

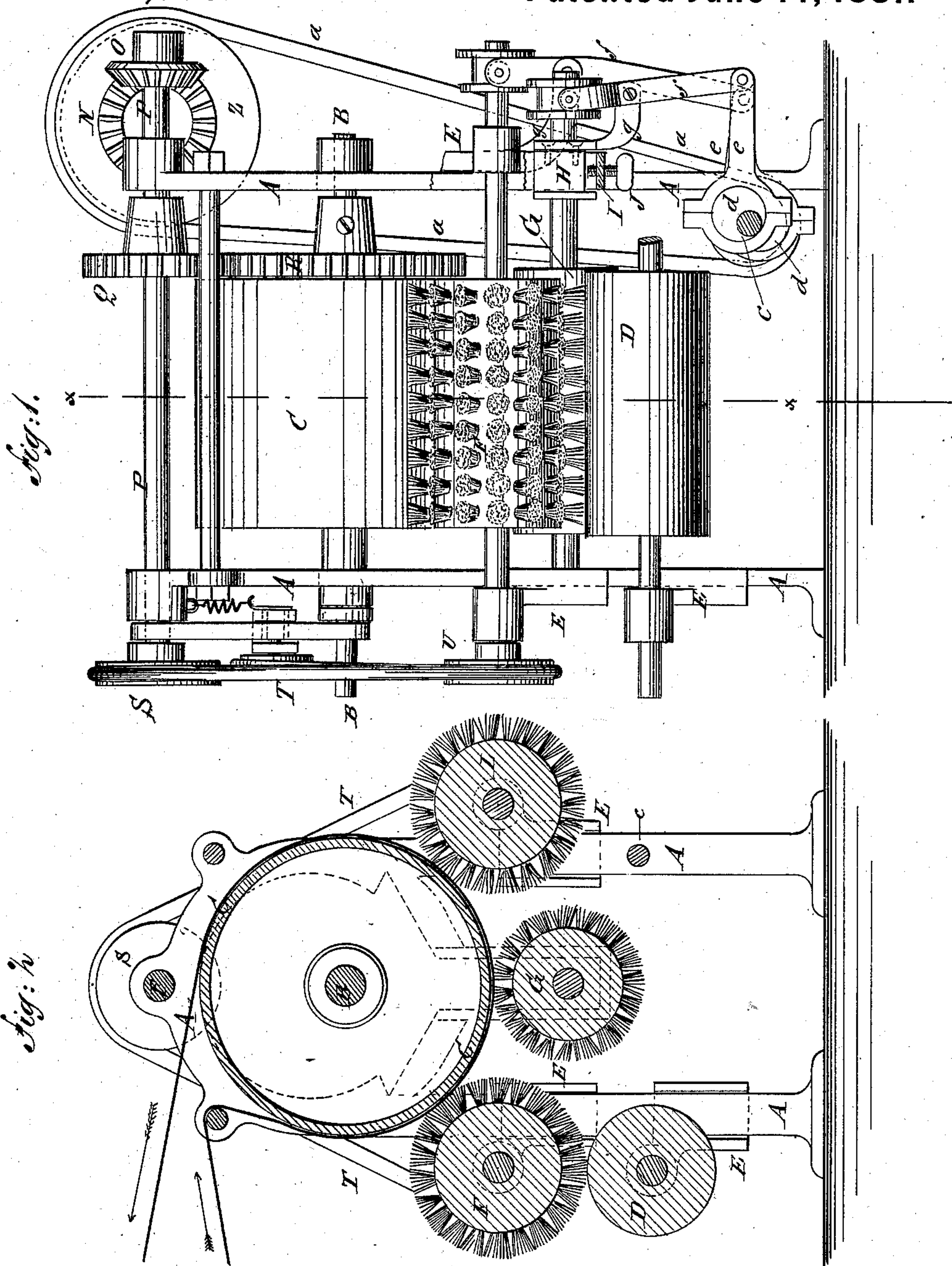
(No Model.)

2 Sheets—Sheet 1

T. B. SMITH.
Grounding Machine for Paper Hangings and Other
Materials.

No. 242,998.

Patented June 14, 1881.



WITNESSES:

Chas. Nida
C. Sedgwick

INVENTOR:

T. B. Smith
BY *Munn Ho*
ATTORNEYS.

(No Model.)

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Fig. 4.

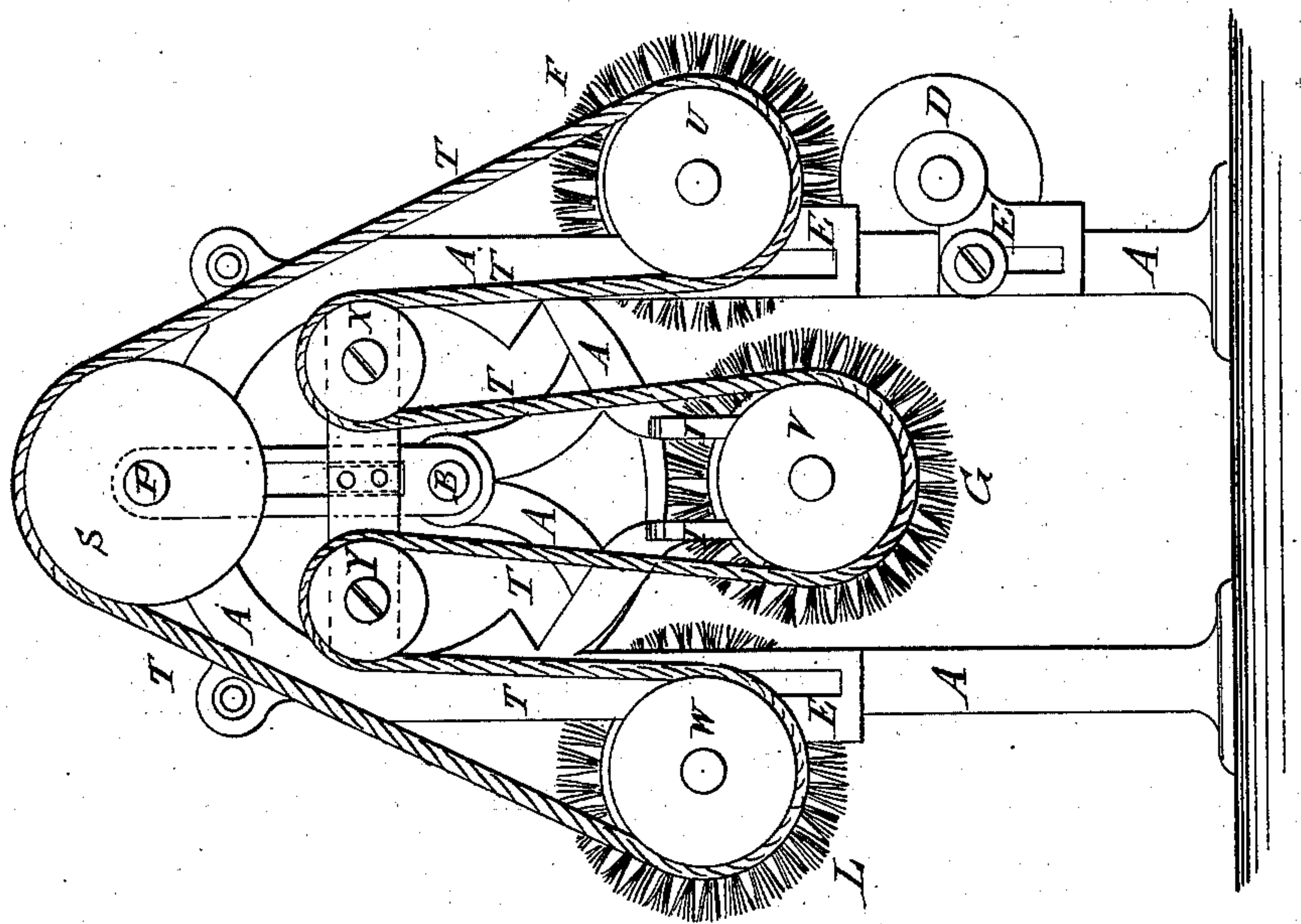
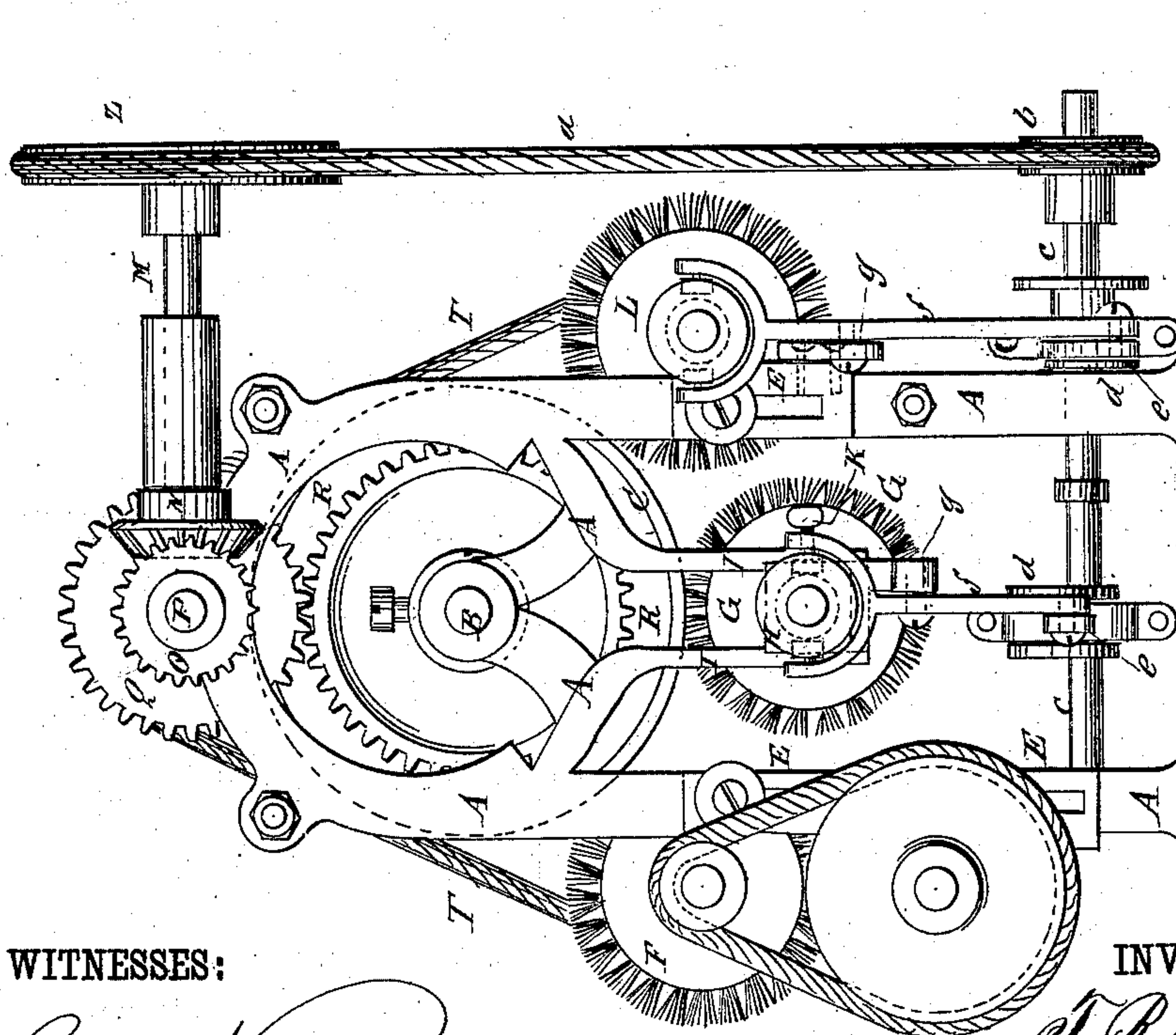


Fig. 3.



WITNESSES:

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INVENTOR:

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UNITED STATES PATENT OFFICE.

THOMAS B. SMITH, OF WEST NEW BRIGHTON, NEW YORK.

GROUNDING MACHINE FOR PAPER-HANGINGS AND OTHER MATERIALS.

SPECIFICATION forming part of Letters Patent No. 242,998, dated June 14, 1881.

Application filed January 26, 1881. (No model.)

To all whom it may concern:

Be it known that I, THOMAS B. SMITH, of West New Brighton, in the county of Richmond and State of New York, have invented a new and useful Improvement in Grounding-Machines for Paper-Hangings and other Materials, of which the following is a full, clear, and exact description.

Figure 1, Sheet 1, is a front elevation of my improvement. Fig. 2, Sheet 1, is a sectional side elevation of the same, taken through the line *x x*, Fig. 1. Fig. 3, Sheet 2, is an elevation of one side of the machine. Fig. 4, Sheet 2, is an elevation of the other side of the machine.

Similar letters of reference indicate corresponding parts.

The object of this invention is to apply the ground-color to paper-hangings and other materials rapidly and uniformly.

The invention consists in giving to the rotary brushes that distribute the color a longitudinal movement by eccentrics and levers, to insure a uniform application of the color to the paper, and also in attaching the fulcrum-studs of the levers to the bearings of the brushes, so that the brushes can be adjusted without disarranging the connection between the said levers and brushes, as will be hereinafter fully described.

A represents the frame of the machine, which has bearings in its upper part to receive a shaft, B.

To the shaft B is attached a large cylinder, C, around which the paper is passed to be colored. D is a roller, which receives the coloring-matter from a vat, in which vat the lower part of the said roller D revolves. The color-vat is not shown in the drawings, as there is nothing new in its construction. The journals of the roller D revolve in bearings E, attached to the lower forward part of the frame A.

In bearings E, attached to the forward part of the frame A, revolves a cylindrical brush, F, in such a position that it will be in contact with the roller D to receive color, and in contact with the lower forward part of the cylinder C, to apply the color to the paper passing around the said cylinder C.

Beneath the middle part of the cylinder C is placed a second cylindrical brush, G, in such a position as to be in contact with the paper

passing around the said cylinder C. The journals of the brush G revolve and slide in bearings H, placed in vertical slots in arms or hangers I, formed upon or attached to the frame A. The bearings H are raised and lowered, to take up the wear and to adjust the brush to bear with any desired pressure against the paper, by set-screws J, passing in through the lower ends of the hangers I, and resting against the lower sides of the said bearings H. The bearings H are secured in any position into which they may be adjusted by set-screws K, passing in through a side of the hangers I, and resting against the side of the said bearings H.

Beneath the rear lower part of the cylinder C is placed a third cylindrical brush, L, in such a position as to bear against the paper passing around the said cylinder C. The journals of the brush L revolve and slide in bearings E, attached to the frame A. The bearings E of the roller D and the brushes F L are slotted vertically, to receive the bolts that secure the said bearings E to the frame A, so that the brushes F L can be raised and lowered to take up the wear, and to cause them to bear against the paper with any desired pressure.

M is the drive-shaft, to which motion may be given from any convenient power, and which revolves in bearings attached to the top of the frame A.

To the end of the shaft M is attached a beveled-gear wheel, N, the teeth of which mesh into the teeth of a beveled-gear wheel, O, attached to the end of a shaft, P. The shaft P revolves in bearings at the top of the frame A, and to the said shaft is attached a gear-wheel, Q, the teeth of which mesh into the teeth of a large gear-wheel, R, attached to the shaft B, that carries the cylinder C. To the other end of the shaft P is attached a pulley, S, around which passes a belt, T. The belt T also passes around pulleys U V W, attached to the journals of the brushes F G L. The belt T, between the pulleys U V W, is carried upward and passed over guide-pulleys X Y, pivoted to the frame A. With this construction each of the pulleys U V W is placed in a loop of the belt T, so that the longitudinal movement of the brushes will not throw the belt off its pulleys. This construction also gives the belt T a longer bearing upon the pulleys U V W, so

that the brushes will be revolved with certainty.

To the drive-shaft M is attached a pulley, Z, around which passes a belt, *a*, which also passes
5 around a pulley, *b*, attached to the end of the shaft *c*. The shaft *c* revolves in bearings attached to the lower part of the frame A, and to the said shaft are attached, or upon it are formed,
10 two eccentrics, *d*, with which are connected, by eccentric-straps or other suitable means, the ends of bars *e*. The other ends of the eccentric-bars *e* are pivoted to the lower ends of levers *f*, the upper ends of which are forked and rest between two flanges formed upon or at-
15 tached to the ends of the journals of the brushes G L. The friction between the forked ends of the levers *f* and the flanges of the brush-journals is lessened by small wheels or rollers placed upon pins attached to the said ends.
20 The levers *f* are pivoted to supports *g*, attached to the bearings E H, in which the journals of the brushes L G revolve, so that the adjustment of the said bearings E H will not affect the connection between the levers *f* and the

flanged journals of the brushes L G. With 25 this construction the color-distributing brushes G L will receive a longitudinal vibratory movement while being rotated, so that the color will be evenly distributed over the paper.

Having thus described my invention, I claim 30 as new and desire to secure by Letters Patent—

1. In a grounding-machine, the combination, with the color-distributing brushes G L, of the levers *f* and eccentrics *d*, substantially as here- 35 in shown and described, whereby a longitudinal movement is given to the said rotary brushes, as set forth.

2. In a grounding-machine, the combination, with the bearings E H, of the studs *g*, attached 40 to the said bearings, substantially as herein shown and described, whereby the brushes can be adjusted without changing the relative positions of the levers and brushes, as set forth.

THOMAS B. SMITH.

Witnesses:

EDWARD MCCRUM,
JAMES ELLISON.