H. B. HORTON.

MACHINES FOR PRINTING AND EMBELLISHING LEAD-PENCILS.

No. 190,589. Patented May 8, 1877.

Fig. 1.

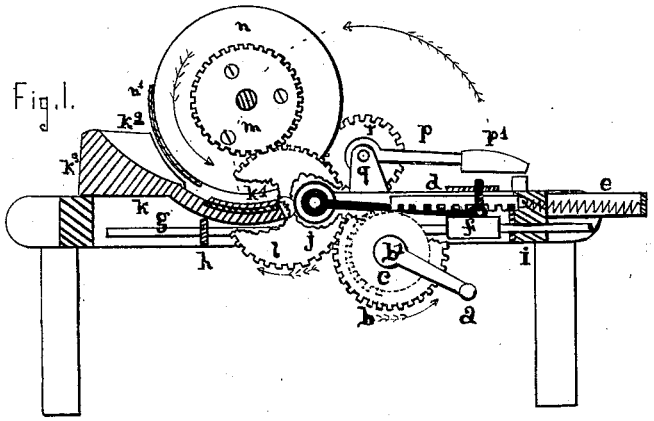


Fig. 4

Fig. 2.

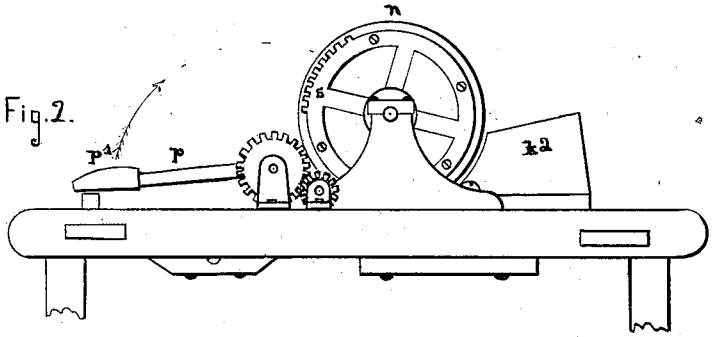
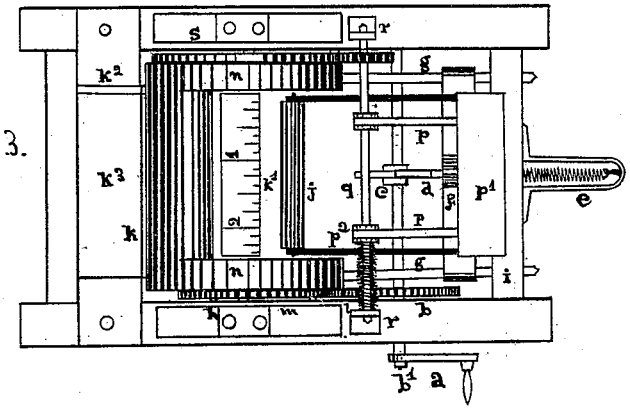


Fig. 3.



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IMPROVEMENT IN MACHINES FOR PRINTING AND EMBELLISHING LEAD-PENCILS.

Specification forming part of Letters Patent No. **190,589**, dated May 8, 1877; application filed March 22, 1877.

To all whom it may concern:

Be it known that I, HENRY B. HORTON, of Ithaca, Tompkins county, New York, have invented an Improvement in Machine for Stamping and Embellishing Lead-Pencils, of which the following is a specification:

The object of my invention is to stamp, print, or fix on a lead-pencil any ornamental or useful design, and this by colors, gold-leaf, or other article whereby an ornamented or useful purpose is subserved and the pencil is embellished thereby; and my invention consists of an improved machine for accomplishing the same, and whose various parts will be apparent as I will describe them.

Figure 1 is a sectional elevation of my machine, showing the general arrangement of the parts thereof. Fig. 2 is a view of the device for moving the leaf-pad to the metallic design on the bed-plate, and Fig. 3 is a plan view of my machine.

In Fig. 1, *a* is a hand-crank, by which the whole machine is operated, attached to any one of the wheels that are connected with the press-roller—as, for example, the wheel *b*, which is attached to the inking or paste roller shaft *b'*. To this shaft the wheel *c* is fast near the middle of the machine, and in Fig. 1 is represented by interrupted lines, as if seen through the wheel *b*. This wheel has cogs on only a part of its periphery, which cogs are represented as having just released the rack *d*, and which rack is retracted by the spring *e*, by an arch over it, represented as cut away, in part, in order to show the hinge of the roller-frame. This cross-bar *f* slides by means of two rods, *g*, to which it is fast, and it will be noticed that these parts, namely, the cog-wheel, rack, spring, cross-bar, and rods, make a sliding frame, supported at the left by the metallic support-bar *h*, and at the right by a similar bar fast to the frame-piece *i*, and that the use of this sliding frame is to move the roller *j*, hinged to the cross-bar *f*. As the crank *a* is turned, as indicated by the arrow, the cogs on the wheel *c* move the rack and its frame to the left, and this moves the roller *j* over the curved bed-plate *k*, which has at its right end the metallic plate k^1, on which is the design to be put on the pencils, and thus the color, paste, ink, sizing, or other article is put by the roller on the metallic bed-plate k^1.

In the wheel *b*, at the left hand, meshes the cog-wheel *l*, intermediate between the cogs *b* and *m*, and it is represented as cut away on each side to show the bed-plate *k* and its metallic plate k^1, and the bed-plate roller *j*, and this wheel *l* meshes into the cylinder-cog *m*, which is fast to the cylinder *n*, and thus the press-cylinder *n* is turned, which is the second motion of the machine.

The third effect produced is seen in part at *p* of this figure. The pad p^1, on the shaft *q*, with wheel *r* on its farther end meshing into a small intermediate cog, and thus to an interrupted cog on the cylinder *n*, are parts of this third motion, which is more clearly seen in Fig. 2, which represents the opposite end of the cylinder of the machine. The object of this pad p^1 moving, as by the arrow, is to take the leaf of gold or silver, or powdered metal, and place it on the metallic bed or plate k^1, and for this the teeth of the interrupted cog-wheel *s* are made just sufficient in number and in position to accomplish this at the right moment, at each revolution of the cylinder, and in the plan view of the machine in Fig. 3 the cylinder is seen as constructed with a large cavity in it, in order to let the pad p^1 into the bed-plate k^1. The bed *k* has a second curved space, k^3, on which a number of pencils are placed, and their guidance into the space between the cylinder and its bed is by the guide bed-piece k^2, fast to the back end of the curve k^3, or a hopper is arranged there, holding many pencils. At each revolution of the cylinder one pencil is, by hand, or by the automatic action of the machinery, fed on the lower curve of the bed *k*, and thus the cylinder *n* rolls it forward, and over the metallic bed-plate k^1, and it receives the stamp, print, color, or gold-leaf, or other ornamentation or embellishment of the design on the metallic bed-plate k^1, as has been said.

An elastic pressure is given to the cylinder *n* by the use of india-rubber sheets, in two places, using one or both, as further experience may show is desirable. First, on the cylinder *n* a piece of sheet-rubber is attached, of just sufficient breadth to roll a pencil over

the lower curve of the bed k and its metallic design-plate k^1, as seen at n'. And this rubber sheet subserves two useful purposes: first, its lower edge, as it comes round, acts as a feed of the pencils, in between the cylinder and bed, automatically; and, second, it insures an elastic pressure on the design-plate k^1. And, as other methods of feeding in the pencils are contemplated by me, I have also introduced sheet-rubber between the plate k^1 and bed k, as will be seen in Fig. 1. This sheet is for the elastic pressure just spoken of, for the purpose of rendering more certain the embellishment of the pencils. It is also apparent that the same arrangement of bed-roller, rubber-sheets, and other parts can be made, be the bed straight instead of curved; further, that at p^2, Fig. 3, on the shaft q, is a spring whose use is to retract the pad p^1 when released from the cogs of the wheel S, Fig. 2; and, lastly, Fig. 4 represents a pencil embellished by a scale of inches and parts of inches, gold or silver leaf or pulverized metal having been used in the machine for such purpose, and in the manner described.

The advantages and uses of my invention, are apparent to those skilled in the art to which it appertains.

I claim—

1. In a machine for embossing and ornamenting lead-pencils, the combination of a pressing-surface with a raised design or printing-surface, whereby the pencil is caused to move, or is rolled between the printing and pressing surfaces, by the action or movement of the parts, and the design imparted or printed thereon, substantially as described.

2. In a machine for embossing or ornamenting lead-pencils, the pressing cylinder or surface n, substantially as and for the purposes described.

3. In combination with the pressing cylinder or surface n, the bed-plate k, substantially as and for the purposes described.

4. In combination with the pressing-cylinder or surface n, the design-plate k^1, substantially as and for the purposes described.

5. The combination, in a machine for embossing and ornamenting lead-pencils, of pressing-surface n, bed-plate k, and design-plate k^1, as and for the purposes described.

6. In combination with the presser n and design k^1, the leaf-applying pad p^1, substantially as and for the purposes described.

7. The combination, in a machine for embossing and ornamenting lead-pencils, of pressing-surface n, bed-plate k, design-plate k^1, and suitable leaf-applying mechanism p^1, substantially as and for the purposes described.

8. In combination with the leaf-applying mechanism or pad p^1, the roller j, rack d, and spring e, whereby the sizing or gum and leaf or embellishing materials are automatically applied to the design-plate, substantially as and for the purposes described.

9. The combination, in a machine for embossing and ornamenting lead-pencils, of pressing-surface n, design-plate k^1, gum-applying mechanism j d, leaf-applying mechanism p p^1, and suitable driving mechanism c b l r, all constructed, arranged, and adapted to operate as and for the purposes described.

HENRY B. HORTON.

Witnesses:

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