No. 734,319. PATENTED JULY 21, 1903.

J. GRAHN.

PAINTING MACHINE.

APPLICATION FILED JULY 15, 1902.

NO MODEL.

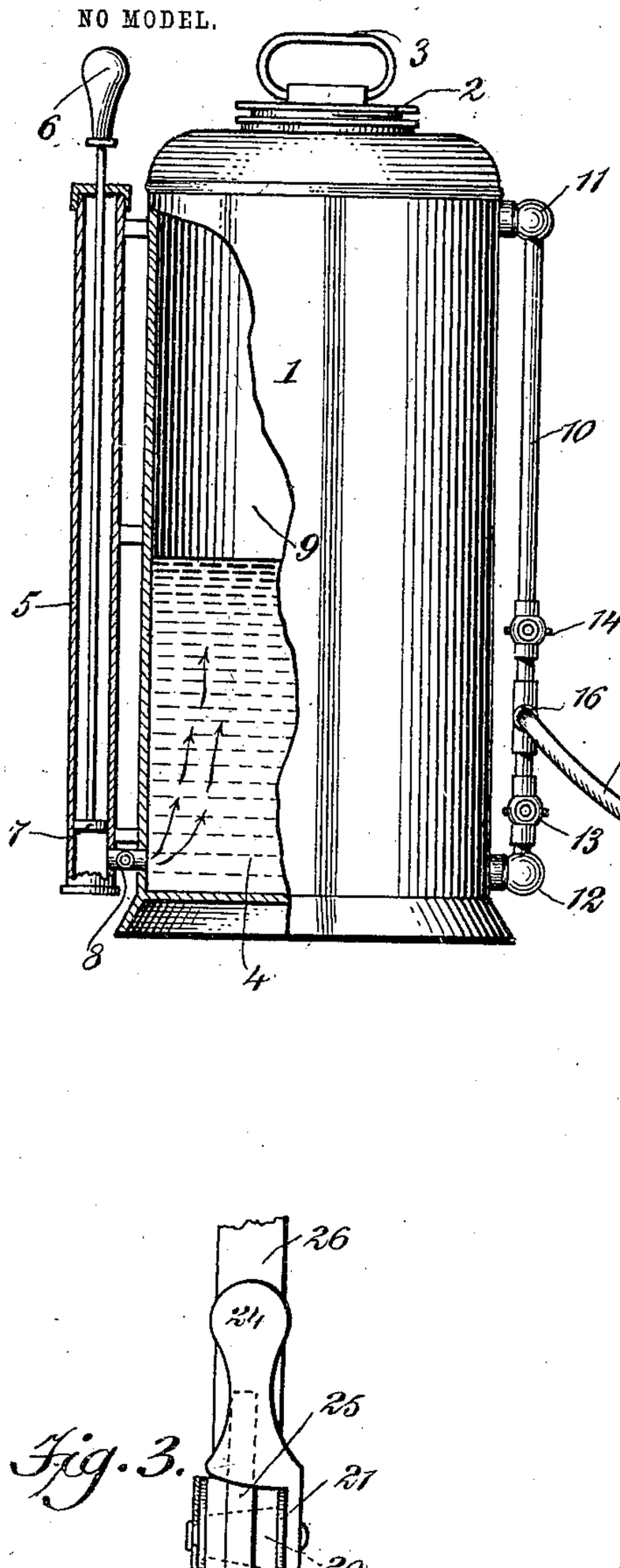


Fig. 1.

Fig. 3.

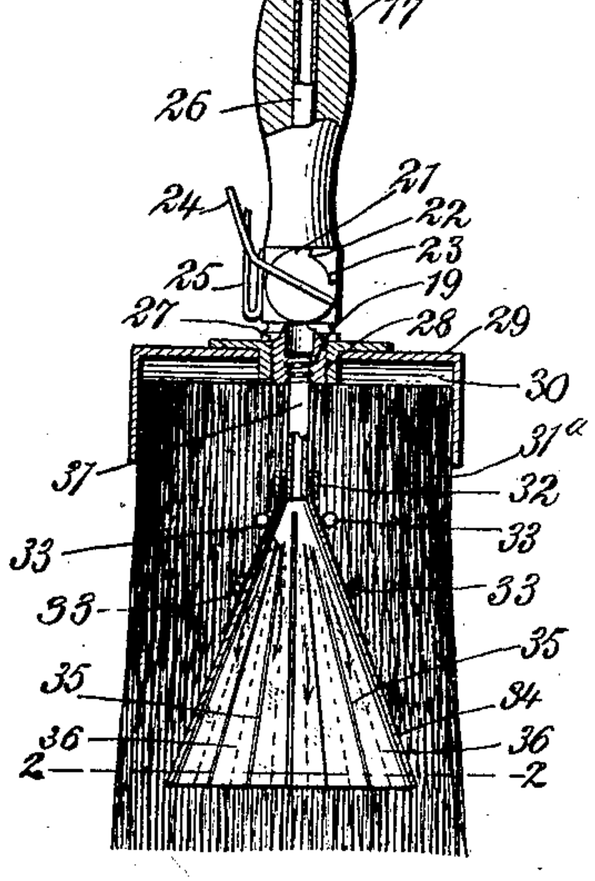
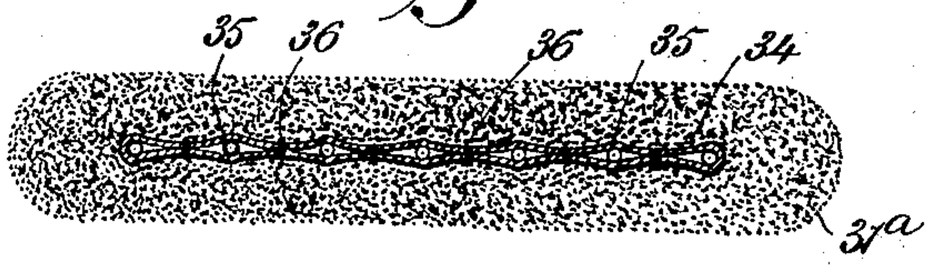


Fig. 2.



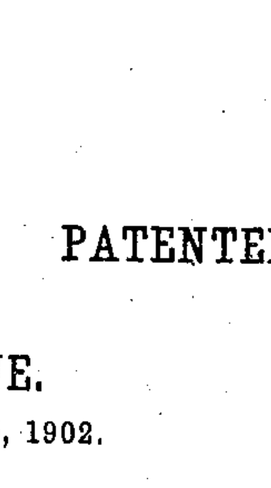


Fig. 5.

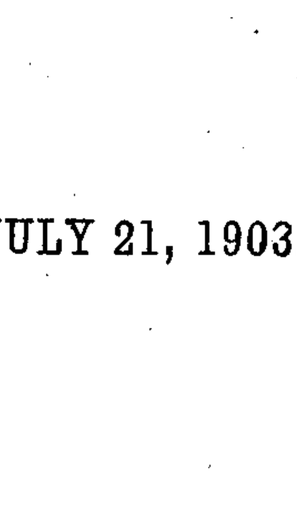


Fig. 6.

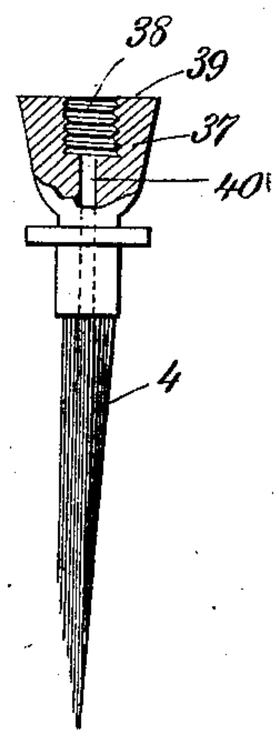


Fig. 7.

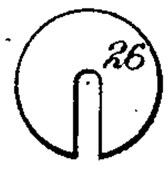


Fig. 4.

WITNESSES:

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No. 734,319. Patented July 21, 1903.

UNITED STATES PATENT OFFICE.

JOHN GRAHN, OF MADISON, WISCONSIN.

PAINTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 734,319, dated July 21, 1903.

Application filed July 15, 1902. Serial No. 115,615. (No model.)

To all whom it may concern:

Be it known that I, JOHN GRAHN, a citizen of the United States, and a resident of Madison, in the county of Dane and State of Wisconsin, have invented new and useful Improvements in Painting-Machines, of which the following is a full, clear, and exact description.

My invention relates to painting-machines, more particularly of the type used by hand and employing interchangeable paint-brushes used for divers purposes.

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 figures.

Figure 1 is an elevation, partly in section, showing my device in use. Fig. 2 is an inverted plan or bottom view of the end of one of the brushes preferably used for whitewashing. Fig. 3 is a fragmentary elevation showing the manually-controlled valve for governing the flow of the painting fluid. Fig. 4 is a plan view of a spring-washer used upon the valve, and Figs. 5, 6, and 7 show different forms of interchangeable nozzles used with different kinds of brushes.

A cylindrical vessel 1, preferably of seamless metal, is provided with a closure member 2 and a handle 3, which may be used for carrying the vessel or for suspending the same from the shoulder, as desired. The painting fluid 4 is stored within the vessel and is propelled therefrom by air-pressure. For this purpose an air-pump 5, provided with a manually-operated handle 6 and piston 7, is mounted in the position shown in Fig. 1 and is connected with the cylindrical chamber 1 by means of a valved passage 8. Above the fluid 4 is a space 9, into which air is forced by means of the air-pump, as indicated by the arrows. A vertical tube 10 is mounted upon the cylinder 1 and is in communication therewith at the junctions 11 12. This tube is provided with hand-valves 13 14, between which the flexible tube 15 is secured upon the nipple 16. This tube is also secured, by means of the lock-nuts 18, upon the handle 17. The handle 17 is provided with a vertical stem 19 and with a conical revoluble valve 20, this valve being provided with a disk-like portion 21, rigidly connected thereto, and provided with an arc-shaped slot 22, the ends of which engage the pin 23, thereby limiting the motions of the valve. A thumb-piece 24 is rigidly connected with the disk 21 and with the valve 20 for the purpose of actuating the valve. A leaf-spring 25 is mounted securely upon the handle 17 and normally presses the thumb-piece 24 outward, as indicated in Figs. 1 and 3. Within the handle and in communication with the valve-tube 15 is a rigid tube 26, made, preferably, of metal. The outer end of the handle 17 terminates in a shoulder 27, as indicated more particularly in Figs. 1 and 3. The threaded stem 19, together with the shoulder 27, constitute a very efficient means for holding brushes of different kinds. When a brush of the type shown in the lower portion of Fig. 1 is employed, a flanged sleeve 28 is screwed upon the threaded stem 19 until its upper surface engages the shoulder 27. As this sleeve constitutes a part of this brush, it is clear that the brush may be readily attached and detached by means of the sleeve and that any number of brushes, each provided with a sleeve or substitute therefor, may be readily rendered interchangeable. The sleeve 28 is connected with a cap 29, this cap containing a wooden base-plate 30, in which the bristles of the brush 31^a are mounted in the usual manner.

A tube 31 is threaded and screwed into the threaded stem 19. This tube is by means of an annular band 32 connected with a part which I call a "distributer," which consists of a fine canvas web 34, made double, as indicated in Fig. 2, between the folds of which are placed cords 35, the webs being sewed together along the lines 36, so as to retain the cords in position in such manner as to enable the painting fluid to flow freely from the tube 31 and between the webs 34 to the bristles. The canvas web may be secured in position by means of spring-wires 33, which serve to keep the web spread out, preferably in the shape of a fan, as indicated in the lower part of Fig. 1.

When it is desired to remove the brush just described and to substitute another brush, the threaded sleeve 28 and the tube 31 are unscrewed from the handle, and a nipple 37 (shown more particularly in Fig. 7) is screwed over the threaded stem 19. This nipple is

provided with a thread 38 and with a shoulder 39. When this nipple is used, the fluid flows downward through a channel 40 in the nipple to the bristles 41. The type of brush shown in Fig. 7 is known among painters as a "dagger-striper."

The brush shown in Fig. 6 is provided with a nipple 42, threaded internally at 43 and provided with a shoulder 44 and a channel 45. The bristles 46 are continually saturated with fluid flowing through the channel 45, which is of course governed by the adjustment of the valve 20 in the handle 17. The nipple 47 (shown in Fig. 5) is likewise threaded internally at 48 and provided with a shoulder 49. It differs from the nipples shown in Figs. 6 and 7, however, in that it is provided with a conical tube 50, provided with a thread 51 for the purpose of securing the same to small bristles of different kinds.

The general operation of my device is as follows: Air being pumped into the reservoir 1 by means of the air-pump, the valve 13 is opened to any desired extent and the painting fluid is forced through the flexible tube 15, handle 17, and web 34 out into the bristles of the brush adjacent to their free ends. The brush is held by the handle 17 and may be employed in doing overhead work or may be used as almost any other paint-brush. The time and work of dipping the brush into a bucket is thus avoided. While using the brush the operative can keep his thumb upon the thumb-piece 24 and thereby regulate the flow of the painting fluid with great precision. If he desires a liberal and constant flow, he can press the lever or thumb-piece 24 either with the forefinger or thumb, thus allowing the maximum discharge of fluid to take place into the brush. When his painting is finished, he closes the valve 13 and opens the valve 14, whereupon the compressed air in the top of the vessel 1 flows out through the tube, handle, and brush and discharges all paint therefrom.

The closure member 2 is provided with a thread which screws into the mouth of the cylindrical vessel, the folding handle 3 being employed for screwing and unscrewing the closure member.

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

1. In a painting-machine, the combination of a brush provided with bristles and a pair of webs of flexible material disposed amid said bristles for discharging a painting fluid thereto, and means for connecting said flexible web with a source for supplying paint.

2. In a painting-machine, the combination of a brush provided with bristles, webs of flexible material disposed amid said bristles, a plurality of ribs disposed between said webs for the purpose of spacing the same apart, and means for connecting said web with a supply of paint.

3. A painting-machine comprising a brush provided with bristles, a pair of substantially fan-shaped webs of absorbent material disposed amid said bristles, a plurality of flexible ribs radially disposed between said webs for the purpose of spacing the same apart, said webs being secured together along radial lines disposed between said ribs, and means controllable at will for supplying a painting fluid between said webs.

4. A painting-machine, comprising a vessel for holding a liquid paint, and also for holding compressed air, a tubular member mounted upon said vessel and connected with respective portions thereof, so as to communicate with said paint and with said compressed air, a flexible member connected with said tubular member, and a brush mounted upon said flexible member and provided with means for discharging said paint.

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

JOHN GRAHN.

Witnesses:
JAS. S. MORRISON,
EDWARD FESS.