J.C. Clapp.

Numbering Mach.

No. 42274. Patented Apr. 12. 1864.

Fig: 7.

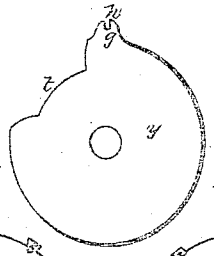


Fig: 6.

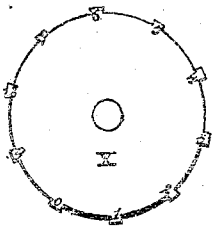


Fig: 5.

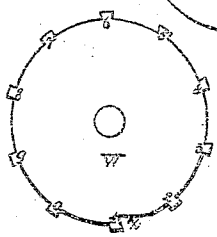


Fig: 4.

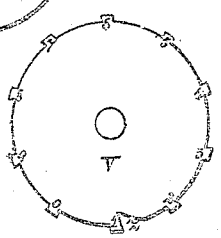


Fig: 3.

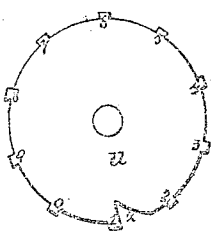


Fig: 2.

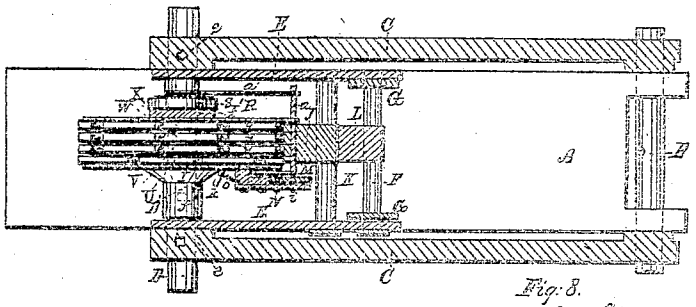


Fig: 8.

Fig: 1

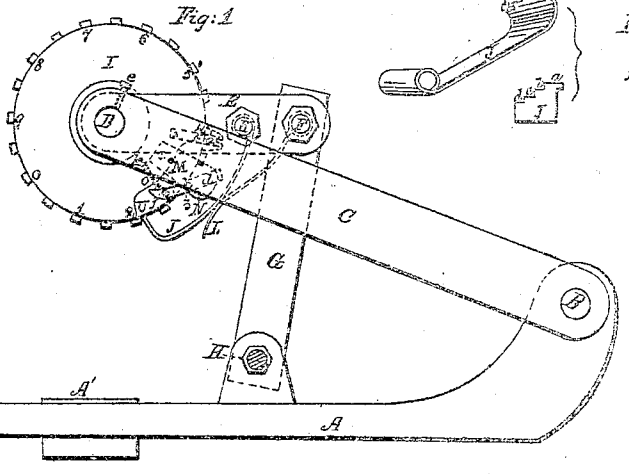


Fig: 9.



Fig: 10.



Witnesses:

N. Ames

Inventor:

John C. Clapp

UNITED STATES PATENT OFFICE.

JOHN C. CLAPP, OF SOUTH BOSTON, MASSACHUSETTS.

NUMBERING-MACHINE.

Specification forming part of Letters Patent No. 42,274, dated April 12, 1864.

To all whom it may concern:

Be it known that I, JOHN C. CLAPP, of South Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Numbering-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation, Fig. 2 a top view, Figs. 3, 4, 5, and 6 side views, of the separate numbering-wheels; Fig. 7, a side view of one of the friction-plates between the numbering-wheels; Fig. 8, an end view of the paw by means of which the numbering-wheels are moved; Fig. 9, a top view, and Fig. 10 an inside view, of the fender-arm for carrying the pawl back away from the figures.

Like parts are indicated by the same letters in all the drawings.

To enable others skilled in the art to make and use my invention, I will now describe its construction and operation.

The inking apparatus, being the same as that in common use in other numbering-machines, is not shown in the drawings, and need not be described.

A is the frame or fixed part of the machine.

A′ is the platen.

C C are vibrating arms, moving on the pin B, which passes through the two side ears in the rear of the frame A, as shown in Figs. 1 and 2.

D is a round shaft passing through holes in the center of the numbering-wheels and friction-plates, and made fast in the ends of the arms C C by means of set-screws *e e*.

E E are arms, one end of each of which turns freely on the shaft D, the other end being pivoted to the rod F, which is supported by passing through the upper ends of the arms G G, as shown in Fig. 1.

U, V, W, and X are the numbering-wheels, on whose periphery are arranged the figures from 0 to 9 in the usual manner—U being the units wheel, V the tens, W the hundreds, and X the thousands. These wheels have holes through their centers the diameter of the shaft D, on which they turn with freedom.

D′ is a thimble or washer, made fast to the shaft D by means of the set-screw *f*. (See Fig. 2.)

I is a disk, the diameter of which is a little less than that of the numbering-wheels. This disk is made fast to the thimble D′.

y y y are thin metallic disks, the diameter of which is a little less than that of the numbering-wheels. Through the center of these disks is a hole the size of the shaft D, *t* being a notch to allow the steps of the pawl to drop into, and *g* a projection provided with a slot, *h*, for the purpose hereinafter described. These disks, as shown in Fig. 2, are arranged between the numbering-wheels U, V, W, and X, and keep them from coming in contact.

Q is a rod made fast to the outer side of the disk I, and bent at right angles, so as to pass through the slots *h* in the projections *g* of the friction-disks *y*, and its object is to prevent the latter from turning. The farther end of the rod Q is supported by an arm, Q′, which is fast to the shaft D.

I′ is a disk similar to I, provided, however, with a projection and slot like *g* and *h* on the friction-disks *y*, and for a similar purpose.

R is a rubber or elastic washer, and S is a nut, by means of which it is obvious that the numbering-wheels U, V, W, and X and the friction-disks *y y y* will be pressed together, the elastic washer affording just the requisite friction to prevent the numbering-wheels from turning too easily, or except when acted upon by the pawl J. This pawl J is made of steel, and shaped as shown in Figs. 1 and 8, its lower end, Fig. 8, being the arc of a circle whose center is at K. Its upper end is attached so as to move to the pin K, which is fast to the two arms E E, as represented in Figs. 1 and 2. The lower end of this pawl is furnished with four steps, *a b c d*, as shown in Fig. 8, corresponding with the four numbering-wheels—U being moved by *a*, V by *b*, W by *c*, and X by *d*. The step *a* is made longer than the others, so as to reach over onto the fender-arm M, by means of which the pawl is carried away from the figures in their downward motion. The fender-arm M (the shape of which is clearly shown in Figs. 1, 9, and 10) is pivoted at *i* to the inner side of the cleat N, which is confined by screws to the side of the disk I.

O is a spiral spring, one end of which is fast to the pin *k* in the disk I, and the opposite end attached to the pin *j* in the arm M, by means of which the latter is drawn up against the disk I, as represented in Fig. 1, I being

cut away, as shown, to receive the arm. Thus, when the numbering-wheels are carried downward toward the platen A′, (see Fig. 1,) the step *a* of pawl J will ride under the bottom of the fender-arm M, and be thereby prevented from striking against the figures opposite said fender-arm. When the numbering-wheels are ascending from the platen A′ into the position represented in Fig. 1, the step *a* of pawl J will pass over the top of the fender-arm M, and pressing against the head of a figure (which is beveled inward to receive it) on the units-wheel U, move the same the distance required to print the numbers consecutively.

Z, Fig. 3, is a notch in the units-wheel V, back of number 1 and between it and number 2, the greatest depth of which notch equals the perpendicular distance between the top of step *d* and the top of *a*.

Z, Fig. 4, is a notch in the tens-wheel V, similar in shape and location to the notch in U, but not so deep by the distance from *a* to *b*.

Z, Fig 5, is a similar notch in the hundreds-wheel W, but not so deep as the notch in V by the distance from step *b* to *c*.

When, as in Fig. 1, the wheels are so placed as to print number 1 the same numbers are together on V, W, and X, and the notches Z in wheels V and W are coincident; but when the units-wheel has printed nine figures the step *a* is forced into the notch Z in U so deep as to allow the step *b*, resting on the periphery of V, to strike against the head of figure 2 on the tens-wheel V, and thus move the latter so as to carry forward the number 1 of the tens-wheel with 0 of the units-wheel, and print the number 10. After another revolution of the units-wheel the same operation is repeated, and 20 is printed, and so on till the step *b* is forced into Z in V till *c* rests on W and strikes against number 2 on the hundreds-wheel, which is thus moved one figure; and when the hundreds-wheel has made one revolution the step *c* is forced into its corresponding notch Z in W, and the step *d* is brought against the figure 2 of the thousands-wheel. Thus, the numbering-wheels are made to move without the aid of intermediate springs or other means of motion communicated from the units-wheel to the tens, from the tens to the hundreds, and so on, the whole being accomplished solely by means of the steps *a b c d* on the pawl J, in conjunction with the notches Z of the wheels.

My machine is very simple in its construction, readily adjusted for any desired commencing number by moving the separate disconnected wheels, and not liable to get out of repair. The register of the figures, moreover, being kept by the action of the pawl J upon the circumference of the wheels, is more liable to be accurate than if kept by means of springs or catches in the center or side of the wheels.

Having thus described the construction and operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The pawl J, constructed with the steps *a b c d*, in combination with the notches Z in the numbering-wheels, substantially as set forth, and for the purpose described.

2. The friction-plates *y*, in combination with the rod Q, or its equivalent, by means of which the numbering-wheels are kept apart and prevented from revolving, except when acted upon by the pawl J, substantially as described.

3. The fender-arm M, by means of which the pawl J is made to ride clear from the figures in moving backward, substantially as set forth.

4. The employment of the nut S and elastic washer R for regulating the friction between the plates *y* and the numbering-wheels in such a manner as to preserve a true register of the figures, substantially as described.

5. The rod Q, to prevent the friction-plates *y* from moving with the numbering-wheels, substantially as described.

6. The combination of the arms G G, frame E E, pawl J, arms C C, and spring L, substantially as and for the purpose described.

JOHN C. CLAPP.

Witnesses:

STEPHEN B. CLAPP,
DAVID C. CLAPP.