

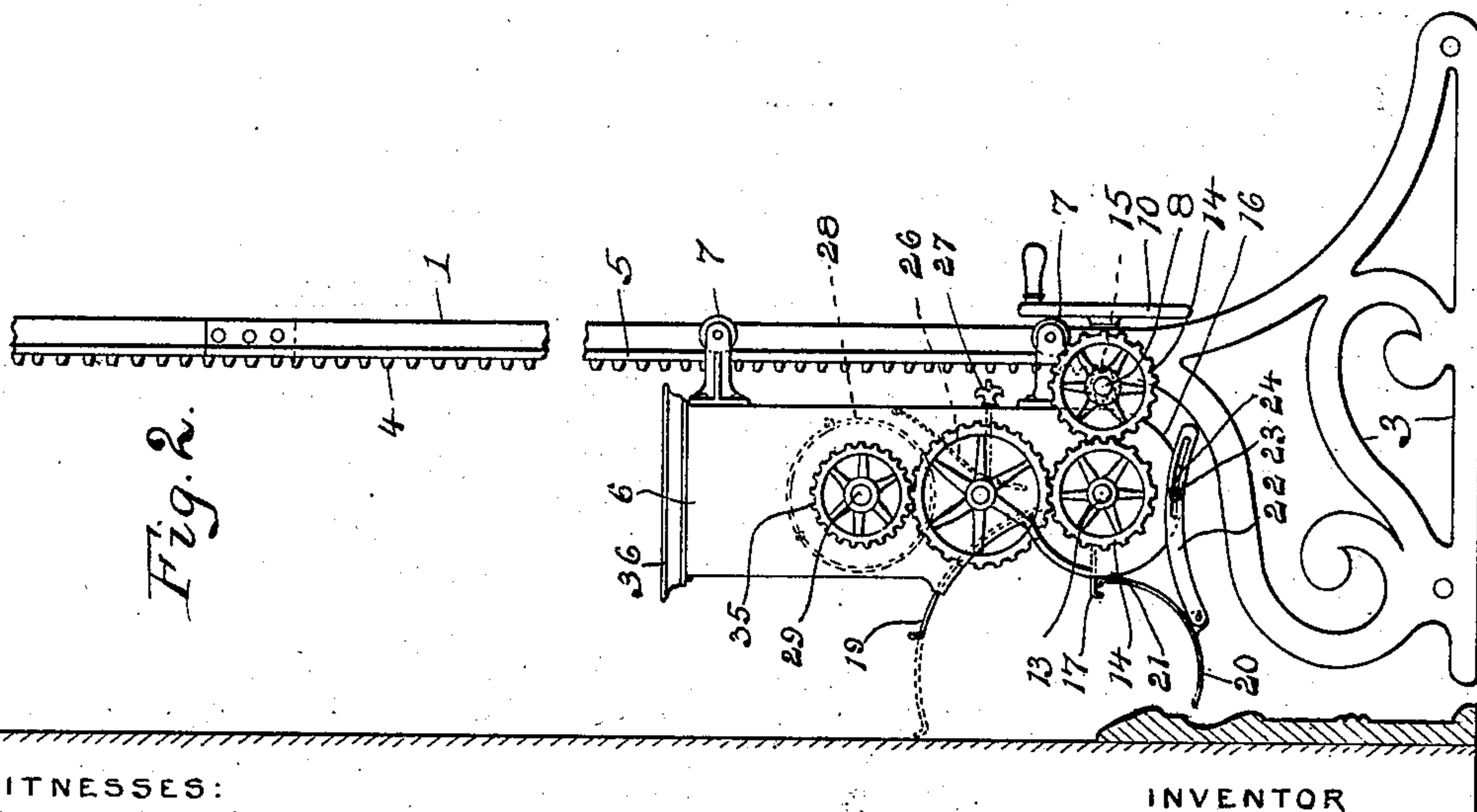
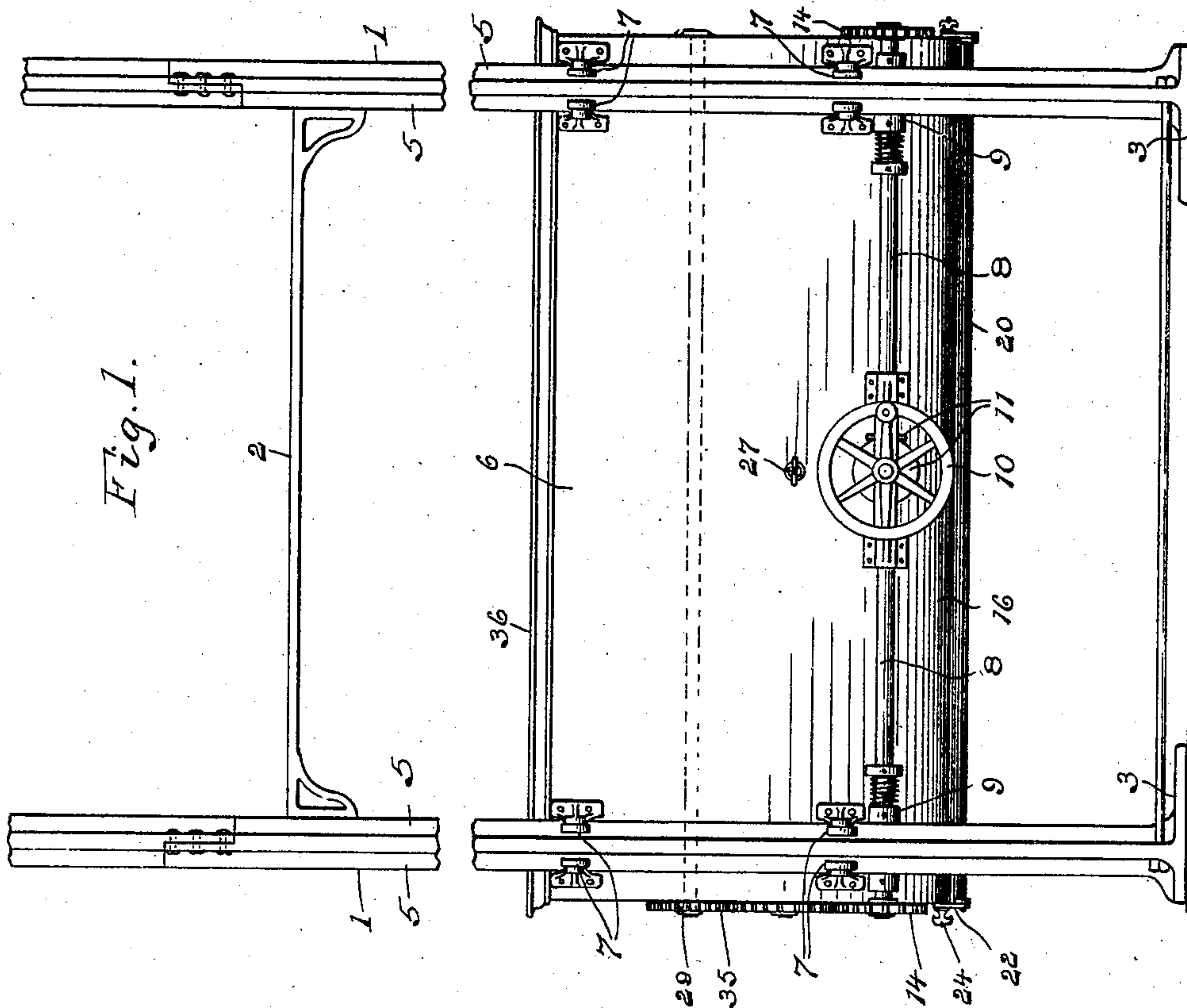
No. 889,520.

PATENTED JUNE 2, 1908.

F. J. GUTHEIL.  
WALL DECORATING MACHINE.

APPLICATION FILED JULY 20, 1907.

2 SHEETS—SHEET 1.



WITNESSES:

Anna M. Dorr.

Anna M. Mayer.

INVENTOR

Franz J. Gutheil

*[Signature]*

Attorneys.

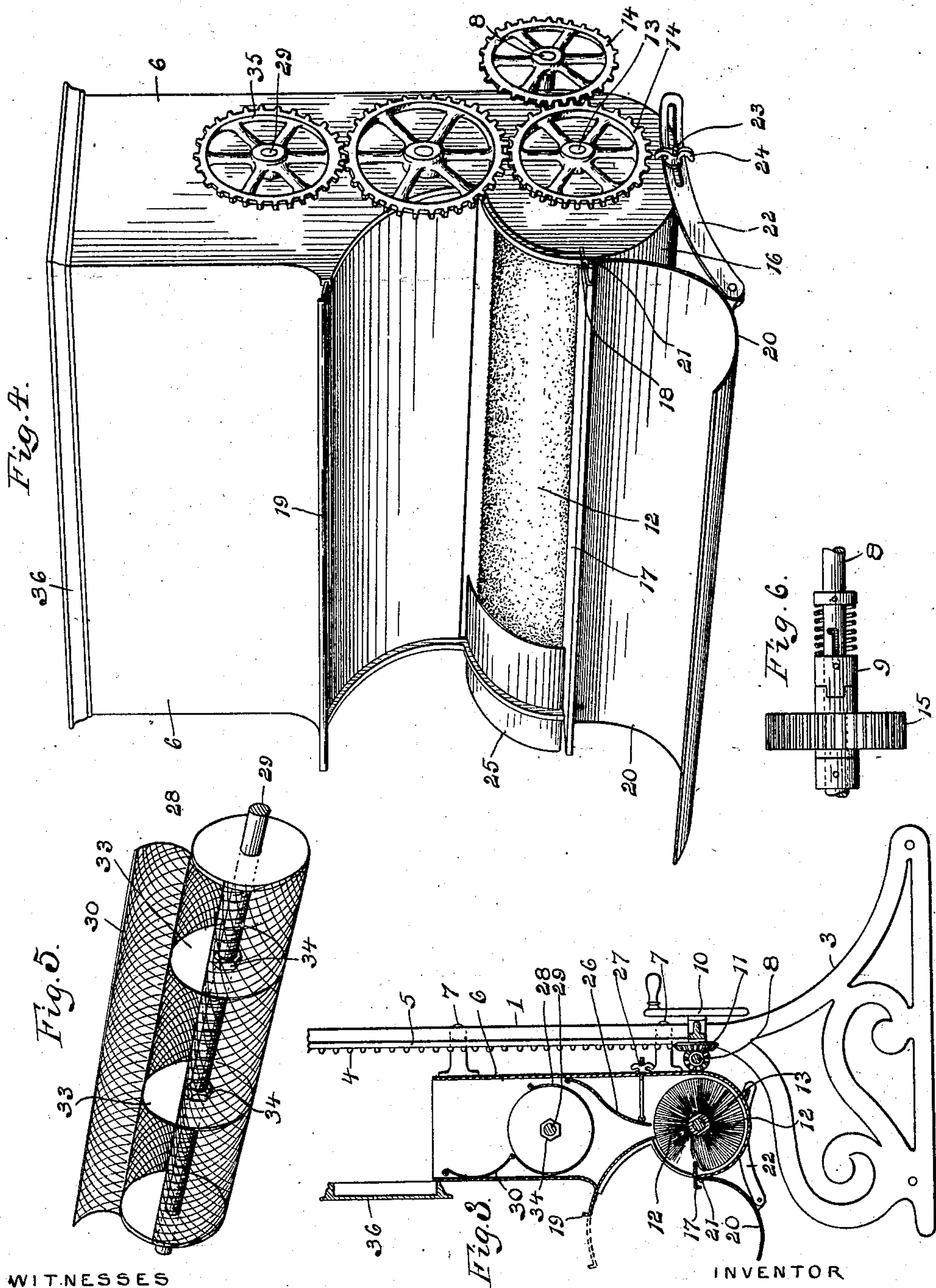
No. 889,520.

PATENTED JUNE 2, 1908.

F. J. GUTHEIL.  
WALL DECORATING MACHINE.

APPLICATION FILED JULY 20, 1907.

2 SHEETS—SHEET 2.



WITNESSES

Anna M. Dorr.

Anna M. Mayer.

INVENTOR

Franz J. Gutheil

*[Signature]*  
Attorneys.



# UNITED STATES PATENT OFFICE.

FRANZ J. GUTHEIL, OF PORT HURON, MICHIGAN.

## WALL-DECORATING MACHINE.

No. 889,520.

Specification of Letters Patent.

Patented June 2, 1908.

Application filed July 20, 1907. Serial No. 384,680.

*To all whom it may concern:*

Be it known that I, FRANZ J. GUTHEIL, a citizen of the United States of America, residing at Port Huron, in the county of St. Clair and State of Michigan, have invented certain new and useful Improvements in Wall-Decorating Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to wall decorating machines, and especially to automatic means for evenly distributing flock or other like substances on wall surfaces, whereby a velour effect or the like is produced which is un-  
15 broken and on which a design may be applied without the repetition necessary when the pattern is first laid on wall paper and the latter then hung on the wall in vertical strips, in the usual manner.

20 The invention consists in the matters hereinafter set forth and more particularly pointed out in the appended claims.

Referring to the drawings, Figure 1 is a view in front elevation of a machine embodying the invention. Fig. 2 is a view in end elevation of the machine. Fig. 3 a vertical section of the same. Fig. 4 is an enlarged perspective view of the casing showing the rear side thereof. Fig. 5 is a view in detail  
25 of a cylinder screen, and division disks therein. Fig. 6 is a view in detail of a portion of a shaft, pinion and clutch.

In the drawings, the main frame of the machine consists, in its essential features, of a  
35 pair of parallel guide rails 1, secured in definite spaced relation by suitably disposed cross-members 2, and supported in upright position by foot pieces 3, so that they may be placed close to a wall. Racks 4 are secured on their  
40 rear faces, and longitudinal flanges or ribs 5 are formed on the opposite edges. These rails may be made in sections so that they may be extended for different heights of walls.

45 A horizontal, substantially rectangular casing 6 is secured on the rear side of the main frame, by suitably disposed guide rollers 7 engaging the flanged faces of the guide rails 1. It may be raised and lowered there-  
50 on by a pair of pinions 15 in mesh with the racks 4, mounted on a horizontal main shaft 8 journaled on the casing. Clutches 9 or other like means detachably interlock the pinions with the shaft and the latter is conveniently rotated by a hand wheel 10 which is  
55 suitably journaled on the front of the casing

and is operatively connected to the shaft by bevel gears 11.

A cylindrical projecting brush 12 is horizontally journaled in the lower part of the casing, its shaft 13 extending through bear- 60  
ings in the end walls of the box and carrying pinions 14 which mesh with similar gears on the main shaft 8, so that the brush is rotated as the casing traverses the racks. The bris- 65  
tles of this brush are uniformly or spirally disposed as preferred, and extend to the ends of the brush case so as to sweep the ends of the casing and prevent any dead spaces  
70 therein.

The bottom plate 16 of the casing is bent into a semi-circular trough swept by the brush bristles. Above its upper edge, the side of the casing is cut away, and a horizon-  
75 tal slide 17 is inserted in guide slots 18 or the like in the casing ends. By moving this slide in or out, the brush bristles may be made to snap past with greater or less force so as to project anything with which they are loaded through the opening with more or less ve- 80  
locity.

Above the opening a concave shield 19 of sheet metal or the like, prevents too wide distribution from the brush and limits the field on the wall. A concave plate 20 is 85  
hinged or otherwise secured to the margin 21 of the box bottom and is adjustable by any preferred means, as for instance, arms 22 pivoted at the inner end to the gage plate ends and longitudinally slotted to engage studs 23 90  
in the casing ends, provided with thumb-nuts 24, so that it acts as a gage to determine the distance of the apparatus from the wall as well as to catch any superfluous material. The opening may be still further restricted 95  
by slides 25 which determine its length.

The casing above the brush has converging wings which form a hopper bottom extending the full length of the brush, one of the wings 26 being hinged at its upper edge 100  
and adjustably secured as by a thumb-screw 27 in the casing side.

A cylindrical screen 28 of wire gauze or perforate sheet metal is secured on a shaft 29 horizontally journaled in suitable bearings at 105  
either end of the casing above and in alignment with the brush 12. A segment 30 of the cylinder wall is hinged at one margin and detachably interlocked at the other so that the screen may be opened and filled. 110

Circular division plates or disks 33 are adjustably secured within the screen on the



shaft 29 so as to divide it, if desired, into compartments of variable size. The disks may be conveniently held between nuts 34 having screw-threaded engagement with the screw shaft. The latter extends through the bearings and pinion 35 thereon, entrain with the brush pinions 14, or other preferred connection, serve to rotate the screen from the main shaft. A suitable hinged cover 36 closes the casing.

In operation, the screen is filled with any dry powder, such as flock with which it is desired to coat a wall. If vertical stripes of different colors are to be produced, the compartments of the screen are each adjusted to give the width of stripe required and separately filled with the particular color material to be used. The machine is then placed with its opening and gage plate in parallel relation to the wall to be covered, which has been coated with freshly applied sizing so that it is gummy and tacky. The casing is then moved up the racks by revolving the hand-wheel. This likewise rotates the screw and brush. The screen throws out the powder through the periphery against the hopper sides, which direct it against the brush, so that the bristles project it evenly against the wall to which it adheres in a uniform layer. The centrifugal action of the screen and brush keep the different colors projected in their several vertical planes so that they appear on the wall in well defined stripes. The clutches of the rack pinions being released, the casing is quickly dropped to the bottom of the frame, and the latter moved along to a fresh place. By interchanging the gears and by regulating the size of the opening by the slides, as well as varying the distance from the wall by the gage plate, the character or body of the applied coating may be changed to produce any desired result, and shade effects may be carried out thereon in designs which are not limited but may be made to cover an entire panel or wall space without repetition or break in the continuity. By the adjustable division disks in the screen the powder may be fed onto the brush so as to be projected against the wall in clearly defined vertical stripes of different colors. The brush slide regulates the velocity and force with which the flock is projected, thus admitting of another variation in the effect, while the adjustable hopper mouth likewise controls the supply to the brush and gages the amount discharged. Screens of different width and brushes having more or less bristles may be provided, and other like changes in the mechanism used to obtain any result desired within the limits of the machine.

Obviously, the details of construction may be varied without departing from the spirit of the invention, and I do not care to limit myself to any particular form or arrangement of parts.

I claim as my invention:—

1. A wall decorating machine comprising centrifugal projecting means acting in a perpendicular plane, centrifugal means adapted to feed the projecting means, and means adapted to move said projecting means across a wall in parallel relation thereto and to the plane of action.

2. A wall decorating machine comprising centrifugal projecting means acting in a perpendicular plane, centrifugal means adapted to feed different colored powders to the projecting means in parallel vertical planes, and means adapted to move said projecting means across a wall in parallel relation thereto and to the plane of action.

3. A wall decorating machine comprising a centrifugally acting projecting brush, centrifugal means adapted to apply different colored powders to the periphery thereof in parallel, contiguous bands and adjustable means adapted to direct the discharge of the brush in a horizontal plane.

4. A wall decorating machine comprising a centrifugally acting projecting brush discharging laterally in a substantially horizontal plane, centrifugal means adapted to apply differently colored powder to the brush periphery in parallel, contiguous bands, and means adapted to move the brush and feeding means bodily across a wall in the plane of centrifugal action.

5. A wall decorating machine comprising a centrifugally acting projecting brush discharging laterally in a substantially horizontal plane, centrifugal means adapted to apply differently colored powder to the brush periphery in parallel, contiguous bands, and means adapted to move the brush and feeding means bodily across a wall in the plane of centrifugal action, and means to rotate the brush and feeding means.

6. A wall decorating machine comprising a projecting brush, a rotatable screen delivering peripherally to the brush, and means adapted to operate the screen and brush.

7. A wall decorating machine comprising a projecting brush, a rotatable screen, compartments in the screen adapted to deliver simultaneously to the brush, and means adapted to operate the brush.

8. A wall decorating machine comprising a projecting brush, a rotatable cylindrical screen, adjustable means transversely dividing the screen into compartments adapted to deliver simultaneously through their several peripheries to the brush, and means to operate the brush and cylinder.

9. A wall decorating machine comprising a projecting brush, a rotatable cylindrical screen, adjustably secured disks transversely dividing the screen into compartments adapted to deliver simultaneously through their several peripheries to the brush, and means to operate the brush and cylinder.



10. A wall decorating machine comprising a rotatable cylindrical projecting brush, a rotatable cylindrical screen parallel thereto adapted to deliver to the brush throughout its length through its periphery, and means to operate the brush and screen.

11. A wall decorating machine comprising a rotatable cylindrical projecting brush, a rotatable cylindrical screen parallel thereto adapted to deliver to the brush throughout its length through its periphery, transverse division disks adjustably secured in the screen and means to operate the brush and screen.

12. A wall decorating machine comprising a rotatable cylindrical projecting brush, a rotatable cylindrical screen parallel thereto delivering through its periphery, adjustable means adapted to control and direct the contents of the screen against the brush, and means to operate the screen and brush.

13. A wall decorating machine comprising a casing, a cylindrical brush horizontally journaled therein, a cylindrical screen journaled in the casing above and parallel to the brush and adapted to discharge through its periphery throughout its length, adjustable hopper plates adapted to direct the contents of the screen against the brush, a discharge opening in the casing adjacent the brush and means to operate the brush and screen.

14. A wall decorating machine comprising a casing, a cylindrical brush horizontally journaled thereon, a cylindrical screen journaled in the casing above and parallel to the brush and adapted to discharge through its periphery throughout its length, division disks adjustably secured in the screen, adjustable hopper plates adapted to direct the contents of the screen against the brush, a discharge opening in the casing adjacent the brush and means to operate the brush and screen.

15. A wall decorating machine comprising a vertically disposed main frame, a horizontal casing vertically reciprocable thereon, a cylindrical brush horizontally journaled therein, a cylindrical screen journaled in the casing above and parallel to the brush, and adapted to discharge through its periphery throughout its length, adjustable hopper plates adapted to direct the contents of the screen against the brush, a discharge opening in the casing adjacent the brush and means to operate the brush and screen.

16. A wall decorating machine comprising a casing, a cylindrical projecting brush horizontally journaled therein, feeding means for the brush, a lateral discharge opening on the casing adjacent the brush, an adjustable slide adapted to momentarily deflect the brush bristles as they pass to the opening, adjustable shields adapted to limit the opening, gage plates adjustably secured on the casing adjacent the openings and adapted to define

the field of action of the brush, and means to operate the brush.

17. A wall decorating machine comprising a casing, a projecting brush journaled thereon, a lateral discharge opening in the casing adjacent the brush, a slide adjustable in the casing adapted to momentarily deflect the brush bristles as they pass to the opening, a segmental gage plate hinged to the casing below the opening, means for holding the plate in any parallel angular relation to the casing, a shield above the opening, means for feeding the brush, and means for moving the casing across a wall with the gage plate in predetermined parallel relation thereto.

18. A wall decorating machine comprising a vertically disposed main frame, vertical parallel guide rails therein, racks thereon, a horizontally disposed casing reciprocable on the guide rails, a main shaft journaled on the casing, pinions secured thereon in mesh with the racks, a hand wheel journaled on the casing, operatively connected to the main shaft, a projecting brush journaled in the casing connected to the main shaft, a cylindrical screen delivering to the brush journaled in the casing and operatively connected to the main shaft, and an adjustable plate at the casing delivery adapted to define and control the field of action of the machine.

19. A wall decorating machine comprising a main frame, vertical, parallel guide rails thereon, racks on the rails, a horizontal casing secured at either end by guide rollers to the rails, a main shaft journaled in the casing and provided with pinions meshing with the racks, means detachably interlocking the pinions and shaft, a horizontal cylindrical projecting brush journaled in the casing and operatively connected to the main shaft, a cylindrical screen journaled in the casing above and in alignment with the brush and operatively connected to the shaft, an adjustable hopper below the screen discharging into the brush, division disks adjustably secured on the screen, a lateral discharge outlet in the casing extending the length of the brush, bristle deflecting means adjacent the opening, and means to operate the main shaft.

20. In a wall decorating machine comprising a frame, a casing vertically reciprocable thereon, and means to reciprocate the casing, a horizontal, cylindrical brush journaled at each end in the end wall of the casing and provided with bristles adapted to sweep the side and end walls of the casing, and a horizontal cylinder of perforate metal closed at each end and journaled in the casing above and parallel to the brush, disks of imperforate sheet metal whose diameter is equal to the inner diameter of the screen, adjustably secured at intervals in the screen cylinder, and oblique plates adjustably secured in the casing and adapted to direct the



contents discharged through the periphery of the cylinder against the brush periphery evenly throughout its length.

21. In a wall decorating machine, means  
5 adapted to discharge flock against a vertical surface in vertical parallel bars, consisting of a side delivery cylindrical projecting brush and a positively rotated cylindrical screen of equal length in parallel relation thereto,  
10 which is divided between its closed ends by disks into compartments each adapted to contain flock, and which discharges tangentially through its periphery throughout its length and convergent plates between the  
15 brush and cylinder parallel to their axes, adapted to direct the contents discharged from each compartment of the cylinder intact against the periphery of the brush.

22. A wall decorating machine comprising a guide frame, a casing vertically reciprocable thereon, centrifugal feeding and projecting means in the casing, and operating means adapted to simultaneously move the casing on the frame and rotate the feeding and projecting means. 20

23. In a wall decorating machine, a single projecting brush and feeding means coacting therewith, adapted to simultaneously apply different colored powders in contiguous stripes on a vertical surface. 25

In testimony whereof I affix my signature in presence of two witnesses. 30

FRANZ J. GUTHEIL.

Witnesses:

J. C. HARWOOD,  
JULIUS KERN.