L. L. ALLEN.

Improvement in Machines for Varnishing Leather, &c.

No. 130,969. Patented Sep. 3, 1872.

Fig. 1

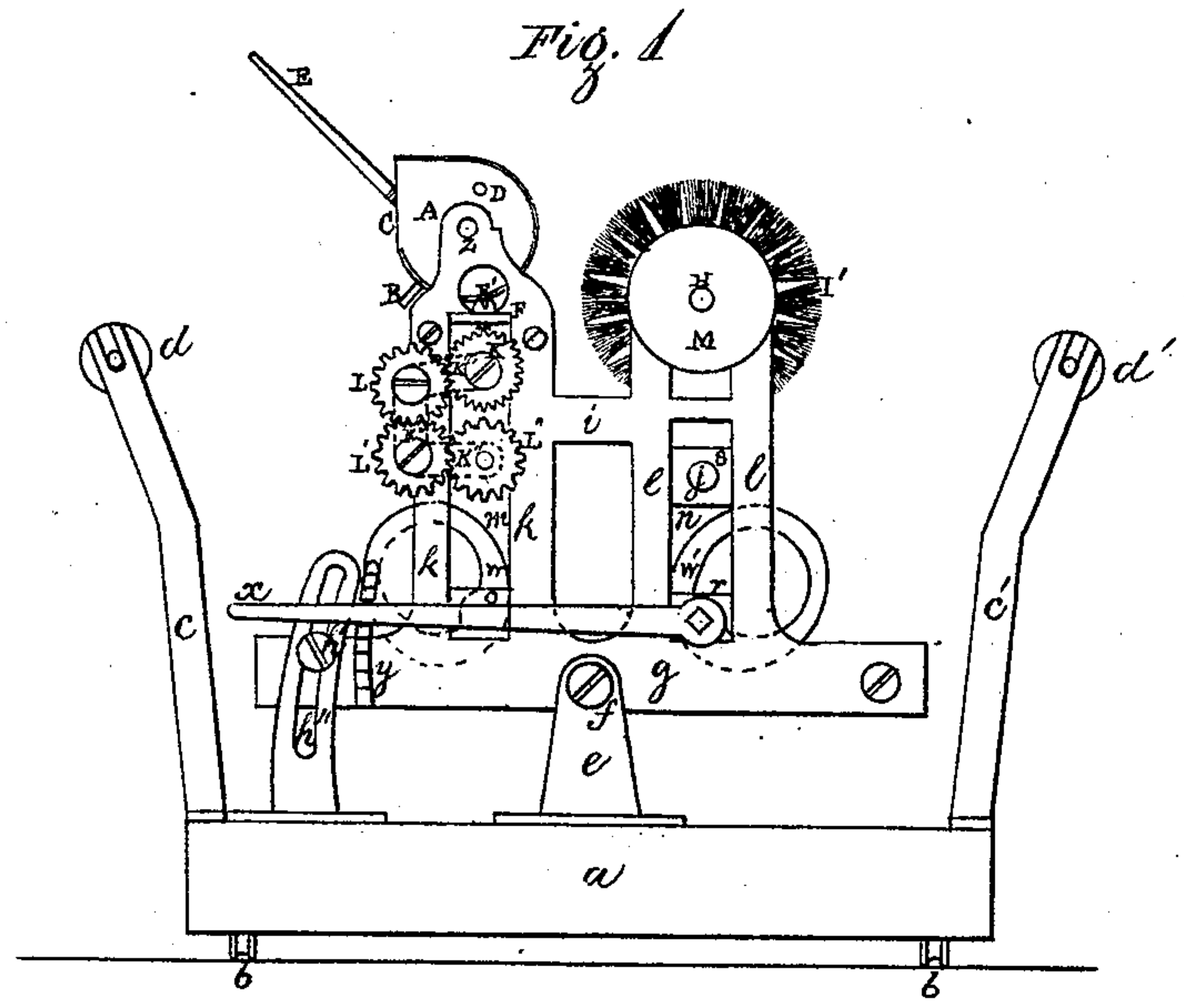
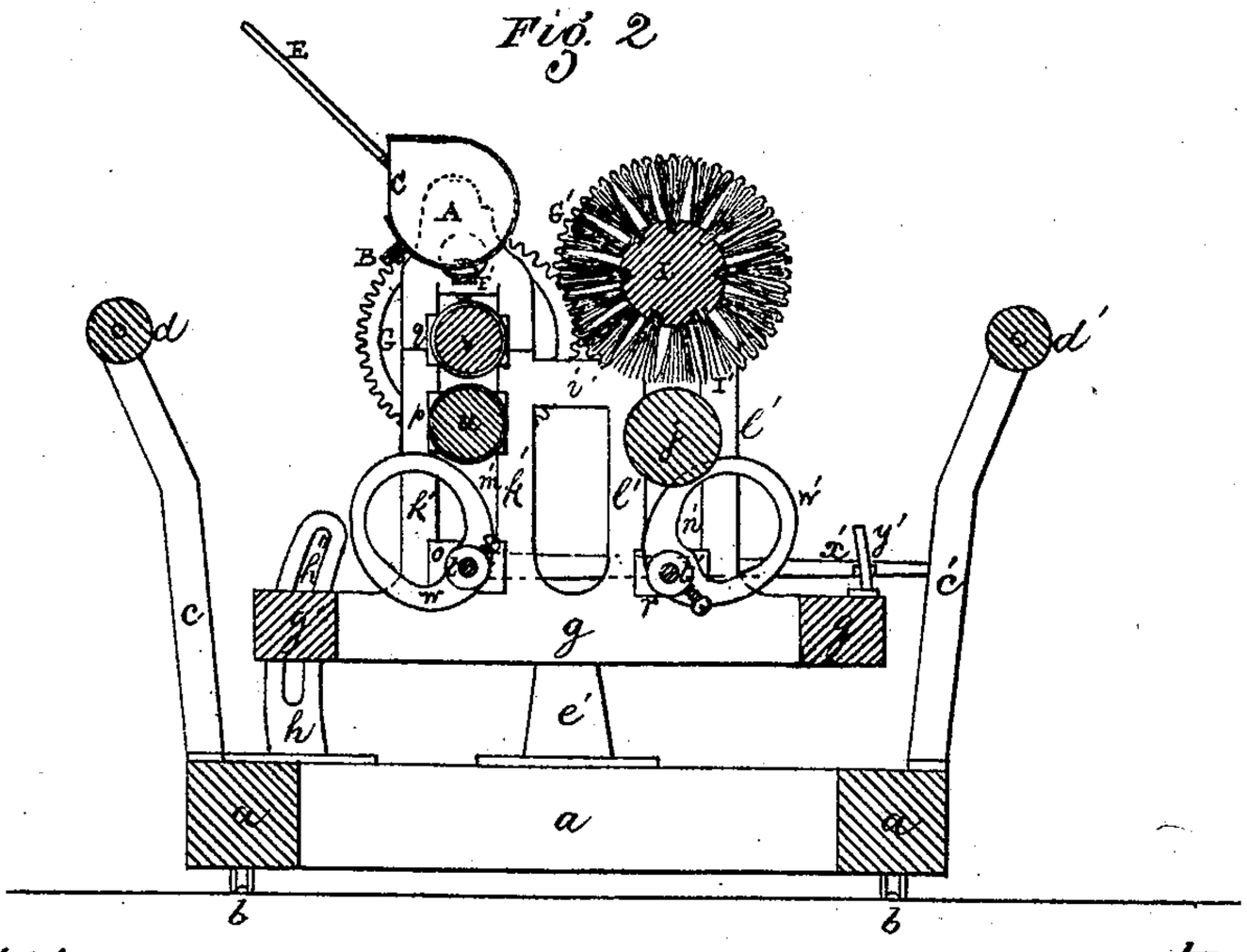


Fig. 2



Witnesses
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UNITED STATES PATENT OFFICE.

LUTHER L. ALLEN, OF HALLOWELL, MAINE.

IMPROVEMENT IN MACHINES FOR VARNISHING LEATHER, &c.

Specification forming part of Letters Patent No. **130,969**, dated September 3, 1872.

SPECIFICATION.

I, LUTHER L. ALLEN, of Hallowell, in the county of Kennebec and State of Maine, have invented certain Improvements in Machines for Varnishing Leather, Enameled Cloth, &c., of which the following is a specification:

Figure 1 of the accompanying drawing is a side view, and Fig. 2 is a central vertical longitudinal section, of my invention.

The present invention relates to certain new and useful improvements in machines for varnishing leather, cloth, or other enameled material or fabric, whereby the operation is performed automatically and with a great saving of time and labor. My improvements consist, mainly, in so arranging and operating a series of mechanical devices, to be more fully described hereafter, as to automatically feed along the leather or other material used, and evenly and effectively deposit and distribute upon and thoroughly incorporate with it the varnish or other desired equivalent compound or substance.

In the drawing, *a* represents the bottom frame or platform of my improved machine, provided with track-wheels *b*, and having upright bent standards *c c'* attached to each end of its front and back, the tops of which form bearings for the ends of adjustable rollers *d d'*. Attached to the center of the frame *a*, on each side, is a standard, *e e'*, which connects, by a screw, *f*, or other suitable adjustable means, with an upper platform or frame, *g*, which is provided on each side at the end with a screw, or stem, *h' h'*, that travels in a curved slot, *h''*, formed in curved standards *h* attached to each side of the bottom frame *a*. The upper platform or frame *g* is formed on each side with standards *k k' l l'*, connected by bars *i i'*, and formed with slots *m m' n n'*, in which are arranged to travel up and down adjustable blocks or plates *o p q r s*, which form bearings, respectively, for shafts *t t'* and rollers *u*, *v*, and *j*, arranged transversely across the frame of the machine. Attached to each end of the shafts *t t'*, so as to be operated by them, are oval or other suitably-shaped cams *w w'*, that connect with the bottom of the blocks or plates *p* and *s*, which support and serve to raise or lower the rollers *u* and *j* by means of lever-arms *x x'*, which are attached to one end of each of the shafts *t t'*, and engage with and are held in position by ratchet-bars *y y'*, connected with the frame or platform *g*. The upper portion of the standards *k k'* form bearings in which revolve stems *z*, connected with a receptacle or trough, A, of a segmental or other desired shape, arranged transversely across the machine above the rollers *u v*, and which is provided with a series of tubes, B, formed at intervals longitudinally with and near the opening or mouth C, extending the length of the trough A, which is also provided with a pin, D, acting against the side of the standard *k* to prevent the trough A, which is operated by lever-arms E, revolving beyond a certain point. The standards *k k'* are provided with screw-plates F, having screws F' that operate on the tops of the plates *q* so as to regulate the distance of the roller *v*, which is covered with or formed of rubber or other suitable material, and is connected at one end with a gear-wheel, G, that engages with a similar gear-wheel, G', attached to a shaft or stem, H, connected with a roller, I, provided with brushes I', and situated in front of the trough A, transversely with the machine. The other end of the rubber or other roller *v* is provided with a gear, K, and an arm, K', that joins with a crank-arm, K'', (shown in Fig. 1 by dotted lines,) connecting with gears L L' L''. The gear L'' and one end of the crank-arm K'' are attached to and operate a smooth roller, *u*, extending across the machine under the rubber or other roller *v*. The ends of the roller I are supported in adjustable plates that are regulated by screws operating in screw-plates connected with the tops of the standards *l l'*, and connected with one end of the roller I are proper belt-wheels M. Below the roller I and brushes I' is arranged across the machine a roller, *j*, supported in adjustable blocks or plates *s*, and which is raised or lowered by the action of lever-arm *x* on the cams *w'*, which operate against the bottom of the blocks or plates *s*.

The operation of my invention is as follows: The leather or other material to be operated upon is wound around the roller *d*, whence it is carried between the rubber or other roller *v* and the hard smooth roller *u*, which are brought by the action of the cams *w*, operated by the lever-arm *x'*, to the desired position in regard to each other and with the receptacle or trough A, in which the varnish is held, and through the tubes B of which it is deposited

upon the leather or other enameled material passing below it; the flow of the varnish being regulated by the action of the lever-arms E, which revolve the trough A either way, so as to elevate or depress the tubes B and retard or increase the passage of the varnish, which being thus deposited on the leather, &c., is carried along and evenly pressed between the two rollers *u* and *v*, by which it is fed along and carried between the roller *j* and the brushes I′, which are revolved by the roller I, the required distance between the roller *j* and brushes I′ being regulated by the thickness of the leather, &c., passing between them by the operation of the lever-arm *x*, which actuates the cams *w′* against the bottom of the adjustable plates or blocks *s*, the function of the brushes I′ and smooth roller *j* being to feed along the leather, &c., and thoroughly distribute upon and incorporate the varnish with it. The leather, &c., is then carried over the roll *d′*, from which it is delivered and placed upon the drying-racks.

By the application of belts to the wheels M the machine may be operated by steam or any other suitable motive power.

Having thus fully described my improvements, what I claim as my invention, and desire to have secured to me by Letters Patent, is—

1. The receptacle or trough A, having an opening, C, and provided with a series of tubes, B, and operated so as to partly revolve either way in standards *k k′*, substantially as specified.

2. The rubber or other roller *v* and roller *u*, provided with adjustable plates or blocks *p* and *q*, arm K′, crank-arm K″, gears K, L, L′, L″, and G, in combination with the receptacle or trough A, standards *k k′*, and frame *g*, substantially as specified.

3. The cams *w w′*, in combination with shafts *t i′*, rollers *u* and *j*, lever-arms *x x′*, ratchet-bars *y y′*, frame *g*, standards *k k′ l l′*, and blocks or plates *p* and *s*, substantially as specified.

4. The standards *k k′ l l′*, formed with slots *m m′ n n′* for the reception and operation of blocks or plates *o p q r s*, and having screw-plates F provided with screws F′, in combination with frame *g*, rollers *u v j* I, trough A, shafts *t t′*, and cams *w w′*, substantially as specified.

5. A machine for varnishing leather, enamel cloth, or other enameled fabric or material, consisting of a frame or platform, *a*, having standards *c c′*, provided with adjustable rollers *d d′* and standards *e e′ h*, supporting an adjustable frame, *g*, provided with standards *k k′ l l′*, shafts *t t′*, cams *w w′*, rollers *u v j* I, and trough A, all arranged and operating substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LUTHER L. ALLEN.

Witnesses:
CARROLL D. WRIGHT,
SAML. M. BARTON.