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H. A. SHELDON.

SPRAY PAINTING OR WHITEWASHING MACHINE.

(Application filed July 26, 1900.)

(No Model.)

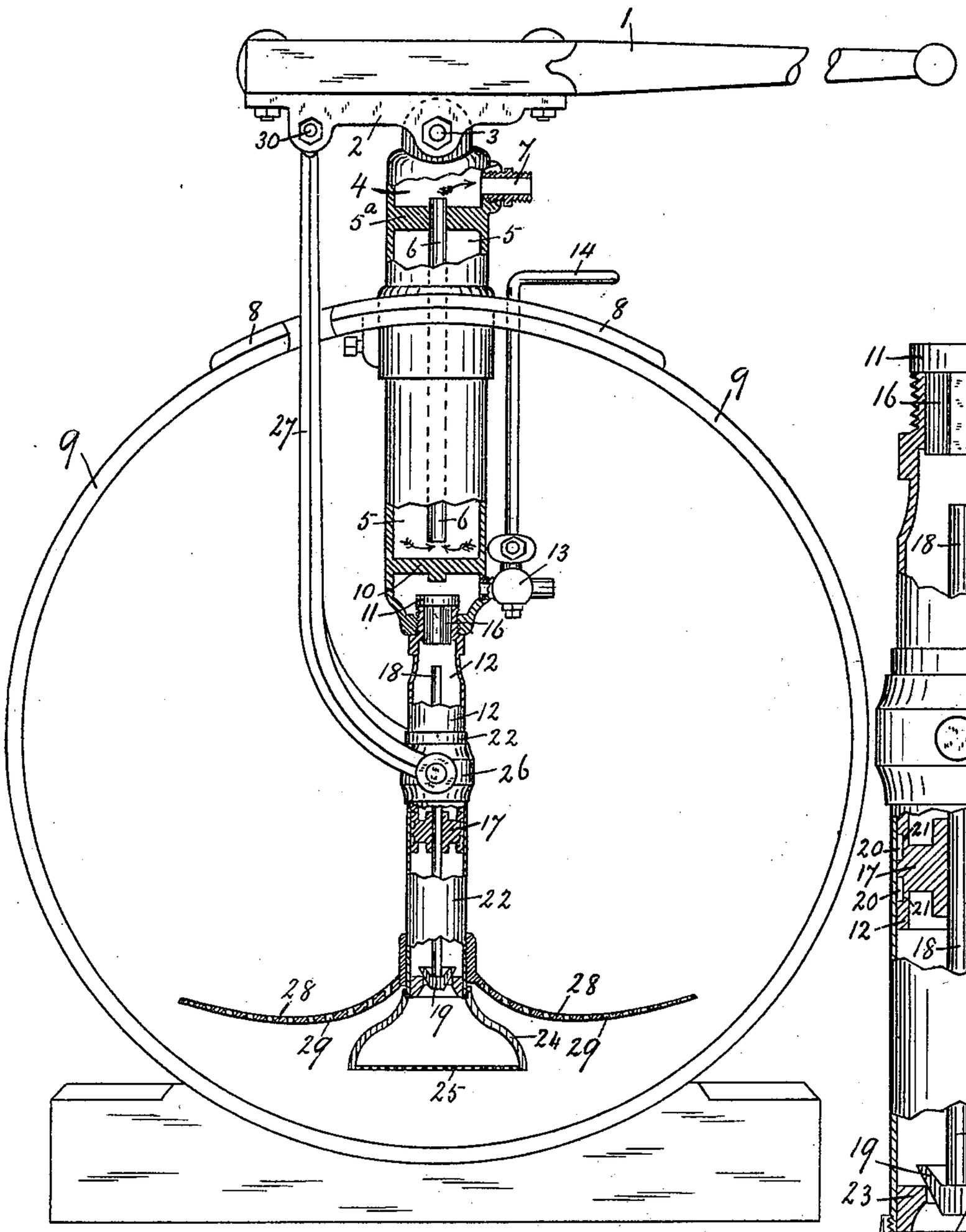

Fig. 1.

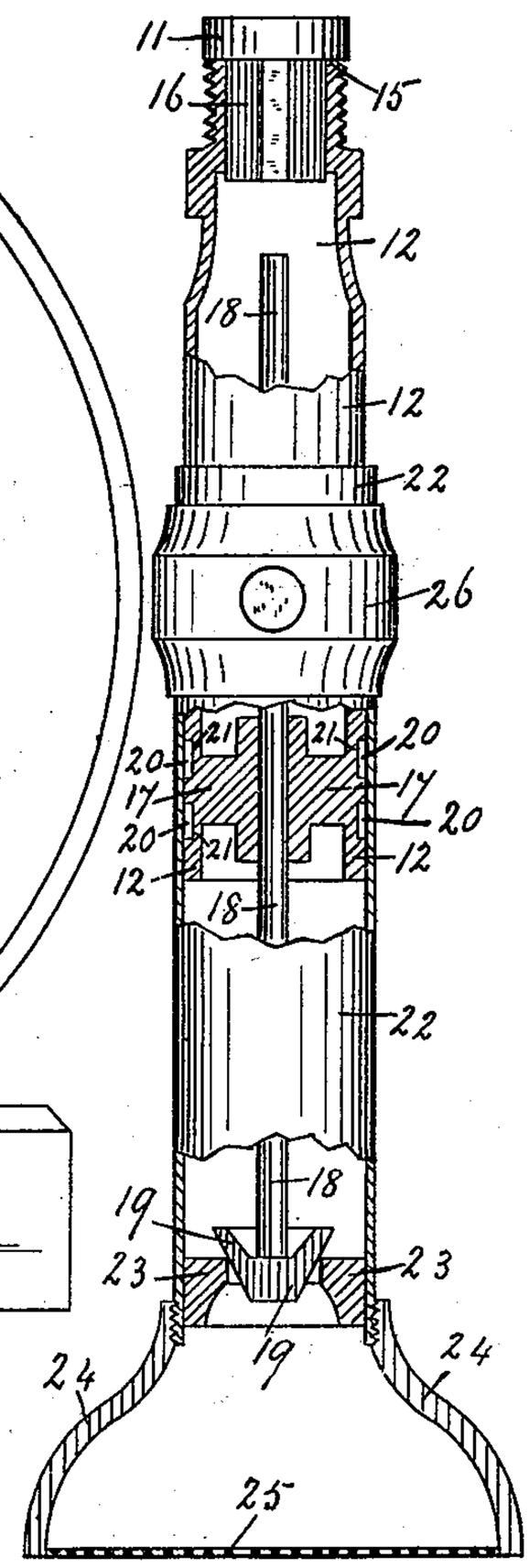

Fig. 2.

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HENRY A. SHELDON, OF AYLMER, CANADA.

SPRAY PAINTING OR WHITEWASHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 667,588, dated February 5, 1901.

Application filed July 26, 1900. Serial No. 24,964. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. SHELDON, a subject of the Queen of Great Britain, and a resident of Aylmer, in the county of Elgin, in the Province of Ontario, Canada, have invented a certain new and useful Spray Painting or Whitewashing Machine, of which the following is a specification.

This invention relates to a device for applying paint, whitewash, or other material by spraying a solution thereof on the object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view, partly in section, of a device embodying my invention. In this view the end of the barrel or reservoir in which the solution is contained is removed. Fig. 2 is an enlarged detail side view, partly in section, of the cylinder and plunger.

In the accompanying drawings the numeral 1 designates the handle, and 2 the handle-lever, which is secured to the handle 1 and which is also pivotally secured to the upper end of the machine by the bolt 3.

4 designates the outlet-chamber; 5, an air-chamber; 5ª, a partition separating said air-chamber from said outlet-chamber; 6, a pipe or tube for conducting the solution from said air-chamber to said outlet-chamber, and 7 a coupling by which the hose is attached to the machine and connected with the outlet-chamber 4.

8 designates a yoke which secures the machine to the barrel 9 or other receptacle in connection with which it is used.

10 designates a stop or cross-bar in the lower end of the air-chamber 5 to regulate the movement of the check-valve 11 and to prevent the latter from lifting out of the plunger 12, and 13 designates an agitating and waste cock with which the lower end of the air-chamber 5 is provided, which cock is opened and closed by the handle 14, the latter permitting the opening or closing thereof from the outside of the barrel or other receptacle to drain the machine after use or to agitate the solution in the barrel by a small stream of the solution from the air-chamber when the machine is in operation.

12 designates a hollow plunger, the upper end 15 of which forms a seat and the interior portion near the upper end a guide for the ribbed stem 16 of the check-valve 11, and 17 designates a guiding cross-bar in the plunger 12, through which the stem 18 of the valve 19 passes.

20 designates a metallic spring ring-packing inserted in the grooves 21 in the lower end of the plunger 12, between the latter and the cylinder 22.

23 designates a valve-seat formed in the lower end of the cylinder 22, and 24 is a bell-shaped casting secured to the lower end of the cylinder 22 for holding the strainer 25, the object of the latter being to prevent dirt or unmixed particles entering said cylinder.

26 designates a collar secured to the cylinder 22, to which the forked bail 27 is pivotally secured, the other end of said bail being pivotally secured to the handle-lever 2 by the bolt 30.

28 designates an agitator provided with perforations 29 and secured to the lower end of the cylinder 22.

The operation is as follows: After filling the barrel 9 with the paint, whitewash, or other solution to the height desired the hand end of the handle 1 is grasped and lowered, whereby the bail end is raised, as well as the bail 27, cylinder 22, and agitator 28, and as the cylinder 22 is raised the valve 19 is closed on the valve-seat 23, and this valve 19 is raised with said cylinder and is guided and securely held on said seat by the stem 18, extending through the guiding cross-bar 17 in the plunger. As the cylinder 22 is raised the solution therein opens the check-valve 11, the movement of which is regulated by the stop cross-bar 10, which permits said solution to pass into the air-chamber 5, and after sufficient has accumulated therein said solution passes through the tube 6 into the outlet-chamber 4 and from the latter through the coupling 7 to the hose secured thereto, (not shown,) which conducts the solution to any point or object desired. On raising the hand end of the handle 1 the bail end is lowered. This lowers the bail 27, cylinder 22, and agitator 28, and as said cylinder descends in the solution in the barrel 9 said solution raises the valve 19 from the seat 23 and the solution passes through the strainer 25 and enters the cylinder 22, passes the guide-bar 17, extending across the plunger, and flows up into the

latter, and as the hand end of the handle is lowered again the operation hereinbefore described takes place.

The object of separating the air-chamber from the outlet-chamber and providing a tube connection between the two, one end of which tube extends almost to the inlet end of the air-chamber, is to compress the air in said air-chamber, so that when the cylinder stops for its return movement this air will expand and continue the flow of the solution during the interval of inaction. Consequently a continuous and even flow of the solution is maintained.

By slightly opening the agitating or waste cock 13 while the device is in operation a small stream of the solution is directed into the main body of the latter in the barrel for the purpose of agitating said solution, and by completely opening said waste-cock 13 the machine may be drained out after using.

In ordinary practice fibrous packing of various kinds is generally used between the cylinder and plunger; but this fibrous packing absorbs and retains the gritty particles of the different solutions, which in a short time wears the cylinder to such an extent that frequent repacking of the plunger is required, all of which is avoided and completely prevented by the use of my metallic spring ring-packing herein shown and described.

As the cylinder 22 is raised and lowered the agitator 28 is vibrated in the solution, which keeps the solution thoroughly and evenly mixed and of a uniform consistency, and this action is further supplemented by the solution passing through the perforations 29 in said agitator 28.

The plunger 12 is stationary, being rigidly secured to the air-chamber 5, and the latter is rigidly secured to the barrel 9 by the yoke 8, and the cylinder 22 being fitted to the exterior face of the plunger 12 as the handle 1 is operated the cylinder 22 is reciprocated lengthwise on and works over said plunger 12, thus holding all the parts firmly while in operation.

As a result a machine is produced by which the solution will be thoroughly and evenly agitated and mixed, one which will be easy of operation and of great capacity, and one of simplicity of construction and great durability.

Having thus described my invention, I claim—

In a device of the character described, the combination with a tubular plunger having a valve at its upper end, a guiding cross-bar within its lower end, and metallic packing-rings surrounding said lower end; of a cylinder surrounding and longitudinally movable upon said plunger and extending below the same, a valve-seat at the lower end of the cylinder, a valve resting on this seat and having a stem extending through said guide, and means for reciprocating the plunger and cylinder with respect to each other, all as and for the purpose set forth.

In testimony whereof I have signed my name in the presence of the two undersigned witnesses.

HENRY A. SHELDON.

Witnesses:
P. J. EDMUNDS,
V. H. DOUGLAS.