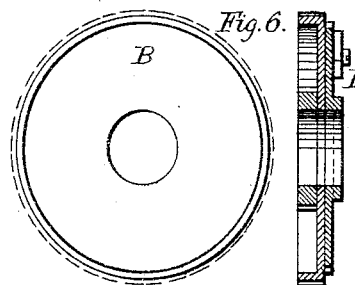
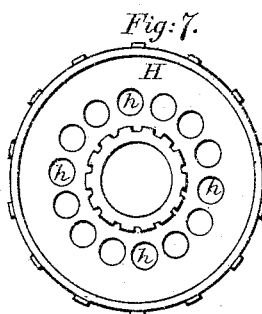
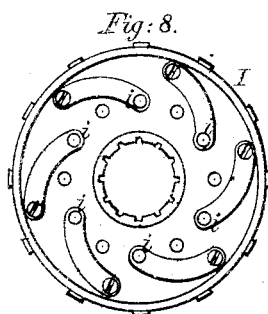
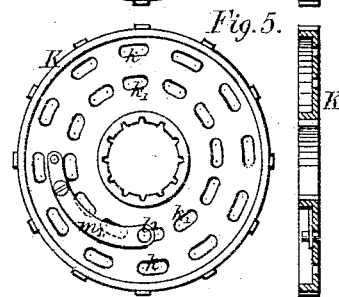
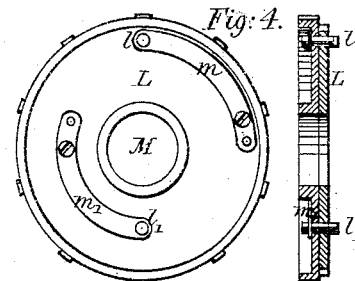
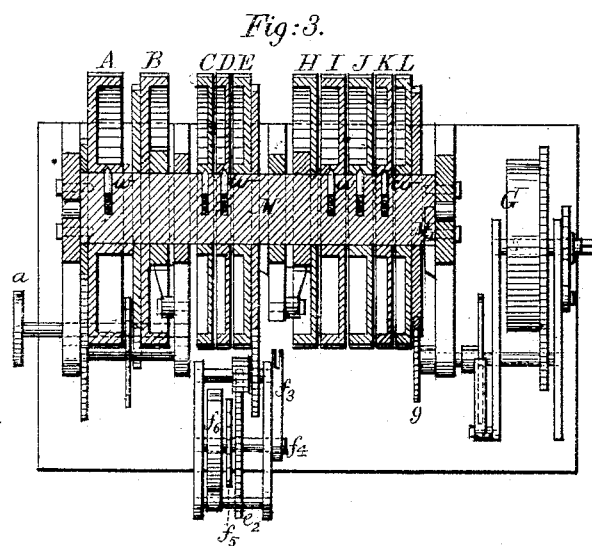
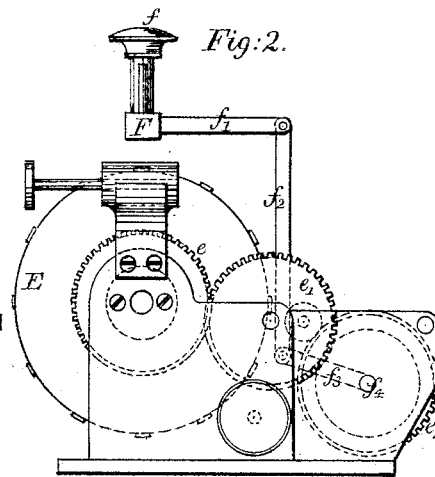
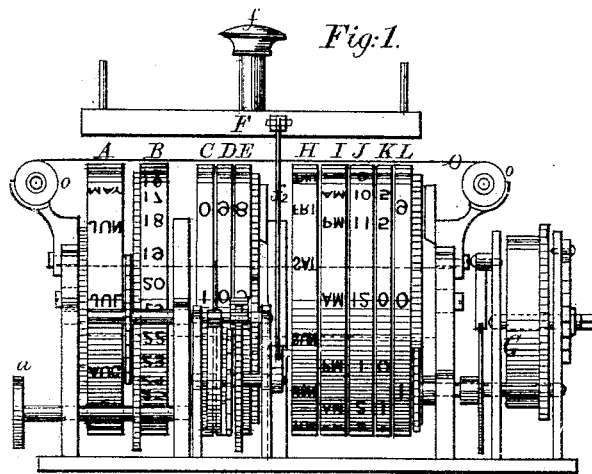


F. B. WOOD.  
Hand-Stamp.

No. 215,195.

Patented May 6, 1879.



Witnesses:

*L. Eugene Efforts*  
*William J. Bok*

Inventor.

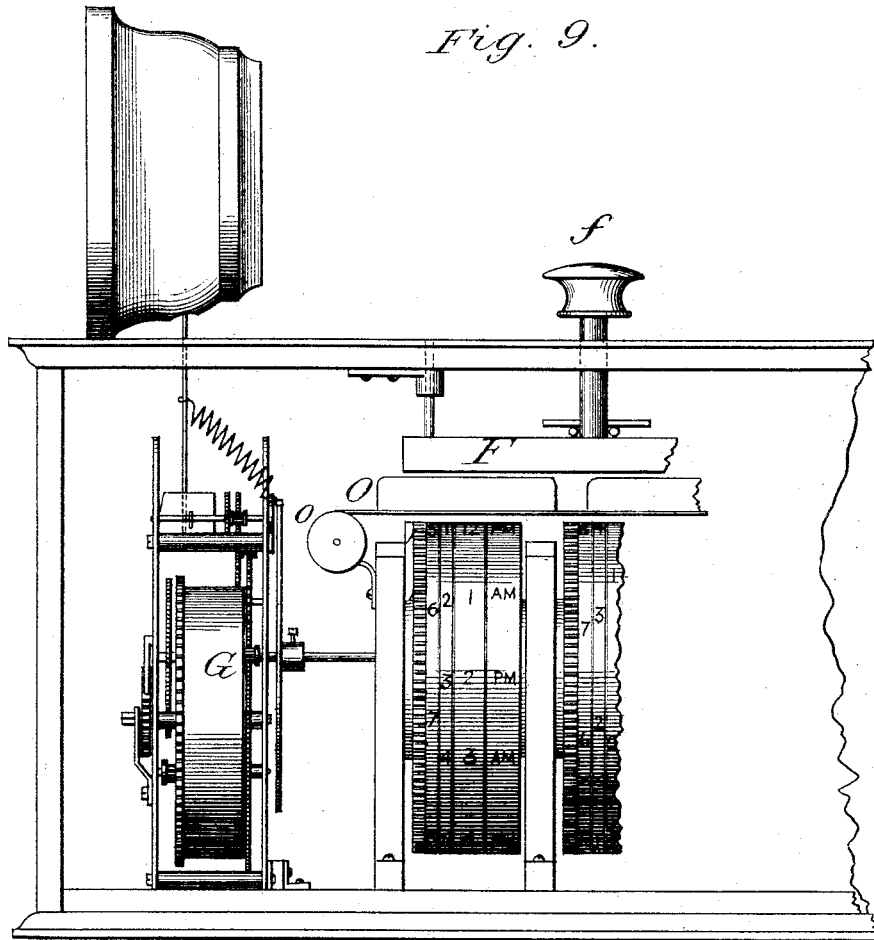
*Frank B. Wood*  
*by his Attorney,*  
*Frank L. Pope*

F. B. WOOD.  
Hand-Stamp.

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Patented May 6, 1879.

*Fig. 9.*



*Attest:*

*Henry J. Brower*  
*Frank L. Pope*

*Inventor.*

*Frank B. Wood*

# UNITED STATES PATENT OFFICE.

FRANK B. WOOD, OF NEW YORK, N. Y.

## IMPROVEMENT IN HAND-STAMPS.

Specification forming part of Letters Patent No. **215,195**, dated May 6, 1879; application filed February 25, 1878.

*To all whom it may concern:*

Be it known that I, FRANK B. WOOD, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Combined Date, Time, and Numbering Stamps, which improvements are fully set forth in the following specification, reference being had to the accompanying drawings.

The object of my invention is to furnish a machine for hand printing or stamping, which shall, when operated, record, by a single movement of the impression device, the date, the hour, and minute of the day, together with the proper consecutive number of the impression, so as to particularly adapt machines of this character for such purposes as stamping messages when received or sent at telegraph-offices, or stamping tickets when sold at railway ticket-offices, and other analogous uses.

My invention consists in the employment of a series of type-wheels for indicating or printing time, operated by a motor, which is brought into action at stated intervals by a time-piece, and with a series of numbering-wheels controlled by the printing device.

In the accompanying drawings, Figure 1 is a side elevation of my improved printing or stamping machine. Fig. 2 is an end view of the same. Fig. 3 is a horizontal longitudinal section of the same. Fig. 4 shows an elevation and also a section of the type-wheel denoting units of minutes. Fig. 5 shows an elevation and section of the wheel denoting tens of minutes. Fig. 6 shows an elevation and section of the wheel denoting the day of the month. Fig. 7 is an elevation of the wheel denoting the day of the week, and Fig. 8 is an elevation of the meridian-wheel.

In carrying out my invention I make use of three distinct series or groups of type-wheels, all of which are movable about a common axis, M. The first series consists of two wheels only, A and B. The wheel A is provided with twelve abbreviations denoting the twelve months of the year, arranged at equal distances apart around its periphery. The wheel B carries the numerals from 1 to 31, inclusive, and denotes the days of the month.

The wheel B may be turned by means of the milled head *a*, so as to bring the numerals

denoting the days of the month successively under the printing-pad. At the end of each complete revolution of the wheel B the wheel A is moved one step by suitable mechanism in a manner well understood, and which by itself forms no part of my invention.

The second series of type-wheels is designed to print the consecutive number of each impression. I have shown three wheels, C, D, and E, in the drawings, which are adapted to print consecutive numbers from 1 to 999, inclusive.

A greater or less number of wheels may be employed, according to the requirements of the service for which the apparatus is used. This series of wheels receives its motion from the printing mechanism, each impression moving the unit-wheel E one step in advance. This movement is effected by the following means: When an impression is taken by depressing the printing-pad F by means of the knob *f* the ratchet-wheel *f*<sup>5</sup> is caused to turn upon its axis a certain distance by the action of the arm *f*<sup>1</sup>, connecting-rod *f*<sup>2</sup>, and crank-arm *f*<sup>3</sup>, attached to its axis *f*<sup>4</sup>. This movement winds up the coiled spring *f*<sup>6</sup>, which, by its elasticity, causes all the parts to return to their normal position as soon as the knob *f* is released. On its return movement the ratchet-wheel *f*<sup>5</sup>, by means of a click, carries with it the toothed wheel *e*<sup>2</sup>, the motion of which is communicated to the unit type-wheel E by means of an intermediate toothed wheel, *e*<sup>1</sup>, and a corresponding wheel, *e*, attached to the type-wheel.

The mechanism is so proportioned that at each depression of the printing-pad F its recoil will advance the unit type-wheel E one-tenth of a complete revolution, thus presenting the next numeral in successive order to the printing-pad in readiness for the following impression. The tens and hundreds type-wheels D and C may receive their motion from the unit-wheel E at proper intervals by any mechanism adapted to the purpose. Such mechanism, being well known, does not require detailed description in this place.

The third series of type-wheels is designed to record the hour and minute of the day when each impression is made, also, if required, the day of the week, and receives its motion from any suitable source of power, (prefer-

ably a wound-up spring acting through the medium of clock-work,) which is set in action at suitable intervals by the action of a clock or other time-piece. In Figs. 1 and 3, G represents such a system of clock-work, which is arranged to communicate motion to the type-wheel L by means of a toothed wheel, *g*. This system of clock-work is held in check by a detent controlled by the minute-wheel of an ordinary time-piece, and is so arranged as to be released at the expiration of each successive minute. This may be done either by a mechanical connection with the time-piece or by an electro-magnetic device of any suitable character.

When the detent of the clock-work G is released the latter causes the type-wheel L to advance one-tenth of a complete revolution. As the wheel L carries the numerals from 1 to 9, and a cipher or 0 upon its periphery, it is obvious that a new number will be presented to the printing-pad F at the expiration of each minute of time.

The next type-wheel in the series K indicates the tens of minutes. As there are sixty minutes in each hour, it is evident that the highest number that is required to be indicated by the wheels K and L is 59. For this reason the numbers required on the wheel K are from 0 to 5, inclusive, only.

For convenience of construction and operation, I prefer to divide the circumference of this wheel into twelve parts, as best seen in Fig. 5, and repeat each number twice—thus, 0 0, 1 1, 2 2, 3 3, &c. At each half-revolution of the units-wheel L the tens-wheel K is advanced one step, as will be hereinafter explained; but the number itself is actually changed upon this tens-wheel only once during each revolution of the units-wheel.

The manner in which this intermittent movement of the type-wheel K is effected is as follows: The wheel K (see Fig. 5) is provided with two concentric circles of slots, *k* and *k'*, at different distances from its center, each slot in each circle being situated in a radial line between each type on the periphery of the wheel and the center.

The units-wheel L (see Fig. 4) carries two pins, *l* and *l'*, which are mounted on flat springs *m* and *m'*, and are so situated as to pass directly opposite the circles of slots *k* and *k'* as the wheel L revolves. These pins are situated at distances of one hundred and eighty degrees, or half the circumference of the wheel L, from each other.

When the wheel L in the course of its revolution reaches the point where the tens figure requires to be changed the pin *l* is pressed into the slot which is opposite in the wheel K by means of a wedge-shaped projection, *M'*, upon the frame of the machine, (see Fig. 3,) and the wheel K is thus carried along with the wheel L for one-twelfth of a revolution, after which the pin *l* passes beyond the projection *M'*, and the spring *m* withdraws it from the slot and releases the wheel K. When

the wheel L has advanced half a revolution a similar operation takes place by means of the other pin, *l'*, as seen in Fig. 5. In this case the figure itself is not changed, but another type presenting a duplicate figure is presented, as before stated.

The type-wheel J carries the hours of the day, from 1 to 12, inclusive, and therefore requires to be advanced one step at each complete revolution of the tens-of-minutes wheel K. This is effected by means of a single pin in the wheel K, which at the proper part in its revolution enters into a corresponding notch, which is one of a circle of twelve notches, upon the wheel J, carries the latter with it for one-twelfth of a revolution, and then releases it.

The type-wheel I, the next in the series, which I term the meridian-wheel, carries twelve types upon its periphery, which represent the abbreviations A. M. and P. M., alternately. This is advanced one step or one-twelfth of a revolution at each complete revolution of the hour-wheel J by a pin movement similar to that by which the wheel J itself is moved.

If required, a fifth type-wheel, H, may be added to this series, for the purpose of printing the day of the week. This wheel has preferably fourteen divisions, the name of each day of the week or its abbreviation being repeated twice, one series being in each half of the wheel, so that the latter will make a complete revolution once in two weeks. The mechanism by which this wheel is operated is the same in principle as that which has already been described in connection with the wheel K.

The wheel I, which makes one complete revolution during each twelve revolutions of the hour-wheel J, carries six pins, *iiiiii*, mounted upon flat springs attached to the wheel, and these pins revolve in line with a circle of fourteen apertures, *h h h h*, in the wheel H. (See Figs. 7 and 8.) At the proper point in the revolution of the wheel I one of these pins is pressed into that one of the apertures in the wheel H which happens to be opposite by the movement which is transmitted through the series of pins in the wheels L, K, and J, being operated by the wedge-shaped projection *M'*, Fig. 3. By this means the wheel H is advanced the distance of one-fourteenth of a complete revolution. This wheel may be dispensed with in most cases, as it is not ordinarily necessary to record the day of the week in addition to the day of the month.

The several wheels, when brought into their proper position upon the axis or shaft M, in the manner hereinbefore described, are retained there by means of pins *w w*, which are fitted loosely into suitable apertures formed in the shaft M, and are pressed against the inner surface of the wheels by means of spiral springs placed beneath them.

When any wheel is in the proper position for printing, the corresponding pin *w* enters into a recess formed in the inner surface of the wheel, and thus serves to steady it, while at

the same time the application of the proper moving force to the wheel is sufficient to overcome the action of the spiral springs when the position of the wheel is to be changed.

When the machine is to be adjusted for use the clock-work G is wound up, and the time-wheels adjusted to correspond with the time indicated by the controlling time-piece, the numbering-wheels are set to zero, and the date-wheels adjusted to the proper date. When it is desired to stamp a message, ticket, or other paper, the paper is inserted horizontally beneath the printing-pad F, and a quick blow is given by the hand upon the knob f, which drives the pad forcibly against the line of types upon the several wheels, an impression being made by all the types in the line upon the under surface of the paper by the interposition of the inking-ribbon O between the face of the type and the paper. This operation causes the date, consecutive number, and time of stamping to be impressed upon the paper—for example, thus: JAN. 25, 001, MON., A. M. 8.05, signifying that the consecutive number of the impression is 1, and that it was made on Monday January 25, at 8 o'clock and 5 min-

utes A. M. The time-wheels will be changed at the expiration of each minute by the action of the controlling-clock, while the consecutive number will be advanced one unit upon the return of the mechanism by the action of the spring j<sup>6</sup> after each single impression has been made. In this way the date, time, and number will be correctly printed whenever the apparatus is operated.

I claim as my invention—

A series of wheels for indicating or printing letters, figures, or characters denoting time, and controlled by a clock or time-piece, in combination with a series of wheels for indicating or printing consecutive numbers, the progressive movement of which is produced by the action of the printing or impression mechanism, substantially as and for the purpose specified.

In witness whereof I have hereunto set my hand.

FRANK B. WOOD.

Witnesses:

HENRY J. BROWER,  
FRANK L. POPE.