H. Holt.

Card Printing Press.

No. 16,837. Patented Mar. 17, 1857.

Fig 1.

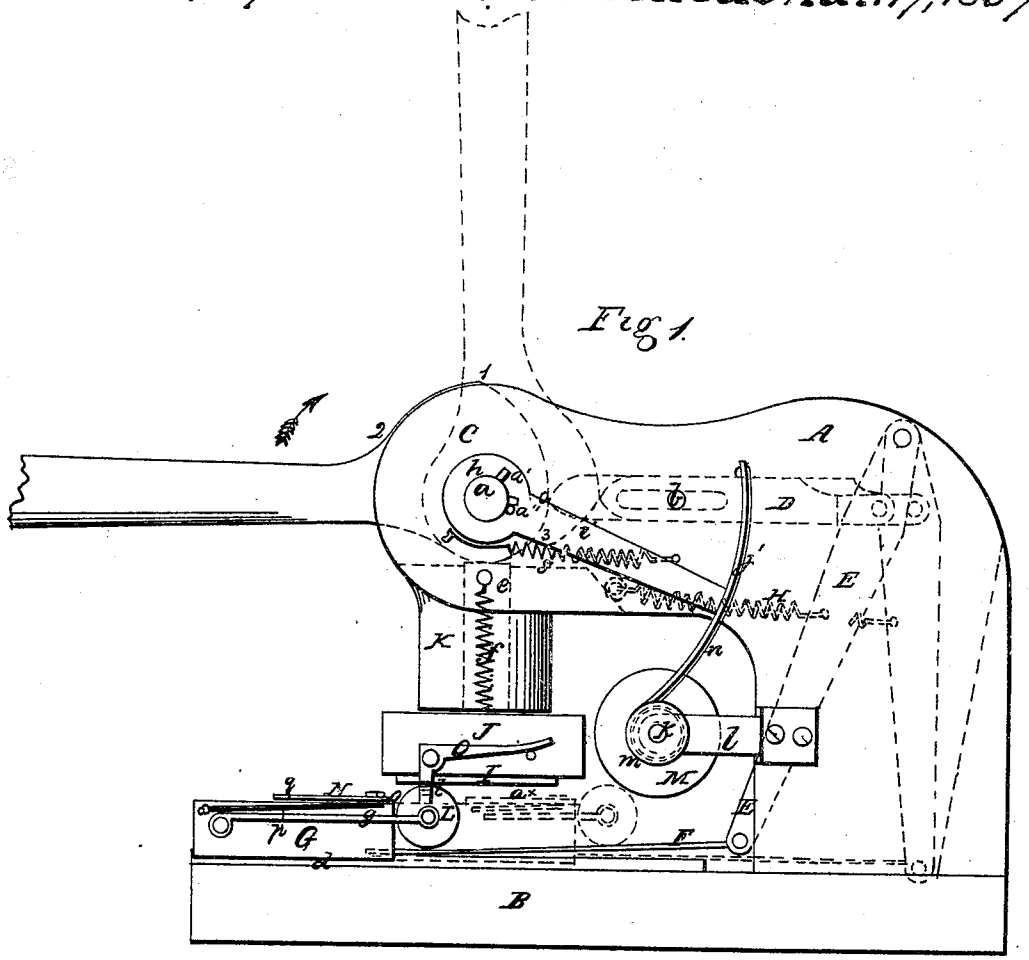
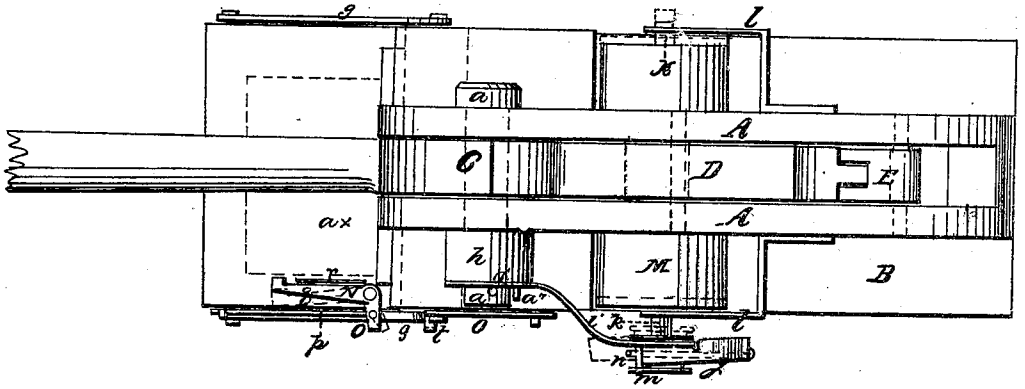


Fig 2.



UNITED STATES PATENT OFFICE.

HORACE HOLT, OF WINCHESTER, MASSACHUSETTS.

PRINTING-PRESS.

Specification of Letters Patent No. 16,837, dated March 17, 1857.

To all whom it may concern:

Be it known that I, HORACE HOLT, of Winchester, in the county of Middlesex and State of Massachusetts, have invented a new and Improved Printing-Press, designed more particularly for printing cards; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side view of my improvement. Fig. 2 is a plan or top view of the same.

Similar letters of reference indicate corresponding parts in each of the two figures.

My invention consists in a peculiar arrangement of parts, which will be hereinafter fully shown and described, whereby the "form" is properly inked, the "platen" drawn underneath the "form", and the "form" pressed down upon the card on the "platen", and the "platen" after the card has received its impression, is forced out from underneath the "form"; the above-mentioned movements being operated by the operation of a single cam.

In combination with the above, my invention also consists in the employment or use of a rotating and vibrating ink-distributing roller, arranged and operating as will be hereinafter described.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, A, represent two metal plates, of bent or curved form; said plates being secured vertically upon a base B, a proper space being allowed between the two plates; the plates and base may be cast in one piece, if desired.

C, represents a cam, the form of which is plainly shown by dotted lines in Fig. 1. This cam is fitted between the plates, A, A, of their outer ends; the axis (*a*) of the cam having its bearings in said plates.

D represents a slide, which is fitted between the two plates, A A, just back of the cam, C. This slide has an oblong slot made through it, in which a guide pin (*b*) is fitted, said pin passing transversely through the two plates, A A, and serving as a guide to the slide. One end of the slide D, is pivoted to the upper part of a pendent arm E, the upper end of which works on a pin (*c*) between the two plates, A A, and the lower end of the arm E, has one end of a rod F connected to it; the opposite end of said rod being connected to a "platen", G, which is fitted upon ways, (*d*) on the base B.

H, is a spiral spring, one end of which is attached to the arm E, and the opposite end to a plate between the two plates, A A. The spring H, keeps the slide D, in contact with the face of the cam C.

I represents the type or "form", which is secured to the under side of a plate J. To the upper surface of the said plate J, an upright rod, (*e*) is attached; said rod being fitted in a cylinder K, secured to the under side of the plates, A, A, at their outer ends. The rod (*e*) is retained within the cylinder K, by means of spiral springs (*f*) the lower ends of which are attached to the plate J, the upper ends being attached to the plates, A A. The cam C bears against the upper end of the rod (*e*) the rod being kept against the cam by the springs (*f*). To the back end of the "platen", G, an ink-roller, L, is attached, the axis of the ink-roller having its bearings in the ends of rods (*g*) (*g*) attached to the sides of the "platen". On one end of the axis, (*a*) of the cam, C, a hub (*h*) is placed loosely, and a radial arm (*i*) is attached to said hub. The outer end of the arm (*i*) has a segment or sector rim (*j*) attached to it; said rim having an oblique position with the arm; the upper end of the rim being nearer to the adjoining plate A, than the lower end, as plainly shown in Fig. 2. A spring (*f'*) is attached to the arm (*i*), the use of which spring will be hereinafter shown.

M represents a distributing ink-roller, the axis (*k*) of which has its bearings in plates (*l*) (*l*), attached to the lower ends of the plates, A, A. The axis (*k*) of the roller M is allowed to slide or work longitudinally in its bearings; and at one end of the axis (*k*) there is a grooved pulley (*m*) in which the rim (*j*) works. A cord (*n*) passes around the pulley (*m*); the ends of the said cord being attached to the ends of the rim (*j*).

To the upper surface of the "platen," G, and at one side, a kneed or bent lever N is pivoted; one arm (*o*) of this lever projects over or beyond the side of the "platen" G, and has a spring (*p*) attached to it; said spring keeping the other arm (*q*) against a ledge or stop (*r*) on the upper surface of the "platen." To one side of the plate, J, a

kneed or bent lever, O, is pivoted; the vertical arm (*t*), of said lever extending downward a trifling distance below the arm (*o*) of the lever, N. To the axis (*a*) of the cam C, at one end, a pin (*a'*) is attached, and this pin acts against a pin (*a''*) on the outer side of the hub (*h*) as will be presently shown.

The operation is as follows: Suppose the cam, C, to be in the position shown in Fig. 2, and by the black dotted lines in Fig. 1. The spring H, of course keeps the "platen" G, thrown out from underneath the plate, J, as shown in black in Figs. 1 and 2. The card (*a x*), shown in red, is placed upon the "platen" G. The cam C is then turned in the direction indicated by the arrow, and moves the slide until the point 1 on the cam reaches the end of the slide D; the "platen," G, will be drawn underneath the "form," I, the roller L inking the "form" I, as it is pressed upward against it by the rods (*g*), which have a certain degree of elasticity. The cam being moved still farther in the same direction, the portion of the cam which previously acted upon the slide now acts upon and depresses the rod (*e*) and plate J, and the "form" is pressed upon the card (*a x*), giving it the impression. The portion of the cam between the points, 0 and 1, is the only part that acts upon the slide D, and rod (*e*); the other portion between the points, 1 and 2, and 2 and 3, being parts of circles of which the axis (*a*) is the center; consequently the slide is not moved, while the portion of the cam between the points, 0 and 1, is depressing the "form". During the time the "form" is being depressed, the distributing roller, M, is rotated by the cord (*n*) on the rim (*j*); the arm (*i*) being moved by the pin (a^1), on the axis (*a*) of the cam, coming in contact with the pin (*a''*) on the hub (*h*); and as the rim (*j*) moves, the roller M is moved longitudinally in its bearings, in consequence of the oblique position of the rim. When the roller M is rotated and vibrated, the roller L is in contact with it, and receives a necessary supply of ink. When the movement of the cam is reversed, the "platen", G, plate J, and arm (*i*) are moved back to their original position by the springs H, (*f*) (*f'*). As the "platen", G is drawn underneath the "form", I, the arm (*o*) of the lever N, on the "platen", will raise the arm (*t*) of the lever, O, on the plate J, and no movement will be given the lever N; but when the "platen" G is moved outward from underneath the "form" I and plate J, the vertical arm (*t*) will actuate the lever N, and cause its arm (*q*) to throw the card (*a x*) from the "platen"; the lever N being brought back to its original position by the spring (*p*).

The above parts, it will be seen, are all operated by the movement of the cam C; and the cam may be provided with a handle, and operated by hand, or other power may be applied, if desired.

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

1. Operating the "platen", G, by means of the cam C, slide D, and arm E, connected with the "platen" by the rod F, and also operating the plate J, to which the form I is attached, by means of the rod (*e*), connected with said plate, and made to bear against the face of the cam, when said parts are arranged as shown or in any equivalent way, so that the "platen" G and form I may be operated conjointly by the cam C, as described for the purpose set forth.

2. I also claim, in combination with the means above named for operating the platen G, the rotating and vibrating ink-distributing roller M, when operated as shown and described.

3. I further claim, throwing the printed cards from the "platen", G, by means of the levers, N, O, attached respectively to the "platen", G, and plate J, arranged as shown and described, or in an equivalent way.

HORACE HOLT.

Witnesses:
S. G. CLARKE,
R. H. MIDGLEY.