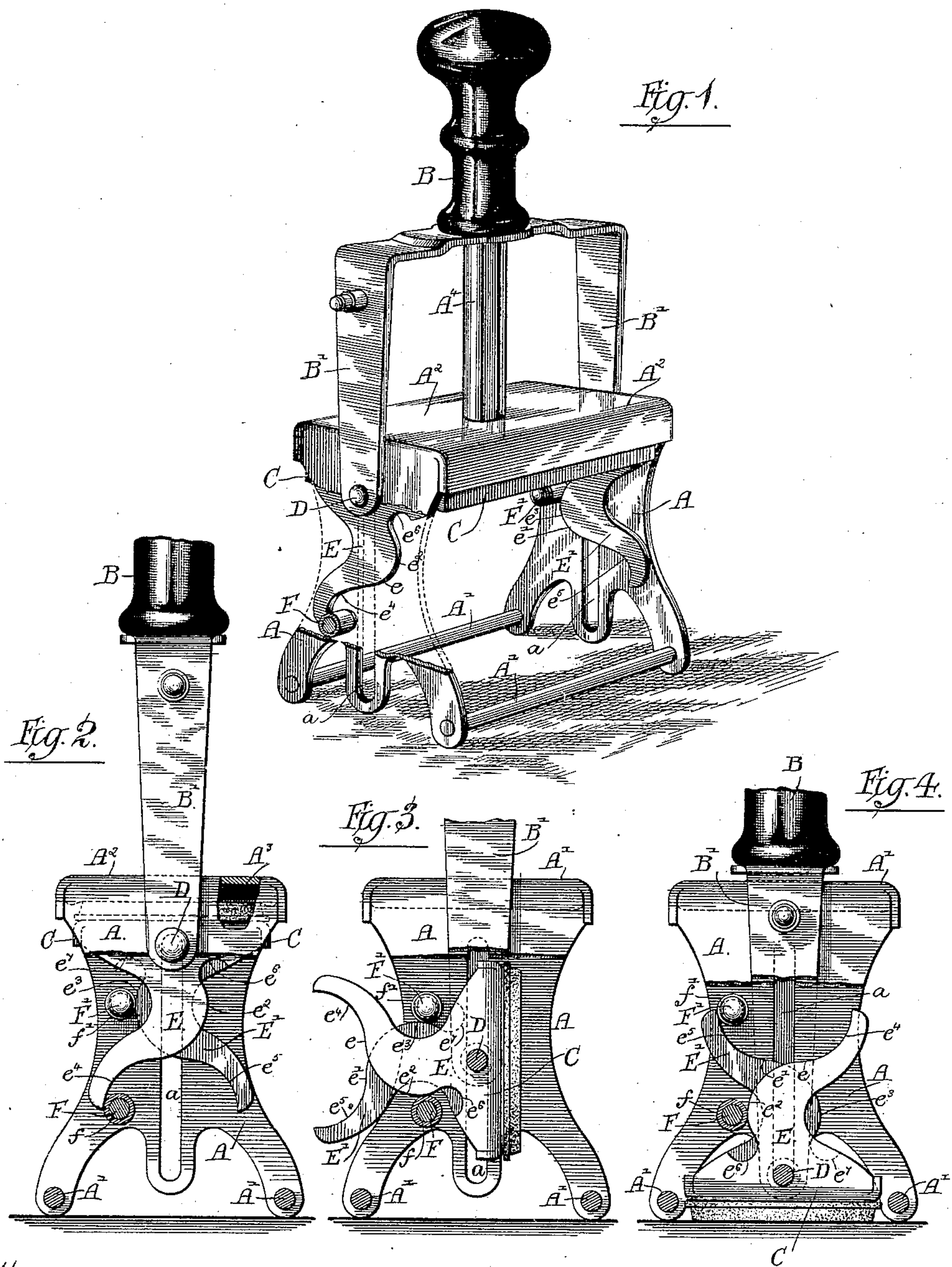


(No Model.)

L. K. SCOTFORD.  
HAND STAMP.

No. 427,916.

Patented May 13, 1890.



Witnesses:-

Louis M. V. Whitehead.

George Higgins Jr

*Inventor:-*

Louis K. Scottford.

By:- Clayton, Poole + Brown.

Attorneys:—



# UNITED STATES PATENT OFFICE.

LOUIS K. SCOTFORD, OF CHICAGO, ILLINOIS.

## HAND-STAMP.

SPECIFICATION forming part of Letters Patent No. 427,916, dated May 13, 1890.

Application filed November 30, 1888. Serial No. 292,265. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS K. SCOTFORD, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Hand-Stamps; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to self-inking hand-stamps of that class consisting of a main part or frame carrying an inking-pad, a forked handle which has sliding connection with the frame, and an oscillating reversible die-plate pivoted to the arms or prongs of the handle, said die-plate being moved bodily and rotated so as to carry it against the inking-pad or against the surface to be printed by a movement of the handle relatively to the frame.

My invention embraces more particularly an improvement in the means for causing the rotation or oscillation of the die-plate when the handle is moved relatively to the frame; and it consists in the matters hereinafter described, and pointed out in the appended claims.

A hand-stamp embodying my invention comprises as its principal features an oscillating die-plate pivotally connected with the forks of the handle and provided with two cam-arms and two pins upon the main frame of the stamp, one pin being located adjacent to the inking-pad and the other at a point remote therefrom, said pins being adapted to engage and act upon said cam-arms in such manner as to cause the die-plate to turn about its pivot when bodily moved toward and from the inking-pad, as will hereinafter more fully appear.

In the accompanying drawings, illustrating my invention, Figure 1 is a perspective view of a hand-stamp embodying the same. Fig. 2 is an end elevation with the adjacent frame-plate broken away to show the cam-arms of the die-plate, said die-plate being shown in position adjacent to the inking-pad. Fig. 3 is a similar view showing the handle partially depressed and the die-plate in a vertical position. Fig. 4 is a similar view showing the handle fully depressed and the die-plate in position for printing.

The main part or frame of the hand-stamp shown in the drawings is made in a familiar manner with vertical end plates A A, each of which is provided with a central vertical slot *a*. Said end plates are rigidly connected with each other at their lower ends by means of horizontal rods A' A' and at their upper ends by means of a horizontal top plate A<sup>2</sup>, which latter is recessed upon its under side to receive an inking-pad A<sup>3</sup>.

B is the handle, which is provided with arms or prongs B' B', which extend outside of the plates A A and are connected at their lower ends with the die-plate C by means of pivot-studs D D, which pass through the said arms or prongs and engage the ends of the said die-plate. The usual spring is applied between the top plate A<sup>2</sup> of the frame and the handle B to retain the said handle normally at the upward limit of its movement and the die-plate in contact with the inking-pad. Said spring is located within a recess of the handle B between the upper end of a guide-rod A<sup>4</sup>, attached to said top plate and the inner end of the recess in the handle. Said spring being constructed and operating in a well-known manner is not made the subject of special illustration herein.

At opposite ends of the oscillating die-plate C, at right angles with the latter, are attached two cam-arms E E', which swing in vertical planes and are engaged by two stationary guide-pins F F', mounted upon the adjacent end plates of the frame. In the particular construction of the parts herein shown the cam-arms E E' are made integral with the die-plate, the die-plate being made of sheet metal, and the said cam-arms formed by projecting end portions of the die-plate, which are bent at right angles to the body of the said die-plate to form said arms.

The working or cam faces *e e'* of the cam-arms E E', which engage the guide-pins, have the form of reversed curves, consisting of convex parts *e<sup>2</sup> e<sup>3</sup>*, adjacent to the die-plate, and concave parts *e<sup>4</sup> e<sup>5</sup>*, remote from the die-plate, and the said cam-surfaces *e e'* of the opposite cam-arms are oppositely located; or, in other words, the cam-surface of one cam-arm is located at the side of the arm adjacent to one side of the die-plate, while that of the other cam-arm is upon the side of the arm nearest



the other side of the die-plate. The guide-pins F F' are arranged in the same vertical plane and at the same side of the central vertical line of the end plate in such manner that when one of said guide-pins, as F', which is nearest the inking-pad, is engaged with the convex part of the cam-surface of one cam-arm the other pin, as F, which is remote from said pad, will be engaged with the concave cam-surface of the other cam-arm. At the base or inner end of the cam-arm E, adjacent to the convex cam-surface  $e^2$  thereof, is formed a notch  $e^6$ , which engages the guide-pin F in the turning of the plate, and at the inner end of the cam-arm E', adjacent to the die-plate, is formed another similar notch  $e^7$ , which is similarly adapted to engage the other guide-pin F'. In the use of the stamp the said cam-arms and the guide-pins engaged therewith operate in turning the die-plate, as follows: Supposing the die-plate to be in contact with the inking-pad, as shown in Figs. 1 and 2, and the handle B is pressed downwardly, as the die-plate is moved away from said inking-pad the guide-pin F', adjacent to the pad, moves along the convex cam-surface  $e^3$  of the arm E' toward the die-plate until said guide-pin reaches the end of the said convex surface and enters the notch  $e^7$ , when by engagement of the pin with said notch that side of the die-plate is held from further downward movement, and the die-plate as the pivots D D are pushed downwardly past the guide-pin F is thereby caused to rotate about said pivots. At the beginning of the downward movement of the die-plate the guide-pin F is engaged with the convex cam-surface  $e^4$  at the outer end of the cam-arm E, and as the die-plate moves downwardly said pin, acting on said cam-surface, tends to turn or rotate the die-plate about its pivot, and thus aids in turning the die-plate until the guide-pin F' has entered the notch  $e^7$ , in the manner above described, when further turning of the die-plate is accomplished mainly by the action of the said guide-pin F' in the said notch, the engagement of said guide-pin F' with the notch  $e^7$  being the principal means of turning the die-plate while the lower guide-pin F is passing from the concave cam-surface  $e^4$  of the cam-arm E to the convex cam-surface  $e^2$  of said cam-arm. The turning of the die-plate by the action of the pin F' in the notch  $e^7$  takes place while the pivots D D are being carried downwardly past the upper guide-pin F', and after said pivots D D have reached a point below said upper guide-pin the lower guide-pin F will begin to act upon the convex cam-surface  $e^2$  of the cam-arm E, thereby holding the latter cam-arm from downward movement as the pivots D D descend, and thereby swinging the said die-plate farther about said pivots until the die-plate reaches a vertical position, as shown in Fig. 3. During the action of the said lower guide-pin F upon the arm E in this manner the upper guide-pin F' will move backwardly along the cam-surface  $e^3$ , or

in a direction away from the die-plate, so that when the handle has accomplished half of its downward movement and the die-plate is vertical said upper guide-pin F' will engage the convex cam-surface  $e^3$  of the cam-arm E', while the lower guide-pin F similarly engages the convex cam-surface of the cam-arm E, so that the die-plate is at this time positively held by the two guide-pins from oscillatory movement about its pivots.

It is entirely clear from the above description that the lower guide-pin F, acting upon the extreme end of the cam-arm E, serves to aid the upper guide-pin F' in turning the plate. During the movement of said lower guide-pin F along the middle part of said cam-arm E, however, the rotation of the plate is accomplished mainly by the action of the guide-pin F' in the notch  $e^7$ .

After the parts have reached the position shown in Fig. 3 the further rotation of the die-plate is accomplished mainly by the action of the guide-pin F' upon the convex cam-surface  $e^2$  of the cam-arm E and the adjacent notch  $e^6$ . When the handle is pressed downwardly from the position occupied by it in Fig. 3, the guide-pin F moves along the convex surface  $e^2$  toward the notch  $e^6$ , thereby holding the said cam-arm E from downward movement, and causing the die-plate to turn about the pivots D D as the latter are depressed. As said pivot-pins D D approach the level of the said guide-pin F the latter enters the notch  $e^6$  and accomplishes the turning of the die-plate, the upper guide-pin F' at this time passing from the convex cam-surface  $e^3$  to the concave cam-surface  $e^5$  of the cam-arm E'. After the pivots D D have moved past the guide-pin F the latter moves backwardly out of the notch  $e^6$  along the cam-surface  $e^2$ , and serves to further turn the die-plate until the latter is horizontal and is brought into contact with the surface to be printed, as shown in Fig. 4. As the die-plate approaches the surface to be printed, however, the upper guide-pin F' is engaged with the end portion of the cam-arm E', so that said guide-pins together hold the die-plate horizontal at the time the impression is made. In other words, as clearly shown in Fig. 4, the lower guide-pin F, acting upon the convex cam-surface  $e^2$ , holds the guide-plate from tipping in one direction, while the upper guide-pin F', acting upon the convex cam-surface  $e^5$ , serves to hold the die-plate from turning in the opposite direction. Said guide-pins, acting upon the cam-surfaces in this manner, serve to hold the die-plate accurately parallel with the surface to be printed at the time of printing.

In the return or upward movement of the die-plate the action of the guide-pins on the cam-arms, above described, is obviously repeated in reverse order, the guide-pins F F' holding and guiding the guide-plate parallel with the inking-pad as said die-plate approaches said pad in the same manner, as the



said guide-pins hold the guide-plate accurately in the horizontal position when the impression is being made.

As a further and separate improvement I provide the guide-pins F and F' with anti-friction rollers *ff'*, which engage the cam-arms E E' in the operation of the stamp. In stamps of a similar character as heretofore made guide-pins for turning the die-plate have engaged slotted plates upon the die-plate, and in this construction anti-friction rollers would be of no use, for the reason that a pin provided with such a roller acting in a slot comes in contact with both sides of the slot. In the construction herein shown, however, wherein the die-plate is provided with arms having lateral cam-surfaces, the guide-pins engage the arms at one side only, so that anti-friction rollers may be advantageously used. In hand-stamps having slot-and-pin connections the slots are found to wear away to a greater or less extent at the points where pressure comes thereon in turning the die-plate, so that in time the parts become loose and fail to operate properly. When the anti-friction rollers are present, as above described, however, there is no rubbing of the guide-pins upon the cam-surfaces engaged therewith, the anti-friction rollers rolling smoothly over the opposing surfaces of the cam-arms, so that not only does the stamp operate more smoothly and with less noise, but the life of the stamp is greatly prolonged.

An important advantage gained by the construction in the die-plate-turning devices herein shown over those embracing a slot-and-pin connection—such, for instance, as is illus-

trated in Letters Patent No. 288,385, granted to G. Van Zandt, November 13, 1883—is that in the construction herein shown the turning of the die-plate is accomplished mainly by the direct or lateral pressure of the guide-pins against the sides of the notches *e<sup>6</sup> e<sup>7</sup>*, while in the construction shown in that patent the turning is accomplished partially by the action of the pin in the part of the slot nearest the die-plate and partially by the action of the guide-pin in the obliquely-inclined part of the slot remote from the die-plate. It is entirely obvious that the turning of the plate is accomplished with much less frictional resistance by the acting of said guide-pins in the said notches than by the engagement of a guide-pin with the oblique part of a cam-slot, as in the device shown in said patent above referred to.

I claim as my invention—

The combination, with the frame of a self-inking hand-stamp and an inking-pad supported thereon, of a die-plate provided with two cam-arms, one at each end, having oppositely-curved cam-surfaces, and a guide-pin upon each end of the frame, severally engaging the said cam-arms, one of said pins being located adjacent to and the other remote from the inking-pad, substantially as described.

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

LOUIS K. SCOTFORD.

Witnesses:

C. CLARENCE POOLE,  
GEO. W. HIGGINS, Jr.