

(No Model.)

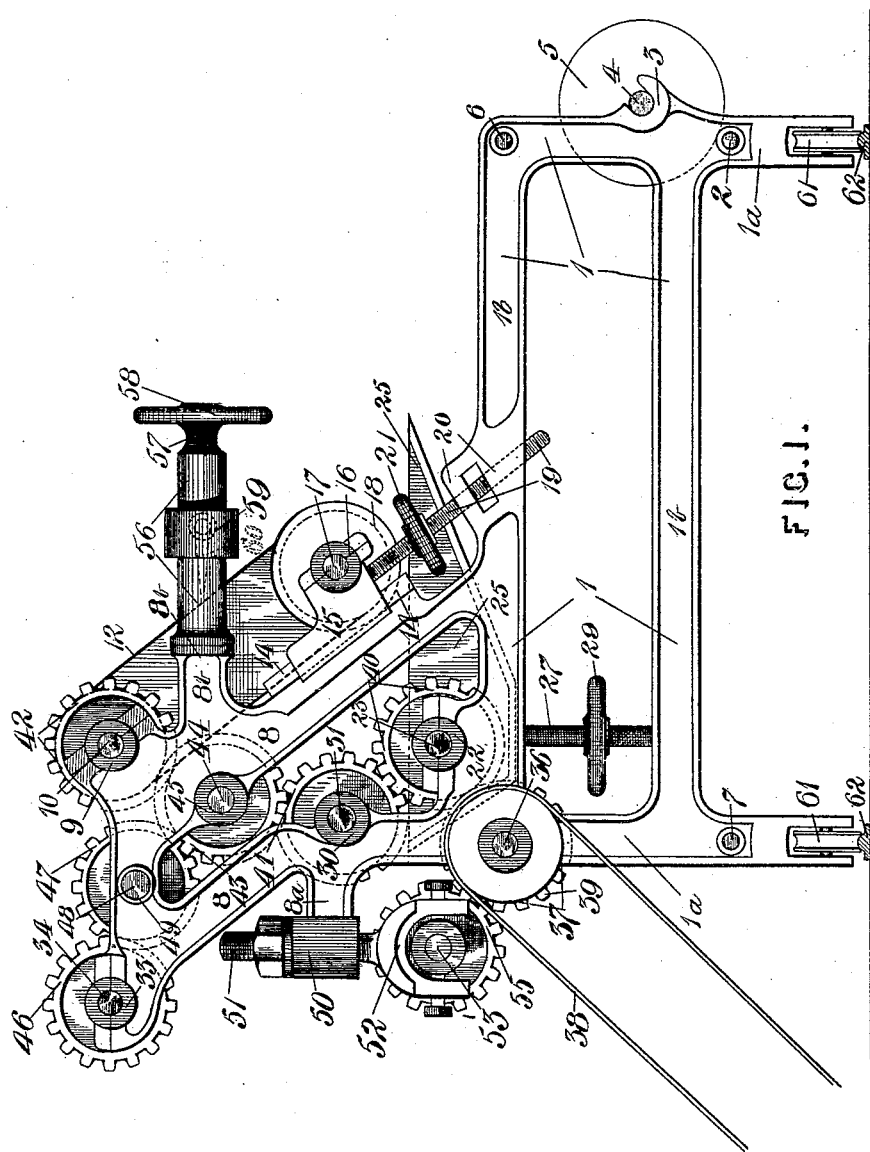
3 Sheets—Sheet 1.

E. ARMITAGE.

MACHINE FOR PAINTING FABRIC MATERIALS.

No. 493,463.

Patented Mar. 14, 1893.



Witnesses,
C. C. Lowrie.
L. H. Goulds.

Inventor,
Edwin Armitage
by Charles H. Riches
his attorney

(No Model.)

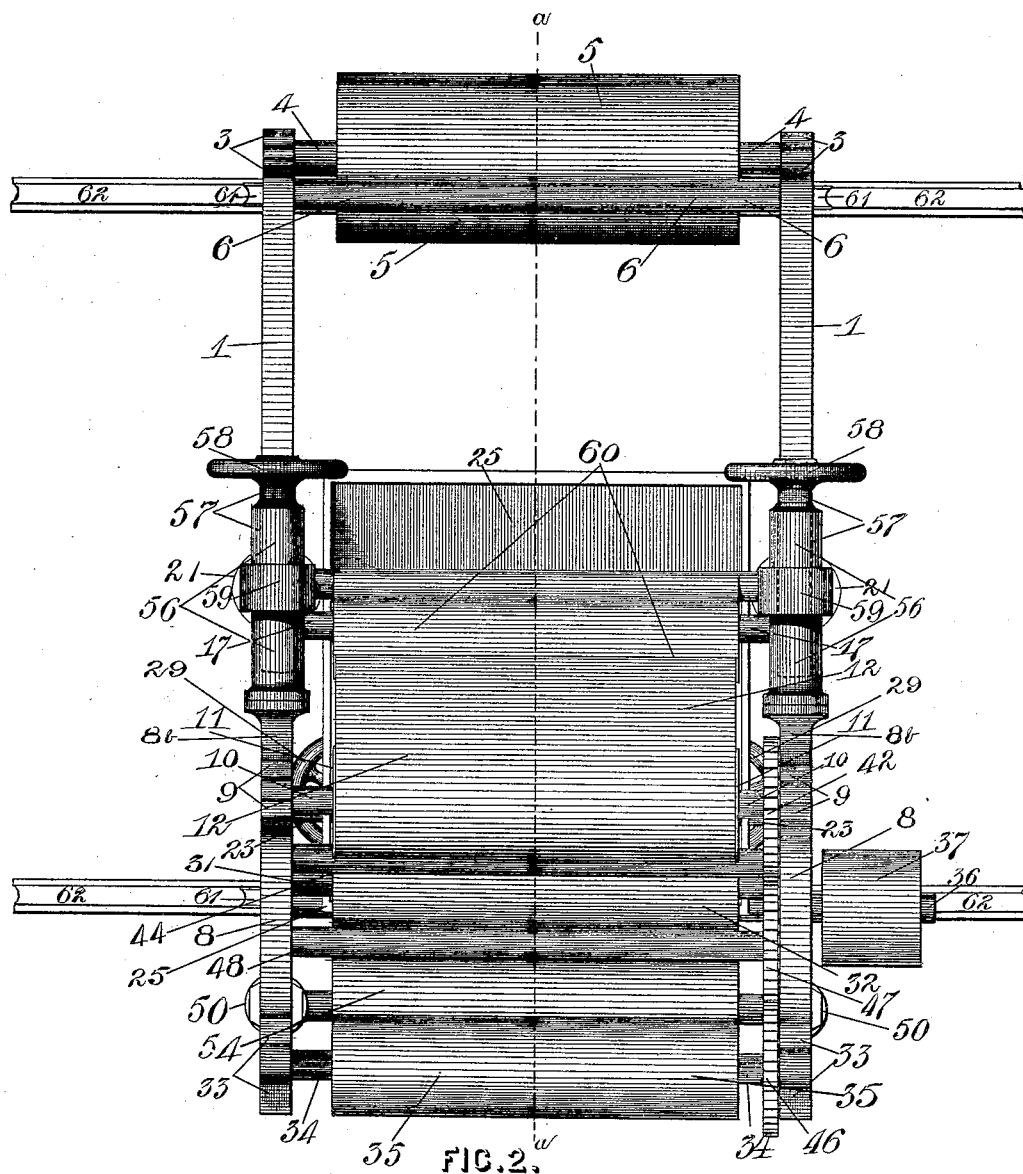
3 Sheets—Sheet 2.

E. ARMITAGE.

MACHINE FOR PAINTING FABRIC MATERIALS.

No. 493,463.

Patented Mar. 14, 1893.



Witnesses,
C. L. Lawrie.
L. Houlds

Inventor,
Edwin Armitage
by Charles H. Riches
his attorney

(No Model.)

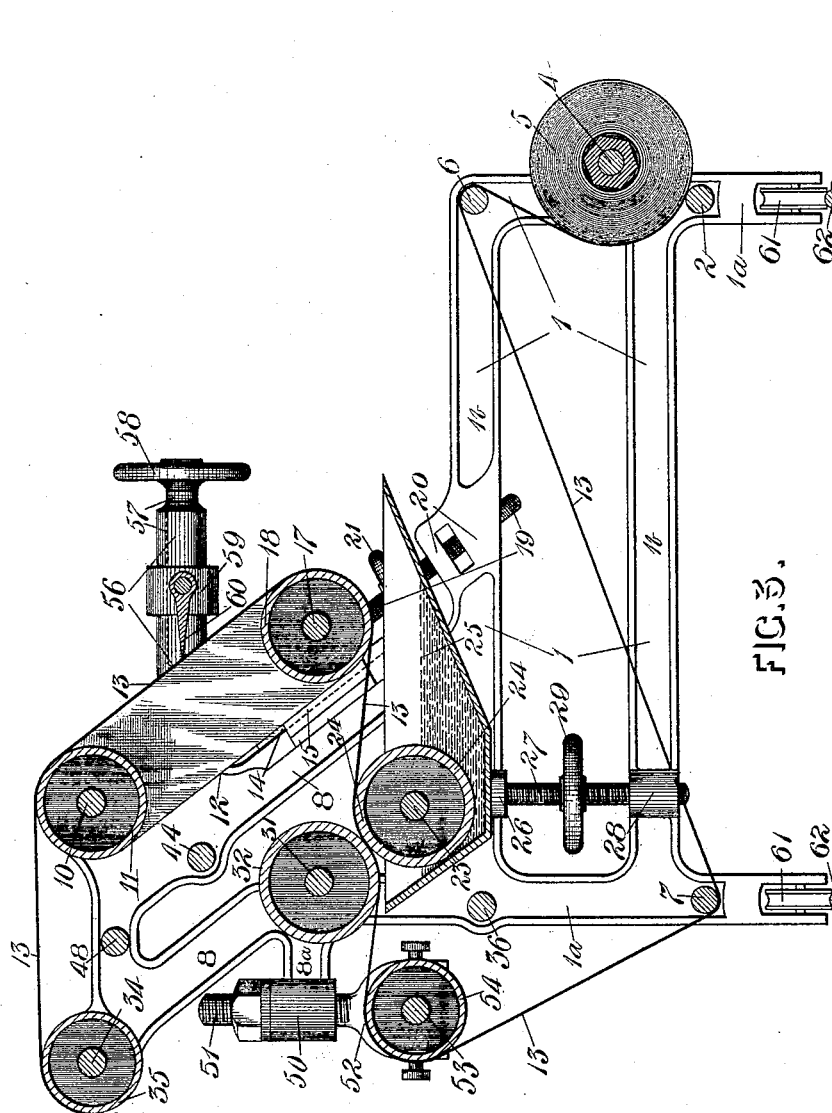
3 Sheets—Sheet 3.

E. ARMITAGE.

MACHINE FOR PAINTING FABRIC MATERIALS.

No. 493,463.

Patented Mar. 14, 1893.



Witnesses,
C. L. Lawrie
L. Fields.

Inventor,
Edwin Armitage
by Charles H. Rieker
his attorney

UNITED STATES PATENT OFFICE.

EDWIN ARMITAGE, OF NEWARK, NEW JERSEY, ASSIGNOR TO JOHN L. ARMITAGE, OF SAME PLACE.

MACHINE FOR PAINTING FABRIC MATERIALS.

SPECIFICATION forming part of Letters Patent No. 493,463, dated March 14, 1893.

Application filed October 1, 1892. Serial No. 447,497. (No model.)

To all whom it may concern:

Be it known that I, EDWIN ARMITAGE, manufacturer, of the city of Newark, in the county of Essex, in the State of New Jersey, have invented certain new and useful Improvements in Machines for Painting Fabric Materials; and I hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to a machine for painting fabric materials, such as, window-shade cloth, book binders' cloth and goods of a like description; and the object of the invention is to construct a machine so that the material to be painted can be automatically stretched and fed to the painting mechanism, and which during its passage through the painting mechanism will receive a coat of paint evenly distributed over its surface, and the invention consists essentially of the device hereinafter more fully set forth and more particularly pointed out in the claims.

In the drawings:—Figure 1 is a side elevation of the machine. Fig. 2 is a plan view looking at it from the top. Fig. 3 is a cross sectional view on the lines *a—*a** Fig. 2.

Like numerals of reference refer to like parts throughout the specification and drawings.

The machine consists essentially of two side frames 1, each comprising two legs 1^a and two side bars 1^b connecting together the said legs. Rigidly connecting together the side frames 1 is a series of bolt rods 2 of sufficient size and strength to give the required rigidity to the frame of the machine. Formed in the front end of each of the side frames 1 is a hooked bearing 3 to receive the spindle 4 of the web roll 5. The hooked bearings 3 are located at about the middle of the height of the side frames 1 and formed in the upper front corner of the side frames 1 is a bearing to receive the spindle of the tension roll 6. Formed in the lower corner of the rear end of the side frames 1 is a bearing to receive the spindle of a second tension roll 7. Projecting upwardly from each of the side frames 1 is an extension 8 of the frame of the machine. Formed in the upper front corner of each of the extensions 8 is a bearing 9 for the spindle 10 of a roll 11 over which passes a continuous rubber jacket 12 serving as a traversing table

for the material 13. Formed at the lower front part of each of the extensions 8 is a guide 14 and upon each of these guides 14 slides a guide block 15. Formed in each of the guide blocks 15 is a bearing 16 for the ends of the spindles 17 of the roller 18. The continuous rubber jacket 12 passes over the rollers 11 and 18 and is caused to travel by the rotation of the said rollers. Connected to each of the guide blocks 15 is one end of a screw 19, while the other end of each of the said screws 19 passes through a screw threaded collar 20 forming part of each of the upper side bars 1^b. Each of the screws 19 is provided with a wheel 21 for the purpose of screwing the screw 19 into the collar 20. By screwing the screw 19 into or out of the collar 20 the guide block 15 is moved along the guide 14 and the roller 18 is moved respectively farther from or nearer to the roll 11 thus stretching the rubber jacket 12 or allowing the rubber jacket 12 to become slack.

Formed in the lower part of each extension 8 to the rear of the rubber jacket 12 and at a plane slightly below the top of the upper side bar 1^b is a bearing 22 for the spindle 23 of the paint distributing roll 24 which revolves within the color box 25. The color box 25 is supported by two adjustable steps 26 each comprising a screw threaded standard 27 passing through a screw threaded collar 28 forming part of the side bars 1^b. Each of the screw threaded standards 27 is provided with a wheel 29 by means of which they are screwed up and down through the screw threaded collar 28 to raise or lower the color box 25. The bottom of the color box 25 as shown in the drawings is on an inclined plane to enable the color to run down into that portion of the box in which revolves the distributing roll 24.

Formed in each of the extensions 8 and nearly vertically above the distributing roll 24 is a bearing 30 for the spindle 31 of the platen roll 32. At the upper rear end of each of the extensions 8 is formed a bearing 33 for the spindle 34 of the roll 35. Journaled in the lower rear corner of the left hand of the side frames 1 is the spindle 36 of the drive roll 37 to which motion is supplied by means of the belt 38. Rigidly mounted upon the

spindle 36 is a gear-wheel 39 which meshes with the gear wheel 40 rigidly mounted upon the spindle 23 of the distributing roll 24 and transmits motion from the spindle 36 to the spindle 23 during the revolution of the drive roll 37. The gear wheel 40 meshes with the gear wheel 41 rigidly mounted on the spindle 31 of the platen roll 32 and motion is transmitted to the spindle 31 from the spindle 23 by means of the gear-wheels 40 and 41 meshing with each other.

Rigidly mounted on the spindle 10 of the drive roll 11 is a gear wheel 42 and located between the gear wheel 41 and 42 is a gear wheel 43 which meshes with the said gear wheels 41 and 42 and is rigidly mounted on a spindle 44 journaled in bearings 45 formed in the left hand extension 8. Mounted upon the spindle 34 of the rolls 35 is a gear wheel 46 and located intermediate the gear wheel 43 and gear wheel 46 is a gear wheel 47 mounted upon a spindle 48 journaled in bearings 49 formed in the left hand extension 8.

Projecting from the rear end of each of the extensions 8 is an arm 8^a to the end of which is secured a screw threaded collar 50. Passing through the screw threaded collar 50 is the screw threaded stem 51 of a hanger 52 supporting the spindles 53 of the roll 54. Mounted upon the spindle 53 of the roll 54 is a gear wheel 55 which meshes with the gear wheel 39 on the spindle 36.

The object of mounting the roll 54 in the hanger 52 vertically adjustable is to enable the operator to raise the gear wheel 55 out of mesh with the gear wheel 39 in order that the traverse of the paper over the roll 54 will drive the said roll and an additional tension will be given to the paper before passing over the color roll and then again when the material is of such a nature that it will not be possible to submit the material to such a heavy tension the roll and hanger can be lowered until the gear wheel 55 meshes with the gear wheel 39 and the roll 54 will receive and transmit a forward motion to the material.

Projecting from the middle portion of the front of each of the extensions 8 is an arm 8^b which is located intermediate the rolls 11 and 18. Connected to the front end of each of the arms 8^b is a screw threaded collar 56 and entering the screw threaded collar 56 is a screw 57 fitted on its outer end with a wheel 58. Surrounding each of the screws 57 and moving horizontally therewith is a sleeve 59 which carries a finishing knife or scraper 60. By means of the screws 57 and sleeve 59 the finishing knife or scraper 60 is moved toward or away from the jacket 12 and the pressure of the knife or scraper 60 upon the material 13 passing over the rubber jacket 12 is adjusted to suit the operator in charge of the machine.

The material 13 passes from the web roll 5 around the tension roll 6 at the upper front part of the frame 1 then around the tension

roll 7 on the lower rear end of the frame 1 from which it passes to and around the roll 54 supported by the hanger 52. The material passes from the roll 54 to and between the distributing roll 24 and the platen roll 32. During the passage of the material between the rolls 24 and 32 it receives a coat of color on its under side from the distributing roll 24 and then passes from the distributing roll 24 to and over the rubber jacket 12. During the passage of the material 13 across the point of the knife or scraper 60 the superfluous paint is scraped off and the color is evenly distributed over the surface of the material. The material passes up the jacket 12 to its top then over the roll 11 and from the roll 11 to the roll 35 in the upper rear end of the extension 8.

The various parts of the machine are driven by motion transmitted from the spindle 36 of the drive roll 37 as follows:—Motion is transmitted to the drive pulley 37 by the belt 38 which in turn transmits motion to the spindle 36 and gear wheel 39. The gear wheel 39 meshing with the gear wheel 40 transmits motion to the gear wheel 40 and spindle 23 and distributing roll 24 which paints the material and drives it forward toward the rubber jacket 12. The gear wheel 40 meshing with the gear wheel 41 mounted on the spindle 31 of the platen roll 32 transmits motion to the said spindle 31 and platen roll 32. The gear wheel 41 meshing with the gear wheel 43 transmits motion to the said gear wheel which in turn meshes with the gear wheel 42 and transmits motion to the said gear wheel 42, spindle 10 and roll 11 and causes the said roll to revolve and cause a revolution of the rubber jacket 12 which in turn lifts the material along said jacket and raises it to the top of the roll 11. The gear wheel 43 meshing with the gear wheel 47 transmits motion to the said gear wheel 47 which in turn transmits motion to the gear wheel 46 and causes the revolution of the spindle 34 and roll 35 in the upper rear end of the extension 8. The material passes from the roll 11 to the roll 35 and is conducted from thence to the driers. To render the machine movable I provide it with grooved wheels 61 mounted upon axles forming part of the lower extremity of each of the legs 1^a, which wheels travel along suitable rails 62 secured to the floor.

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

1. The combination of the frame 1, the web roll 5 the color box 25, the screw threaded standards 27 for vertically adjusting the color box, the distributing roll 24, the platen roll 32, the traversing jacket 12 the rolls 18 and 11, the screw 19 for moving the roll 18 to or away from the roll 11, the finishing knife 60 arranged at one side of the traversing jacket 12, means for moving the finishing knife to or away from the said jacket and means for

imparting a rotary motion to the rolls 24, 32, 18, and 11, substantially as and for the purpose described.

2. The combination of the frame 1, the web roll 5, the color box 25, the screw threaded standards 27 for vertically adjusting the color box, the distributing roll 24, the platen roll 32, the traversing jacket 12, the rolls 18 and 11, the screw 19 for moving the roll 18 to or away from the roll 11, the finishing knife 60 arranged at one side of the traversing jacket 12, means for moving the finishing knife respectively to or away from the jacket, the vertically adjustable roll 54 and the roll 35 and means for imparting motion to the rolls 24, 32, 18, 11, 54, and 35, substantially as and for the purpose described.

3. In a painting machine the combination of the frame 1, the web roll 5, the tension rolls 6, 7, and 54 the vertically adjustable hanger

52, the color box 25, the distributing roll 24, the platen roll 32, the traversing jacket 12, the roll 11 mounted in the top portion of the frame 1, the roll 18 mounted in guide blocks 15 sliding on guides 14, the screws 19 passing through screw threaded collars 20 formed in the frame 1 and adapted to move the guide blocks 15 on said guides in order that the roll 18 can be moved to or away from the roll 11, the finishing knife 60 arranged at one side of the traversing jacket 12, means for moving the finishing knife respectively to or away from the traversing jacket 12, the roll 35 and means for imparting motion to the machine, substantially as described.

Newark, New Jersey, August 30, 1892.

EDWIN ARMITAGE.

In presence of—

BENJ. P. HOLMES,
P. FARLEY.