No. 611,926. Patented Oct. 4, 1898.

E. L. MURRAY.

HAND STAMP.

(Application filed Dec. 6, 1897.)

(No Model.) 2 Sheets—Sheet 1.

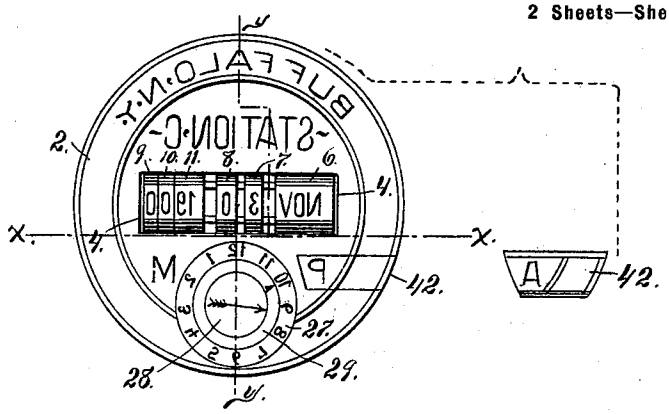


Fig. 1.

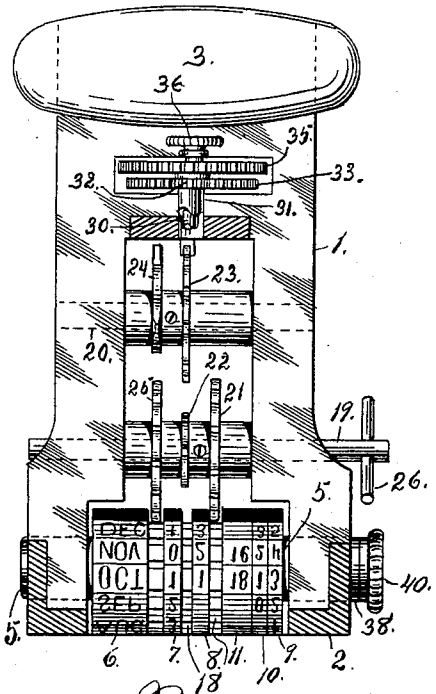


Fig. 2.

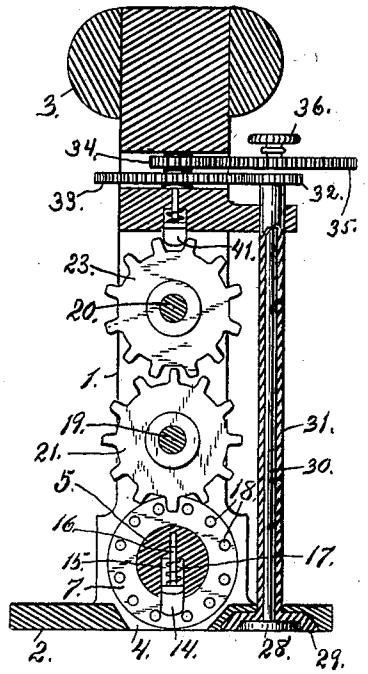


Fig. 3.

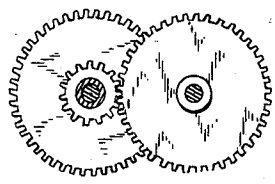


Fig. 4.

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No. 611,926. Patented Oct. 4, 1898.

E. L. MURRAY.

HAND STAMP.

(Application filed Dec. 6, 1897.)

(No Model.) 2 Sheets—Sheet 2.

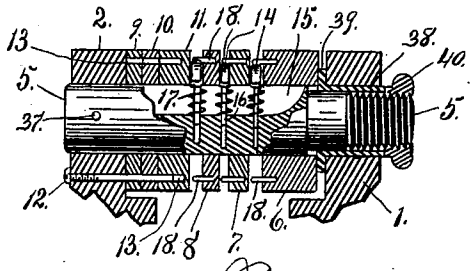


Fig. 5.

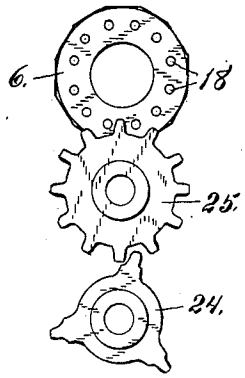


Fig. 6.

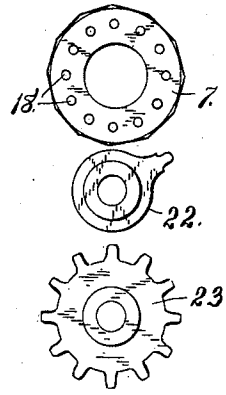


Fig. 7.

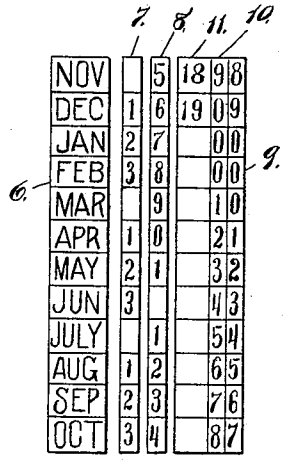


Fig. 8.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EDWARD L. MURRAY, OF BUFFALO, NEW YORK.

HAND-STAMP.

SPECIFICATION forming part of Letters Patent No. 611,926, dated October 4, 1898.

Application filed December 6, 1897. Serial No. 660,930. (No model.)

To all whom it may concern:

Be it known that I, EDWARD L. MURRAY, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Hand-Stamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in hand printing-stamps, and more particularly to that class of hand printing-stamps with which the time of taking an impression is indicated on the impression taken therefrom.

The object of this invention is to produce a hand-stamp for the purposes above outlined which is accurate in its operation, may readily be adjusted to indicate any desired time, simple in its construction, and is economical in its manufacture.

To that end it consists, first, in the arrangement of four or more twelve-sided disks mounted within a frame and arranged to successively present one of their edge surfaces on a plane with the printing-surface of the stamp; second, in the communication of these disks through a chain of gears arranged so as to successively present the calendar days and months of the year; third, in the arrangement of a dial-indicator adapted to indicate the hour or fraction of an hour in which an impression is taken.

It further consists in the particular arrangement and combination of the details of its construction, all of which I will now proceed to definitely describe, and then point out in the claims that which I believe to be novel.

In the drawings, Figure 1 is a face view of a hand-stamp arranged according to my invention. Fig. 2 is a side elevation of the same, taken partially in section. Fig. 3 is a vertical section of the stamp, taken through the line Y Y of Fig. 1. Fig. 4 is a detail view of a train of communicating gears employed in my invention. Fig. 5 is a detail sectional view showing the printing-disks mounted in the frame of the stamp. Figs. 6 and 7 are detail views showing communicating gears for successively turning the printing-disks, and Fig. 8 is a general diagram showing in plan the arrangement of all the printing-surfaces of the printing-disks.

I have herein shown the figures and characters in diagram in their positive form, so as to appear more legible, although it is naturally understood that they are negatively placed upon the printing-surfaces of the disks.

Referring to the drawings, 1 is the frame or body of the stamp, having the impression-plate 2 arranged at one end and the manipulating-handle 3 secured to its opposite end. Centrally cut in the impression-plate 2 is the rectangular opening 4, through which revolving printing-disks project.

In the present drawings I have shown six printing-disks all loosely mounted upon a rigid shaft 5, the disk 6 indicating the calendar month of the year, the disk 7 indicating the tens in the days of the month, and the disk 8 indicating the units in the days of the month. The disks 9, 10, and 11, being arranged to indicate the year, are independently locked in position, as they only require adjustment annually, and are herein shown as locked in position by the screw-threaded pin 12, (see Fig. 5,) which is threaded into the frame and projects through small holes 13, arranged in the disks 9, 10, and 11. The disks 6, 7, and 8 are held from accidental displacement by the spring-pressed dogs 14. These dogs 14 rest in the groove 15, cut in the shaft 5, and have vertical pins 16, which are fitted into small holes cut in the bottom of said groove 15, and around said pins 16 are placed the spiral springs 17. These spring-pressed dogs 14 are forced up between the rigid pins 18, set in the side walls of the disks 6, 7, and 8, and in this manner hold the disks in the desired position. 19 and 20 are two spindles arranged within the frame of the stamp, as seen in Figs. 2 and 3, upon which the communicating gears 21, 22, 23, 24, and 25 are mounted, the gears 21 and 22 being rigidly mounted on the spindle 19, the gears 23 and 24 being rigidly mounted upon the spindle 20, and the gear 25 being loosely

mounted upon the spindle 19. At the outer end of the spindle 19 is arranged the cross-arm 26, by which said spindle is manipulated.

The particular arrangement and construction of the printing-disk and gearing form an important part of my invention and are accomplished in the following manner, viz: Each disk has its periphery divided into twelve (12) equal parts, so as to enable twelve sections of its periphery to be successively presented in the opening 4 of the impression-plate. In one of the side walls of each of the disks 6, 7, and 8 are secured twelve pins 18, the pins of the disk 6 engaging the twelve-toothed gear 21, the pins of the disk 7 engaging the single-toothed gear 22, and the pins of the disk 9 engaging the twelve-toothed gear 25. By reference to the drawings it will be seen that the gear 21 turns with the manipulating-arm 26, and at each revolution of the gear 21 the printing-disk 8 is turned a complete revolution and the single-toothed gear 22 turns the disk 7 and gear 23 the distance of one tooth, and after the gear 23 has been turned a complete revolution in this manner the three-toothed gear 24, turning with it, will have turned the gear 25 the distance of three teeth, which in turn revolves the printing-disk the distance of three spaces.

A dial 27, arranged upon the face of the impression-plate 2 (see Fig. 1) to indicate the hour and fractions of an hour, is constructed as follows: 28 and 29 are two revolving disks. The disk 28 (from which the fractions of an hour are indicated) is mounted upon the spindle 30, and the disk 29 (indicating the hours) is mounted upon the sleeve 31, through which the spindle 30 passes. This spindle 30 and sleeve 31, which rest in the frame of the stamp, as seen in Fig. 3, are connected with a train of gearing, (a detail of which is shown in Fig. 4.) By this gearing a ratio of twelve to one is established, the gear 32, mounted upon the sleeve 31, having fifteen teeth and engaging the gear 33, having forty-five teeth, and the gear 34, turning with it, having twelve teeth and engaging the gear 35, having forty-eight teeth and rigidly mounted upon the spindle 30. Also mounted upon the lower end of the spindle 30 is the thumb-wheel 36, with which the disks 28 and 29 are turned through their communicating gears, as just described.

The rigid shaft 5 (see Fig. 5) is keyed to the frame, as at 37, and its opposite end, having a reduced diameter, is screw-threaded and over which the sleeve 38 is fitted. This sleeve is provided at its inner end with the annular flange 39 and when forced inwardly by the adjusting thumb-nut 40 is forced against the printing-disk 6. In this manner the printing-disks are held in alinement with their respective communicating gears.

To hold the gear 23 from accidental displacement, (see Fig. 3,) I have placed in the frame 1 a spring-pressed dog 41, similarly arranged as the dogs 14, above described.

Attached to Fig. 1 I have shown a detail view of a small removable plate 42, upon one face of which the character "A" is represented, and upon its opposite side the character "P" is represented, as shown in the body of the main figure. The edges of this plate are V-shaped and cut so as to fit the impression-plate, as shown, the face A being used to represent antemeridian and the letter P representing postmeridian.

In operation, the parts as above described being assembled, as shown in the drawings, the disks 9, 10, and 11 are first set so as to indicate the year desired and the month and day of the month set by the manipulating-arm 26. The operation is now continued, bringing the successive days of the month and months of the year into position in the plate 2 as follows: Assuming that the stamp has been set to January 1, 1900, in turning the gear-wheel 21 the distance of one tooth its engaging disk 7, containing the units of the days of the month, is carried to the next number 2. In continuing this operation until the gear 21 has been turned a complete revolution the gear 22 will have turned the disk 8 the distance of one space and presenting the number "1" in the plate 2, its former space in the original date being blank. This operation is continued until one blank space and the three succeeding numbers "1," "2," and "3" have been turned into position in the impression-plate. The number ("1") following the cipher ("0") on the disk 7 is used in its successive position in designating a month of thirty-one days; but both the "1" and following blank space are carried beyond the impression-plate when not desired, so as to complete the revolution of the disk 7 and turn the disk 8 the distance of one space. After the disk 8 has been turned the distance of four spaces its engaging gear 22, which also engages the gear 23, will have turned the gear 23 the distance of four teeth or one-third of the revolution, (the gear 23 having twelve teeth,) and the gear 24, traveling with it, will then turn the disk 6, with which it engages, the distance of one space, turning the succeeding month (February) into position in the impression-plate. In this manner the operation is continued through the year, after which time the disks 9, 10, and 11 may be adjusted to the following year and the operation repeated.

The hour and fractions of an hour indicated on the dial 27 are operated by the thumb-wheel 36, as above described, the fractions of the hour being indicated by the arrow on the disk 28 and the hour by the character Λ on the disk 29.

If desired, the gearing might be reversed and the arrow indicate the hour and the character Λ indicate the fraction of the hour, or the gearing might be entirely dispensed with and a second thumb-wheel mounted on the sleeve 31, so as to manipulate each disk independently of the other.

If desired, an ordinary clock-movement

might be connected to the disks 28 and 29 without departing from the spirit of my invention; but the present arrangement is preferred, as it is desired to produce a stamp which is economical in its manufacture. The disk 7 might also be divided into ten spaces, thus avoiding the blank space; but this would also increase the cost of production in view of the change of gearing required.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The herein-described hand-stamp consisting essentially of four or more printing-disks, mounted within a frame and arranged to present in the face-plate of the stamp, the successive calendar days of the month and months of the year, by means of a single operating-lever; substantially as shown and described.

2. In combination with a hand-stamp, the herein-described disks 6, 7, 8, 9 and 10, mounted in the frame 1, and the gear 21, communicating with the disk 8, the gear 22 engaging the gear 23 and disk 7, and the gear 24 engaging the gear 25, which in turn engages the disk 6, in this manner presenting the successive days and months of the calendar year, substantially as shown and described.

3. In combination with the herein-described hand-stamp consisting essentially of the frame 1, impression-plate 2, printing-disks 6, 7, 8, 9, 10 and 11, with communicating gears, the dial 27 provided with revolving disks 28 and 29, and communicating with each other so as to turn at a ratio of twelve to one, and operated by a thumb-wheel 36, substantially as shown and for the purpose stated.

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

EDWARD L. MURRAY.

In presence of—
O. E. HODDICK,
DANIEL MCINTOSH.