by means of the upper and lower radiating pipes 15 and 16, so that there may be an efficient circulation of liquid through the drum and the boiler proper.

Upon the upper end of the drum 14 is a socket 17, in which is removably engaged the stem 18 of a deflecting-disk 19, the diameter of which is slightly less than that of the tube 13 and sufficiently great to cover or reach beyond the space between the drum 14 and tube 12. The disk 19 is spaced upwardly from the drum, so that heat applied to the lower end of the boiler will pass upwardly between the drum and the tube 12 and striking the deflector-disk will pass radially thereof into contact with the tube 13, so that there will be an efficient heating of the liquid which may be contained in the boiler. The heat also impinges against the tubes 15 and 16 to heat the liquid therein.

A cap for the upper end of the boiler is provided and is cylindrical in form and is fitted in the upper end of the tube 13, said cap having a radiating flange 20, which rests upon the upper head of the boiler and limits the downward movement of the cap. The upper end of the cap is provided with perforations 21, which permit of a draft. At the bottom of the boiler is a cylindrical fire-box 22, which is divided diametrically, one half of the fire-box being fixed to the boiler, while the other half is hinged to the first half to swing on a vertical axis, the hinged half having a spring-catch 23 disposed for engagement with the keeper 24 on the fixed portion 22 to hold the hinged portion in closed position. The portion of the fire-box which is fixed has a semicircular bottom 25, while the movable portion has a similar bottom 26, and upon the latter is secured the reservoir 27 of a lamp, the burner 28 of which is so disposed that when the fire-box is closed said burner will be in position to support its blaze beneath the central portion of the drum 14. The reservoir 27 has a filling-tube 29, which is passed through the side of the fire-box and has its outer end turned upwardly above the level of the liquid in the reservoir. With

this arrangement of burner it will be seen that it may be swung into and out of position to heat the boiler and that access may be had thereto for trimming and otherwise manipulating the wick, there being the usual wick-feeding device having the thumb-wheel 30, which lies outside of the fire-box.

Extending upwardly from the upper head 10 of the boiler, at diametrically opposite points thereof, are the pipes 31 and 32, which are connected at points below their upper ends by the transverse pipes 33 and to the upper end of the pipe 32, which is turned laterally, is attached a flexible tube 35, having a nozzle 36. The boiler is supplied with a suitable liquid insecticide through the tube 31, which is provided with a plug 37.

In the operation of the sprayer a suitable quantity of liquid is supplied to the boiler, and the lamp is lighted and swung into position to heat the boiler, as above described, air to support combustion being supplied through the perforations 38 in the side of the fire-box. When the contents of the boiler have become sufficiently heated, steam will rise therefrom and will pass upwardly through the pipes 31, 33, and 32 to the tube 35, from which it will be discharged through the nozzle 36, it being understood that the sprayer is carried about by means of the bail 40, pivoted to the sides thereof, so that the steam may be delivered wherever desired.

It will be understood that in practice modifications of the specific construction shown may be made and that any suitable materials and proportions may be used for the various parts without departing from the spirit of the invention.

What is claimed is—

1. A sprayer comprising a boiler having a central fire-passage, the upper portion of which is of greater diameter than the lower portion, said lower portion having a drum disposed therein and spaced from the walls thereof, pipes connecting the upper and lower ends of the drum with the boiler proper, and a deflector-plate supported from the drum in the upper portion of the boiler and covering the interspace between the drum and the wall of the fire-passage.

2. A sprayer comprising a boiler having a central fire-passage, the upper portion of which is of greater diameter than the lower portion, a drum in the lower portion of the fire-tube and spaced therefrom, said drum being connected at its ends with the boiler proper through the wall of the fire-tube, a socket upon the upper end of the drum, a deflector-disk having a stem removably engaged in the socket, said disk having a diameter greater than that of the minor portion of the fire-tube, pipes connected with the upper end of the boiler at diametrically opposite points, a transverse pipe connecting the first-named pipes, and a flexible tube connected to one of the first-named pipes and having a nozzle, the other of the first-named pipes having a closure.

3. A sprayer comprising a boiler having a central fire-passage, the upper portion of which is of greater diameter than the lower portion, a drum in the lower portion of the fire-tube and spaced therefrom, said drum being connected at its ends with the boiler proper through the wall of the fire-tube, a deflector-disk removably engaged upon the upper end of the drum and spaced between the ends of the portion of the fire-tube of greater diameter, said disk having a diameter greater than that of the minor portion of the fire-tube and spaced thereabove, pipes connected with the upper end of the boiler and having a connecting-pipe, a flexible tube connected with one of the first-named pipes and provided with a nozzle and a perforated cap engaged in the upper end of the fire-tube.

In testimony whereof I affix my signature in presence of two witnesses.

JACOB W. FLOW.

Witnesses:
JOS. H. BLACKWOOD,
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