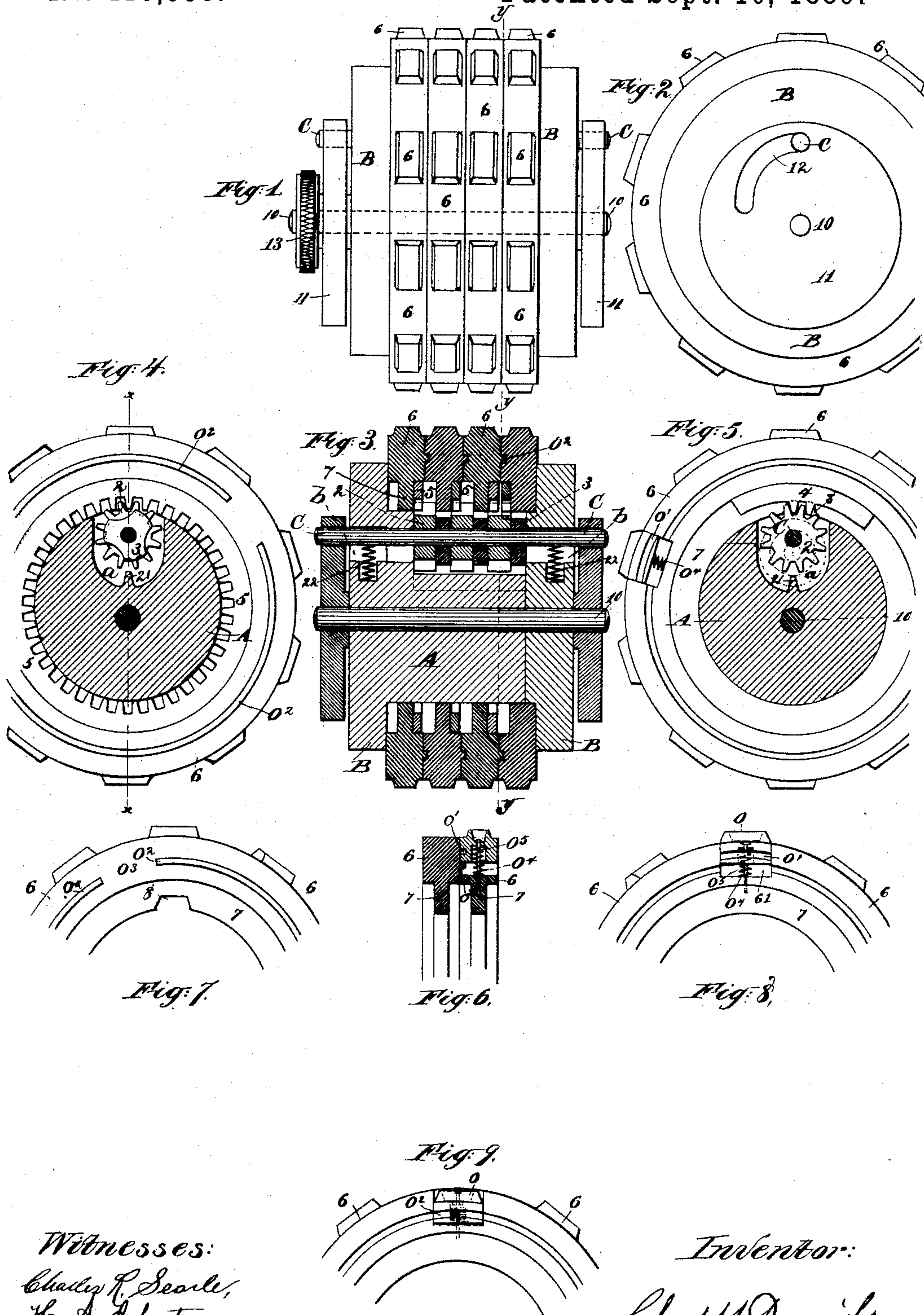


(No Model.)

C. H. DAVIDS  
NUMBERING DEVICE.

No. 410,958.

Patented Sept. 10, 1889.



Witnesses:  
Charles R. Seale,  
H. A. Johnstone.

Inventor:  
Chas. H. Davids



# UNITED STATES PATENT OFFICE.

CHARLES H. DAVIDS, OF BROOKLYN, NEW YORK.

## NUMBERING DEVICE.

SPECIFICATION forming part of Letters Patent No. 410,958, dated September 10, 1889.

Application filed January 24, 1887. Renewed December 15, 1888. Serial No. 293,760. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES H. DAVIDS, a citizen of the United States of America, and a resident of the city of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Registering and Numbering Devices, of which the following is a specification.

Said improvement relates more specifically to that class of registering and numbering devices in which the numbers are carried on the peripheries of concentric wheels, and especially to those of said devices in which the mechanism operating the number-wheels consists of internal gear-wheels, internal gear-wheel segments, spur-pinions, and rotating stops, all inclosed within the peripheries of the number-wheels, and which said form of mechanism is made the subject of a separate application for Letters Patent of the United States of America, said application having been filed October 30, 1886, Serial No. 217,620.

One object of this improvement is to provide means for simultaneously releasing all the number-wheels from gear, thus permitting the operator to set the whole series to any desired number, and thereafter, by simple mechanism, so re-engaging the number-wheels in gear as to insure their automatic operation in proper order.

Another object of this improvement is to provide means for placing the (ciphers) 0 out of line of impression at the prime operation of the machine, and thus retaining them until they are required to print, when they are automatically placed and retained in position for printing. This operation relates more particularly to printing stamps, where the prime operation should give a printed result represented by the numeral 1 alone, instead of said numeral preceded by ciphers, as 000001.

In the drawings, Figure 1 is a side elevation of a registering and numbering device having four number-wheels. Fig. 2 is an end elevation of said device. Fig. 3 is a longitudinal vertical section through the line *x x*, Figs. 4 and 5. Figs. 4 and 5 are transverse vertical sections through the lines *y y*, Figs. 1 and 3, Fig. 4 as seen from the right of Fig. 1, and Fig. 5 as seen from the left. Fig. 6 is a

vertical longitudinal section through portions of the rims of two number-wheels, showing a cipher-block. Fig. 7 is a view of a portion of the number-wheel at the left in Fig. 6. Fig. 8 is a corresponding view of the wheel at the right in Fig. 6, showing the cipher-block as elevated. Fig. 9 is a corresponding view showing the cipher-block as depressed.

In the drawings, A is a stud having a groove *a* and on which are collars B B, in which are holes *b b*, through which pass the ends of a stud C, on which rotate spur-pinions 2 2 2 and stops 3 3 3, the latter being firmly secured each to its own pinion 2, so as to be practically a part thereof. The pinions 2 2 2 mesh with internal gear-segments 4 4 4 and with internal gear-wheels 5 5 5, both of the latter being fastened inside of the rims of the number-wheels 6 6 6 6, but on opposite sides of said rims. Said number-wheels 6 6 6 6 are furnished, respectively, with webs 7 7 7 7, in each of which, except the last to the left, are formed recesses 8 8 8, which admit in turn the arms of the stops 3 3 3. The first number-wheel 6 in each series needs no internal gear-wheel 5, and the last wheel in each series needs no internal gear-wheel segment 4 nor recess 8.

The method of constructing and operating the device thus far described being fully set forth in a separate application for Letters Patent of the United States of America, hitherto herein referred to, is not claimed herein and need not be reiterated here; but the improvement for which a patent is now desired consists in the following-described parts and the use thereof.

In the lower part of the groove *a* in the stud A is formed a spline or projection 21, extending under all the pinions 2 2 2. The holes *b b* are slotted, so that the stud C may be depressed therein. When so depressed, the stud C carries with it the pinions 2 2 2, which are thus thrown out of gear with the wheels 5 5 5 and segments 4 4 4, but while so disengaged from said wheels are prevented by their engagement with the spline 21 from rotating and thus losing their proper respective positions relative to the wheels 5 5 and segments 4 4.



A spindle 10 passes through the grooved stud A and collars B B, and carries near each end disks 11 11, which have cam-shaped grooves or slots 12 12, eccentric to the spindle 10, and which said cam-slots 12 12 receive the ends of the stud C. The spindle 10 has on one end a knurled thumb-piece 13, which, with the spindle 10, rotates with the disks 11 11; and the parts are so arranged relatively to the stud C that rotation of the spindle 10 causes the disengagement of the pinions 2 2 2 from the wheels 4 4 4 and their engagement with the spline 21. A reversed partial rotation of the knurled thumb-piece 13 causes the disengagement of the pinions 2 2 2 from the spline 21 and their re-engagement with the wheels 5 5 5. Springs 22 22 assist in retaining the parts in their normal position.

In the peripheries of the wheels 6 6 6 6, except the first and last of each series, are formed recesses 61 61, which contain cipher-blocks O O, formed with rectangular bodies and having an outer printing-face in form like the numeral 0. In the left-hand side of each of these cipher-blocks O O—that is to say, in the side nearest the wheel 6 of next highest digits—is formed a recess O', which corresponds with an offset O<sup>2</sup> in each next adjacent wheel 6. This offset O<sup>2</sup> extends entirely around the wheel 6, except a space O<sup>3</sup>, located, preferably, between the numerals 0 and 9 therein, which said space is sufficiently wide to permit the cipher-block O to pass through it. The cipher-blocks O O O are kept from dropping into the spaces O<sup>3</sup> by springs O<sup>4</sup> O<sup>4</sup> O<sup>4</sup>, which normally force them out as far as they can go subject to retention by flanges on the heads of studs O<sup>5</sup>, which pass through the cipher-blocks O O O, and are secured in the wheels 6 6 6.

The cipher-blocks O in any wheel 6 being brought opposite the space O<sup>3</sup> in the offset O<sup>2</sup>

in the next succeeding wheel 6, said block O may be depressed, so that its surface cannot print, and partial rotation backward of the wheel 6, containing said depressed cipher-block O, (the next succeeding wheel remaining at rest,) fixes said block O in its depressed position until it is released therefrom by a corresponding partial rotation of said wheel forward, when it is forced outward by its spring O<sup>4</sup>, and retained in that position by said spring, and also by the offset O<sup>2</sup>, which will then come into contact with the lower surface of the base of the cipher-block O, and remain in contact therewith at all times when the block O is in position for printing.

I claim as new and as my invention—

1. In a registering or numbering device, the combination of concentric wheels and gear-wheels attached thereto, spur-pinions for driving the same with a spline and with mechanism, substantially such as described, for disengaging said pinions from said gear-wheels and for engaging them with said spline, substantially as and for the purpose specified.

2. A cipher-block O, having a recess O', combined with a wheel carrying said cipher-block, and also with an adjacent wheel having a flange O<sup>2</sup> and a space O<sup>3</sup>, substantially as herein described.

3. A depressible cipher-block O, having a recess O' and a spring O<sup>4</sup>, combined with a wheel carrying said cipher-block, and also with an adjacent wheel having a flange O<sup>2</sup> and a space O<sup>3</sup>, substantially as herein described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 21st day of January, 1887.

CHAS. H. DAVIDS.

Witnesses:

R. G. BABBAGE,  
CLARENCE B. TUBBS.