(No Model.)

J. COMLY.

PRINTING AND EMBOSSING MACHINE.

No. 248,848. Patented Nov. 1, 1881.

Fig. 1.

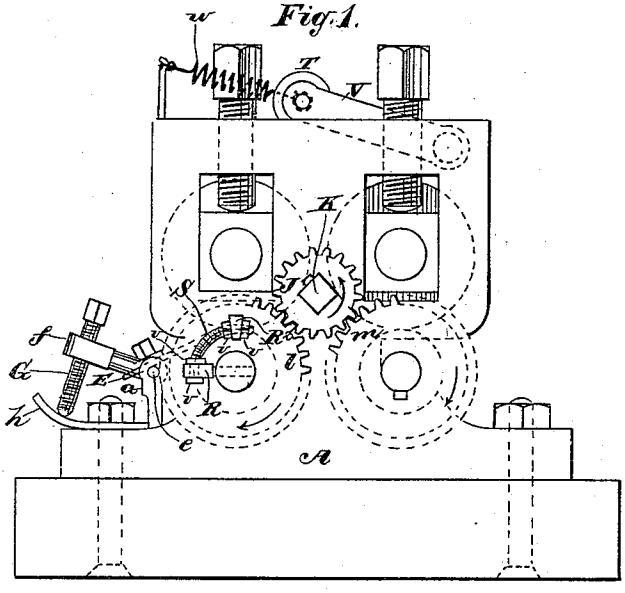
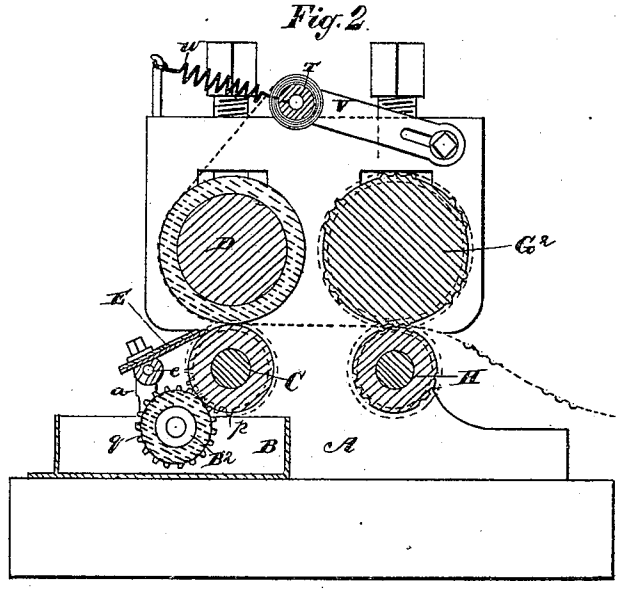


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN COMLY, OF LINCOLN PARK, NEW JERSEY.

PRINTING AND EMBOSSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 248,848, dated November 1, 1881.

Application filed May 21, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN COMLY, of Lincoln Park, in the county of Morris and State of New Jersey, have invented a new and useful Improvement in Printing and Embossing Machines; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention is more particularly intended for printing and embossing paper such as is used for lining and covering boxes, for lining trunks, for papering walls, and for various other purposes; but the invention may also be used for printing and embossing other materials or fabrics besides paper.

The improvement relates to the construction and arrangement of the wiper; also, to means for holding a roll of material in position to be fed to the machine; also, to the general construction and arrangement of parts, whereby a convenient, novel, and effective machine is produced, all as hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side view of an apparatus illustrating a mode of carrying out my invention, and Fig. 2 is a vertical sectional view of the same.

The working parts of the apparatus are supported by a frame, A, of any suitable construction, between the sides of which is arranged an ink-fountain or color-box, B. Over this fountain is journaled the printing-roller C, on the face of which the figures to be printed are cut. Over the printing-roller is journaled the pressure-roller D, the face of which is covered with suitable elastic material.

Over the ink-fountain, and in front of the printing-roller, is a wiper, which I call the "doctor." It consists of a plate, E, of a length equal to that of the roller, and of a width about equal to or greater than the diameter of said roller. Its lower corners are provided with journals or gudgeons *e*, which fit in hooked bearings *a* in the frame A. From one of these journals or gudgeons extends an arm, *f*, through which passes a screw, G, the point of which bears against a plate, *h*, attached to the frame A below the bearing *a*, said plate *h* being elastic to effect the adjustability of the wiper E.

In the frame A, at any suitable distance from the printing-roller, the embossing-rollers are arranged. These consist of a male roller, G^2, and a female roller, H—that is to say, the roller G^2 has the figures cut out, or in cameo, and the roller H has the figures cut in, or in intaglio, and said figures exactly match with each other. The rollers may be both of the same size, or one may be larger than the other, as shown. They are so arranged and geared with relation to the printing-roller that their figures will properly match with the figures printed by the printing-roller. Motion is imparted to the rollers by means of a shaft, K, carrying a gear-wheel, J, which gears with a wheel, *l*, on the shaft of the printing-roller, and a wheel, *m*, on the shaft of one of the embossing-rollers, (a portion of the gear-teeth on said rollers *l* and *m* being shown,) so as to turn them both in the same direction, and the embossing-rollers are geared to each other. The pressure-roller D turns by friction with the printing-roller.

At the end of the shaft of the printing-roller farthest from the gear-wheel *l* is a gear-wheel, *p*, which engages with a gear-wheel, *q*, on a roller, B^2, which takes the color from the fountain B and applies it to the printing-roller. One end of the shaft of the printing-roller extends beyond the outer side of the gear-wheel *l*, which is loosely mounted in said shaft, and carries a short arm, R, extending radially from said shaft, and having a hole near one end, through which passes one end of a curved screw-threaded rod, S, the other end of which passes through a perforated lug, R^2, extending outward from the outer side of the wheel *l*, to which it is attached at a point about forty-five degrees from the arm R, rendering the wheel *l* adjustable. Both ends of the rod S are provided with nuts U, one on each side of the arm R and one on each side of the lug R^2, and by this means the shaft and wheel are secured together. By loosening the inner nuts and tightening the outer ones the arm R and lug R^2 are drawn toward each other, and by loosening the outer nuts and tightening the inner ones said arm and lug are pushed farther apart. By this means the printing-roller and embossing-rollers may be adjusted with relation to each other so as to cause the embossing-rollers to engage with the printed material at the exact point desired, according to whether the entire figure is to be embossed or only a portion thereof.

The paper or other material to be printed and embossed may be fed to the machine in any suitable manner. It is here shown as carried by a roller, T, journaled in arms V, having their rear ends pivoted between the side pieces of the frame of the machine, and their front ends provided with springs *w*, which hold them in an inclined position steadily enough to allow the material to be properly fed to the roller, and at the same time permit the roll of material to readily yield when subjected to sudden or extra strain.

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

1. In a printing and embossing machine, a wiper or doctor having its journals provided with set-screws bearing on elastic plates, substantially as and for the purpose herein described.

2. The adjustable arms provided with springs for holding a roll of material in position to be fed to the machine, substantially as herein described.

3. A printing and embossing machine provided with the printing-roller C, the adjustable wiper, the embossing-rollers G^2 H, and an adjustable spring device for holding the roll of material in position to be fed to the machine, said members being constructed and organized substantially as herein described.

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