2 Sheets—Sheet 1.

R. McNAMEE.

MACHINES FOR SIZING AND VARNISHING PAPER.

No. 194,453. Patented Aug. 21, 1877

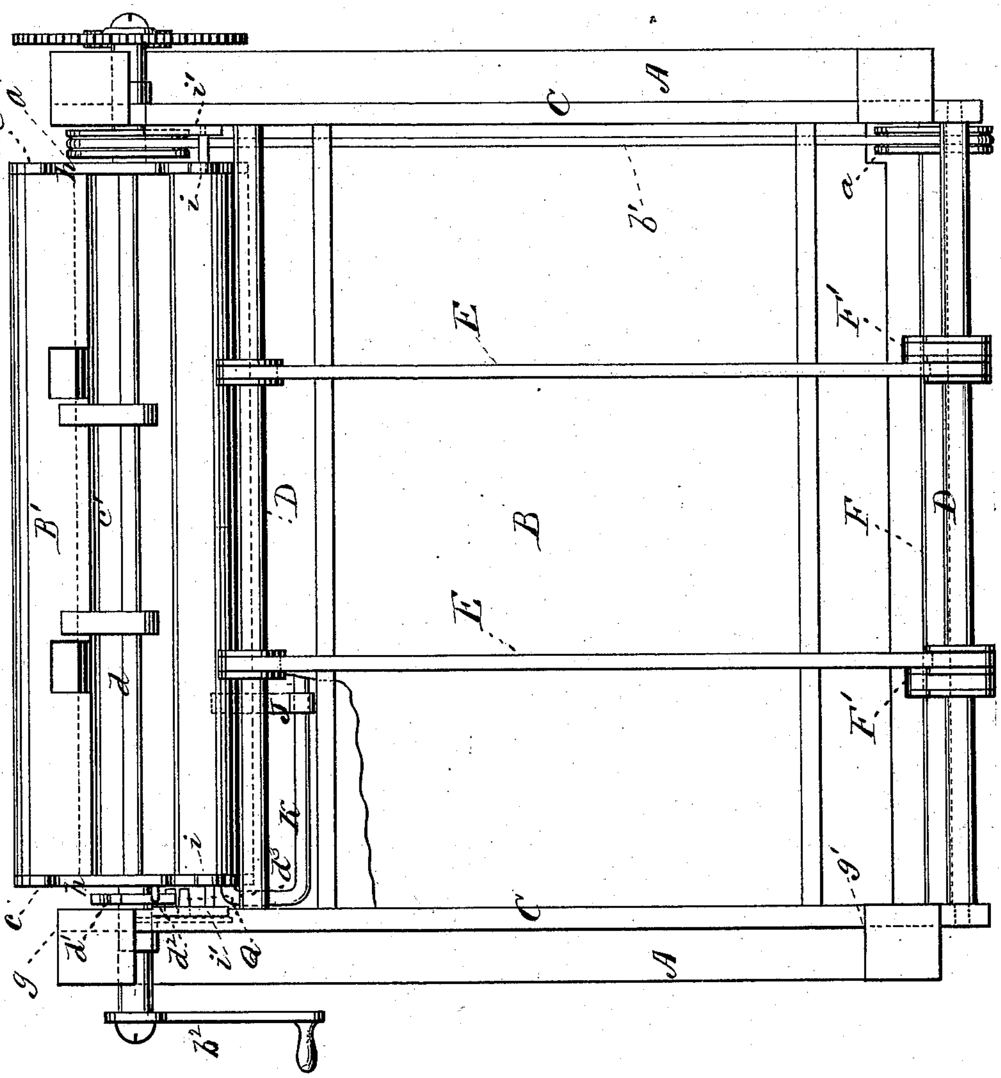


Fig 1

WITNESSES

Villette Anderson,

F. J. Masi

INVENTOR

Richard McNamee,

by E. W. Anderson,

ATTORNEY

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

2 Sheets—Sheet 2.

R. McNAMEE.

MACHINES FOR SIZING AND VARNISHING PAPER.

No. 194,453. Patented Aug. 21, 1877.

Fig 2

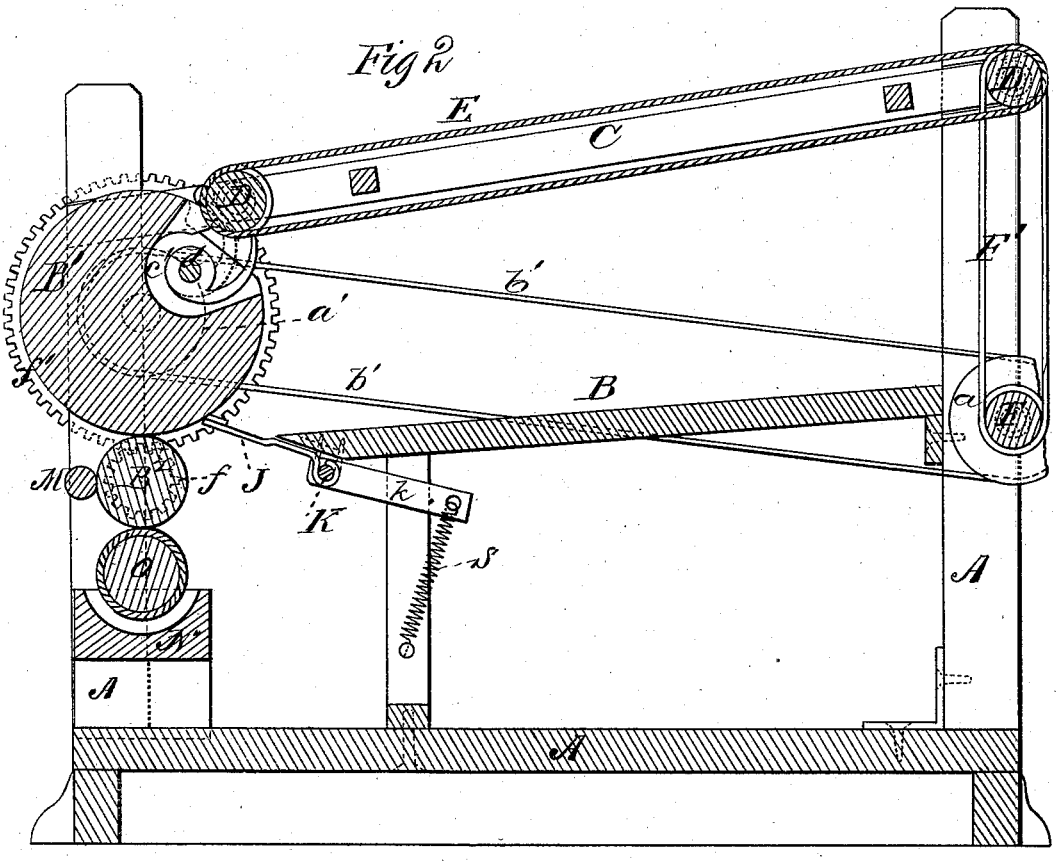


Fig 3

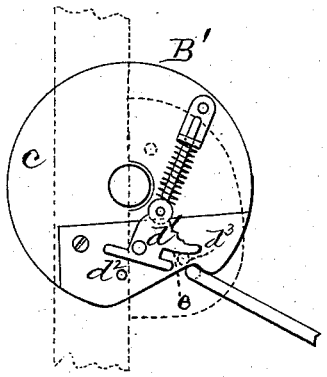


Fig 4

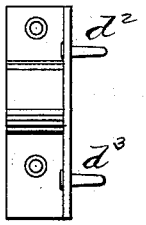
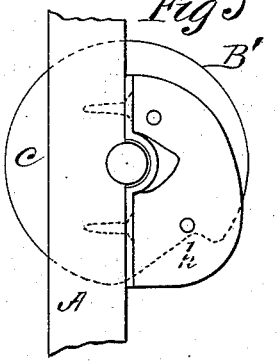


Fig 5



WITNESSES

Villette Anderson.

D. J. Masi

INVENTOR

Richard McNamee,

by E. W. Anderson.

ATTORNEY

UNITED STATES PATENT OFFICE.

RICHARD McNAMEE, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN MACHINES FOR SIZING AND VARNISHING PAPER.

Specification forming part of Letters Patent No. **194,453**, dated August 21, 1877; application filed June 16, 1877.

To all whom it may concern:

Be it known that I, RICHARD McNAMEE, of Philadelphia, State of Pennsylvania, have invented a new and valuable Improvement in Machines for Sizing and Varnishing Paper; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a top view of my improved machine for sizing and varnishing paper. Fig. 2 is a longitudinal vertical section of the same; and Figs. 3, 4, and 5 are detail views.

This invention has relation to improvements in means for varnishing either plain or printed paper.

Heretofore in varnishing printed labels, show-cards, and the like it has been necessary to apply the size to the surface of the paper, and afterward lay on the varnish with a brush by hand, which is both a slow and expensive means of so doing.

The object of my invention, therefore, is to devise a mechanical means for applying the varnish in such a manner that the colors of the label will not run into each other, and thereby dispense with the primary coating of size.

To this end the nature of my invention consists in the combination, with a drum, its gripers, a feed-table, and a varnishing-roller, of an endwise-movable conveyer-frame. It also consists in the combination, with a drum and a varnishing-roller arranged tangential thereto, of fingers to hold the paper off of said roller, as will be hereinafter more fully set forth.

In the annexed drawings, the letter A designates the frame of my improved varnishing-machine, having an inclined feed-table, B, and an endwise-movable conveyer-frame, C, above said table, that affords bearings for the journals of a number of transverse shafts, D, that actuate the conveyer-tapes E. Motion is communicated to these shafts through the medium of a shaft, F, and belts F′, a pulley, *a*, on the end of the said shaft F, and an endless belt, b^1, connecting pulley *a* and a similar pulley, *a′*, on the end of a cylindrical drum, B^1, the latter receiving rotation by means of a crank-arm, b^2, or other suitable mechanism. The drum B^1 is provided, when made of wood, with strong metallic heads *c*, and a deep longitudinal groove, *c′*, in which is seated the usual griper-rod *d*. This rod has its bearings in heads *c*, and is provided upon one of its ends, that projects through the head, with a dog, d^1, the heel of which engages with a spur, d^2, projecting inward from the frame at each complete revolution, thereby rotating the griper-rod, and opening the gripers until the said gripers are on a level with the feed-table B, when the label to be varnished, having been passed between them and drum B^1, the serrated edge *e* of said dog is brought into contact with a second spur, d^3, projecting inward from the said frame, thereby reversing the rotation of the griper-rod, and causing the gripers to clamp the paper between the roller and their ends, so that as the rotation of the said drum continues the paper label will be carried over the roller B^2, arranged below roller B^1, and in such a position as to be tangential thereto. This roller will be cloth-covered, and is caused to rotate in unison with the drum B^1 by means of a gear-wheel, *f*, that engages a gear-wheel, *f′*, applied upon the end of the drum-shaft. The roller B^2 is in tangential contact with a cloth or composition roller, O, that is journaled in the ends of a trough or fountain, N, and by its rotation imparts a rotary motion to the varnish-roller O aforesaid, so as to cause it to take up from the said fountain a charge of varnish, that will be transferred to the roller B^2, whence it will be laid upon the under side of the label—that is, the printed side thereof, the said label being laid upon the feed-table face downward. Any excess of varnish will be taken up and evenly distributed by an auxiliary roller, M, that is arranged tangential to roller B^2 in bearings in the frame A. If the paper is carried around by the drum, the dog of the latter will strike against the spur aforesaid, and the gripers will be opened, thereby releasing the label at the moment that its front edge is on a level with the conveyer-tapes. The label will then be carried to the rear end of the apparatus, with the varnished side upward, and placed by an attendant out of the way.

The conveyer-frame C aforesaid has its sides arranged in ways, and being inclined, it natu-

rally gravitates toward the drum. This is desirable at the moment the label is delivered to the tapes E from said drum, since the nearer the edge of the conveyer is to the said drum the more accurate will be the delivery of the labels from the gripers to the tapes; but after such delivery, in order to allow room for the opening of the gripers, the conveyer-frame should be thrust back out of the way in its ways *g g'*. This I accomplish automatically by the following mechanism: The heads *c* will be provided with a cam-curve, *h*, at a corresponding point thereon, or with a separate and independent cam, that, at each rotation of the drum, and at the moment the label is delivered to the tapes, comes in contact with an anti-friction pulley, *i*, at each side of the said frame, and thrusts the same back out of the way. These pulleys are journaled in a metallic plate, *i'*, that is secured to the sides of said frame by means of a set-screw, *j*.

In order to prevent the label, as it leaves the feed-table and is seized by the gripers, from sagging down upon the varnish-roller B^2, and being smirched thereby, I employ preventive-fingers J, that extend upward at suitable distances apart from a rock-shaft, K, that is journaled in bearings on the frame or under side of the table. These fingers are held in contact with the drum by means of a spring, S, that is secured at one end to an arm, K, of said shaft, and at the other to the frame; and, in order that the said fingers may not bind against the drum, and thereby draw away the label from the gripers, shaft K will have at each end, or at one only, a projecting controlling-arm, Q, the free end of which bears against the heads of said drum, and is actuated to open the fingers by the cam *h* aforesaid.

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

1. In combination with a drum, its gripers, a feed-table, and a varnishing-roller, of the endwise-movable conveyer-frame, substantially as specified.

2. The rock-shaft K, provided with fingers *k*, one end of which are attached to the spring S and controlling-arm Q, in combination with the cam on the end of the cylinder B^1, as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

RICHARD McNAMEE.

Witnesses:
CHAS. F. VAN HORN,
ALLEN H. GANGEWER.