H. E. FORD & F. E. TAYLOR.

PAINTING MACHINE.

APPLICATION FILED MAR. 25, 1908.

928,374. Patented July 20, 1909.

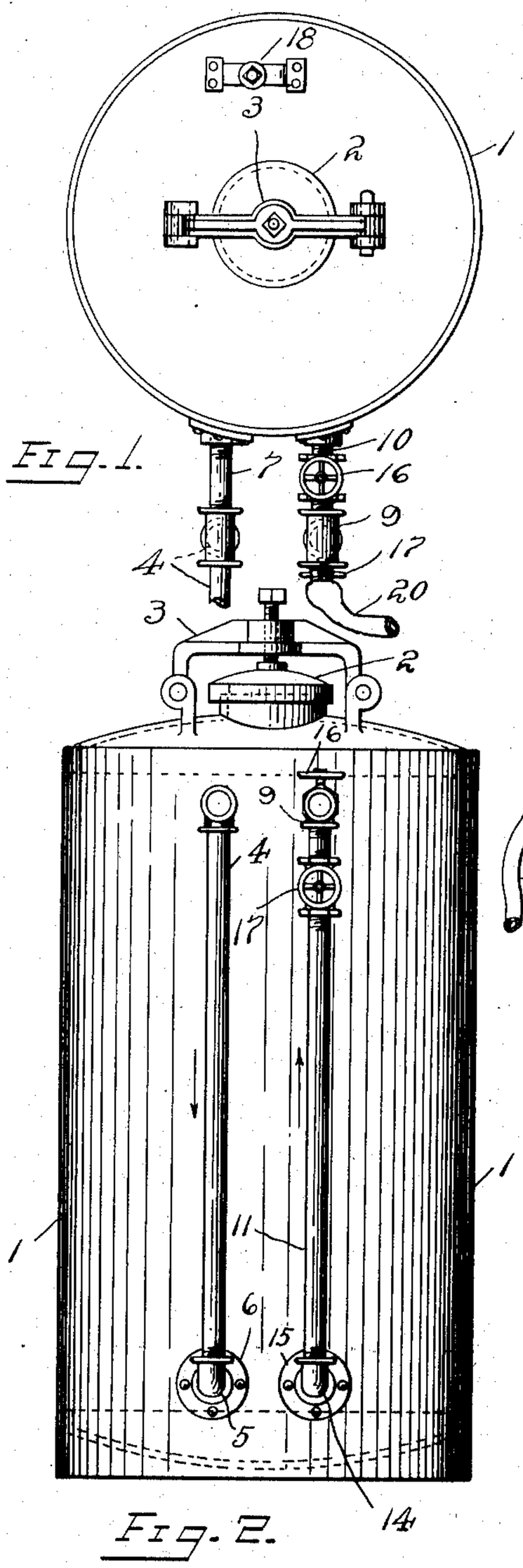

Fig. 1.

Fig. 2.

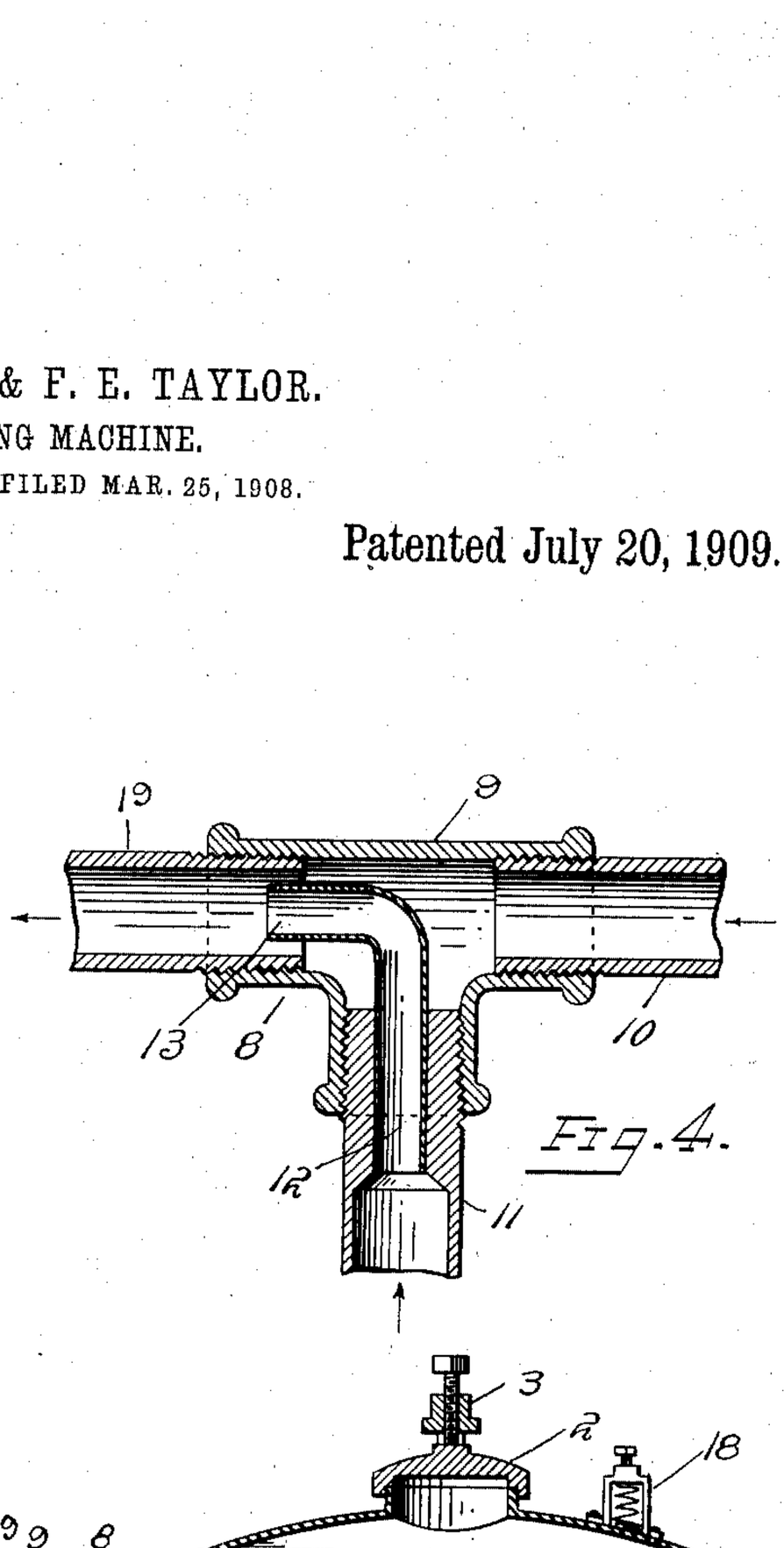

Fig. 4.

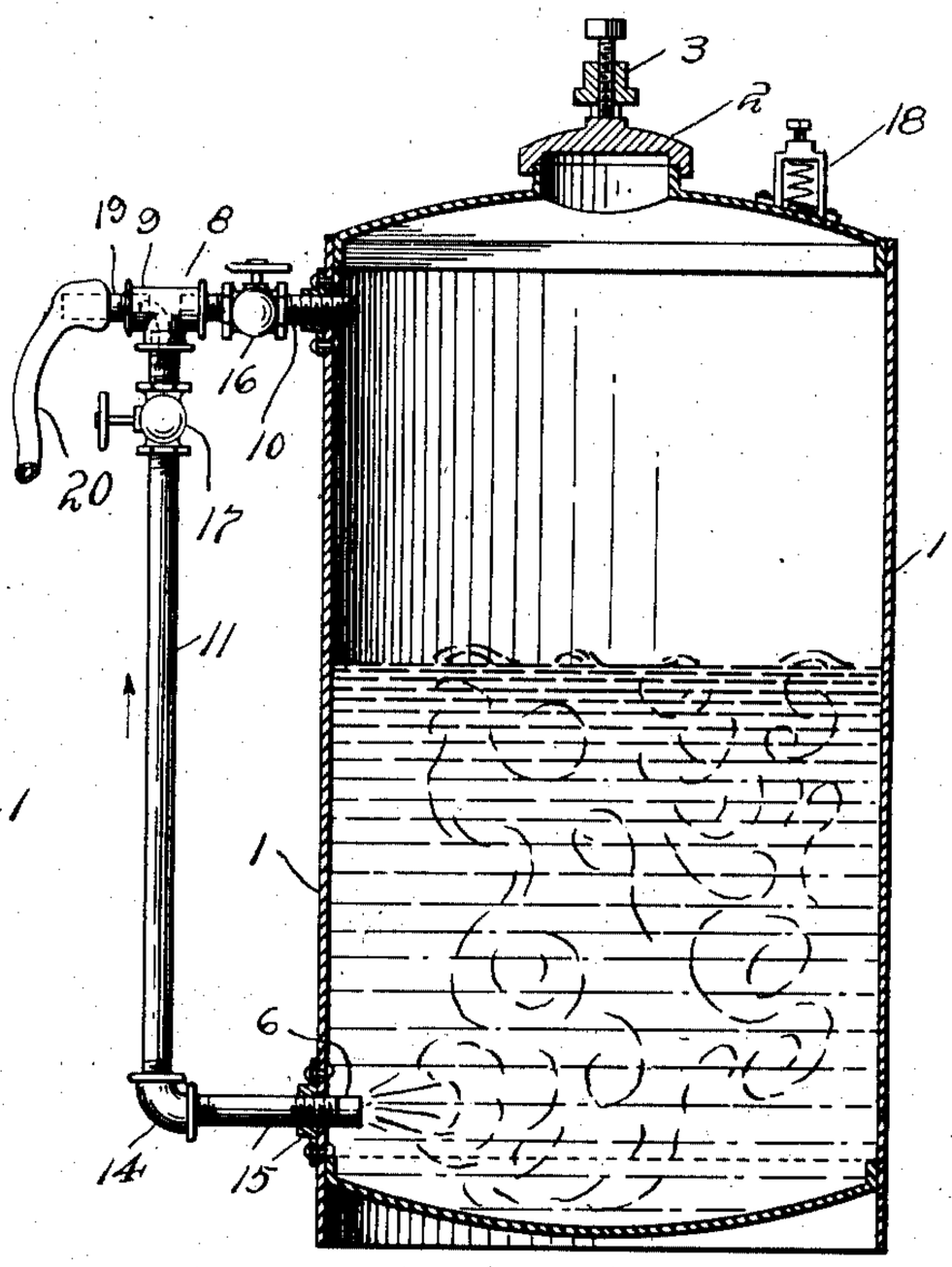

Fig. 3.

WITNESSES:

Walter A. Greenburg

A. M. Dou

INVENTORS

HIRAM E. FORD

FRANK E TAYLOR

BY

ATTORNEYS

UNITED STATES PATENT OFFICE.

HIRAM E. FORD AND FRANK E. TAYLOR, OF DETROIT, MICHIGAN.

PAINTING-MACHINE.

No. 928,374. Specification of Letters Patent. Patented July 20, 1909.

Application filed March 25, 1908. Serial No. 423,111.

To all whom it may concern:

Be it known that we, HIRAM E. FORD and FRANK E. TAYLOR, citizens of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Painting-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to pneumatic paint or spraying machines and especially to a disposition of the parts whereby a body of mixed paint or other liquid to be sprayed is agitated by air under pressure which is further utilized to project a spray of paint at any required point.

The invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a plan view of the apparatus, embodying features of the invention, Fig. 2 is a view in elevation of the apparatus, Fig. 3 is a view in vertical central section, Fig. 4 is a view in section in detail of an atomizing device.

Referring to the drawings, 1 indicates a combined paint reservoir and pressure tank of any suitable material and construction, preferably a cylinder as shown, with filling cover 2 clamped by an arch-screw 3. An air pipe 4 connected to any suitable compressor or other available source of supply extends down from the upper part of the tank above the normal level of its contents and enters the tank near its base through an elbow 5 and suitable fittings 6, its upper end being held in place by a blind coupling 7 or other preferred means.

An atomizer 8 is secured in the tank wall near the top. This preferably consists of a tee 9 horizontally supported by a connecting nipple 10 in the tank wall, with a paint suction pipe 11 inserted in its main branch, and a jet tube 12 of less outer diameter than the interior diameter of the tee secured in the upper end of the suction pipe whose bore is contracted, the discharge end of the tube 13 extending toward the outer arm of the tee concentrically therewith. The suction pipe 11 enters the tank near its base below the normal level of its contents, preferably at the level of the air pipe, through a suitable elbow 14 and fittings 15. A controlling valve 16 of any preferred type is inserted between the atomizers and the tank and a similar supply valve 17 is secured at any convenient point in the paint suction pipe 11 between the atomizer and tank. A pressure relief valve 18 of any standard form is secured in the upper end of the tank, and a nipple 19 on the atomizer affords a suitable connection for a delivery hose 20.

In operation, air is forced into the tank through the air pipe and the liquid paint, which it thus keeps thoroughly stirred and mixed. It then escapes through the atomizer drawing up the paint through the suction pipe and carries along a finely divided paint spray which is ejected from the mouth of the paint hose and any nozzle thereon against the surface to be covered. By this arrangement there are no pipes to be paint clogged as there is no paint passing through the atomizer air connections and no solid stream of paint save in the vertical suction pipe, the paint in the latter falling back to the level of the tank contents when the air is shut off. Thus the paint hose may be thrown down without fear of loss of the tank contents. There is but one pipe line to and from the tank and the construction is simple and cannot be readily injured.

Obviously changes in the details of construction may be made without departing from the spirit of the invention, and we do not limit ourselves to any particular form or arrangement, of parts.

What we claim as our invention is:—

1. A pneumatic paint machine comprising a combined paint reservoir and pressure tank, an atomizer connected with the tank above the level of its contents to receive air under pressure therefrom, a paint suction pipe leading to said atomizer from the tank below the level of its contents, and means for introducing air under pressure to the tank below the level of the tank contents.

2. A pneumatic paint machine consisting of a combined paint reservoir and pressure tank, means for applying air under pressure to the tank below the level of the contents thereof, a paint suction pipe opening into the tank near its lower end, an air pipe leading from the upper part of the tank, and an atomizer consisting of a tube secured to the upper end of the suction pipe and extending into the air pipe through its side, and bent therein in the direction of the flow of the air, the bent end of said tube being of lesser di-

ameter than the internal diameter of the air pipe to form a passage for the air around the tube.

3. A pneumatic paint machine comprising a combined paint reservoir and pressure tank, an outlet pipe for the air in the upper part thereof, an atomizer consisting of a tee connection on the end of the air outlet pipe, a paint suction pipe opening from the lower part of the tank whose upper end is connected to the tee, and a tube of less outer diameter than the inner diameter of the tee, secured in the upper end of the suction pipe with its outlet opening in the direction of the flow of the air into the branch of the tee, and an air pressure pipe discharging into the lower part of the tank.

4. A pneumatic paint machine comprising a combined paint reservoir and pressure tank, an upright air inlet pipe whose upper end is above the normal level of the tank contents and whose lower end discharges into the tank below the normal level of its contents, an atomizer consisting of a horizontally disposed tee, an air outlet pipe from the upper part of the tank connected to the inner end of the tee, a paint suction pipe whose lower end opens from the tank below the normal level of its contents and whose upper end is connected to the lower end of the tee, the bore of said suction pipe being contracted at the upper end and a jet tube secured in said contracted end which tube is of less external diameter than the internal diameter of the tee, and is bent laterally therein and extended concentrically into the free end of the tee, a pressure relief valve for the tank, and controlling valves for the paint and air pipes.

In testimony whereof we affix our signatures in presence of two witnesses.

HIRAM E. FORD.
FRANK E. TAYLOR.

Witnesses:
C. R. STICKNEY,
OTTO F. BARTHEL.