

(No Model.)

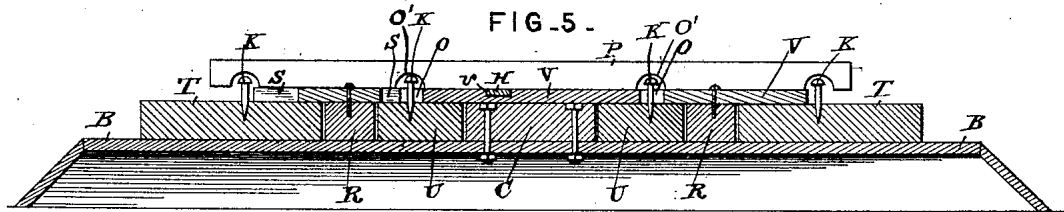
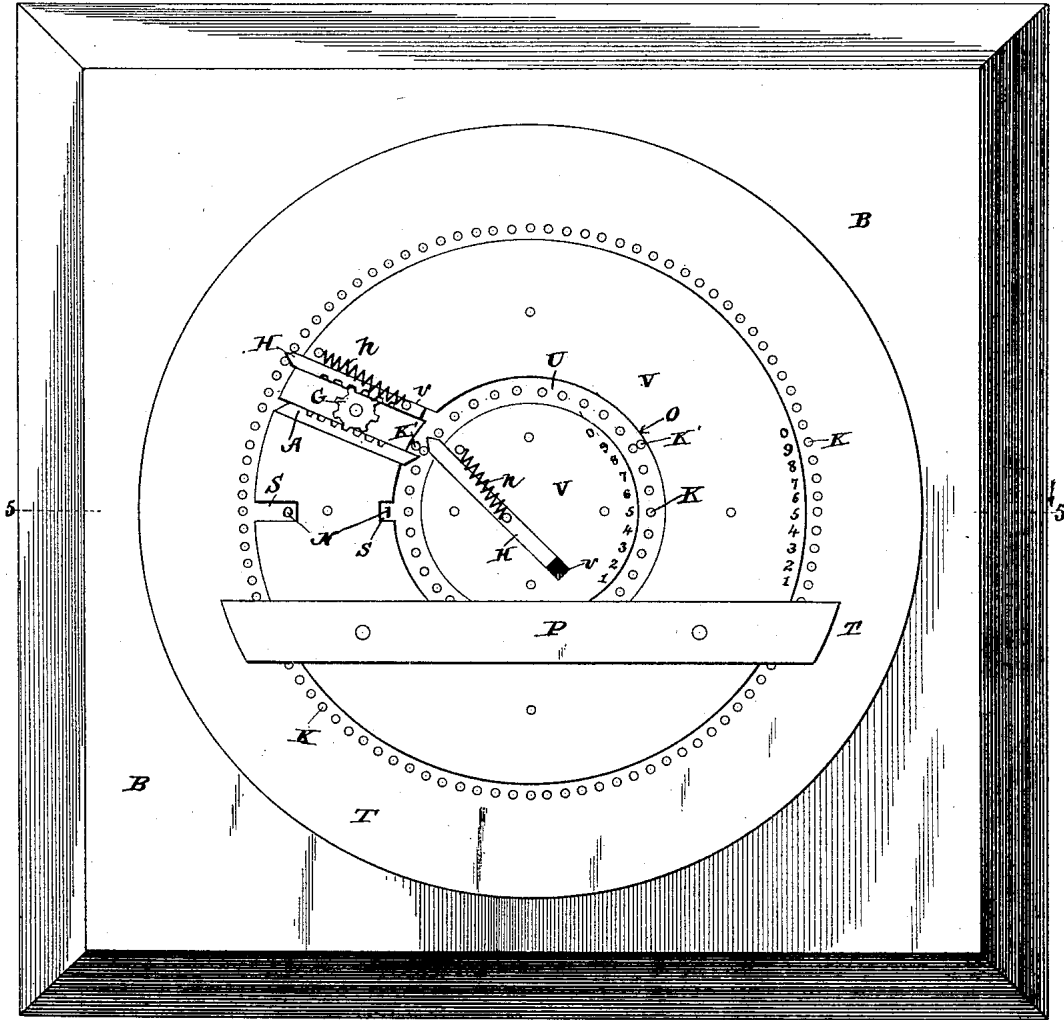
2 Sheets—Sheet 1.

J. W. WRIGHT.  
ADDING MACHINE.

No. 451,967.

Patented May 12, 1891.

FIG. 1.



Witnesses

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(No Model.)

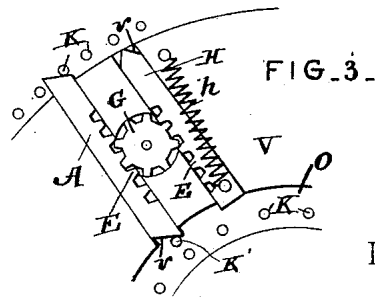
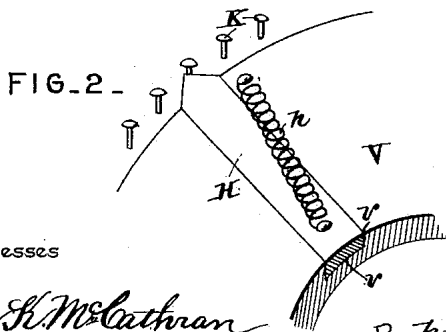
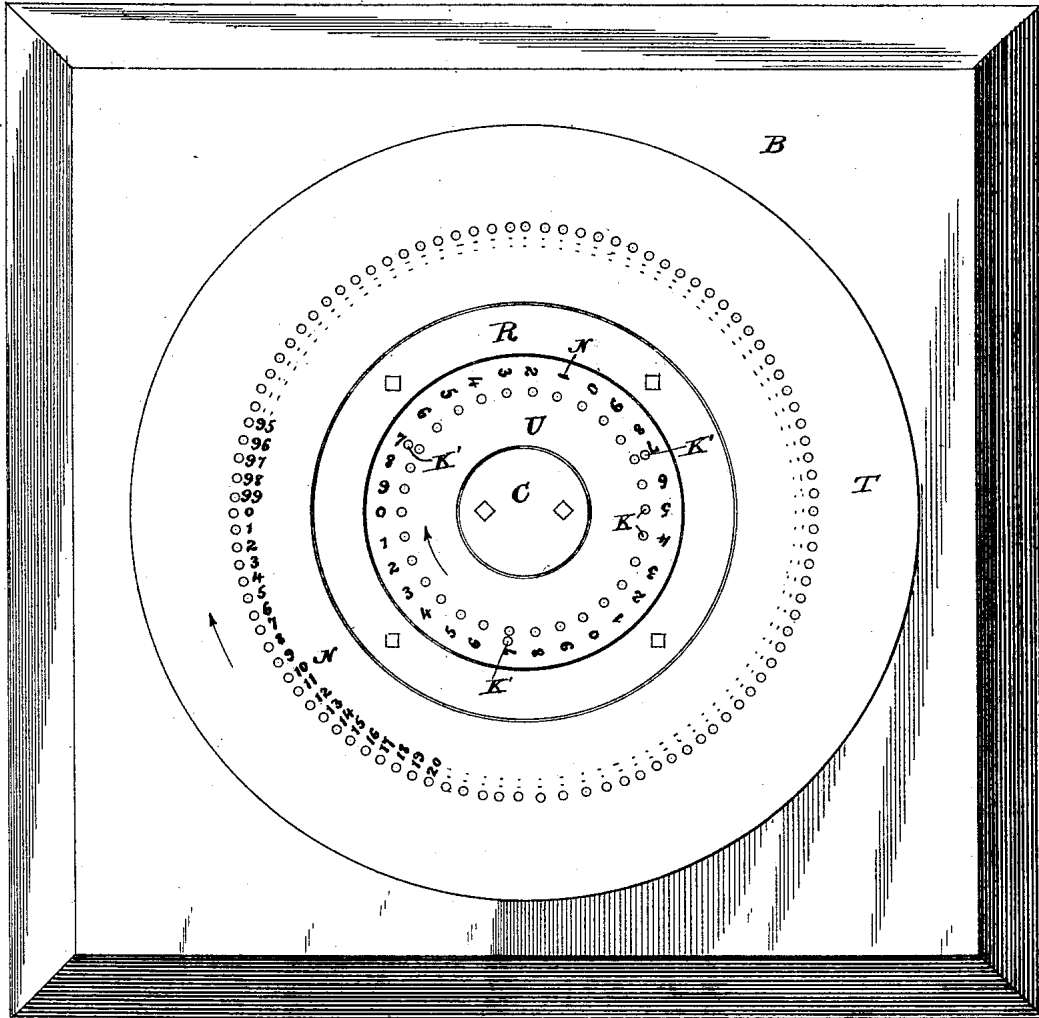
2 Sheets—Sheet 2.

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FIG. 4.



Witnesses

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# UNITED STATES PATENT OFFICE.

JOSEPH W. WRIGHT, OF GUION, TEXAS.

## ADDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 451,967, dated May 12, 1891.

Application filed November 4, 1890. Serial No. 370,301. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH W. WRIGHT, a citizen of the United States, residing at Guion, in the county of Taylor and State of Texas, have invented a new and useful Adding-Machine, of which the following is a specification.

This invention relates to adding-machines; and the object of the same is to provide a machine of this character possessing certain improvements in construction and in operation, all as hereinafter more fully described and claimed, and as illustrated in the drawings, in which—

Figure 1 is a plan view of this device complete. Fig. 2 is a perspective detail showing one of the holders in operation. Fig. 3 is a detail showing the carrier in operation. Fig. 4 is a plan of the machine with the cover removed. Fig. 5 is a transverse section on the line 5 5 of Fig. 1.

Referring to the said drawings, the letter B designates a suitable base supporting a stationary ring R, which is concentric with a stationary central piece C. Between the central piece and the ring is an annulus U, comprising the units-disk, and outside the ring R is an annulus T, comprising the tens-disk. A thin cover V is secured to the stationary portions of the base and entirely covers the annuli, and carried by this cover is a cross-piece P, which extends entirely across the machine parallel with the lower edge of the base.

Upon each annulus is arranged a ring of pins K, which in number is an exact multiple of ten, and these keys project through annular openings O in the cover and move through notches O' in the cross-piece. (Best seen in Fig. 5.) At the left side of the machine the cover V is provided with sight-openings S, through which can be seen numerals N, that are printed or marked upon the upper faces of the annuli. The numerals upon the inner annulus are only the digits, which are arranged in order from 0 to 9, while the numerals upon the tens-disk or outer annulus T extend from 0 upward as far as desirable. Upon the right-hand edge of each portion of the cover, just inside the projecting ring of pins, are arranged or marked the digits increasing from 0 to 9 upwardly from the cross-

piece. Thus, if it be desired to add seven, the finger is inserted between two pins K of the units-disk U, opposite the number "7," and moved down until it strikes the cross-piece P, when the units-disk will have been turned just seven points forward. In the same manner the tens-disk T can be turned forward by the operator's finger.

The letters H designate holders which move radially in grooves *v* in the cover V and are pressed outwardly by small coiled springs *h*. The outer ends of these holders are beveled on both sides to a point which stands normally between the bodies of two adjacent pins, and by this means either annulus is held frictionally at any point to which it is moved. Moving in a similar groove alongside the outer holder is the carrier A, having its opposite ends oppositely beveled and standing normally out of engagement with both rings of pins. The adjacent faces of the carrier and the outer holder have teeth E, and a gear-wheel G, which is pivoted to the cover between them, engages these teeth to cause the carrier and holder to move simultaneously in opposite directions. Opposite every tenth pin on the units-disk is a supplemental pin K', and as the units-disk moves the figure "0" under the sight-opening S and into sight the carrier A moves the tens-disk T the distance of one point. This movement is accomplished as follows: The supplemental pin K', which, as shown, is opposite each figure "7" on the units-disk, strikes the beveled inner end of the carrier and forces it outwardly, so that its beveled outer end engages the pins of the outer ring and moves the latter forward a slight distance or half a point. This movement of the carrier draws the holder H inwardly, and as the supplemental pin disengages the carrier and it suddenly returns to its normal position the holder H moves outwardly and its pointed outer end enters between the two pins next the point where it formerly stood and forces the tens-disk T forward the balance of the point. In this manner one is carried from the units to the tens disk whenever necessary. If it is desired to add seventy-seven, the tens-disk is turned forward seven points and then the units-disk seven points, and if the latter movement carries the sum total into another

decadal group of units it will automatically turn the tens-disk still another point, so as to give the proper result.

Although I have illustrated a machine having 5  
ing but two disks, it will be understood that a greater number could be employed, if desired; but it must be remembered that each disk should be connected with the one next outside by a carrier, substantially as above 10  
described, in order that when any disk has reached the limit of its indication and commences again at zero the next disk will be moved forward one point for every ten contained on the inner disk.

15 The operation and advantages of machines of this character are too well known to require a lengthy description here.

What is claimed as new is—

1. The herein-described adding-machine, 20  
the same comprising a base carrying a center piece and a concentric ring, a units-disk turning around said center piece and a tens-disk around said ring, a cover secured to the stationary parts of the machine and having 25  
annular openings over the disks and sight-openings alongside said annular openings, numerals upon said disks registering with said sight-openings, pins thereon projecting through said annular openings, a cross-piece 30  
secured upon and across the cover and having notches above the annular openings therein, numerals from 0 to 9 marked on the portions of the cover from the strip upwardly, opposite pins projecting through said annular open- 35  
ings, and means, substantially as set forth,

for carrying from the units to the tens disk as and for the purpose described.

2. In an adding-machine, the combination, with the units-disk provided with pins in multiples of ten and a supplemental pin op- 40  
posite every tenth pin, of the annular tens-disk surrounding the units-disk and having pins, and an outwardly spring-pressed carrier having oppositely-beveled ends normally out of engagement with all the pins and simul- 45  
taneously engaging a supplemental pin and one pin on the tens-disk, as and for the purpose set forth.

3. In an adding-machine, the combination, with the units-disk provided with pins in 50  
multiples of ten and a supplemental pin opposite every tenth pin, of the annular tens-disk surrounding the units-disk and having pins, an outwardly spring-pressed holder having a beveled outer end frictionally engaging the pins of the tens-disk, a carrier having oppositely-beveled ends normally out of engagement with all the pins and simul- 55  
taneously engaging a supplemental pin and one pin on the the tens-disk, teeth in the adjacent faces of said holder and carrier, and an idle-gear between them, as and for the purpose hereinbefore set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 60  
presence of two witnesses.

JOSEPH W. WRIGHT.

Witnesses:

J. M. WAGSTAFF,  
T. W. McCORMICK.