

No. 663,732.

Patented Dec. 11, 1900.

J. J. COUGHLIN.
SPRAYING APPARATUS.

(Application filed Mar. 13, 1900.)

(No Model.)

Fig. 3.

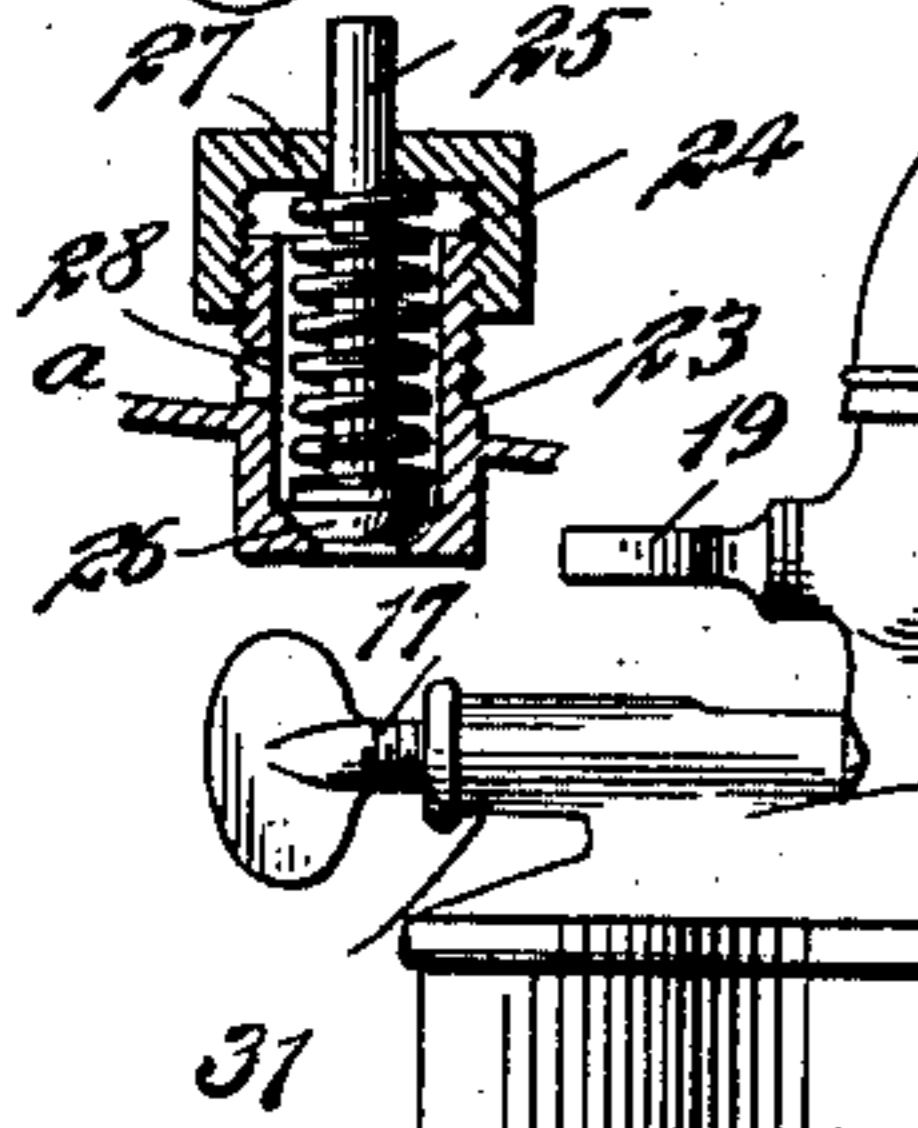


Fig. 1.

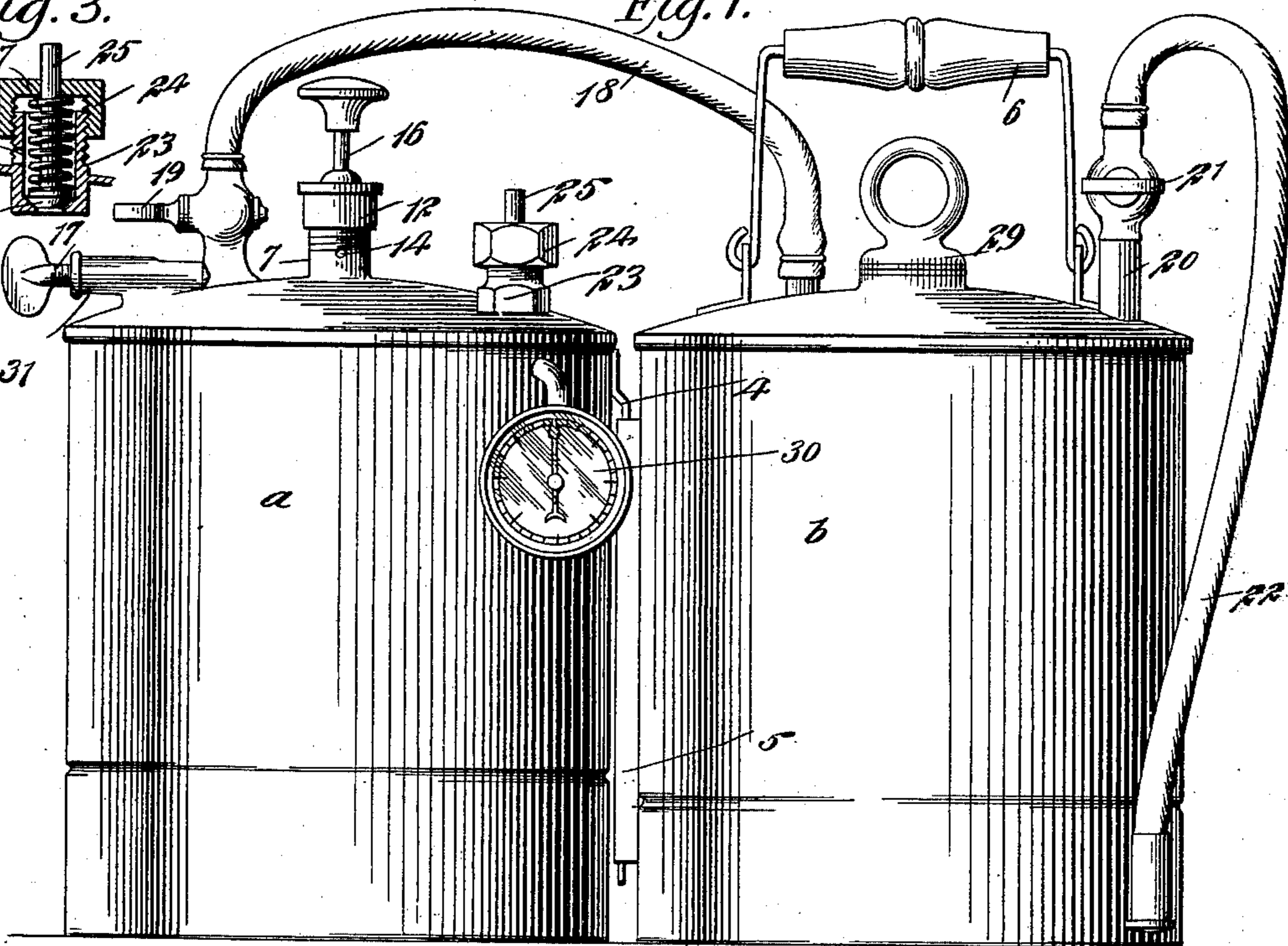
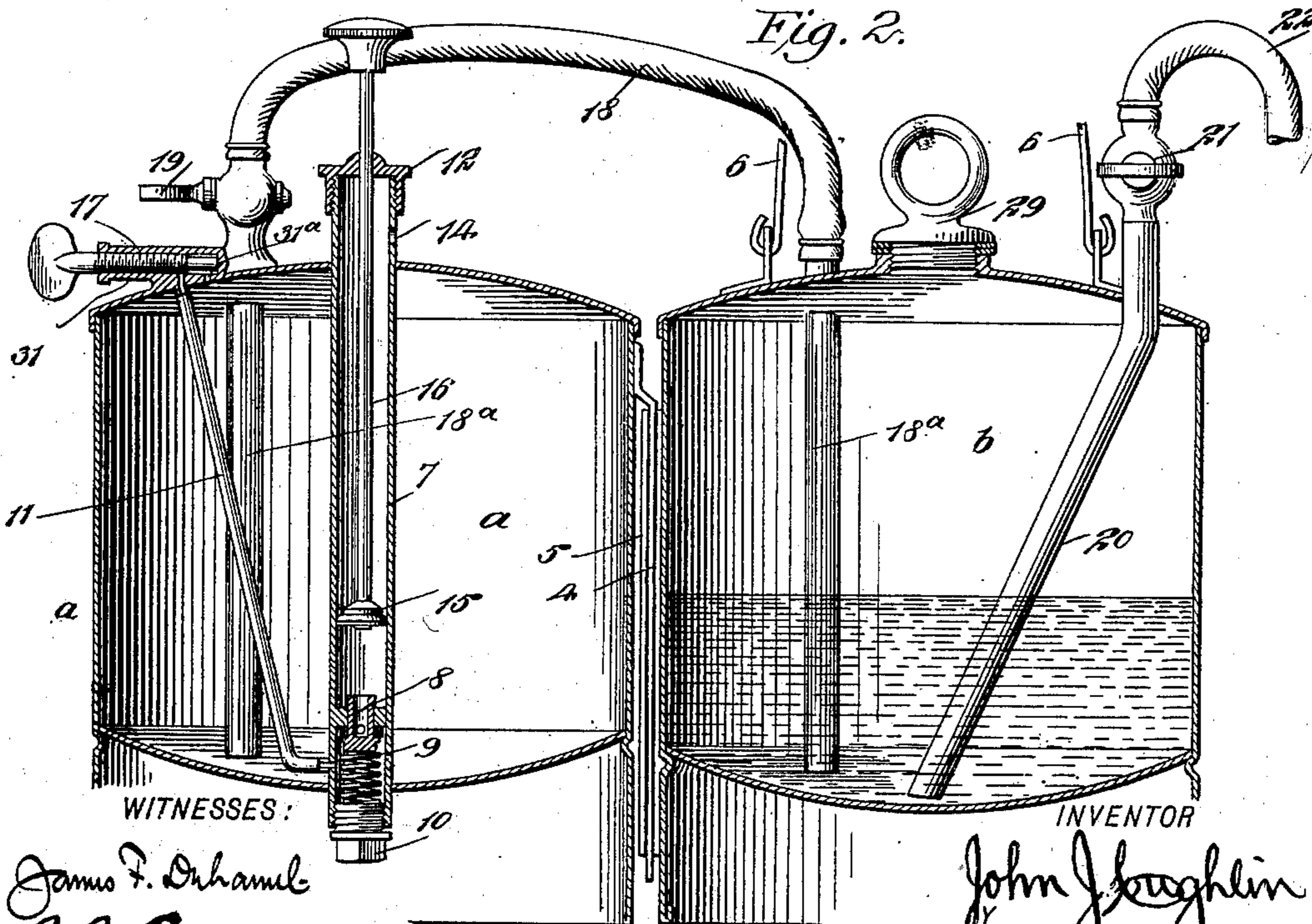


Fig. 2.



WITNESSES:

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JOHN J. COUGHLIN, OF BRADFORD, OHIO, ASSIGNOR OF ONE-HALF TO
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SPRAYING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 663,732, dated December 11, 1900.

Application filed March 13, 1900. Serial No. 8,483. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. COUGHLIN, a citizen of the United States, and a resident of Bradford, in the county of Miami and State of Ohio, have invented a new and Improved Spraying Apparatus, of which the following is a full, clear, and exact description.

This invention is an apparatus for spraying liquids, and it is adapted especially for spraying trees, shrubbery, and the like, to which end it comprises a liquid-reservoir and an air-reservoir, the two being separable and provided with means for removably engaging them, so that they may be carried about on a cart, the air-reservoir having a pump and being in communication with the liquid-reservoir by means of a flexible tube.

This specification is the disclosure of one form of the invention, while the claims define the actual scope thereof.

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

Figure 1 is a side view of the invention. Fig. 2 is a sectional side view thereof, and Fig. 3 is a detail view of the safety-valve which I employ.

The air-reservoir *a*, in which the air is stored under pressure, is provided with a tongue 4, attached to one side thereof, and this tongue is slidably engaged with inwardly-turned flanges 5, fastened side by side to the liquid-reservoir *b*. The upper end of the tongue 4 is fastened to the reservoir *a*, so that by moving the reservoir *a* upward relatively to the reservoir *b* the two may be disengaged. A handle 6 is attached to the reservoir *b*, and when the reservoir *b* is carried by this handle the other reservoir will also be supported. Owing to the fact that the reservoir *b* is filled or partly filled with liquid, the whole device may be carried horizontally, and the reservoir *a*, having no weighty substance therein, will not tend to tilt the reservoir *b*.

A pump-cylinder 7 is mounted centrally in the air-reservoir *a* and provided at its lower end with a downwardly-opening valve 8, pressed to its seat by a spring 9, carried in the bottom of the pump-cylinder, which passes through the bottom of the reservoir *a*. The

spring 9 is held in place by a plug 10, screwed into the lower extremity of the cylinder 7. The top of the cylinder projects through the top of the reservoir *a* and is there provided with a screw-cap 12 and also with an inlet orifice or port 14. Within the cylinder 7 works a piston 15 and a rod 16 of the usual form. By raising the piston 15 up above the port 14 and then moving the piston down air will be forced past the valve 8. From the lower end of the cylinder 7, below the valve 8, a tube 11 passes. This tube is situated within the air-reservoir and extends upward to a valve-casing 31, mounted on the reservoir and communicating with the interior thereof. In the valve-casing 31 a needle-valve 17 works, such valve commanding the pipe 11. The air from the cylinder 7 passes by the valve 8 and through the pipe 11 to the casing 31, from which it passes into the reservoir *a* through an opening 31^a. By the parts 11, 31, and 17 leakage or air from the pump is prevented.

A flexible pipe 18 leads from the reservoir *a* to the reservoir *b*, the pipe being connected with the tops of the respective reservoirs and commanded by a cock 19. The pipe 18 has rigid extensions 18^a projected, respectively, into the reservoirs *a* and *b* in close proximity to the bottoms thereof. A metallic discharge-pipe 20 is located in the liquid-reservoir *b* and has its receiving or lower end directly adjacent to the bottom of the same, the pipe passing upward through the top and having a cock 21 commanding the pipe. A flexible spray-pipe 22 with a rose or nozzle of any desired form is connected with the pipe 20.

In the operation of the apparatus the liquid is placed within the reservoir *b* upon removing the filling-cap 29, and the valve 17 is operated to uncover the pipe 11. Then the pump is operated to store air at a proper pressure within the reservoir *a*. The valve 17 should now be shut. The valves 19 and 21 should then be opened, and the pressure of air in the reservoir *a* will pass to the reservoir *b* and act on the water therein to throw the same out through the pipes 20 and 22. If desired, a safety-valve, as shown in Figs. 1 and 3, may be provided for the reservoir *a*. This valve is here shown as consisting of a casing 23,

provided with a cap 24, in which is mounted to slide a valve-stem 25, carrying a valve 26, having a seat at the bottom of the casing 23. A spring 27 presses the valve yieldingly in
5 closed position, and when the air-pressure within the reservoir *a* becomes so great as to force the valve 26 upward the excess of air may pass off through an orifice 28 in the casing 23. A pressure-indicator 30 may also be
10 provided for the reservoir *a*, if desired. By extending the pipe 18 down into the reservoir *b* the spraying solution therein is kept agitated and in proper condition for use.

Having thus described my invention, I
15 claim as new and desire to secure by Letters Patent—

1. A spraying apparatus, comprising a liquid-reservoir and an air-reservoir, a flexible connection between the two, whereby to con-
20 duct the air from the air-reservoir to the liquid-reservoir, a handle on the liquid-reservoir, a tongue attached at its upper end to the air-reservoir, and a keeper carried by the liquid-reservoir and having the tongue slid-
25 ably engaged therewith.

2. A spraying apparatus, comprising a liquid-reservoir, an air-reservoir separate therefrom, means for removably connecting the two reservoirs with each other, by which to carry

the one on and alongside of the other, and a
30 flexible tube passing from one reservoir to the other to establish communication between the two.

3. A spraying apparatus, comprising a liquid-reservoir and an air-reservoir, means for
35 removably connecting the two with each other, a flexible pipe extending between them to lead the air from the air-reservoir to the water-reservoir, a liquid-discharge pipe leading from the liquid-reservoir, and an air-pump mounted
40 in the air-reservoir.

4. A spraying apparatus having an air-reservoir, a liquid-reservoir, a pump carried in the air-reservoir, a pipe situated within the
45 air-reservoir and leading the air from the pump, a valve-casing carried on an outer wall of the air-reservoir and communicating with the interior thereof, the said pipe communicating with the valve-casing, and a valve
50 commanding such communication.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN J. COUGHLIN.

Witnesses:

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MABEL VAN TRUMP.