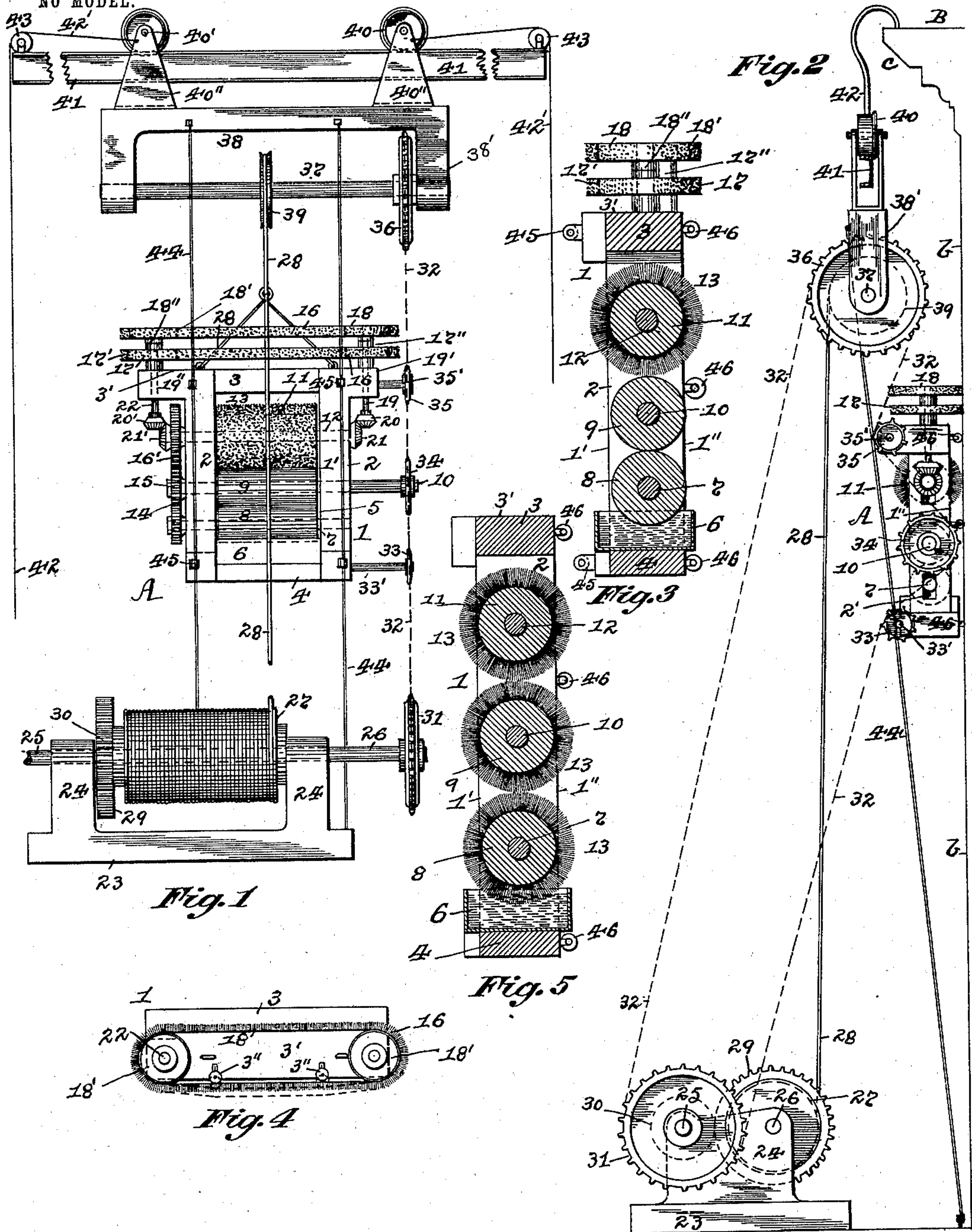


No. 750,307.

PATENTED JAN. 26, 1904.

G. RUSSELL.
PAINTING MACHINE.
APPLICATION FILED JUNE 19, 1903.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE RUSSELL, OF McKEESPORT, PENNSYLVANIA, ASSIGNOR TO
McKEESPORT PLATE COMPANY, OF McKEESPORT, PENNSYLVANIA,
A FIRM.

PAINTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 750,307, dated January 26, 1904.

Application filed June 19, 1903. Serial No. 162,243. (No model.)

To all whom it may concern:

Be it known that I, GEORGE RUSSELL, a resident of McKeesport, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Painting-Machines; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to painting-machines, and has special reference to devices for mechanically painting the walls of buildings, dwellings, &c.

The object of my invention is to provide a cheap, simple, and effective device which can be hung or suspended from a building or wall for painting the same in a rapid and convenient manner, as well as one which is portable, so that it can be applied and removed easily and quickly to and from such building or wall when desired.

To enable others skilled in the art to which my invention appertains to construct and use my improved painting-machine, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a side view of my improved painting-machine, showing the same applied to a building and in position for operating upon the wall thereof. Fig. 2 is a front or face view of the machine. Fig. 3 is a vertical central section through the main frame carrying the operating devices. Fig. 4 is a top view of the main frame and parts thereon. Fig. 5 is a detail view showing another form of the machine.

Like symbols of reference herein indicate like parts in each of the figures of the drawings.

As illustrated in the drawings, A is the device or machine, of which 1 represents the main frame, which is formed of the side portions 2, top portion 3, and bottom portion 4, while between these portions is the central opening 5, and within this opening is located the receptacle or tank 6 for the paint, which is supported by the bottom portion 4. Mounted upon a shaft 7, journaled within the side portions 2 and within the central opening 5,

is the flexible roller 8, which is adapted to have its lower end pass through the tank 6 and such roller 8 being adjustable within slots 2' in said side portions 2 through the medium of the shaft 7 therein. Extending above said roller 8, within the opening 5 and in contact with said rollers, another flexible roller 9 is mounted upon a shaft 10, journaled in the said side portions 2, while above this roller 9, within the opening 5, is the roller 11, which is mounted upon a shaft 12, journaled and adjustable in said side portions 2 and is provided with the circular brush 13 therein for coming in contact with the flexible roller 9. The shafts 7 and 10 are connected together by means of the pinions 14 and 15, respectively mounted thereon, and the shafts 10 and 12 are connected together by means of the gear-wheel 16', mounted on the shaft 12, meshing with the pinion 15 on the shaft 10.

Mounted on the top face 3' of the main frame 1 are the horizontally-moving endless belts 17 and 18, which are adapted to pass around wheels 17' and 18', respectively, and are provided with the brushes 16 thereon. The belt 17 is placed in line with and above the belt 18, and such belts are separated or spaced apart, so as to be free to operate by the collars 17'' and 18'' on said wheels 17' and 18', respectively, while idle rollers 3'' are adjustably journaled in the top face 3' of the main frame 1 on one side and at each end thereof, so as to engage the belts 17 and 18 and press the same out of alinement to allow the brushes 16 to engage the wall 7 for the spreading of the paint thereon. The belt 17 is operated in one direction by means of a shaft 19, which is connected at one end to one of the wheels 17' and is journaled in a lug 19', extending out from the main frame 1, while its opposite end is provided with a bevel-pinion 20 thereon, which meshes with a bevel-pinion 21, mounted on the shaft 12. The belt 18 is operated in the opposite direction from the belt 17 by means of a shaft 22, which is connected at one end to one of the wheels 18' and passes loosely through the wheel 17' opposite to said wheel 18', so as to be journaled in a lug 19'', extending out from

said main frame 1 opposite the lug 19', while the opposite end of said shaft 22 is provided with a bevel-pinion 20' thereon, which meshes with a bevel-pinion 21', mounted on the
5 shaft 12.

Resting upon the ground-level is the supporting-base 23, which is provided with the upwardly-extending standards 24 for the journaling of the shafts 25 and 26 therein, and
10 mounted upon the shaft 26 between the standards 24 is the drum 27 for the chain or rope 28, which passes around the same and has one end thereof connected thereto. A gear-wheel 29 is mounted upon the shaft 26, which meshes
15 with a pinion 30, mounted upon the shaft 25, and any suitable motor or engine (not shown) can be connected to the end of said shaft 25 adjacent to the pinion 30 for operating the same. A sprocket-wheel 31 is mounted upon the op-
20 posite end of said shaft 25, and around this wheel 31 passes the sprocket-chain 32, which in turn passes over a sprocket-wheel 33, mounted on a stud 33' on the main frame 1, around a sprocket-wheel 34 on the shaft 10 on
25 said frame, thence over a sprocket-wheel 35, mounted on a stud 35' on said frame 1, and thence around a sprocket-wheel 36, mounted on a shaft 37, journaled in arms 38' on a supporting-frame 38, located above the main
30 frame 1. A sheave 39 is also mounted on said shaft 37, and around said sheave passes the rope 28, connected at one end and leading from the drum 27, while the opposite end of said rope is connected to the main frame 1. Sup-
35 porting-wheels 40 are mounted on shafts 40', which shafts are journaled in bearings 40'' on the frame 38, and such wheels act to support and permit the traveling of the device or machine A, as hereinafter described.

40 The use and operation of my improved painting-machine is as follows: When the device or machine A is assembled, as shown in Fig. 2, and it is desired to place the same in position for the painting of the wall *b* of a building B,
45 such as is shown in Fig. 2, all that is necessary is to suspend or support a channel-bar or track 41 along said wall *b* by means of hooks 42 from the cornice or top *c* of the building B, as in said Fig. 2, after which the machine
50 A can be hung or suspended from said track 41 by the wheels 40 on the frame 38, engaging with said track. The machine A can be moved along said track 41 to the position for operating on said wall *b* by said wheels 40,
55 and when in such position the same can be held in place by means of the ropes 42', which are connected at one end to the bearings 40'' on said frame 38 and pass over sheaves 43 at each end of said track, so that the opposite
60 ends of said ropes can be secured, by attachment or other means, at the ground-level. The machine A is then ready for operation upon the wall *b*, and the rotary brushes 13 and 16 are held in contact with said wall by means
65 of the ropes 44, which are connected at one

end to the frame 38 and pass over idlers or sheaves 45, supported on one side 1' of the main frame 1 and are connected or attached at their opposite ends under said frame 1 to the
ground by any suitable manner, while adjust- 70
able rollers 46, supported on the opposite side 1'' of said frame 1 to engage said wall *b* and prevent undue or strong pressure of the brushes 13 and 16 against said wall in supplying the
paint therefor and in spreading or painting 75
over the same. The device or machine A is now ready for operation and power being applied to the shaft 25 will act to revolve the same and with it the sprocket-wheel 31 thereon, which through the chain 32, passing around 80
said wheel and around the sprocket-wheels 34 and 36, will act to revolve the shaft 10 in the main frame 1 and the shaft 37 in the supporting-frame 38, while the sprocket-wheels 33 and 35 on the frame 1 will revolve as idler by 85
the chain 32 passing over the same. By the revolving of the shafts 25, 10, and 37 in this manner the flexible roller 9 on the shaft 10 will be revolved, and such shaft 10 being connected with the shafts 7 and 12 in the main 90
frame 1 through the medium of the pinions 14 15 and gear-wheel 16 will act to revolve the flexible roller 8 on said shaft 7 and the roller 11 on the shaft 12, carrying the circular brush 13, so that the roller 8 by coming 95
in contact with the paint within the tank 6 will carry said paint to the roller 9 by reason of these rollers being smaller than the brush 13 and in contact with each other, and then the paint will be carried from the roller 9 to 100
the brush 13 by reason of its contact with said roller 9. As the brush 13 is in contact with the wall *b*, the paint gathered by said brush in rotating from the roller 9 will be supplied to said wall as these rollers 7 and 9 105
and brush 13 are thus operated, and by reason of the pinion 30 on the shaft 25 being in mesh with the gear-wheel 29 on the shaft 26 this shaft 26 will be revolved and with it the drum 27 thereon carrying the rope 28, and 110
such rope passing around the sheave 39 on the shaft 37 in the frame 38 and connected to said main frame 1 will permit said frame 1, carrying the rollers 7 and 9 and brush 13, to be lowered by the unwinding of said rope from 115
around the said drum. During the revolving of said rollers 7 and 9 and brush 13 the endless belts 17 and 18, carrying the brushes 16, are moved horizontally through the medium of the pinions 20 and 21 on the shaft 19 and 120
12, respectively, meshing with each other, and such shaft 19 being connected to one of the wheels 17' of the belt 17 and through the medium of the pinions 20' and 21' on the shafts 19' and 12, respectively, meshing with each 125
other, and such shaft 19' being connected to one of the wheels 18' of the belt 18 will permit these brushes 16 on the belts 17 and 18 to travel in opposite directions and spread or paint over the wall *b* the paint supplied there- 130

to by the circular brush 13 during the lowering of the main frame 1 by the rope 28, as above described. After the main frame 1, carrying the brushes 13 and 16, has been lowered to its lowest position and such portion of the wall *b* in its path of travel has been painted the operator can move the machine A along the track 41 by the ropes 42 to another or to a portion adjoining the painted portion, when the main frame can be raised to its highest position by the winding up of the rope 28 around the drum 27 and the ropes 42 and 44 set or attached to the ground for holding the frame 1 in position ready for another operation.

As shown in the drawings, the device is adapted for use in the painting of weather-boarded walls or surfaces in which recesses or offsets are formed in such walls or surfaces, in which case a number of belt-brushes can be used moving in opposite directions from each other; but it will be evident that the device or machine can be provided with a number of rollers in the main frame, and such rollers can be used without the belt-brushes, if desired, in the painting of smooth metal, wood, or brick surfaces, as well as corrugated surfaces, in which latter case the brushes within the main frame can be made in the ordinary corrugated form. It will also be evident that in some cases where the belt-brushes are done away with that all the rollers within the main frame can be made with brushes thereon, as shown in Fig. 5, in which case the lower roller-brush can supply the paint to the wall and the other roller-brushes spread the same over the face thereof. In this case the upper and lower rollers can travel in the same direction and the middle roller can travel in the opposite direction, while, if desired, the machine can operate to spread the paint by the main frame moving upward by making the lower roller smaller than the other rollers, in which case the middle and upper rollers can supply and spread the paint on the wall. These and various modifications and changes in the construction, arrangement, design, and operation of my improved painting-machine may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a machine for painting walls and other like surfaces, the combination of a main frame adapted to be supported adjacent to the wall, brushes on said frame adapted to supply and spread the material on the wall, means for gathering the material from a suitable source of supply and feeding the same to the supply-brush, mechanism for operating said brushes, means for permitting the main frame to travel vertically along said wall, and means for permitting the main frame to travel horizontally along said wall.

2. In a machine for painting walls and other like surfaces, the combination of a main frame adapted to be supported adjacent to said wall, brushes on said frame adapted to supply and spread the material on the wall, rollers on said frame for gathering the material from a suitable source of supply and feeding the same to the supply-brush, mechanism for operating said brushes and rollers, means for permitting the main frame to travel vertically along said wall, and means for permitting the main frame to travel horizontally along said wall.

3. In a machine for painting walls and other like surfaces, the combination of a main frame adapted to be supported adjacent to the wall, a brush on said frame for supplying the material to the wall, rollers on said frame for gathering the material from a suitable source of supply and feeding the same to the supply-brush, means for spreading the material on said wall, mechanism for operating said supply-brush, rollers and spreading means, and means for permitting the main frame to travel along said wall.

4. In a machine for painting walls and other like surfaces, the combination of a main frame adapted to be supported adjacent to the wall, a brush on said frame for supplying the material to the wall, rollers on said frame for gathering the material from a suitable source of supply and feeding the same to the supply-brush, brushes on said frame for spreading the material on said wall, mechanism for operating said supply-brush, feeding-rollers and spreading-brushes, and means for permitting the main frame to travel along said wall.

5. In a machine for painting walls and other like surfaces, the combination of a main frame, brushes on said frame for supplying and spreading the material on the wall, means for gathering the material from a suitable source and feeding the same to the supply-brush, mechanism for operating said brushes, a frame for supporting the main frame adjacent to the wall, and means connected to said supporting and main frames for permitting the said frames to travel along said wall.

6. In a machine for painting walls and other like surfaces, the combination of a main frame, brushes on said frame for supplying and spreading the material on the wall, means for gathering the material from a suitable source and feeding the same to the supply-brush, mechanism for operating said brushes, a frame for supporting the main frame adjacent to the wall, a sheave mounted on a shaft in said supporting-frame, and a rope passing around said sheave and connected to said main frame and to a suitable source of power for permitting said main frame to be raised and lowered along said wall.

7. In a machine for painting walls and other like surfaces, the combination of a main frame, brushes on said frame for supplying and spreading the material on the wall, means for

gathering the material from a suitable source and feeding the same to the supply-brush, mechanism for operating said brushes, a frame for supporting the main frame adjacent to the wall, a sheave mounted on a shaft in said supporting-frame, and a rope passing around said sheave and connected to said main frame and to a power-driven winding-drum for permitting said frame to be raised and lowered along said wall.

8. In a machine for painting walls and other like surfaces, the combination of a main frame, brushes on said frame for supplying and spreading the material on the wall, means for gathering the material from a suitable source of supply and feeding the same to the supply-brush, mechanism for operating said brushes, a frame supporting the main frame adjacent to the wall, means connected to said supporting-frame and main frame for permitting the main frame to be raised and lowered along said wall, and means connected to said supporting-frame for permitting said frame and main frame to be moved horizontally along said wall.

9. In a machine for painting walls and other like surfaces, the combination of a main frame, brushes on said frame for supplying and spreading the material on said wall, means for gathering the material from a suitable source of supply and feeding the same to the supply-brush, means for operating said brushes, a frame for supporting the main frame adjacent to the wall, means connected to said supporting-frame and main frame for permitting the main frame to be raised and lowered along said wall, a track supported adjacent to said wall, and wheels on said supporting-frame and engaging with said track for permitting said supporting and main frames to be moved horizontally along said wall.

10. In a machine for painting walls and other like surfaces, the combination of a main frame, brushes on said frame for supplying and spreading the material on the wall, means for gathering the material from a suitable source and feeding the same to the supply-brush, means for permitting the main frame to travel horizontally along said wall, means for permitting said main frame to travel vertically along said wall, and gearing mechanism connecting said brushes and gathering means with a suitable source of power for operating the same.

11. In a machine for painting walls and other like surfaces, the combination of a main frame, brushes on said frame for supplying and spreading the material on the wall, rollers on said frame for gathering the material from a suitable source of supply and feeding the same to the supply-brush, means for permitting said main frame to travel vertically along said wall, means for permitting said main frame to travel horizontally along said wall, and gearing mechanism connecting said brushes and

rollers with a suitable source of power for operating the same.

12. In a machine for painting walls and other like surfaces, the combination of a main frame, brushes on said frame for supplying and spreading the material on the wall, rollers on said frame for gathering the material from a suitable source of supply and feeding the same to the supply-brush, a frame for supporting the main frame adjacent to the wall, means connected to said supporting and main frames for permitting said frames to travel along said wall, and mechanism connecting said brushes, rollers and supporting-frame with a suitable source of power for operating said brushes and rollers.

13. In a machine for painting walls and other like surfaces, the combination of a main frame, brushes on said frame for supplying and spreading the material on the wall, rollers on said frame for gathering the material from a suitable source of supply and feeding the same to the supply-brush, gearing mechanism connecting said brushes and rollers, a frame for supporting the main frame adjacent to the wall, means connected to said supporting and main frames for permitting said frames to travel along said wall, and mechanism connecting one of said rollers and the supporting-frame with a suitable source of power for operating said brush and rollers.

14. In a machine for painting walls and other like surfaces, the combination of a main frame, brushes on said frame for supplying and spreading the material on the wall, rollers on said frame for gathering the material from a suitable source of supply and feeding the same to the supply-brush, gearing mechanism connecting said brushes and rollers, a frame for supporting the main frame adjacent to the wall, means connected to said supporting and main frames for permitting said frames to travel along said wall, a sprocket-wheel on said supporting-frame and on one of said rollers, and a chain connecting said sprocket-wheels and a sprocket-wheel on a power-driven shaft for operating said brushes and rollers.

15. In a machine for painting walls and other like surfaces, the combination of a main frame adapted to be supported adjacent to the wall, brushes on said frame adapted to supply and spread the material on the wall, means for gathering the material from a suitable source of supply and feeding the same to the supply-brush, mechanism for operating said brushes, means for permitting the main frame to travel vertically along said wall, means for permitting the main frame to travel horizontally along said wall, and means for holding said brushes in contact with said wall.

16. In a machine for painting walls and other like surfaces, the combination of a main frame, brushes on said frame for supplying and spreading the material on the walls, means for gathering the material from a suitable

source and feeding the same to the supply-brush, mechanism for operating said brushes, a frame for supporting the main frame adjacent to the wall, means connected to said supporting and main frames for permitting said frames to travel along said wall, and a rope connected to said supporting-frame and adapted to engage the main frame for holding the brushes in contact with said wall.

10 17. In a machine for painting walls and other like surfaces, the combination of a main frame, brushes on said frame for supplying and spreading the material on said wall, means for gathering the material from a suitable source of supply and feeding the same to the supply-brush, mechanism for operating said brushes, a frame for supporting the main frame adjacent to the wall, means connected to said supporting and main frames to travel along said wall, and means for moving and holding said main and supporting frames in position for the brushes to operate on the wall.

25 18. In a machine for painting walls and other like surfaces, the combination of a main frame, brushes on said frame for supplying and spreading the material on said wall, means for gathering the material from a suitable source of supply and feeding the same to the supply-brush, mechanism for operating said brushes, a frame for supporting the main frame adjacent to the wall, means connected to said supporting and main frames to be moved along said wall, a track supported adjacent to said wall for carrying said frames, and ropes connected to said supporting-frame and passing over sheaves on the track for moving and holding said main and supporting

frames in position for the brushes to operate on the wall.

40 19. In a machine for painting walls and other like surfaces, the combination of a main frame adapted to be supported adjacent to the wall, a brush on said frame for supplying the material to the wall, means for gathering the material from a suitable source of supply and feeding the same to the supply-brush, brushes on said frame for spreading the material on said wall, mechanism for operating said supply-brush, gathering means and spreading-brushes, means for permitting the main frame to travel along said wall, and means on said frame for forcing the spreading-brushes out of line for contacting with said wall.

50 20. In a machine for painting walls and other like surfaces, the combination of a main frame adapted to be supported adjacent to the wall, a brush on said frame for supplying the material to the wall, means for gathering the material from a suitable source of supply and feeding the same to the supply-brush, brushes on said frame for spreading the material on said wall, mechanism for operating said supply-brush, gathering means and spreading-brushes, means for permitting the main frame to travel along said wall, and rollers on said frame adapted to engage with said spreading-brushes and force the same out of line to permit said brushes to contact with said wall.

60 In testimony whereof, I the said GEORGE RUSSELL, have hereunto set my hand.

GEORGE RUSSELL.

Witnesses:

J. N. COOKE,
WM. WEIXEL.