

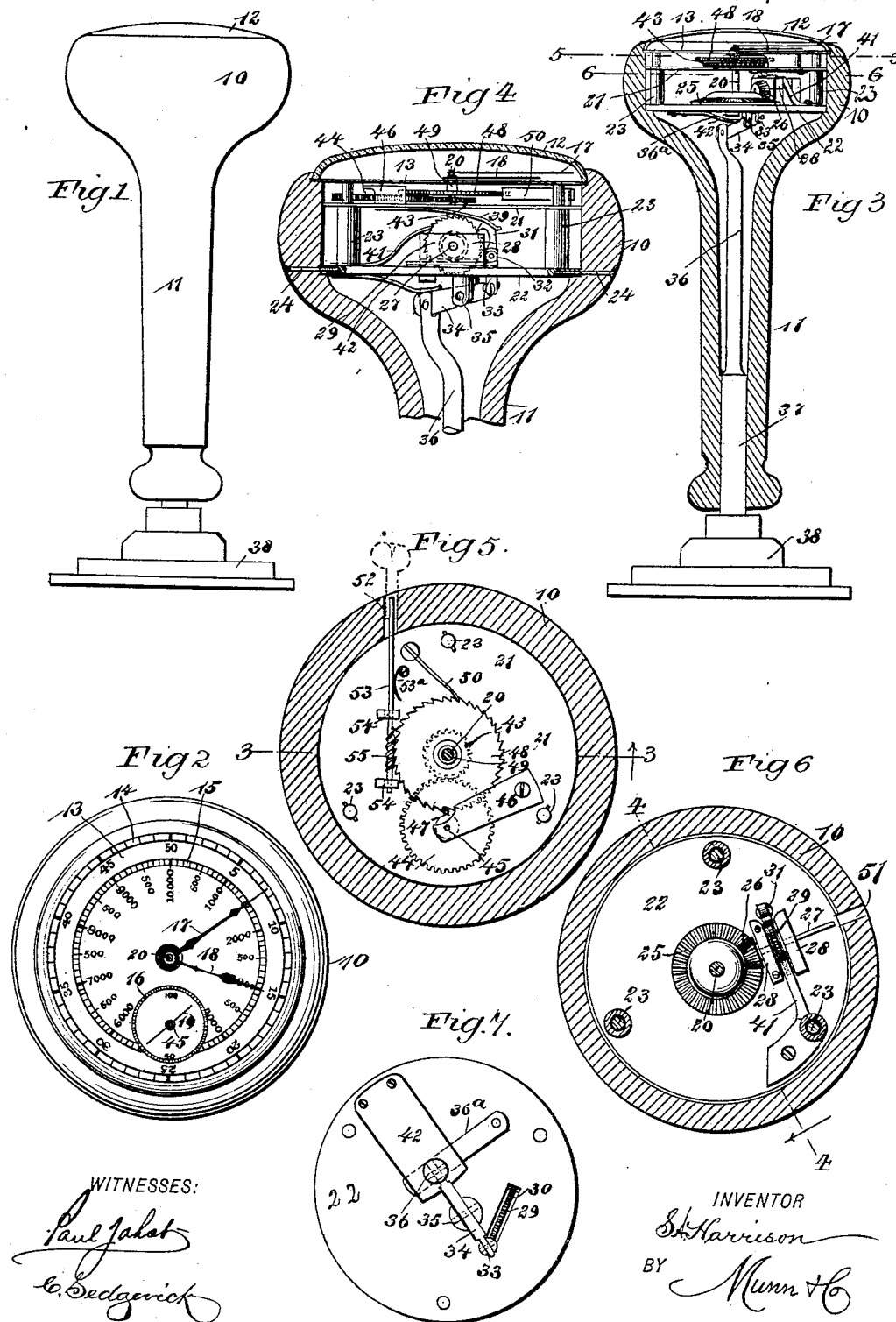
(No Model.)

S. A. HARRISON.

REGISTERING OR COUNTING HAND STAMP.

No. 493,498.

Patented Mar. 14, 1893.



WITNESSES:

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REGISTERING OR COUNTING HAND-STAMP.

SPECIFICATION forming part of Letters Patent No. 493,498, dated March 14, 1893.

Application filed July 2, 1892. Serial No. 438,761. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL A. HARRISON, of the city, county, and State of New York, have invented a new and Improved Counting-
Machine, of which the following is a full, clear,
and exact description.

My invention relates to improvements in that class of counting machines which are adapted to be used in connection with hand
stamps or similar articles, and which count
each impression or stamp made, so that an accurate account of the same may be kept.

The object of my invention is to produce a simple register of this kind, which will positively count every impression, which will display the amount so that it may be easily read, which is not likely to get out of repair and which may be conveniently reset whenever it is necessary or desirable.

To this end my invention consists in certain features of construction and combinations of parts, as will be hereinafter described and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the counting machine embodying my invention. Fig. 2 is a plan view of the same. Fig. 3 is a central vertical section, on the line 3—3 of Fig. 5. Fig. 4 is a sectional elevation of the registering mechanism, taken on the line 4—4 in Fig. 6. Fig. 5 is a sectional plan on the line 5—5 in Fig. 3. Fig. 6 is a sectional plan on the line 6—6 in Fig. 3; and Fig. 7 is an inverted plan of the lower portion of the registering mechanism with the case removed.

The counting machine is provided with a suitable case 10, which may be of any approved form, but which is made so that it may be conveniently held in the hands, and this case has a depending shank 11, through which the operating shaft extends, as hereinafter described. The case is covered by a glass 12, and beneath the glass is a dial 13, having concentric and numbered marks thereon, the outer row 14 of the marks being adapted to represent units and tens and being numbered up to 50, the inner row 15 being numbered and arranged to represent tens, hundreds, and thousands, up to ten thousand, and a

small circular line of marks 16 being numbered 50 and 100 on opposite sides, so as to represent units and tens, and indicate whether the unit hand, which moves over the marks 14, represents fifty or one hundred, as hereinafter described.

The dial is provided with hands 17, 18, and 19, the hand 17 being held to move over the marks 14, the hand 18 to move over the marks 15, and the hand 19 held to move within the marks 16. The units hand 17 moves half the distance of one of the units spaces at each movement, and it is carried by a central shaft 20, which is journaled in the horizontal supporting plates 21 and 22, these plates being held in the correct relative positions by posts 23, and fastened into the case 10 by screws 24, which project through the side of the case and into the plate 22. The shaft 20 has, near its lower end, a bevel pinion 25 which engages a vertical rotating bevel pinion 26, the latter being carried on a shaft 27, which is journaled in suitable supports 28 on the plate 22, the shaft being arranged at right angles to the shaft 20.

On the shaft 27 is a ratchet wheel 29 held to turn in a slot 30 in the plate 22, as shown in Fig. 7, and this ratchet wheel is engaged by a hook-shaped pawl 31, which is held at one side of the ratchet wheel so that at each downward movement it will turn the ratchet wheel a distance of one tooth. The pawl 31 is pivoted as shown at 32, to a link 33, which moves vertically in the plate 22, and the link is pivoted at its lower end to one end of a vertically-swinging lever 34, which lever is centrally pivoted at 35 to a hanger on the under side of the plate 22 and is pivoted also at its other end to a shaft 36, which extends downward through the shank 11 of the machine, being enlarged near its lower end, as shown at 37, so as to slide closely in the shank, and having its lower extremity connected with the stamp or die 38. The pawl 31 is held in engagement with the ratchet wheel 29 by a spring 39, which is secured to the plate 21 and presses upon the pawl, and the ratchet wheel is prevented from turning back by a spring detent 41, which is secured to the plate 22 and engages the ratchet wheel. The shaft 36 is pressed downward by a broad flat spring 42 which is arranged above the shaft, and this

causes the lever 34 to be tilted so as to hold the pawl 31 in an elevated position ready to engage the ratchet wheel 29 and turn the same at the next upward movement of the shaft and tilting movement of the lever 34.

It will be seen from the foregoing description that every time the machine is pushed down so as to make an impression with the stamp 38, the shaft 36 will be pushed up, thus tilting the lever 34, pulling down the pawl 31, and turning the ratchet wheel 29 and the shaft 20. The movement of the latter shaft will carry the hand 17 half the distance of one of the spaces in the row of marks 14, thus counting one-half, and this action will be repeated at each downward movement of the machine, the pawl 31 being thrown into operative position each time by the pressure of the spring 42 which depresses the shaft 36 and tilts the lever 34 so as to raise the pawl 31 and place it in position for a new grip on the ratchet wheel 29. The object of having the mechanism count one-half a unit at each downward movement is, that the stamp is usually inked by a downward movement on an inking pad before the impression is made with the stamp, and consequently it requires the two repeated depressions to register one unit and keep an accurate count.

On the shaft 20 is a small gear wheel 43 which meshes with a gear wheel 44, the latter being secured to a post or shaft 45, which is journaled in a support 46 and in the plate 22, and the shaft 45 carries the hand 19. The gear wheel 44 is timed so as to move only half as fast as the shaft 20, and consequently the hand 19 will make one revolution while the hand 17 is making two revolutions. The object of this arrangement is to tell exactly the amount counted by the machine. For instance, the highest number on the units spaces or marks 14, is 50, and the opposite sides of the marks 16 indicate 50 and 100. If then, the hand 17 has been turned to 50 and the hand 19 points to 50 on the marks 16, it will show that only fifty impressions have been made, but if, on the other hand, the hand 17 points to 50 and the hand 19 to 100, it will show that one hundred impressions have been made. Likewise, if the hand 17 points to 55 and the hand 19 is near 100, it will show that five impressions have been made.

The gear wheel 44 has, on its upper side, a stud 47 which extends into the path of the teeth of the ratchet wheel 48, which wheel is journaled loosely on the shaft 20 above the gear wheel 43, and the ratchet wheel 48 has a stem 49 which also turns loosely on the shaft, and this stem carries the hundreds and thousands hand 18. The gear wheel 44 makes a complete revolution every time one hundred impressions have been made, and the stud 47 engages the ratchet wheel 48 and moves it a distance of one tooth at each revolution of the wheel 44, consequently each movement of the ratchet wheel 48 will move the hand 18 a distance to indicate one hun-

dred impressions, and the record amount will be indicated by the hand 18 on the marks 15. Opposite the shaft 27 is a hole 51, which extends through the wall of the case 10, and through this hole a key may be inserted so as to engage the squared end of the shaft 27, and by this means the units shaft and hand may be returned to the starting point. A similar hole 52 is made in the case 10 opposite a shaft 53 which is journaled in supports 54 on the plate 21, and on this shaft is a worm 55 which engages the ratchet wheel 48, and by turning this shaft the ratchet wheel may be turned and the hundreds hand returned. The shaft 53 is loose in its bearings and is pressed by a spring 53^a so as to hold the worm 55 out of engagement with the ratchet wheel 48, but when a key is applied to the shaft the worm may be pushed against the ratchet wheel.

It will be noticed that the ratchet wheel 48 is prevented from turning back by a spring detent 50 and when it is reset it is turned forward instead of backward until the hand 18 is brought opposite the ten-thousand mark of the marks 15. This is the limit of the count, and consequently the stopping point, but it will be understood that the dial may be made to indicate any desired number.

The operation of the machine will be understood from the foregoing description. The machine is pushed down every time an impression is to be made, and the movement of the shaft 36, and the gear mechanism connected therewith, moves the hands 17, 18, and 19 in the manner described, thus keeping an accurate count of the impressions.

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

1. A counting machine, comprising a case having an elongated shank, a numbered dial arranged in the top of the case, indicating hands held to move over the dial, a gear mechanism for moving the hands so as to indicate consecutive numbers, a vertically rotating ratchet wheel operatively connected with the gear mechanism, a tilting lever pivoted beneath the ratchet wheel, a pawl pivoted to one end of the lever and held to engage the teeth of the ratchet wheel, and a vertically movable shaft pivoted to the opposite end of the lever, and also connected with a stamp or die, substantially as shown and described.

2. A counting machine, comprising a case having a dial in the top, with concentric rows of marks arranged to indicate units, tens, hundreds, and thousands, indicating hands held to move over the units and tens and hundreds and thousands marks, a revoluble vertical shaft to which the units hand is secured, a ratchet wheel journaled loosely on the shaft and held to carry the hundreds hand, an intermediate gear wheel geared to the shaft and held to turn the ratchet wheel a distance of one notch at every two revolu-

tions of the shaft, a pawl and ratchet mechanism adapted to turn the vertical shaft, and a shaft extending longitudinally downward from the case and adapted to actuate the pawl and ratchet mechanism by endwise pressure upon it, substantially as shown and described.

3. A counting machine, comprising a case having an elongated shank, a dial held in the top of the case and provided with concentric numbered marks, a central vertical shaft extending through the dial and carrying a hand arranged to express units and tens, a vertically rotating ratchet wheel geared to the central shaft so as to turn the same, a vertically movable lever pivoted beneath the ratchet wheel, a hooked pawl pivoted to one end of the lever and held to engage the ratchet wheel, a

shaft pivoted to the opposite end of the lever and held to slide in the shank, the shaft having its lower end connected with the stamp or die, an intermediate gear wheel geared to the central hand carrying the shaft, a ratchet wheel held to turn loosely on the shaft and arranged to carry the hundreds hand of the dial, and a stud on the intermediate gear wheel adapted to extend into the path of the ratchet wheel and turn the latter a distance of one tooth at each revolution of the intermediate wheel, substantially as shown and described.

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Witnesses:

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