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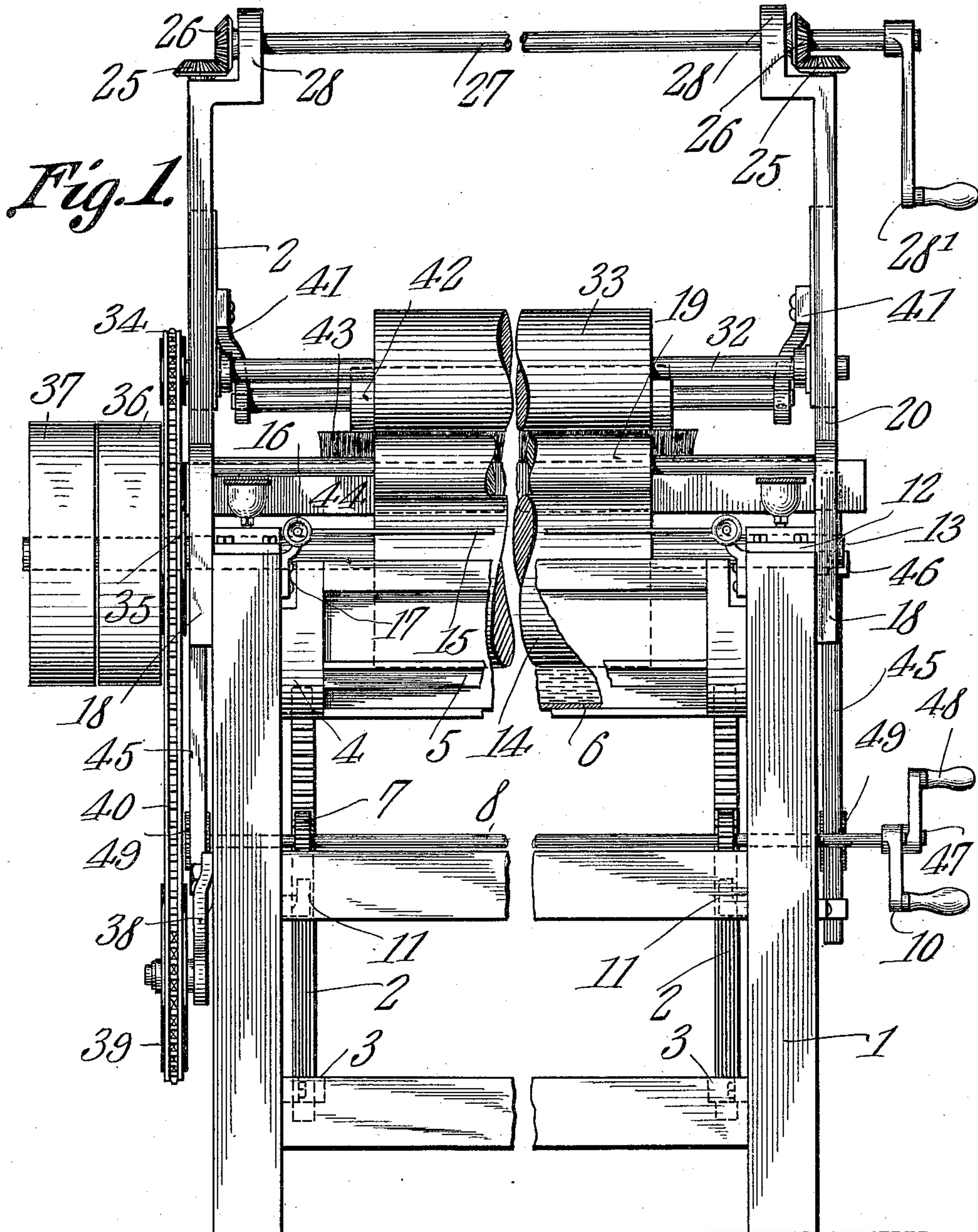
PAINTING MACHINE.

APPLICATION FILED FEB. 8, 1910.

Patented Apr. 25, 1911.

2 SHEETS—SHEET 1.

990,436.



Witnesses

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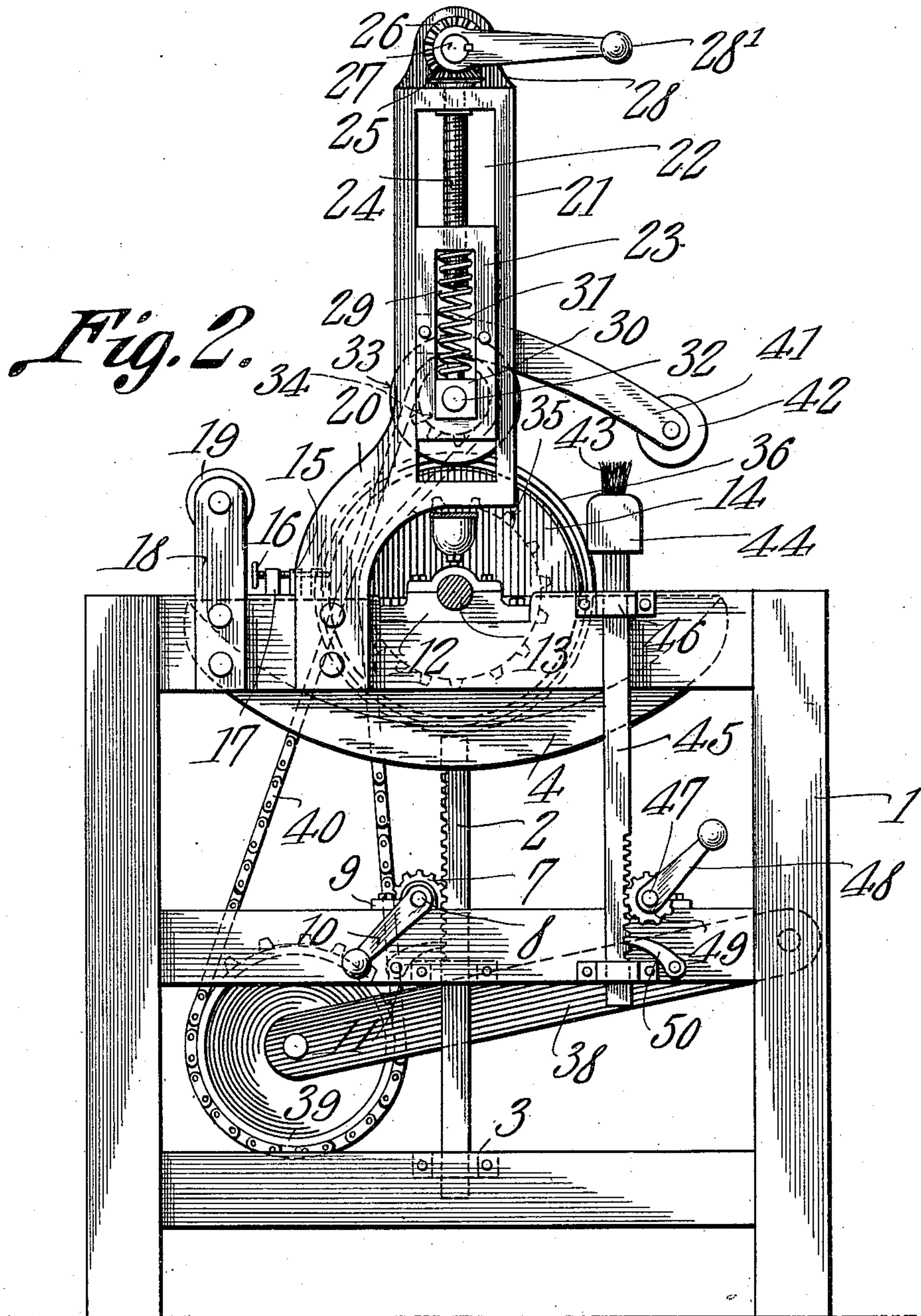
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UNITED STATES PATENT OFFICE.

JULIUS W. HARRIS AND JAMES R. WELCH, OF HIGH POINT, NORTH CAROLINA.

PAINTING-MACHINE.

990,436.

Specification of Letters Patent.

Patented Apr. 25, 1911.

Application filed February 8, 1910. Serial No. 542,672.

To all whom it may concern:

Be it known that we, JULIUS W. HARRIS and JAMES R. WELCH, citizens of the United States, residing at High Point, in the county of Guilford and State of North Carolina, have invented a new and useful Painting-Machine, of which the following is a specification.

This invention has reference to improvements in painting machines and its object is to provide a machine for the expeditious application of paints to plane surfaces, an operator having merely to introduce the article to be painted into the machine and receive the same from the machine with the paint applied evenly to the surface designed to receive the paint.

In accordance with the present invention there is provided a feed roller co-acting with a paint applying roller to receive and actuate the article to be painted through the machine, and in the path of the article after receiving the paint there is provided a brush which serves to evenly distribute the paint over the surface to be painted and to receive any surplus paint to be directed by the brush again to the reservoir or tank of paint.

The invention will be best understood from a consideration of the following detail description taken in connection with the accompanying drawings forming a part of this specification, in which drawings,

Figure 1 is an end elevation of the painting machine, parts being shown in section and the figure being centrally broken. Fig. 2 is a side elevation of the machine.

Referring to the drawings, there is shown a suitable supporting frame 1 which may be made of wood or metal and is designed to support the several instrumentalities constituting the machine. Within the frame work, near each end of the machine, is a rack bar 2 capable of vertical movement in suitable guides 3 and at the upper ends the rack bars carry a cradle made up of curved end members 4 and longitudinal connecting bars 5 receiving a tank or receptacle 6 constituting a reservoir for the paint. The rack bars 2 are each engaged by a pinion 7 on a shaft 8 traversing the frame 1 and mounted in suitable journal bearings 9, one end of the shaft being provided with a crank 10 by means of which the shaft may be rotated at will to elevate or depress the cradle carrying the paint reservoir 6. A pawl 11 in operative relation to each rack bar 2

serves to hold the paint reservoir in any position of vertical adjustment.

The top members of the ends of the main frame 1 carry journal bearings 12 for a shaft 13 extending longitudinally of the paint reservoir 6 above the same. The shaft 13 carries a roller or drum 14 the surface of which may be covered with some absorbent material such as felt. In order to regulate the amount of paint which may be carried by the roller 14, the bottom portion of which dips into the paint in the reservoir 6, there is provided a blade 15, longitudinal of the roller and supported at the ends by adjusting screws 16 and brackets 17, the blade 15 acting in the nature of a wiper or gate preventing more than a predetermined quantity of paint from being carried by the roller toward the point of application.

At the feed end of the machine there are erected standards 18 on the end members of the frame 1 and journaled in these standards is a supporting roller 19, the top of which is in the same horizontal plane as the top of the paint applying roller 14.

Erected on the frame work of the machine adjacent to the bearings 12 are brackets 20 terminating in frames 21 each having a longitudinal slot 22 extending vertically above the shaft 13. In each frame 21 is a slide 23 capable of being moved along the frame 21 by a screw 24 journaled in the upper end of the frame 21 and at the lower end engaging a suitable nut formed in the frame 23. At the upper end each screw 24 is provided with a bevel pinion 25 in mesh with a bevel pinion 26 on the corresponding end of a shaft 27 journaled adjacent to the pinion 26 in brackets 28 formed on the upper ends of the frames 21. At one end the shaft 27 is provided with a manipulating crank 28¹ and the parts are so arranged that upon turning the shaft 27 by means of the crank 28¹, the screws 24 will be simultaneously turned in the same direction either elevating or lowering the frames 23 simultaneously to the same extent depending upon the direction of rotation of the shaft 27 by means of the crank 28¹.

The frame 23 is provided with a longitudinal slot 29 in which there is lodged a bearing block 30 urged constantly toward the lower end of the slot 29 by a spring 31 housed within the frame 23 and engaging at one end the upper wall of the slot 29 and at the lower end the respective bearing

block 30. Extending between and journaled in the blocks 30 is a shaft 32 having a roller 33 in operative relation to the roller 14 and beyond one of the bearing blocks 30 the shaft 5 32 carries a sprocket wheel 34.

Shaft 13 beyond the frame 1 carries a sprocket wheel 35 and tight and loose pulleys 36 and 37.

Mounted at one end of the frame 1 is an 10 arm 38 pivoted at one end to the frame and at the other end carrying a sprocket wheel 39. Extending around the sprocket wheel 34 and the sprocket wheel 39 is a sprocket chain 40 one run of which may engage the 15 sprocket wheel 35 on the shaft 13, while the other run of this chain passes directly between the two sprocket wheels 34 and 39.

Carried by each frame 23 is an arm 41 extending from the frame 23 in a direction 20 away from the roller 19 and at the ends of the arms 41 there are formed journal bearings for a presser roller 42.

Adjacent to the roller 42 in parallel relation thereto is a brush 43 as long as or 25 longer than the rollers 14 and 33 and at each end the brush is supported by a block 44 on the upper end of a rack bar 45 moving in guide brackets 46. Traversing the frame 1 is a shaft 47 provided at one end beyond 30 frame with a crank handle 48 and this shaft 47 carries in operative relation to the rack bars 45 pinions 49 and each rack bar 45 is provided with a back-stop pawl 50.

Let it be assumed that a suitable quantity of paint is contained within the reservoir 6 and that the roller 14 dips into said paint. Now on the application of power to the pulley 36 the shaft 13 is caused to rotate in a direction to bring the paint carrying 40 surface of the roller 14 in engagement with the blade or scraper 15 and beyond this point the roller 14 only carries such paint as has not been removed by the scraper 15. If now 45 a board or other plane surface article be moved onto the supporting roller 19 and then advanced until it is engaged between the rollers 14 and 33, it will enter between these rollers because of the yield of the springs 31 and be gripped and sent forward 50 by these rollers both of which may be power driven, one directly by the shaft 13 and the other by the sprocket chain 40 which passes over the sprocket wheel 34 on the shaft 32. The article to be painted is pressed against 55 the roller 14, the degree of pressure being regulated by suitably adjusting the frames 23 by means of the screws 24, and paint is deposited by the roller 14 upon the surface to be painted. The article then advances to 60 the brush 43 and beneath the presser roller 42 the under surface of which latter is in the same plane as the like portion of the roller 33. The brush 43 may be so adjusted by rotating the shaft 47 as to have its brush- 65 ing surface engage the painted surface of

the article with any desired degree of force, the brush serving to distribute the paint evenly over the surface of the article and to remove any surplus paint which will fall 70 over the body of the brush and ultimately gravitate into the reservoir 6 over which the brush is located. The presser roller 42 maintains its relation to the roller 33 since both are carried by the frame 23, but the roller 33 may yield to the passage of the 75 article to be painted because of the springs 31, while this yielding of the feed roller 33 will not interfere with the relation of the presser roller 42 to the brush 43 to thereby maintain the pressure of the article against 80 the brush 43 established by the adjustment of the racks 45. Since the feed roller 33 will yield to forces sufficient to compress the springs 31 and also since the roller 33 may be adjusted by the screws 24, the sprocket 85 wheel 39 is provided and this sprocket wheel is hung on the free end of the gravity arm 38 so as to readily yield to changing positions of the roller 33 without interfering with the driving action of the sprocket 90 chain 40.

The machine constituting the subject matter of the present invention is characterized by extreme simplicity of construction and has proven in practice to be very efficient in 95 operation, the machine doing as much work in a given time as numerous painters applying the paint by hand, and furthermore the work is more uniform.

What is claimed is:—

1. In a painting machine, a paint reservoir, a paint carrying roller dipping into said reservoir, a feed roller directly above the paint-carrying roller, bearing blocks in which the shafts of said feed roller are journaled, frames having upright slots in which said blocks are mounted, springs in the slots above the blocks, means for adjusting the frames vertically, a presser roller carried by and adjustable with said frames, and beneath this roller a distributing brush for the painted side of the article. 100
2. In a painting machine, a paint reservoir, a paint carrying roller dipping into said reservoir, a feed roller for the article 105 to be painted in operative relation to the paint carrying roller on the side thereof remote from the paint reservoir, journal supports for the feed roller, adjusting members for said journal supports, a paint brush in the path of the painted side of said article, a presser roller carried by the adjustable members carrying the feed roller and in operative relation to the brush, and means for adjusting the position of the brush. 110 115 120 125
3. In a painting machine, a paint reservoir, means for adjusting it vertically, a paint-carrying roller dipping into said reservoir and mounted in fixed bearings, a supporting roller mounted in fixed bearings in advance 130

of said paint-carrying roller and rising to the same height, a wiper contacting with the ascending side of said paint-roller, a brush at the opposite side of said paint roller from
5 said supporting roller, and means for adjusting the position of the brush vertically; combined with a feed roller disposed directly above said paint roller and its trunnions mounted in bearing blocks, a presser roller
10 disposed above said brush to contact with the unpainted side of the article being painted and at a point beyond said brush, a support for said last-named roller and blocks, means for adjusting the support vertically, and springs holding said blocks normally depressed within said support. 15

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

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Witnesses:

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JAMES B. ROUNTREE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
