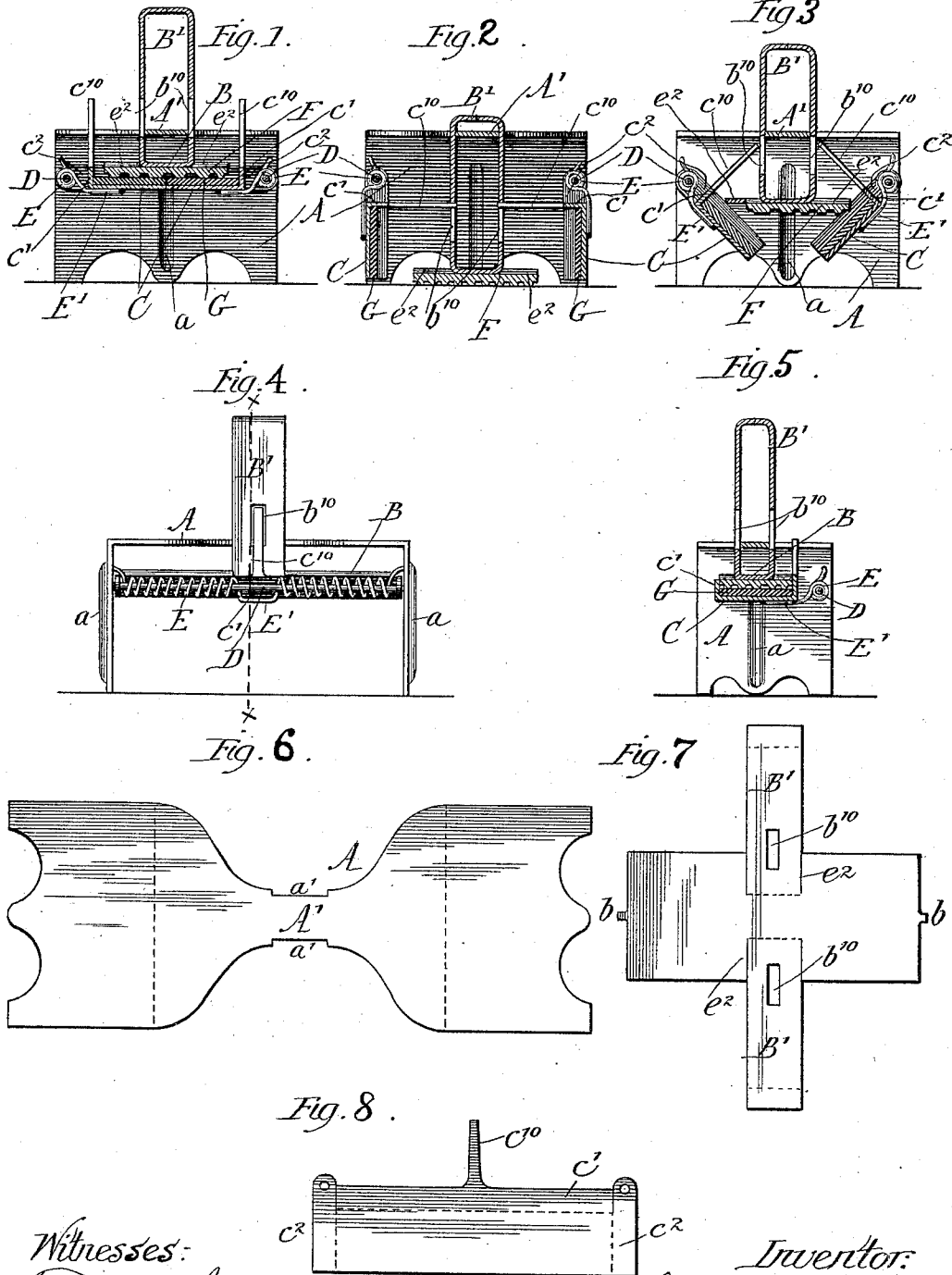


(No Model.)

C. S. BURTON.
SELF INKING STAMP.

No. 449,309.

Patented Mar. 31, 1891.



Witnesses:
Frank S. Blanchard
Jean Elliott

Inventor:
Chas. S. Burton

UNITED STATES PATENT OFFICE.

CHARLES S. BURTON, OF CHICAGO, ILLINOIS.

SELF-INKING STAMP.

SPECIFICATION forming part of Letters Patent No. 449,309, dated March 31, 1891.

Application filed November 26, 1886. Serial No. 219,959. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. BURTON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Self-Inking Stamps, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part thereof, wherein—

Figure 1 is a transverse vertical section showing the stamp closed, the ink-pad in contact with the printing-face section being made at the line *xx* on Fig. 4. Fig. 2 is a section at the same plane, showing the die depressed, as at the instant of imprinting. Fig. 3 is a section at the same plane, showing the die partly depressed and the ink-pad in position to actuate it upward. Fig. 4 is a side elevation, the parts being in the position of Fig. 1. Fig. 5 is a section similar to Fig. 1 showing only a single ink-pad. Fig. 6 is a plan of the blank from which the frame is made. Fig. 7 is a plan of the blank from which the die-holder is made. Fig. 8 is a plan of the blank from which each of the pad-holders is made.

A is the frame.

B is the die-holder or plunger.

C is the ink-pad holder.

D is a shaft on which the ink-pad holder is pivoted.

E is a spring, which is coiled about the shaft D and operates the ink-pad holder, causing it to fold up against the die, and in so doing to force the latter and the die-holder upward in the frame.

F is the die or stamp containing the printing-face.

G is the ink-pad.

The frame A has guide grooves or slots *a a* for the die-holder B, and the latter has the projections *b b* at the ends to fit and slide in said grooves or slots. The frame A also has any convenient means for guiding the die-holder at the middle. As these parts are constructed, the die-holder has the inverted U-shaped stem B', which strides the cross-bar A' of the frame, and the latter has the notches *a' a'*, in which the arms of said stem B' rest and slide, being guided thereby. The guiding of the die-holder in the frame may be accomplished in many other familiar

ways. The method hereinabove described, however, enables me to make the device very cheaply and of few pieces, as hereinafter more fully set forth.

The ink-pad holder C is pivoted on the shaft D, so that the plane of its inked surface—the plane at which the die comes into contact with it—passes through the axis of the said shaft. While it is not absolutely essential that this rule of construction be rigidly observed in the case of the narrow dies, it must be approximately followed, and in wide dies, the approximation must be quite close in order to effect the purpose, which is to avoid the necessity for any movement of the ink-pad in order to clear the die before the latter begins to descend or to come into contact after it has risen. If the pivot of the ink-pad were in a different plane from the inking-surface of the pad which is in contact with the printing-surface of the die, the simultaneous commencement of the movement of both die and pad would cause the inking-surface to slide over a portion of the die-surface on the edge toward the pivot and smear the printing-face of that part while it is swinging up toward the plane of the face, and there will also be a liability that the more remote portion of the printing-face will not be brought into contact with the pad and will not receive ink. When, however, the pivot of the pad-holder is in the plane of the inking-surface, the two surfaces—the inking-surface and the printing-surface—separate like the leaves of a hinge, the movement of the inking-surface at the first instant of separation being at right angles to the printing-face, so that the die, descending at the same instant, moving also at right angles to its own printing-face, becomes separated from the pad only by virtue of its slower movement, the separation being as direct as if it had remained stationary and only the pad had moved.

The ink-pad holder is forced and held upward by the spring, which is preferably coiled around its shaft D and stopped against the frame A at the ends, and against the pad-holder at the middle part, where it is provided with the loop E' for that purpose, being preferably coiled in opposite directions from that loop. It is forced downward by the engagement of the die-holder upon its upraised rims

or flanges c^2 at the ends, the die-holder descending, sliding along said flanges, and so swinging the pad-holder downward and outward. In order that this movement should be possible, the pivot of the pad-holder must be outward from the vertical plane of the edge of the die-holder, which thus engages the flanges, and being thus located, the nearer edge of the printing-face in the die-holder being necessarily a little farther from said pivot than the engaging and actuating edge of the flange c^2 , the movement of the part of the pad in contact with said nearer edge of the printing-face is more rapid because farther from the pivot than that of the die-face in contact with it, since said die-face descends directly and no point moves any faster than the actuating-edge e^2 .

The die-holder is returned upward after the impression is made by the action of the pad-holder by the force of the spring E. Ordinarily the edge of the die-holder is far enough inward from the vertical plane of the pivot of the pad-holder, so that the edge of the flange c^2 of the latter at the lowest position of the die is sufficiently inclined to adapt it to start the die upward, and as it moves up the angle of the engagement between the parts improves—that is, the angle between the actuating-edge of the flange b^2 —and the vertical line of movement of the die increases, and the “purchase” of the actuating part against the actuated part increases, so that the movement, once started, is certain to continue until the die and pad are restored to their initial position; but in some cases I find it desirable to locate the pivot-shaft E so near the vertical plane of the edge of the die-holder that the angle between them when the die is down is so acute that the holder cannot start the die up, and in that case I provide the lug or tooth c^{10} , projecting most conveniently from the edge of the flange c' of the pad-holder, and made of such length that when the pad-holder is swung down to the lowest point the said lug will project inward to the vertical plane of some part of the descending die-holder, so that it may engage the same. As shown constructed in the drawings, the most convenient part to adapt for this purpose is the stem b' , and it is adapted to be engaged by the tooth c^{10} by being provided with the slot b^{10} , into which the tooth c^{10} passes as the pad-holder swings, and as the die-holder descends the slot terminates at such point that its upper boundary comes into contact with the tooth before the die-holder reaches the lowest point, and when the die-holder is relieved of the pressure of the hand of the operator the pad-holder, actuated by the spring E, causes the tooth c^{10} to actuate the die-holder and start it upward, and before the said tooth passes clear of the slot the die-holder has risen so far that the edge of the flange c^2 engages it at a sufficient angle to actuate it the remaining distance, as first above described.

When the die is of considerable width, I pre-

fer to provide two pad-holders pivoted one on each side and covering each one-half of the die, as shown in the drawings. By this means the height of the entire device is much reduced, because the stroke of the die, which is necessarily as great as the width of the pad-holder, is reduced one-half. The advantages of this construction over others hitherto in use are the greater compactness and greatly diminished height, and these advantages are attained by three principal features: first, pivoting the pad-holder approximately in the plane of the inking-surface, whereby the preparatory and final movement of the die are rendered unnecessary; second, locating the actuating-spring about the horizontal shaft of its pad-holder instead of in or about the vertical stem of the die-holder and using therefore a torsion instead of a compression spring, since the use of the latter involves telescoping the handle and giving it when not in use a length at least double the stroke it is to make; third, dividing the pad-holder into halves, and thereby dividing its stroke by two.

In the common form of plunger self-inking stamps the entire height is necessarily more than three times the length of the stroke, and the length of the stroke is necessarily from one-fifth to one-third greater than the width of the die, whereby the height becomes from five to eight times the width of the die.

By embodying in my construction the three features above mentioned I am able to make the entire height not to exceed double the width of the die.

I claim—

1. In combination with the frame, the ink-pad holder pivoted to the frame, the axis of its pivot being horizontal, a spring which actuates the pad-holder to rock it about its pivot, and the die-holder reciprocating vertically in the frame and operated upwardly by the ink-pad holder, substantially as set forth.

2. In combination with the frame, the ink-pad holder pivoted thereto and rocked about a horizontal axis, the die-holder reciprocating vertically in the frame past the axis of the pad-holder, a spring actuating the pad-holder and rocking it about its pivot, the pad-holder having a flange c^2 , which engages the edge of the die-holder, the distance of the pivot of the pad-holder from the path of reciprocation of the proximate edge of the die-holder being greater than the width of the flange, whereby the spring which actuates the pad-holder through said pad-holder actuates the die-holder, substantially as set forth.

3. In combination with the frame and the die-holder reciprocating therein, the ink-pad holder pivoted to the frame and swinging up against the printing-face of the die and having a projection, as the tooth c^{10} , at an angle with the inking-surface engaging the die-holder, substantially as and for the purpose set forth.

4. In combination with the frame and the die-holder reciprocating therein, the two ink-

pad holders pivoted on opposite sides of the
path of reciprocation of the die-holder and
folding up against the printing-face of the
die and meeting edge to edge, substantially
5 as set forth.

In testimony whereof I have hereunto set
my hand, in the presence of two witnesses, at

Washington, District of Columbia, this 26th
day of November, A. D. 1886.

CHAS. S. BURTON.

Witnesses:

REX SMITH,
A. M. SMITH.