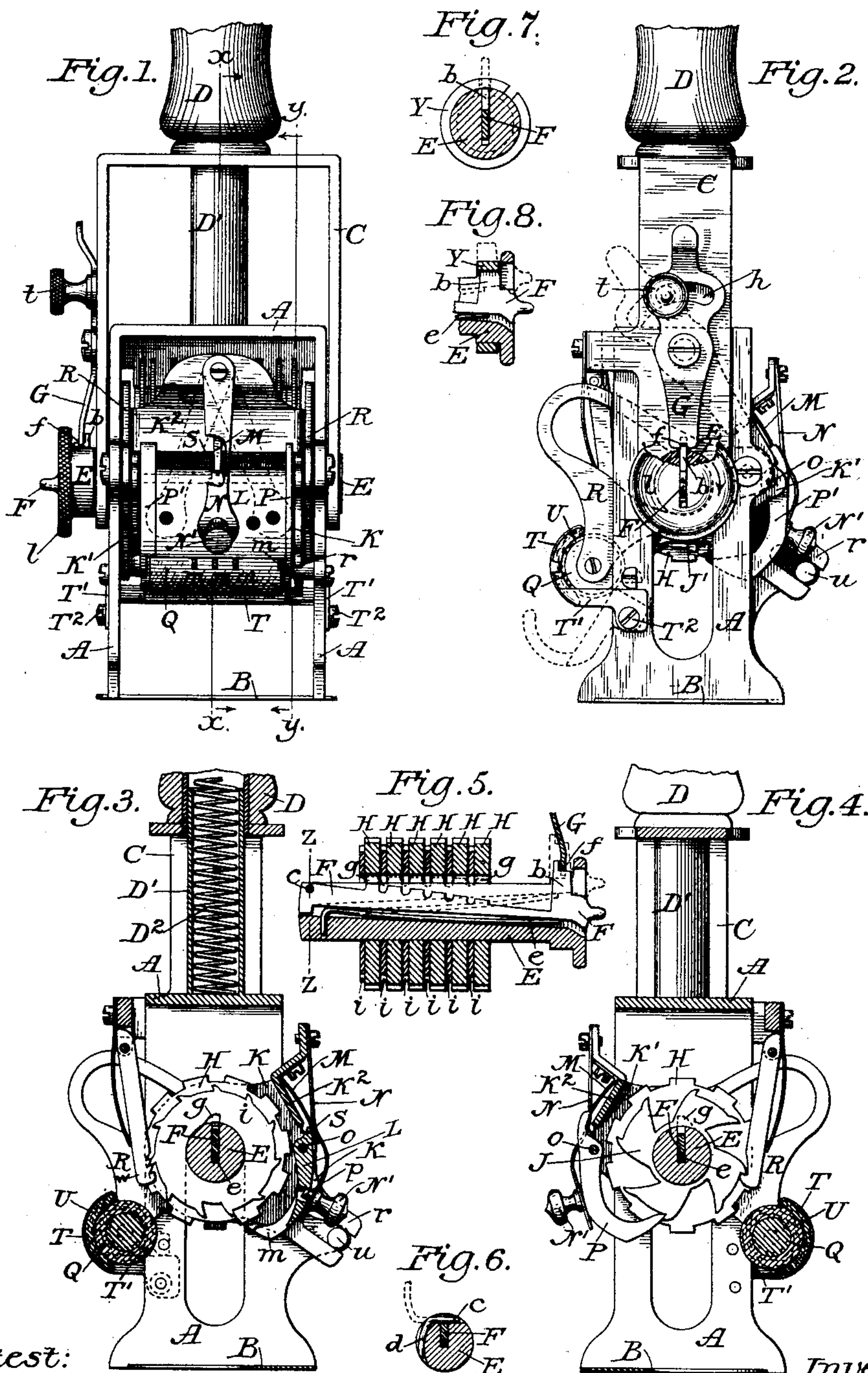


(No Model.)

J. H. REINHARDT.
HAND NUMBERING MACHINE.

No. 461,186.

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HAND NUMBERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 461,186, dated October 13, 1891.

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To all whom it may concern:

Be it known that I, JAMES H. REINHARDT, of the city of Brooklyn, county of Kings, and State of New York, have invented certain
5 new and useful Improvements in Hand Numbering-Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the
10 accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to that class of hand-stamps adapted for numbering consecutively and which admit of adjustment to produce
15 either the regular order of numeration, the constant repetition of any one number, or duplicate or triplicate repetitions of each successive number, as may be required, and has for its object to simplify the mechanism and
20 reduce the cost of such a stamp.

It consists in the novel combination and arrangement of the several parts of the stamp, substantially as hereinafter described and
claimed.

25 In the accompanying drawings, Figure 1 is a front elevation of my improved hand-stamp with the upper part of the handle broken away; Fig. 2, an end view thereof; Fig. 3, a vertical section in line $x x$; Fig. 4, a similar
30 section in line $y y$ of Fig. 1; Fig. 5, a detached longitudinal section through the shaft and numbering-wheels; Fig. 6, a cross-section in line $z z$ of Fig. 5; and Figs. 7 and 8 are detail views in section of a modification in the
35 means for confining the latch in the shaft.

A represents the supporting-frame of the stamp, provided with a suitable base-plate B.

C is the number-wheel frame, embracing with its side plates the supporting-frame.
40 The number-wheel frame is fitted with a handle D, made hollow to receive a tubular standard D', (see Fig. 3,) projecting from the supporting-frame. A spiral spring D² is inclosed within the standard D' to project beyond its
45 upper end into the handle to be compressed when the latter is depressed.

The side plates of the supporting-frame A are vertically slotted, as is usual, and the axial shaft E for the numbering-wheels is carried through said slots and supported in bear-

ings in the lower ends of the side plates of the number-wheel frame C. This shaft E is free to turn in its bearings and is longitudinally slotted from end to end, and within its slot is fitted a latch-plate F, (see Fig. 5,) extending the length thereof. The outer free
55 end of the latch F is extended to project beyond the end of the shaft E, and is formed with an outer offset b to project beyond the periphery of the shaft, as shown in Fig. 5. 60 Its inner end is pivoted to the shaft upon a pivot-pin c , inserted through the outer corner of said inner end and near to the outer periphery of the shaft, and one end of this pivot-pin is extended and bent, as at d , (see Fig. 6,) 65 to occupy a peripheral recess formed in the shaft, so that when turned into said recess it will operate to confine the pivot-pin in place and when turned out of the recess, as shown by dotted lines in Fig. 6, it will serve as a
70 handle by which to facilitate the withdrawal of the pivot-pin when required. The latch F is made to taper in width from its pivoted end to the offset b at its free end by cutting away its outer or upper edge, as shown in Fig. 5, 75 and said edge is also notched at intervals corresponding with the spaces between the numbering-wheels revolving on the shaft. The free end of the latch is forced out radially from the shaft by means of a spring e , inserted under 80 the inner edge of the latch. When the latch is borne inward against the stress of its spring e , it is held by means of an arm G, pivoted to swing upon the outer face of the side plate of the number-wheel frame C above the end of 85 the shaft E. This arm is so adjusted as that when brought to a position parallel with the edges of the side plate its lower end may engage a notch f in the top of the offset b of the latch F when the shaft has been turned to 90 bring said offset in line with the arm and the end of the latch has been depressed sufficiently to allow the offset to pass under the arm. The arm is fixed when adjusted by means of a curved slot h in its upper end (see 95 Fig. 2) and a set-screw t , passing through said slot and screwing into the underlying plate.

The engagement of the outer end of the latch F by the swinging arm G serves the double purpose of locking the shaft E to pre- 100

vent its withdrawal from the frame, as well as of holding the latch in its inward position, so that its outer edge will not contact with the number-wheels revolving on the shaft.

5 I contemplate other well-known devices for confining the latch in its inward position—as, for example, a ring Y may be fitted to encircle the outer end of the shaft, as shown in Figs. 7 and 8, said ring being divided or radially slotted at one point to permit the latch to pass out through it when the slot is brought into register therewith, while by turning the ring when the latch is forced inward so as to carry the slot out of registry the latch will be
10 confined by said ring.

The numbering-wheels H H H are mounted, as is usual, to revolve freely upon the shaft E, and on the side of each the usual ratchet-wheel *i* (see Fig. 3) is fixed thereto. A reverse movement of the wheels is prevented in the customary manner by steady-pawls *w* *w*, fitted on the rear side of the wheel-frame, to engage the ratchets. A single notch *g* is formed in the inner periphery of the central
20 opening in each numbering-wheel H, (see Fig. 3,) so that when the free end of the longitudinal latch-plate F in the axial shaft E is carried radially outward by its spring *e* the outer edge of the latch-plate will engage said notch, and thereby lock the wheel to the shaft
30 and cause them to revolve in unison. By reason of the inclination of the outer edge of the latch-plate F to the axis of the shaft E, as described and shown in Fig. 5, said edge will when the latch is free first engage the wheel nearest the pivot *c* and will engage the remaining wheels in regular consecutive order so soon as by a rotation of the shaft the edge of the plate is brought into register with the
40 notch in each wheel. The notch *g* on each wheel is so located with reference to the cipher on the outer periphery of the wheel as that the ciphers on all the wheels whose notches are engaged by the latch shall be brought thereby into line. Hence by freeing the latch F, so that it shall be actuated by its spring *e*, and then rotating the shaft E the corresponding numbers on the several numbering-wheels may all be readily brought
50 simultaneously to the same line of print. The rotation of the shaft E for this purpose is facilitated by means of a milled head *l* on its projecting end.

Notched idle ratchet-wheels J J' are mounted on the shaft E, one at each end of the series of number-wheels H H, as is usual in this class of machines. The pawls actuating the several wheels are pivoted in a frame or yoke consisting of end plates K K', hung to oscillate freely on the shaft E outside of the wheels and connected by a transverse plate K². One of the end plates K' is extended to form an arm *r*, whose outer end is slotted in a direction radial with the shaft E and is engaged by a pin *u*, projecting through the slot from the supporting-frame A, so that as the wheel-frame is made to move in the support-

ing-frame the pawl-frame is caused to oscillate in synchronism therewith in the customary manner.

The pawls *m m*, actuating the numbering-wheels, are all made to spring from a common head or pawl plate L, which is pivoted to swing between the end plates K K' upon a transverse pivot-rod *o*. They are carried out of engagement with the numbering-wheels by means of a spring M, secured to the transverse plate K² of the pawl-frame, to project over the inner edge of the pivoted pawl-plate L and bear upon a lug S, projecting radially from the pivotal axis of the plate in a direction opposite that of the pawls, so that the pressure of the spring M upon said lug S, bearing it inward, will operate to swing the pawls outward clear of the ratchets. A second spring N, more powerful than the spring M and designated as the "adjusting-spring," is pivoted at one end to the transverse plate K² above the spring M and is extended over the pawl-plate L and is provided at its free end with a pin *p* (see Fig. 3) to contact with said plate and provided with a button N' to facilitate lifting it from the plate. The pressure of this adjusting-spring N is sufficient to overcome the opposing stress of the minor spring M, and thereby force the pawl-plate inward when it bears thereon and carry the pawls *m m* into engagement with the ratchets of the numbering-wheels. Hence when the adjusting-spring N is allowed to bear upon the pawl-plate L the oscillation of the plate will cause the numbering-wheels to turn in the customary manner to number consecutively, the formation of the ratchet-wheels and the action of the pawls thereon to produce the revolution of the several wheels in proper order being similar to that in the consecutive-numbering machines in common use, and which need not herein be more particularly described.

An opening or recess is formed in the plate L, as shown in Fig. 3, to register with the pin *p* on the end of the adjusting-spring N, in position to be entered by the pin when the spring is brought directly to the front in line with the lug S, as shown in Fig. 1, and the spring is so bent in its length as that when brought over the lug S and deprived of support at its outer end by the dropping of its pin *p* into the opening in the pawl-plate L it will bear upon said lug S, and thereby re-enforce the action of the spring M and cause the pawls *m m* to clear their ratchets, so that the number-wheels will not be moved in the operation of the stamp, but will repeat constantly, without change, the number or numbers at line of print.

Two auxiliary pawls P P' are pivoted independently upon the pivot-rod *o* within the pawl-frame at each end thereof, next to the end plates K K', to swing severally into engagement with the periphery of the idle ratchet-wheels J J'. Said pawls P P', when left free, swing automatically by their gravity out of en-

gagement with the idler-wheels; but by turning the adjustment-spring N to the one side or the other its free end may be made to overlap the one pawl P or the other P', as shown in dotted lines, Fig. 1, and thereby force the same inward upon the periphery of the underlying wheel simultaneously with the depression of the pawl-plate L. The contact of either independent pawl P or P' with its idler-wheel will operate to prevent the pawl-plate L from being forced inward far enough to bring its pawls *m m* into engagement with the ratchets of the numbering-wheels, unless the independent pawl drops into a deep notch in its idler-wheel.

Every second notch in the one idler-wheel J' and every third notch in the other idler-wheel J is cut deep, so that when the spring N rests upon the one pawl P' the numbering-wheels will repeat the same number twice before changing, and if it be made to rest upon the other pawl P the numbers will be repeated three times in the consecutive operation of the stamp before changing.

The type upon the numbering-wheels are inked after each impression therefrom by means of an inking-roller Q, revolving upon a shaft connecting two lateral plates R R, severally pivoted to the inner face of the side plates of the supporting-frame A of the stamp and near to the front edge of said plates, so that the pivot-point shall be eccentric to the shaft. These pivoted plates R R are severally formed with curved slots therein to receive the shaft E and are made by the depression of the wheel-frame C to swing within the supporting-frame A, so as to carry the inking-roller Q from a normal position of rest at the rear of the stamp forward under and in contact with the numbering-wheels as they move downward to a corresponding position at the front of the stamp and to return again as the wheel-frame moves upward. A shield T is provided to cover and partially embrace the inking-roller when at rest in its normal position, and an ink-pad V is fitted within the shield, so that the roller shall contact therewith when carried under the shield. The shield is carried upon lateral arms T' T', which are fastened to the side of the supporting frame A by screws T², so that by loosening the screws the shield may be swung out, as shown in dotted lines, Fig. 2, to admit of access to the pad to reink it.

In the operation of the machine the type upon the numbering-wheels may be first aligned so as to bring the cipher on the unit-wheel to line of print and the ciphers on the remaining wheels in a right line. This is accomplished by swinging the arm G to one side, so as to allow the outer end of the longitudinal latch F in the shaft E to swing out under the stress of its spring *e* into contact with the inner peripheries of the numbering-wheels and then turning the shaft. In the course of its rotation the engagement of the latch F with the notches in the several wheels H H H

will cause each to turn independently in unison with the shaft far enough to produce the alignment of the figures on all of them in manner as described. The latch F is then depressed to free the wheels and locked by swinging the end of the arm G back into engagement with the offset *b* on the end of the latch. If now it be desired to produce a constant repetition of the number at line of print, the adjusting-spring N is placed centrally over the pawl-plate L, so that its pin *p* may drop into the aperture in the plate, and thereby allow the spring to bear upon the lug S on the upper edge of the plate above its pivotal axis. The pressure of the spring upon the lug will cause the free end of the plate L to swing outward, and thereby free all the pawls *m m* from the number-wheel ratchets, so that the numbering-wheels will not be actuated by the oscillation of the pawl-plate as the wheel-frame C is forced down to produce an imprint from the wheels. If, however, the adjusting-spring N be turned slightly to one side or the other, so that its pins shall bear upon the face of the pawl-plate L, all the pawls will be carried by the stress of the spring into effective engagement with the ratchet-wheels, so that at each depression of the wheel-frame C for an imprint the pawls will act in the customary manner to move the wheels and produce a change of number at each movement and in consecutive order. In the meantime the independent auxiliary pawls P P' will be idle; but by swinging the adjusting-spring N so that it shall bear on the one or the other the stamp is made, in manner as described, to make two impressions in the one case or three in the other before changing each number.

The numbering-wheels H H H, the pawl-frame K K', and the wheel-frame C are all confined in the supporting-frame A A by the shaft E, upon which the wheels revolve, so that by withdrawing the shaft all the parts are readily liberated for cleaning or for repair and may be quickly assembled without loss of time.

I claim as my invention—

1. The combination, with the axial shaft in a hand-stamp and with the numbering-wheels mounted thereon, of a latch-plate fitted in a longitudinal slot in the shaft and pivoted therein at one end to extend the length thereof, with its outer edge at an inclination to the axis of the shaft, a spring under the latch operating to force its inclined edge outward, a device for confining the latch in its inward position against the stress of the spring, and a series of numbering-wheels mounted upon the shaft, each having a notch on its inner periphery adapted to be engaged by the latch when forced outward by said spring, substantially in the manner and for the purpose herein set forth.

2. The combination, in a hand-stamp, of the wheel-frame, the detachable longitudinally-slotted shaft fitted loosely in said frame

and admitting of longitudinal movement therein, the numbering-wheels mounted on said shaft, the pivoted latch-plate fitted in the slot therein and extending beyond one
 5 end thereof, the spring under said latch-plate, and the arm fitted to the frame to move into engagement with the projecting end of the latch-plate, whereby said plate is held in its inward position and a longitudinal movement
 10 of the shaft is prevented, substantially in the manner and for the purpose herein set forth.

3. The combination, with the longitudinally-slotted shaft E and the latch F, oscillating in said slot, of the transverse pivot-pin c for
 15 the latch, fitted at one end thereof and having a curved extension d fitting within a peripheral groove in the shaft, substantially in the manner and for the purpose herein set forth.

4. The combination, in a hand-stamp, with
 20 its numbering-wheels, a swinging pawl-plate carrying pawls to actuate the same, and an idle ratchet-wheel revolving on the axial shaft of said numbering-wheels at one end thereof, of an independent pawl free to swing
 25 into engagement with said idle ratchet-wheel, and a movable spring made to bear upon and carry the pawl-plate and its pawls into action and admitting of being moved to bear simultaneously upon the independent pawl, substantially in the manner and for the purpose
 30 herein set forth.

5. The combination, in a hand-stamp, with its numbering-wheels and the swinging pawl-plate carrying pawls to actuate said wheels,
 35 of a movable adjusting-spring engaging in one position thereof the pawl-plate in front of its pivotal axis to carry its pawls into action and engaging in another position a lug on the pawl-plate in the rear of its pivotal axis
 40 to swing the pawls out of action, substantially in the manner and for the purpose herein set forth.

6. The combination, in a hand-stamp, with

its numbering-wheels, a swinging pawl-plate carrying pawls to actuate said wheels, an
 45 idler-wheel, and a separate auxiliary pawl actuating the same, of a fixed spring engaging said pawl-plate at the rear of its pivotal axis to carry its pawls out of action and a
 50 second movable adjusting-spring made to engage the pawl-plate in front of its pivotal axis and by superior force to carry its pawls into action and to be freed therefrom by engagement with the auxiliary pawl, substantially
 55 in the manner and for the purpose herein set forth.

7. The combination, in a hand stamp, with its supporting-frame, the wheel-frame reciprocating therein, the axial shaft carried by
 60 said wheel-frame, and the numbering-wheels mounted on said shaft, of the lateral swinging plates pivoted to the supporting-frame and slotted to embrace the axial shaft, and the inking-roller mounted between the outer
 65 ends of said plates in position to be carried by their movement back and forth over the face of the numbering-wheels, substantially in the manner and for the purpose herein set forth.

8. The combination, in a hand-stamp, with
 70 an inking-roller reciprocating over the face of its numbering-wheels and a protecting-shield under which the roller is carried when at rest, of an inking-pad fitted within the
 75 shield to fit against and contact with the surface of the roller when it is brought to rest under the shield and thereby ink the same, substantially in the manner and for the purpose herein set forth.

In testimony whereof I have signed my
 80 name to this specification in the presence of two subscribing witnesses.

JAMES H. REINHARDT.

Witnesses:

A. N. JESBERA,
 E. M. WATSON.