W. L. DEMING.

TANK AND SPRAY PUMP.

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916,920. Patented Mar. 30, 1909.

Fig. 1.

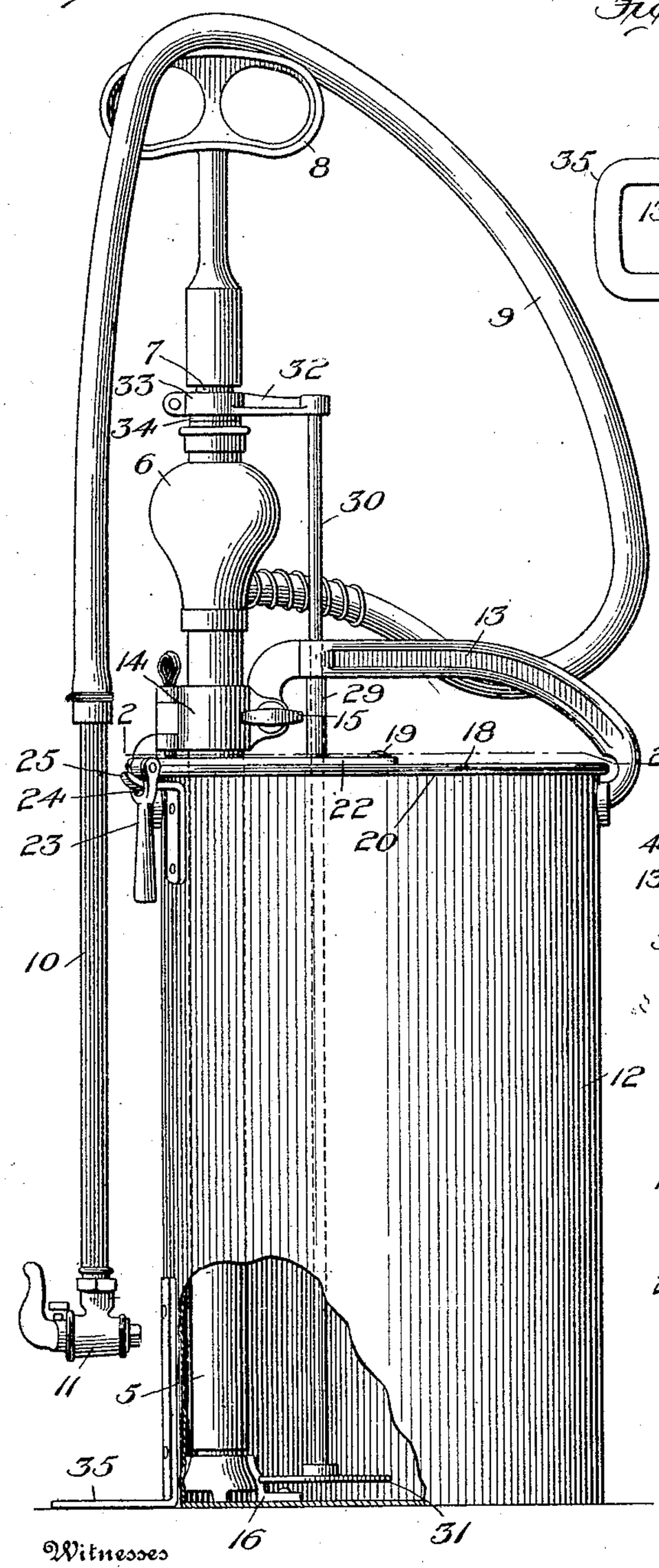

Fig. 2.

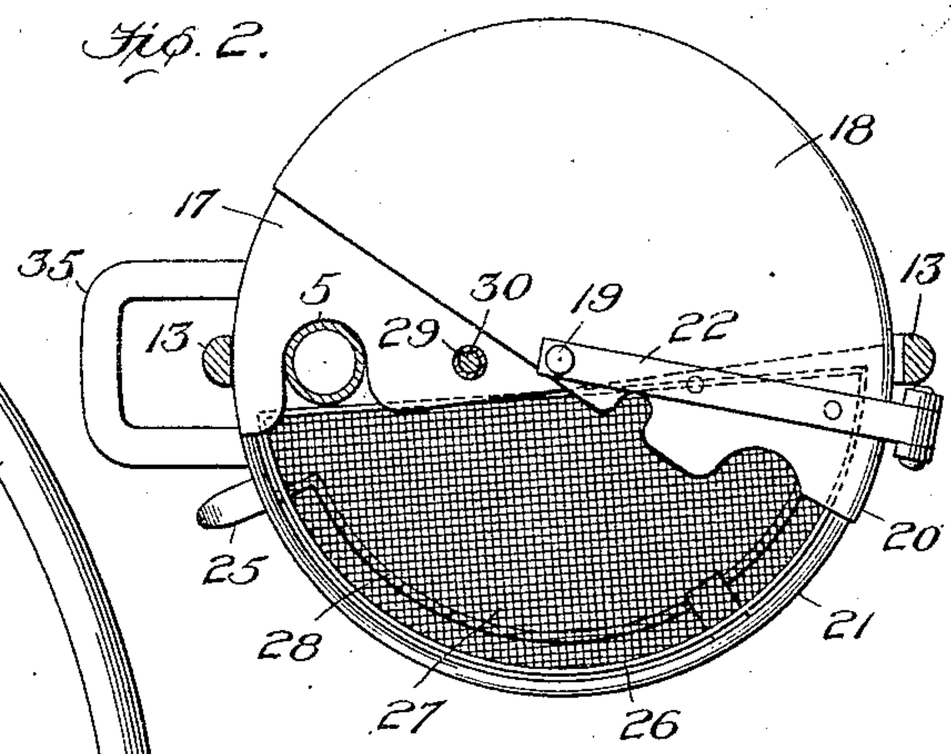

Fig. 3.

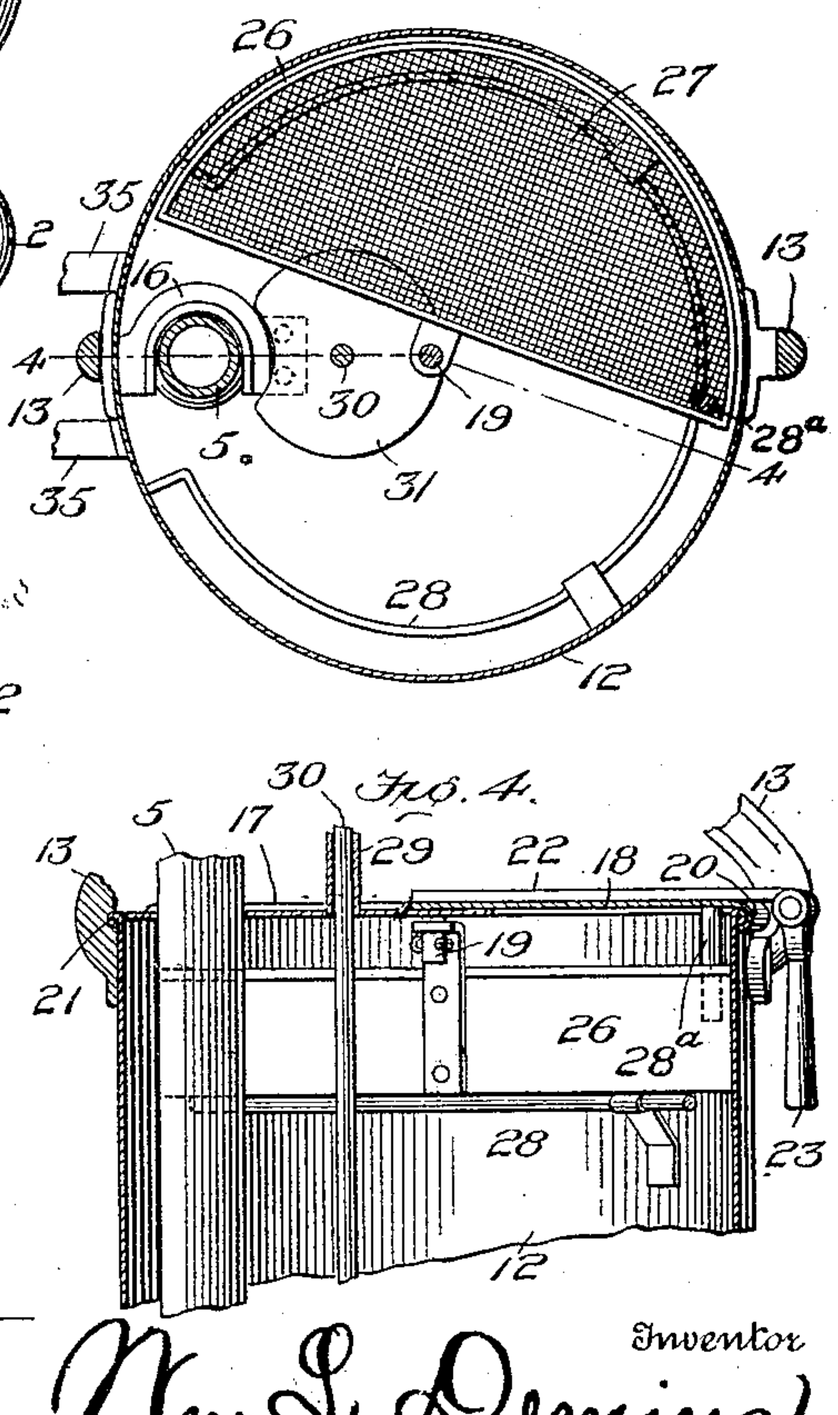

Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

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TANK AND SPRAY PUMP.

No. 916,920. Specification of Letters Patent. Patented March 30, 1909.

Application filed October 26, 1908. Serial No. 459,611.

Be it known that I, WILLIAM L. DEMING, a citizen of the United States, residing at Salem, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Tank and Spray Pumps; 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.

My invention relates to tank and spray pumps, or to portable self-contained apparatus for throwing a stream or spray of water or other liquids by agency of a force pump, and has for its object the production of an apparatus of the class referred to which is at once simple, inexpensive and remarkably efficient in a variety of uses to which it is adapted, including particularly that of applying paint, or whitewash by the spraying process.

The invention will be hereinafter particularly described and pointed out in the claims following.

In the accompanying drawings which form part of this application, and whereon like characters indicate corresponding parts in the several views: Figure 1 is a side elevation of the invention with tank broken away to show agitator and lower end of pump cylinder, Fig. 2 is a horizontal section on the line 2—2 Fig. 1, with the tank cover shown open, Fig. 3 is also a horizontal section through the apparatus, with strainer turned back, and Fig. 4 is a vertical sectional view through upper portion of the apparatus, on the line 4—4, Fig. 3.

Reference being had to the drawings and numerals thereon 5 indicates a pump barrel or cylinder, 6 an air chamber, 7 the plunger-rod, 8 the pump-handle, 9 discharge hose, 10 discharge pipe, and 11 a spraying nozzle all of which may be of any approved construction and material, preference, however, being given to brass as best suited to withstand the chemical action of various liquids with which the pump may at times be used.

As clearly shown by the drawings, the force pump aforesaid, or any pump of the character described, is located within a tank 12 the latter being of any suitable size, shape and material, but preferably of cylindrical form and of sheet brass or copper the better to resist the chemical action of certain solutions and mixtures with which at times it may be supplied. Secured rigidly to the upper edges of tank 12 at points diametrically opposite is a tank-handle or bail 13 by which the entire apparatus and its contents may at all times be conveniently lifted and transported. At one end said tank-handle 13 is provided with a hinged pump-clamp 14 adapted to embrace the pump cylinder 5 and lock it securely to said handle in a vertical operative position by agency of a single flat-head thumb-screw 15, as shown by Fig. 1. At its foot the cylinder 5 rests in a yoke 16, secured to bottom of the tank 12, as shown by Figs. 1 and 2, serving as a step-box; while the top of said tank is closed by a two-part cover comprising the fixed or immovable section 17 and a movable or rotating section 18, the latter pivoted centrally as at 19 upon the former over which it is adapted to slide with its outer curled edge 20 engaging the rolled periphery 21 of the tank body.

Crossing the surface of the rotatable cover section 18 radially is a relatively fixed lever 22, to the outer end of which is pivotally connected a vertically movable latch 23 having an intermediate clearance 24 to engage, when in its lowered position, a latch-keeper 25 projecting from the side of the tank, as shown by Fig. 1. When elevated to a horizontal position, in addition to unlocking and releasing section 18, the handle of latch 23 furnishes a convenient means for rotating said section upon its pivotal connection.

From the same central pivot 19 within the upper portion of tank 12 is pivotally suspended a semi-cylindrical straining tray 26 having a wire-gauze bottom 27, same preferably resting upon, and guided in its rotary movement by, a curved track 28 bracketed to the inner walls of the tank 12, as shown by Figs. 2, 3 and 4, and extending into the tray 26 is a pin 28^a depending from, and consequently movable with, the cover section 18 for the purpose of returning said tray to its normal position, as shown by Fig. 2, each time the cover section 18 is rotated to a closed position. Projecting from and through the relatively fixed cover section 17 and also passing through the tank-handle 13 immediately above, is a sleeve 29 through which passes an agitator rod 30, having upon its lower extremity an agitator 31, by preference located in close proximity to the intake

port of the pump. At its opposite end the said rod 30 is connected to a bracket 32 which bracket in turn is swiveled upon the plunger-rod 7 the pump by agency of a coupling 33 immediately above a collar 34, so that with each stroke of rod 7 and pump handle 8 said agitator-rod 30 is reciprocated.

At the base of tank 12 and preferably at a point adjacent to the foot of the pump cylinder 5, but upon the outside of said tank, is secured a foot rest 35 as a means of steadying the apparatus when in service.

Having thus described my invention, its use and operation may be briefly set forth as follows; presuming for the purpose that the apparatus is to be employed for spraying whitewash. The material to be sprayed having been properly prepared is introduced into tank 12 through screen 27 of tray 26 while occupying the position indicated by Fig. 2; a suitable quantity, of whitewash for example, having been thus strained into tank 12 the operator with one foot upon the rest 35, now proceeds to actuate by hand pump-handle 8 in the manner usual with pumps of this type, directing in the meantime a continuous flow or spray of whitewash from nozzle 11 by way of the discharge pipe 10 held in one hand. This operation may be continued as long as the supply of material continues and occasion requires, and it will be noted that each stroke of the pump plunger-rod 7 results in a corresponding reciprocal movement of the agitator 31 at the very point where agitation of the material is most necessary, namely at the bottom of tank 12 and adjacent to the intake of the pump. It will also be particularly noted that owing to the structural arrangement of the cover or closure for tank 12 there can be no splashing or waste of the spraying material during the process of agitating and spraying as above set forth; and when, for one reason or another, it is desired to open the tank, latch 23 after releasing the cover section 18 assists materially in the operation of rotating same even though partially clogged by deposits of the spraying mixture.

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

1. In an apparatus of the character described the combination with a pump and a supply tank therefor, of a suitable handle secured to said tank, a clamp for maintaining the pump in operative position, and an agitator within said tank operatively connected with the pump plunger and having a reciprocal bearing in the handle aforesaid, substantially as described.

2. In an apparatus of the character described the combination with a pump and a supply tank therefor, of a suitable handle secured to said tank, a clamp upon said handle for maintaining the pump in operative position, and an agitator within said tank operatively connected with the pump plunger and having a reciprocal bearing in the handle aforesaid, substantially as described.

3. In an apparatus of the character described the combination with a pump and a supply tank therefor, of a suitable handle secured to said tank, a clamp upon said handle for maintaining the pump in operative position, a removable tank cover, an agitator, and an agitator-rod operatively connected with the pump plunger-rod and having a reciprocal bearing in the handle aforesaid, substantially as described.

4. In an apparatus of the character described the combination with a pump and a supply tank therefor, of a handle secured above said tank, a pump clamp upon said handle, a step-box for the pump foot within the tank, and an agitator also within the tank operatively connected with the pump plunger-rod, substantially as described.

5. In an apparatus of the character described the combination with a pump and a supply tank therefor, of a handle secured to said tank affording a support for said pump, an agitator, and an agitator-rod reciprocally mounted in said handle and connected with the pump plunger rod above, substantially as described.

6. In an apparatus of the character described the combination with a pump and a supply tank therefor, of a removable tank cover, a handle secured to said tank above its cover affording a support for the pump, an agitator and an agitator-rod the latter connected to the pump plunger-rod, and a tubular bearing for said agitator-rod projecting through the tank cover and handle aforesaid, substantially as described.

7. In an apparatus of the character described the combination with a pump and a supply tank therefor, of a tank-handle, a pump support in said handle, a rotatable cover section for said tank, a locking lever upon said section, and a keeper upon the tank body adapted to receive and retain said locking lever, substantially as described.

8. In an apparatus of the character described the combination with a pump and a supply tank therefor, of a tank-handle, a pump support in said handle, a tank-cover comprising relatively fixed and rotatable sections, a locking lever projecting radially from the latter section, and a keeper upon the tank body adapted to receive and retain said locking lever, substantially as described.

9. In an apparatus of the character described the combination with a pump and a supply tank therefor, of a tank-handle, a detachable pump support in said handle, a tank cover comprising relatively fixed and rotatable sections, a radial locking lever pivotally connected to said rotatable cover section,

and a keeper upon the tank body adapted to receive and retain said locking lever against accidental dislodgment, substantially as described.

10. In an apparatus of the character described the combination with a pump and a supply tank therefor, of a handle crossing diametrically over said tank, a detachable pump-clamp upon said handle, a foot rest also upon said tank, a tank cover comprising relatively fixed and rotatable sections, a radial locking lever pivotally connected to said rotatable cover section, and a keeper upon the tank body to receive and retain said locking lever against accidental displacement, substantially as described.

11. In an apparatus of the character described the combination with a pump and a supply tank therefor, of a tank handle, a pump support in said handle, a tank cover, an agitator, and an agitator-rod operatively connected with the pump plunger-rod and having a double reciprocal bearing in both the handle and cover aforesaid, substantially as described.

12. In an apparatus of the character described the combination with a pump and a supply tank therefor, of a tank handle, a pump support in said handle, an agitator, an agitator rod reciprocally mounted in said handle, and a bracket swiveled upon the pump plunger-rod carrying said agitator-rod, substantially as described.

13. In an apparatus of the character described the combination with a pump and a supply tank therefor, of a rotatable tank-cover, a locking lever projecting radially from said cover, and a keeper upon the tank body adapted to receive and retain said locking lever, substantially as described.

14. In an apparatus of the character described the combination with a pump and a supply tank therefor, of a rotatable tank-cover, a locking lever pivotally connected to the edge of said cover, and a keeper upon the tank body adapted to receive and retain said locking lever, substantially as described.

15. In an apparatus of the character described the combination with a pump and a supply tank therefor, of a tank-cover having a rotatable section, a locking lever pivoted horizontally at the edge of said rotatable cover section, and a keeper upon the tank body adapted to receive and retain said lever in a locked position, substantially as described.

16. In an apparatus of the character described the combination with a pump and a supply tank therefor, of a tank-cover having a rotatable section, a bifurcated actuating and locking lever pivoted horizontally upon the outer edge of said rotatable cover section, and a keeper upon the tank body adapted to receive the bifurcated portion of said actuating and locking lever to retain it in a locked position, substantially as described.

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

WM. L. DEMING.

Witnesses:
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