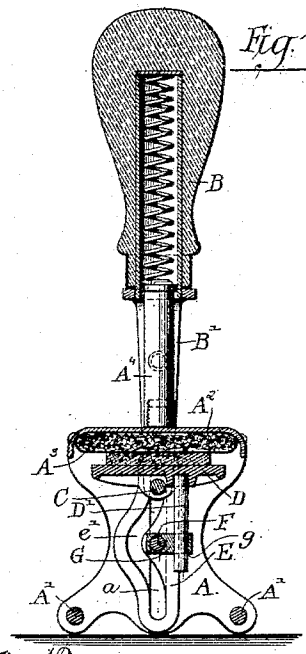
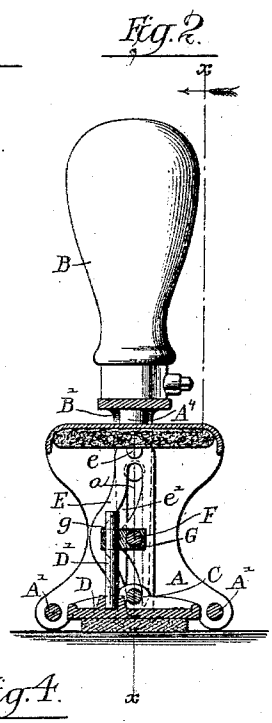
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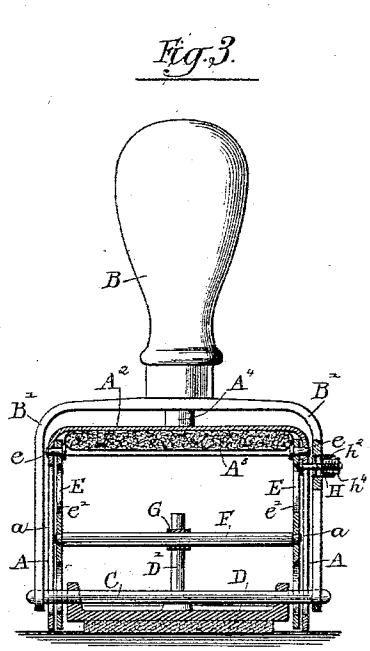
L. K. SCOTFORD.

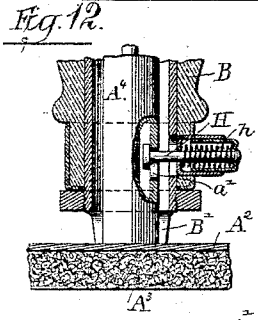
HAND STAMP.

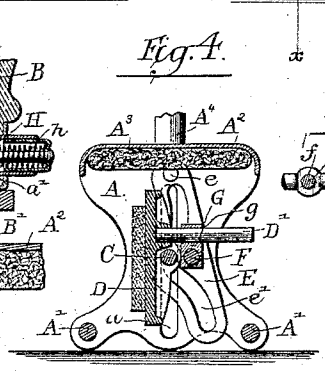
No. 356,732. Patented Jan. 25, 1887.

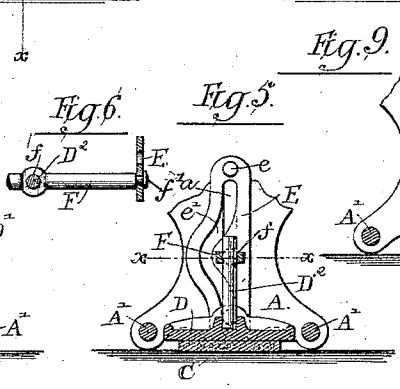


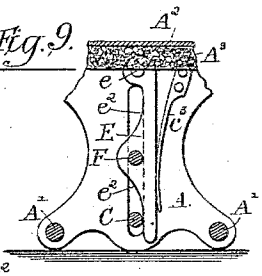


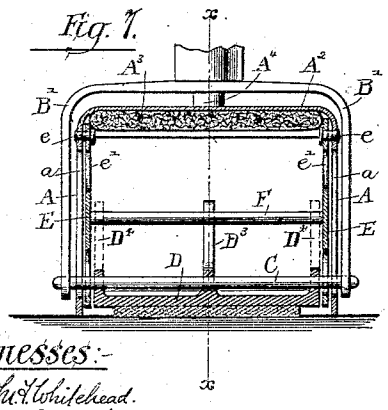


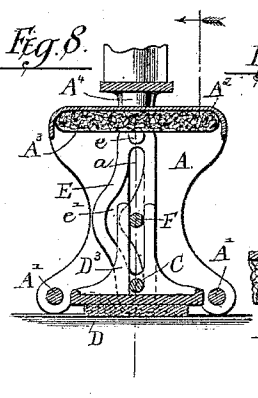


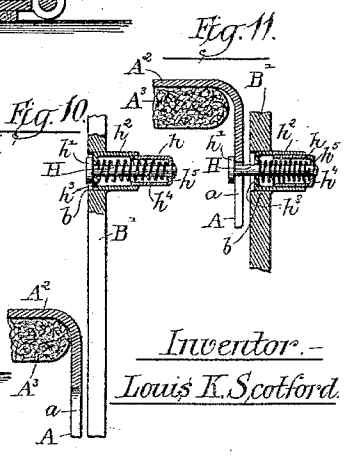












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C. C. Poole

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UNITED STATES PATENT OFFICE.

LOUIS K. SCOTFORD, OF ENGLEWOOD, ASSIGNOR TO THE SCOTFORD MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS.

HAND-STAMP.

SPECIFICATION forming part of Letters Patent No. 356,732, dated January 25, 1887.

Application filed April 10, 1886. Serial No. 198,496. (No model.)

To all whom it may concern:

Be it known that I, LOUIS K. SCOTFORD, of Englewood, 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 an improvement in self-inking hand-stamps of that class having an oscillating or reversible die-plate pivoted to arms or forks attached to a handle which has sliding connection with the main part or frame of the stamp, and in which the die-plate is moved, so as to carry it against an inking-pad supported in the frame or against the surface to be printed, by a relative movement of the said handle and frame.

The invention embraces certain improvements in hand-stamps of the character above set forth, containing devices for moving the die-plate, such as are shown in the prior Letters Patent No. 233,285, dated October 12, 1880, and No. 284,243, dated September 4, 1883, both granted to the present applicant, and also an improved stop or locking device for holding the handle and frame in the position in which the die-plate is remote from the inking-pad to enable access to be had to the face of the latter for the purpose of reinking it.

In the prior Letters Patent No. 233,285, above mentioned, means are provided for reversing or oscillating the die-plate, consisting of a laterally-swinging plate pivoted to one of the side plates of the frame and provided with a curved slot engaged with the cross-bar forming the pivot of the die-plate, said swinging plate being provided with an inwardly-projecting stud engaged with a slotted arm upon the die-plate, so as to guide and hold the latter in position for inking and for printing at the opposite limits of its movement.

The device shown in the Letters Patent No. 284,243 is generally similar to that above described, the slotted plate in said Patent No. 284,243 being provided with an apertured guide-block pivoted to the plate, and having sliding engagement with a rod or bar fixed in the die-plate.

A device embodying that part of my invention which relates to the means for operating the die-plate comprises, in connection with an oscillating die-plate pivotally connected with the forks of the handle, two swinging plates pivoted to the inner faces of the end plates of the frame and a cross-bar connected at its ends with said swinging plates and having sliding engagement with an arm or projection upon the die-plate, so as to cause the latter to turn about its pivot in the downward movement of the handle in a well-known manner. One important advantage gained by the employment of two swinging plates and a cross-bar connecting them is that the cross-bar, in connection with the pivots connecting the plates with the frame, serves to hold the said plates accurately in position with relation to each other and the frame, so that said plates will be caused to swing smoothly in parallel planes, with the result of avoiding the frictional resistance and consequent irregularity of motion liable to occur in stamps of this class.

In the use of hand-stamps of the general character above set forth, in which the main part or frame and handle are relatively moved in one direction by means of a spring, which holds the printing-surface of the die-plate usually in contact with the inking-pad, it is desirable, in order to enable the pad to be conveniently reinked, that means should be provided for holding or locking the handle and frame in the position in which the die-plate is remote from the said pad. For this purpose I have provided the spring-catch hereinbefore referred to, and which comprises, mainly, a sliding pin or bolt in one of the moving parts of the stamp, adapted to engage a recess or aperture in the other part, and a spring applied to hold said pin or bolt at the outward limit of its movement, so as to avoid liability of its becoming engaged with the recess in the usual working of the stamp, said pin or bolt having a head or projection upon its inner end adapted to engage the edge of the recess or aperture, so that when the parts are locked the bolt will be held from withdrawal unless the handle and frame are intentionally moved for the purpose of releasing the said pin.

The invention embraces also certain improved details of construction connected with the said spring-catch, as will hereinafter fully appear.

In the accompanying drawings, illustrating my invention, Figure 1 is a view in central vertical section of a hand-stamp embodying my improvement. Fig. 2 is a similar sectional view, showing the stamp illustrated in Fig. 1 with the handle depressed and the die-plate in position for printing. Fig. 3 is a sectional view taken upon the line *x x* of Fig. 2. Fig. 4 is a sectional view of the device shown in Figs. 1, 2, and 3, illustrating the die-plate in its intermediate position. Fig. 5 is a detail sectional view of a form of guide for the die-plate, differing somewhat from that shown in Figs. 1, 2, and 3. Fig. 6 is a detail section taken upon line *x x* of Fig. 5. Fig. 7 illustrates in longitudinal vertical section still another form of stamp embodying my invention. Fig. 8 is a transverse sectional view of the form of the stamp shown in Fig. 7, taken upon line *x x* of the latter figure. Fig. 9 is a view illustrating a modified form of the oscillating or swinging plate to which the die-plate guide-bar is attached. Fig. 10 is a fragmentary, sectional view of part of the main frame and one of the forks or arms attached to the handle, illustrating a spring-catch or locking device applied thereto. Fig. 11 is a fragmentary sectional view containing the same parts that are shown in Fig. 10 in their position when locked. Fig. 12 is a sectional view illustrating the locking device as applied to the base or lower end of the handle and engaging the spindle or plunger.

The main part or frame of the hand-stamp shown in the drawings is made in the usual manner—with end plates, A, provided with vertical slots *a*, and connected by means of transverse rods A′, and a top plate, A^2, recessed upon its under side to receive the inking-pad A^3. B is the handle, which is provided with arms or forks B′ extending outside of the plates A, and sustaining at their lower ends a rod, C, which passes through the slots *a* and the said plates A, and pivotally supports the oscillating die-plate D.

E are oscillating or swinging plates located adjacent to the inner faces of the plates A A, and pivoted at their upper ends to said plates by means of studs or pivot-pins *e*. Said plates E are provided with curved slots *e′*, through which the pivot-rod C of the die-plates passes, and to the middle parts of the said plates are secured the ends of a rod, F, having sliding engagement with the part or projection upon the die-plate in such manner that the die-plate will be caused to turn about the pivot-rod C, and will be held in proper position both when brought into contact with the inking-pad and when carried against the surface to be printed, such devices operating generally in the same manner as the corresponding devices for the same purpose shown as applied to one end of the die-plate, and connecting the latter with a single oscillating or swinging plate, such as are shown in the prior patents hereinbefore referred to.

In the particular form of the device shown in Figs. 1, 2, and 3, a metal guide-block, G, is pivotally supported upon the bar F, said block being apertured, as indicated at *g*, for engagement with a guide-rod, D′, which is rigidly fixed in the rear face of the die-plate at one side of the pivot-rod C, said block operating in the same manner as a similar guide-block shown in Letters Patent No. 284,243, above mentioned, to cause the reversal of the die-plate and to bring it accurately into contact with the inking-pad and the surface to be printed. In this case, however, the guide-block is adapted to slide longitudinally as well as to rotate upon the rod F, so that in case the rod D′ is slightly out of perpendicular with relation to the die-plate the block will be free to move laterally, and thereby prevent the parts from binding in the movement of the said rod D′ through the block.

In Figs. 5 and 6 another form of the device is shown, in which the die-plate is provided with a guide-rod, D^2, fixed in the middle of the die-plate and engaging an aperture, *f*, in the rod F, said rod F in this case being constructed to turn at its ends in the plates E, as clearly shown in Fig. 6. In the particular construction illustrated in Fig. 5 the pivot-rod C is shown as replaced by short pivots at both ends of the die-plate; but said pivot-rod may obviously be constructed otherwise than as shown in said figure, as may be found desirable or expedient in practice.

In Figs. 7 and 8 another form of the device is shown, in which the die-plate is provided with a slotted arm, D^3, at its middle, engaging the said rod F and operating in the same manner as the similarly constructed part shown in Letters Patent No. 233,285 to control the movements of the die-plate. I have shown in dotted lines in Fig. 7 two arms, D^4 D^4, one at each end of the die-plate, which may take the place of the arm D, above referred to. The use of a single central arm is preferred for reasons hereinafter stated.

In Fig. 9 is shown an equivalent construction in the oscillating plate E, in which the latter, instead of being provided with curved slots *e′ e′*, is made with a curved or cam surface, e^2, which surface is held in operative engagement with the rod C by means of springs e^3 e^3, suitably applied for the purpose, said springs, as shown in the drawings, being of leaf form and attached to the plates A, with their free ends bearing against the edges of the plates E E, as clearly shown in the drawings.

By the employment of two slotted plates, E, such as are above described in connection with a bar or rod, F, secured at its ends in said plates, several important advantages are obtained. One advantage is that I am by this

construction enabled to locate the guide devices connecting the rod with the die-plate at the middle instead of at the end of the latter, whereby the motion of the die-plate is made much more smooth, even, and certain, owing, principally, to the application of the power for turning the plate at a point midway between its pivotal supports, so that equal pressure is brought upon each.

In the use of a single oscillating or swinging plate at one end of the frame, connected with one end of the die-plate—such as is shown in the prior patents above mentioned—the said swinging plate, by reason of its being held by a single pivot at its upper end, is liable, especially after the parts have become somewhat worn by use to rub at its lower end against the inner face of the frame-plate to which it is pivoted, and thereby cause frictional resistance to the motion of the parts and irregularity in the operation of the stamp. By connecting one end of the die-plate with said single oscillating plate through the medium of a stud extending inwardly from the face of said plate, the liability of frictional engagement between the swinging plate and the frame is increased, inasmuch as lateral pressure upon the stud will obviously tend to twist the plate upon its pivot, and thereby throw one or the other of its side edges into contact with the frame-plate to which it is pivoted. An objectionable contact of the oscillating plates with the frame-plates in the last manner described is especially liable to occur in the device shown in the prior Letters Patent No. 284,243, owing to the fact that the guide-rod therein shown is secured upon the die-plate at a point somewhat distant from the oscillating plate, this construction being necessary by reason of the use of the pivoted guide-block upon the oscillating plate for engaging the guide-rod.

By the construction herein shown and claimed not only are the two swinging plates held from spreading or from any outward movement at their lower ends, which would allow them to come against the end parts of the frame, but any liability to a twisting of the said plates is entirely obviated, owing to the fact that the arm upon the die-plate is engaged with the cross-bar attached to said plates, so that motion is transmitted to said die-plate through both of said plates, and the strain thereby occasioned comes equally upon each, and has therefore no tendency to throw said plates out of the planes in which they normally swing. It will be observed that these improved results are obtained in the construction shown in Figs. 5 and 6, wherein the said rod is pivoted in said plates, as well as in the construction illustrated in the other figures of the drawings, in which the rod F is fixed at its ends in the plates E, the plates in the construction shown in said Figs. 5 and 6 being held from spreading by heads f' upon the ends of the rod F.

I have found in the case of a stamp made as shown in Figs. 7 and 8, in which the rod F is engaged by a slotted arm upon the die-plate, that in the rapid and forcible sliding and rotary movement of the slotted arm about the rod, which takes place in the operation of the stamp, the rod and the sides of the slot acting against it become rapidly worn away, this result being due to the small area of contact (theoretically a line) between the cylindric rod and the plane bearing-surfaces of the slotted arm. This rapid wearing of the surfaces in contact produces in a short time an objectionable looseness of the parts and consequent uncertainty of movement and rattling noise in the operation of the stamp. The injurious effects thus occasioned are increased as soon as the parts are worn, so as to permit a slight lateral play between the rod and slotted arm by the forcible impingement or striking of the side portions of the arm against the rod, as the plate is quickly swung about its pivot in working the stamp, such impingement or striking producing notches or indentations in the arm at the points of its contact with the rod, so as to allow a still greater amount of play between the parts.

By the employment of the construction shown in Figs. 1 to 4, in which the rod attached to the die-plate is provided with a wide bearing in the guide-block G, any objectionable result of the character above set forth is entirely avoided.

Another important advantage is gained by the employment of the guide-block G, when the latter is made to slide freely endwise upon the rod F, instead of being held upon a stud, as shown in the prior Patent No. 284,243, for the reason that binding of the parts will be prevented in case the guide-rod upon the die-plate is, from any reason, slightly out of line, as hereinbefore mentioned. By reason of these improved results obtained by the construction in which a guide-rod upon the die-plate is engaged by a guide-block, G, mounted to rotate and slide upon the rod F, this construction is herein specifically claimed as part of my invention.

The spring-catch or locking device for holding the parts of the stamp in position for inking the pad A^2 is illustrated in Figs. 10, 11, and 12. The said catch consists, essentially, of a sliding pin, H, which is shown in Figs. 10 and 11 as being mounted to slide in one of the arms B′ attached to the handle of the stamp in such position that it may be thrust inwardly to engage the upper end of the slot a in the plate A when the handle is depressed. The said sliding pin H is held at the outward limit of its movement by a spring, h, suitably applied for the purpose, and is provided upon its end which engages the part A of the stamp with a head, h', adapted to engage the inner surface of the said plate A, and to thereby hold the pin from retraction under the action of the spring h, unless the parts B′ and A are

moved sufficiently to release the said head h' from the end of the slot. The position of the parts when the pin is engaged with the main part of the frame is clearly shown in Fig. 11.

In Fig. 12 a pin, operating in the same manner, is shown as applied at the lower end of the handle B to engage the shank or spindle A^4 of the frame. In this case the said shaft or spindle is shown as made hollow and provided with an opening, a', through which the headed end of the stud may be inserted, the operation of the stud obviously being the same in both cases. The spring applied to move the pin H may obviously be spiral, as shown, or of other shape, with the same result as far as the general operation of the device is concerned.

A simple and advantageous construction in the spring-catch, and means for supporting it in the part of the stamp to which it is attached, is illustrated in said Figs. 10, 11, and 12, in which is shown a telescopic sheath or casing, within which the spring h, in this case of spiral form, is placed. Said sheath or case consists, as shown, of an outer or larger sleeve or thimble, h^2, having an inwardly-turned flange, h^3, against which the inner end of the spring h rests, and which forms a guide-aperture, through which the pin passes, and a sleeve or thimble, h^4, adapted to slide in the part h^2, and provided at its outer end with a similar inturned flange, h^5, with which the headed outer end of the pin h is engaged, and against the inner surface of which the spring h rests.

The parts made as above described are secured in the part of the stamp-frame to which they are attached—such, for instance, as the arm B′ (shown in Figs. 10 and 11)—by drilling a circular aperture, b, through said part of the proper size to receive the inner end of the cylinder or thimble h^2, and placing and soldering or otherwise securing the said thimble within the aperture. The sleeves or thimbles h^2 h^4 may obviously be rapidly and cheaply formed by drawing or spinning the metal in a familiar manner, and the parts thus made may be easily and quickly put together in the manner above described, and form a cheap and simple device which is neat in appearance, and which serves to entirely protect the spring by which the pin is moved.

An important general advantage of the construction in the spring-catch above described is that said catch, while affording means for securely holding the two parts of the stamp in position for the inking of the pad, will, nevertheless, become automatically released by thrusting the handle slightly toward the frame, and will when thus released remain entirely free from the part with which it engages, so that possibility of the accidental striking of the pin of the catch against the opposing moving part, while the stamp is being used, is entirely avoided.

I claim as my invention—

1. The combination, with the two relatively-movable parts of a hand-stamp and a pivotally-supported die-plate, of two oscillating or swinging plates pivoted at their ends to the main part or frame of the stamp and provided with curved surfaces engaging the pivots of the die-plate, a transverse bar, F, connected at its ends with said oscillating or swinging plates, and a guide arm or projection upon the die-plate engaging said rod F, substantially as described.

2. The combination, with the two relatively-movable parts of a hand-stamp and a pivotally-supported die-plate, of two oscillating or swinging plates pivoted at their ends to the main part or frame of the stamp and provided with curved surfaces engaging the pivots of the die-plate, a transverse bar, F, connected at its ends with said oscillating or swinging plates, a guide arm or rod, D′, fixed to the middle part of the die-plate, and a guide-block, G, mounted to rotate and slide upon the rod F and provided with a guide-aperture for the rod D′, substantially as described.

3. The combination, with the two relatively-movable parts of a hand-stamp, of a spring catch or pin mounted to slide in one of said parts and having a lateral projection or head adapted to engage an opening or recess in the other part, substantially as described.

4. The combination, with a sliding pin, H, and the parts supporting it, of the spiral spring h and a telescoping sheet-metal casing or sheath surrounding said pin and spring, substantially as described.

5. The combination, with a sliding pin, H, and a part supporting said pin, and with the spiral spring h, of the telescoping sheet-metal casing consisting of two thimbles, h^2 h^4, said part supporting the pin being provided with an aperture adapted to receive the thimble h^2, which latter is secured in said aperture, 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:

CHAS. E. FISHER,

C. CLARENCE POOLE.