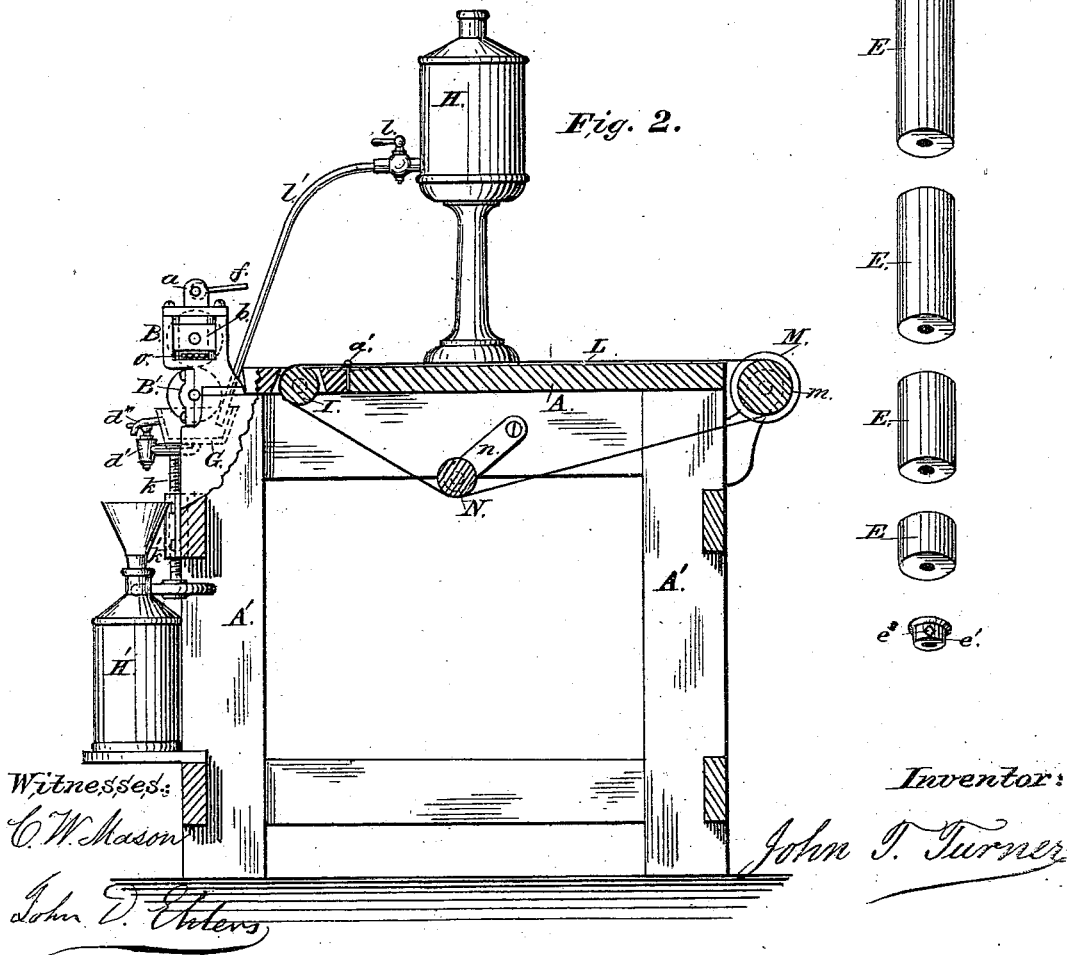
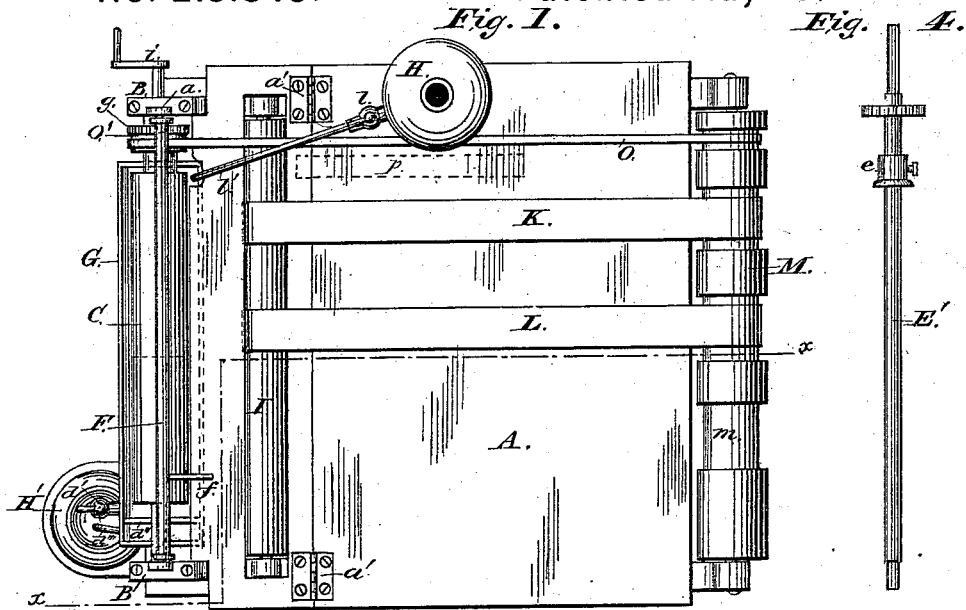


J. T. TURNER.

Machine for Varnishing, Gumming, and Sizing
Labels, Pictures, and the like.

No. 215.845.

Patented May 27, 1879.

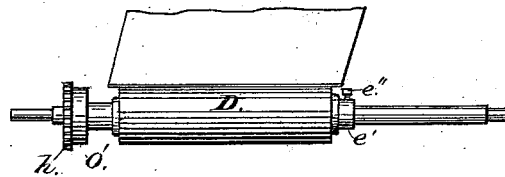
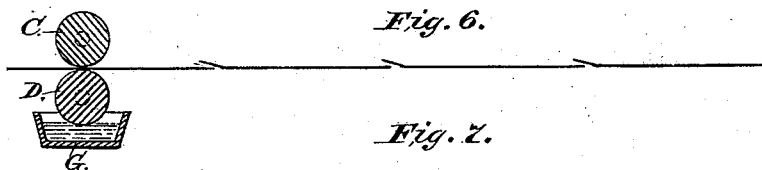
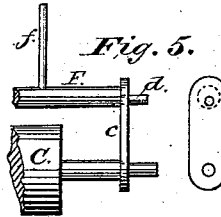
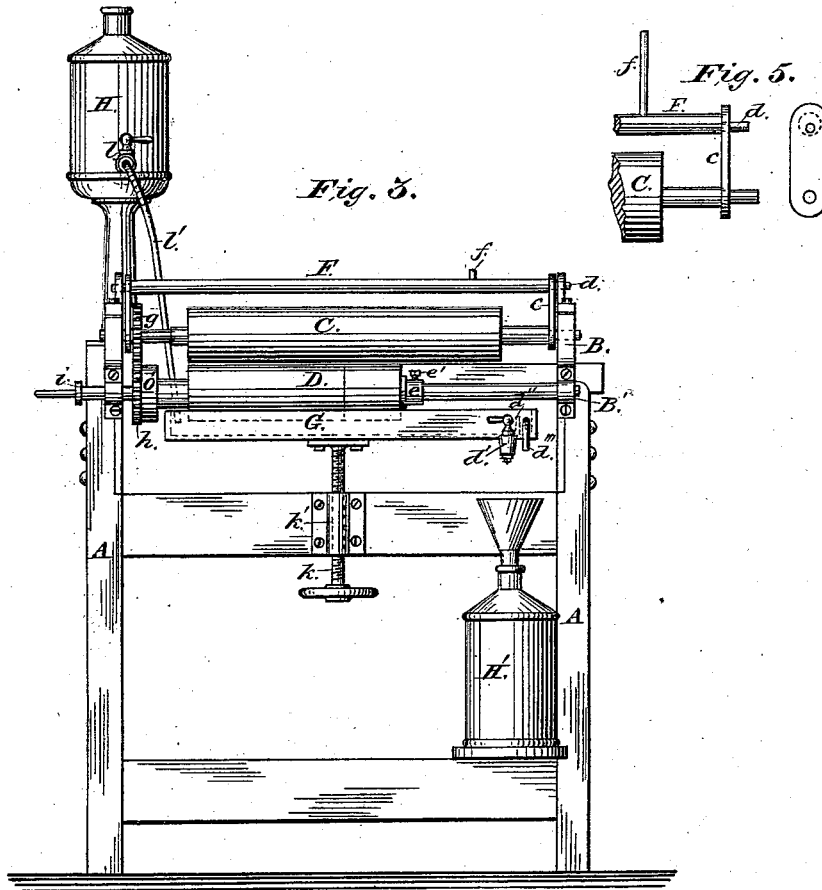


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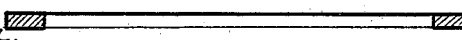


Witnesses:

Clarence W. Mason

John D. Ehlers

Fig. 8.



Inventor:

John T. Turner

UNITED STATES PATENT OFFICE.

JOHN T. TURNER, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN MACHINES FOR VARNISHING, GUMMING, AND SIZING LABELS, PICTURES, AND THE LIKE.

Specification forming part of Letters Patent No. **215,845**, dated May 27, 1879; application filed January 28, 1879.

To all whom it may concern:

Be it known that I, JOHN T. TURNER, of Baltimore city, in the county of Baltimore and State of Maryland, have invented certain new and useful Improvements in Machines for Varnishing, Gumming, and Sizing Labels, Pictures, and the like; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of my invention is to furnish an improved machine for varnishing, sizing, and gumming labels, show-cards, maps, and similar articles to those engaged in this business at a moderate expense.

The nature of my invention principally relates to improvements in machines for applying a coat of water-proof varnish to labels and similar articles, thereby making them more durable and attractive in appearance; and consists in the general construction and arrangement of the machine, and in certain contrivances by means of which it performs its work in a simple and satisfactory manner, dispensing with blankets, requiring no preliminary coat of sizing, using quick-drying varnishes, and having under control the application of the varnish, (only the body of the label requiring to be varnished,) thus saving the varnishing of unnecessary margins, all of which will be more fully described hereinafter, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of my machine. Fig. 2 is a vertical section on the line *xx*, partly in elevation. Fig. 3 is a front elevation of the same. Fig. 4 is a detail view of the shaft and various lengths of varnishing-rolls. Fig. 5 is an enlarged view of the roller-regulating device. Fig. 6 shows the rolls and the manner of laying the labels, &c. Fig. 7 is a front view of the varnishing-roll, showing the labels projecting over the ends of the roll. Fig. 8 is a section of a carrying trough or frame.

In the drawings, A is a suitable table, supported on legs A' A', in the front part of which

are arranged the bearings B B', in which the rollers C and D are journaled. The upper one of these is the pressure-roller, while the lower one is the varnishing-roller. The lower roller is made in sections, so that any width of label can be varnished without extending over the edges of the label, and this is a very important feature of my invention.

The sections E, of the desired width, (shown in Fig. 4,) are placed onto the shaft E', against the collar *e*, and the set-collar *e'* is then secured against the end of the roll by a set-screw.

The pressure-roller C is journaled in a sliding box, *b*, and has at each end a link, *c*, which is connected to a shaft, F, which is journaled in the bearings *a*. The journals of this shaft are made of eccentric form, as shown at *d*, so that by rotating the shaft F by an arm, *f*, the roller C is raised and lowered, as may be necessary.

Near one end of each roller-shaft are secured the gear-wheels *g h*, meshing into each other, and receiving their motion by a crank-handle, *i*, pulley, or any other power.

Below the roller D is arranged the varnish-trough G, having at one end a spigot, *d'*, to empty same when convenient, also a dam, *d''*, and an overflow-pipe, *d'''*, so that the varnish is always kept at a certain level. The varnish-trough is raised and lowered, as may be required, by a screw, *k*, working in a suitable nut, *k'*; or a rack and pinion may be arranged at each side, and operated by a cross-shaft with a worm-wheel, or in any equivalent manner.

On the table, or any other convenient place, is arranged a can, H, containing varnish, having a spigot, *l*, and a pipe, *l'*, leading into the opposite end of the varnish-trough from the dam—that is to say, the varnish is supplied at one end of the trough and flows over the dam at the other, thence through overflow-pipe *d'''* into a suitable receiving-vessel, H', and when accumulated in sufficient quantity can be returned to can H. The supply of varnish to the trough should be regulated by the spigot *l*, so that there would be a slight excess over the quantity actually used on the labels, &c., in order to produce a continuous but small overflow. This important device secures a

constant flow of the varnish, and keeps the same from stagnating and getting into bad condition, and dispenses with agitators, &c.

A short distance in the rear of the rollers C D is arranged a roller, I, over which the endless bands K L pass, and thence over a roller, M, journaled to the rear of the machine, and over a roller, N, journaled in adjustable bars *n* below the table, by which the tension of the bands K L is regulated.

The roller M is preferably provided with grooved parts *m*, which prevent the bands from moving edgewise or laterally. Another belt, O, passes over the pulley O' and over the roller M, by which motion is imparted to said roller M.

The front part of the table A is hinged, as shown at *a'*, so that the parts at the front end can be easily got at for repairs, lubrication, &c.

To regulate the distance between the rollers so that the varnish can be put on in a thick or thin coat, as desired, set-screws with suitable appliances may be used; or serrated or notched disks *o* are arranged under the boxes *b*, upon which they rest when lowered by the shaft F.

A guide, *p*, (shown in dotted lines in Fig. 1.) is arranged on the table, against which the edges of the labels, &c., are fed or placed.

The operation of the machine is as follows: The can H is supplied with varnish and the spigot *l* opened to the proper distance, allowing the varnish to run into the trough G. The pressure-roller C being raised to avoid contact with the varnish, the first label is placed face downward on the bands K L against the guide *p*, and motion is imparted to the machine. The label is carried by said belts or bands K L to the rollers C and D. When actually between them the pressure-roller C is lowered, and the next label is rapidly placed similar to and lapping (as much as may be required) the first, and in like manner with all the others. When the last label has been varnished the pressure-roller is raised, and it can be raised at any time when necessary to stop varnishing without stopping the rotation of the varnish-roller, and thus obviate the necessity of frequent cleaning of the latter and consequent waste of varnish.

The lap presents a clean margin on the label, free from varnish, on coming out through front of rollers, where it is taken hold of by boys and put in suitable trays to dry. These trays are preferably made of a light frame covered with strong paper, so as to make them light and compact, as shown in Fig. 8.

The advantages of my machine are, that it is very simple and compact. There is a continuous flow of varnish. The labels are fed to the machine on the endless-sheet principle, so that there is not the slightest lost motion or waste of time. The thickness of the coat and the extent of the surface of the varnish on the labels, &c., are under the control of the operator.

In every other machine made the varnish is exposed to evaporation on a varnish-roller the entire width of the machine, whereas in mine the varnish-roller must never be wider than the surface to be varnished.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The means herein described of forming a continuous flow of varnish by the can H, spigot *l*, and pipe *l'*, trough G, provided with the dam *d''*, spigot *d'*, and overflow-pipe *d'''*, and the can H, arranged and shown as described.

2. A varnish-roller, D, consisting of the shaft E, sectional pieces E', and collars *e e'*, to give any desired width of varnishing-surface to the roller D, as shown, and for the purpose specified.

3. The combination of the roller C with the shaft F, having the eccentric-journals *d*, links *e*, journals *b*, and the roller D, arranged as shown, and for the purpose set forth.

4. The adjustable varnish-trough G, with the dam *d''*, spigot *d'*, overflow-pipe *d'''*, and the screw *k* and nut *k'*, arranged as shown, and for the purpose described.

5. In a varnishing-machine, the combination of the rollers C D, varnish-trough G, rollers I M, belts K L, and driving-belt O, all arranged as shown and described.

6. In a varnishing-machine, the combination of the rollers C D, varnish-trough G, rollers I M N, and belts K L O, arranged as shown, and for the purpose described.

7. A varnishing-machine consisting of a table, A, rollers C D, varnishing-trough G, eccentric-shaft F, rollers I M N, belts K L O, cans H H', and suitable spigots and pipes, all constructed and arranged as shown, and for the purpose described.

In testimony that I claim the foregoing as my own I hereunto affix my signature in presence of two witnesses.

JOHN T. TURNER.

Witnesses:

CLARENCE W. MASON,
JOHN O. EHLERS.