(No Model.)

I. A. KILMER.

REGISTER.

No. 323,340. Patented July 28, 1885.

Fig. 1.

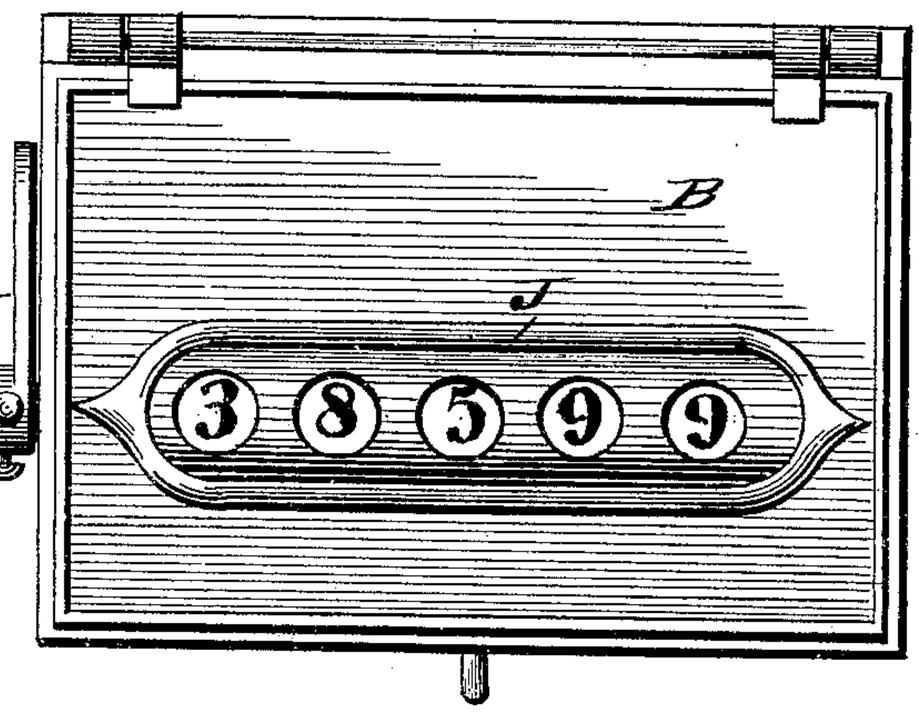


Fig. 7.

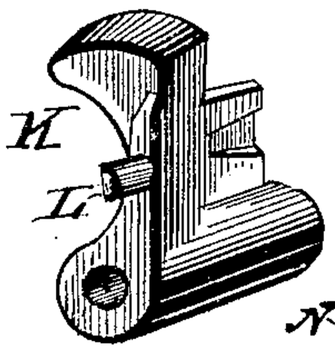


Fig. 2.

Fig. 8.

Fig. 3.

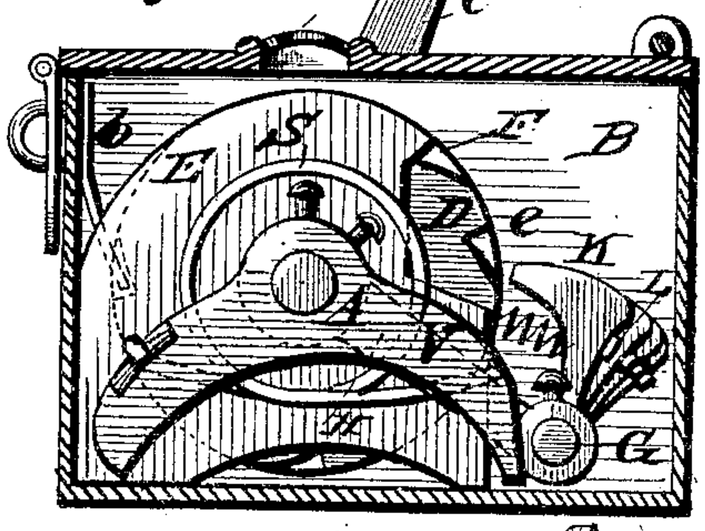


Fig. 4.

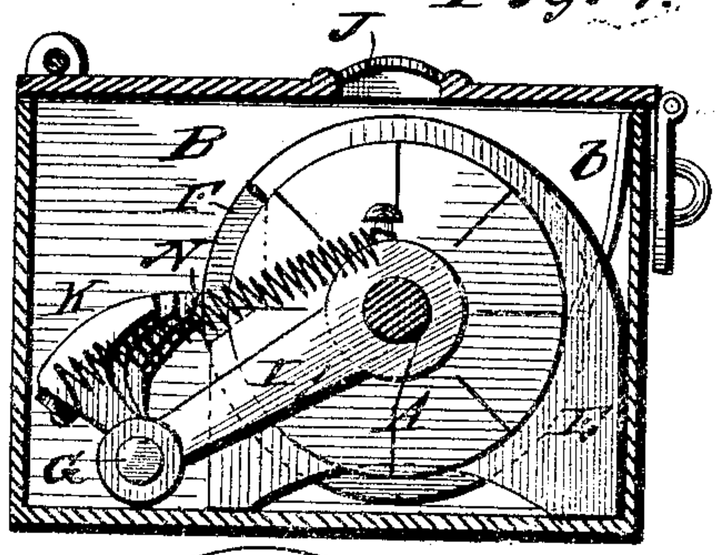


Fig. 5.

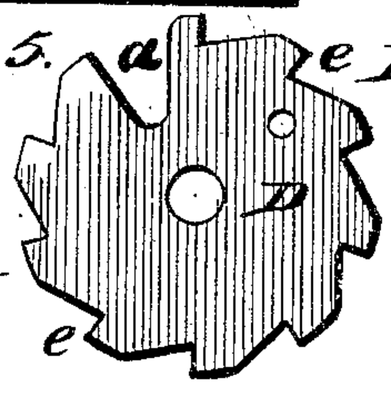
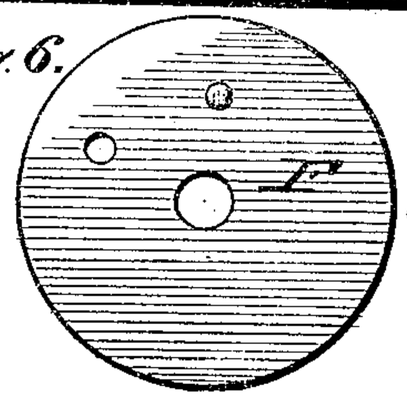


Fig. 6.



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IRVING A. KILMER, OF SCHENECTADY, NEW YORK.

REGISTER.

SPECIFICATION forming part of Letters Patent No. 323,340, dated July 28, 1885.

Application filed March 28, 1885. (No model.)

To all whom it may concern:

Be it known that I, IRVING A. KILMER, a citizen of the United States and residing at Schenectady, in the county of Schenectady and State of New York, have invented certain new and useful Improvements in Registers; and I do 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 letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a top view. Fig. 2 is a view of the mechanism. Fig. 3 is a transverse sectional view taken on the lines *x x* of Fig. 2, and Fig. 4 is a similar view taken on the lines *y y* of Fig. 2. Figs. 5, 6, 7, and 8 are details.

This invention has relation to registering-machines; and it consists in the construction and novel arrangement of devices, all as hereinafter set forth, and pointed out in the appended claim.

In the accompanying drawings, A designates a rock-shaft, having its journals in bearings in the walls of a case, B, which is designed to inclose the mechanism. To the end of the rock-shaft, outside of the case, is secured the arm C, by the motion of which the rock-shaft is operated, one movement of the arm counting one on the register and the reverse movement not counting. On the rock-shaft are arranged side by side the ratchet-disks D, their tension-plates E being placed between these disks to avoid frictional engagement of said disks. These disks are free to rotate on the shaft. Each disk has a ratchet-margin, *e*, arranged alongside of a smooth margin, F, and on the latter, opposite the ratchet-teeth, are marked the digits one to nine, inclusive, with the cipher, in series. On each disk there are the teeth, and the disk in turning once will register ten times the unit of the disk. The first or units disk is placed on the right, the next disk being the disk of tens, the next, of hundreds, the next, of thousands, and so on.

G represents a rod-bearing back of the disks and parallel with the rock-shaft, which is carried by the arms H and I, which are secured to said rock-shaft near its journals at the ends respectively of the series of disks, and vibrating with the movements of said rock shaft. On this rod-bearing are arranged the pawls K in series, said pawls being loosely connected to the rod-bearing so that they will turn thereon. From left to right the pawls engage laterally by means of overlapping lugs or wings L, and the dip of the pawls increases in succession from left to right. The descent of a pawl on the right, therefore, governs the descent or downward movement of all the pawls on the left of said pawl. A spring, N, on the left, connected to the left-hand pawl, serves to hold the series of pawls up to their work. A spring, S, on the right serves to give the reverse movement to the rock-shaft after it has been moved forward by a movement of the arm C. This spring is usually connected to an arm, V, of the rock shaft, which is independently adjustable, said arm being provided with a stop projection, Z, which limits the forward movement of the rock-shaft.

When the shaft is operated by successive movements of its arm C, the first disk on the right is set in motion, and by its successive movements brings its figures successively opposite the sight-opening in the face J of the case.

In proper relation to the cipher-mark each disk has a deep notch, *a*, in its ratchet, this notch being usually made at the side of the Fig. 2 of said disk. The depth of this notch is at least equal to the sum of the depths of all the notches of the disks which are in line with it on the left. When, therefore, the unit-disk is turned sufficiently to bring the figure 9 of said disk to the sight-opening its pawl on the reverse movement descends into the deep notch, and allows all the pawls on the left to descend one step toward their respective disks. In this descent at first the pawl of the next or tens disk only engages its disk, and the succeeding movement of the rock-shaft turns both the tens-disk and the units-disk, showing the figure 1 of this disk and the 0 of the units-disk through the sight-opening. At the next movement of the rock-shaft the pawl of the tens-disk is raised, and this pawl does not engage its disk again until the pawl of the units-disk makes its second descent into the deep notch *a* of its disk. This movement continues until the two disks

show 99 through the sight-opening, and then both of their pawls descend into their deep notches *a a*, allowing the pawl of the third or hundreds-disk to engage a notch of its disk, and bring the next digit thereof to the sight-opening. Spring retaining-pawls *b* are usually arranged in the case in engagement with the disks to prevent backward movement of the said disks.

This registering-machine is very compact and desirable. Its movements are all positive, and it will not fail to indicate correctly if properly operated. The actuating-arm may be secured in either end of the shaft in position to facilitate connection with the machine whose movements are to be counted.

This machine will be found very serviceable in keeping tally for any purpose.

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

A registering-machine comprising a rock-shaft carrying loose digit-disks provided with ratchet-disks, tension-plates, separating said digit-disks, the vibratory rod-bearing parallel to the rock-shaft, provided with a series of pawls overlapping one another from the left, the springs N and S, and the spring retaining-pawls *b*, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

IRVING A. KILMER.

Witnesses:
M. D. KILMER,
W. A. KILMER.