(No Model.) 2 Sheets—Sheet 1.

J. W. WRIGHT.

ADDING MACHINE.

No. 476,350. Patented June 7, 1892.

Fig. 1.

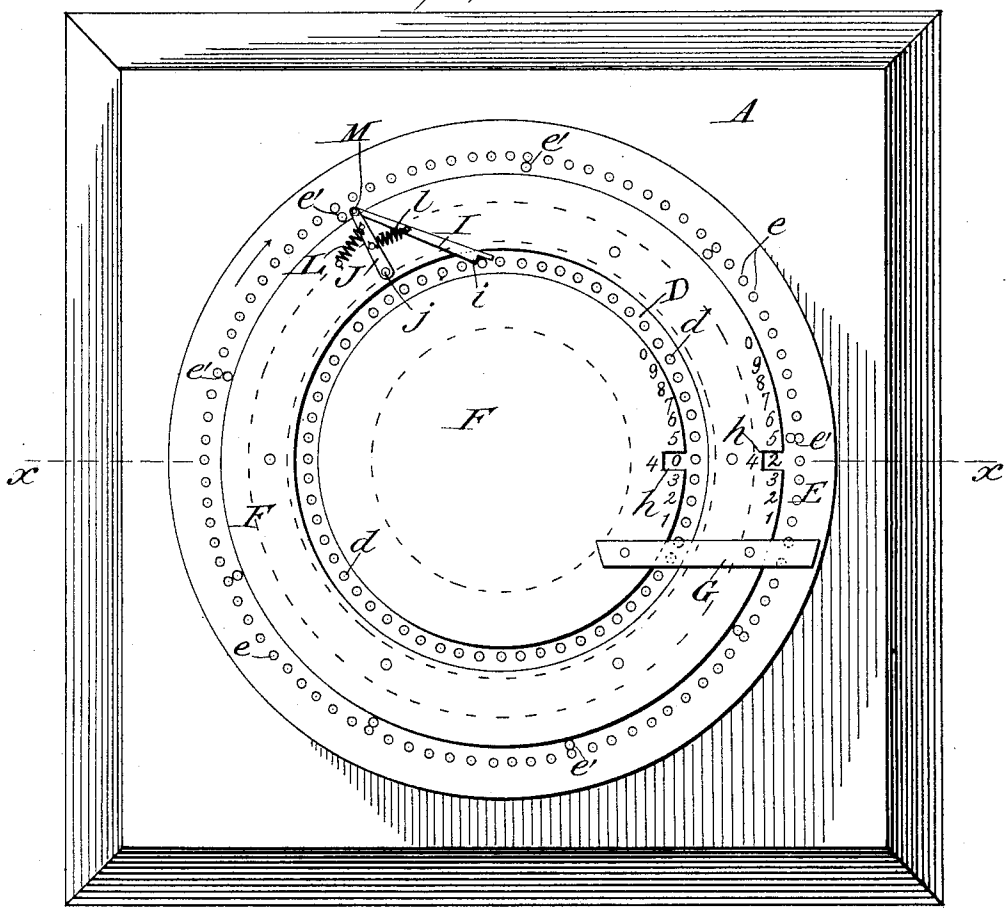
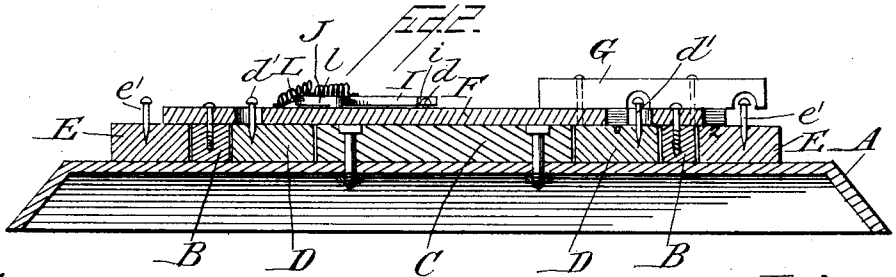


Fig. 2.



Attest:

H. C. Schott

Wm. A. Boyden

Inventor

Joseph W. Wright

per Wm. Edgar Rogers

atty

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

J. W. WRIGHT.

ADDING MACHINE.

No. 476,350. Patented June 7, 1892.

Fig. 3.

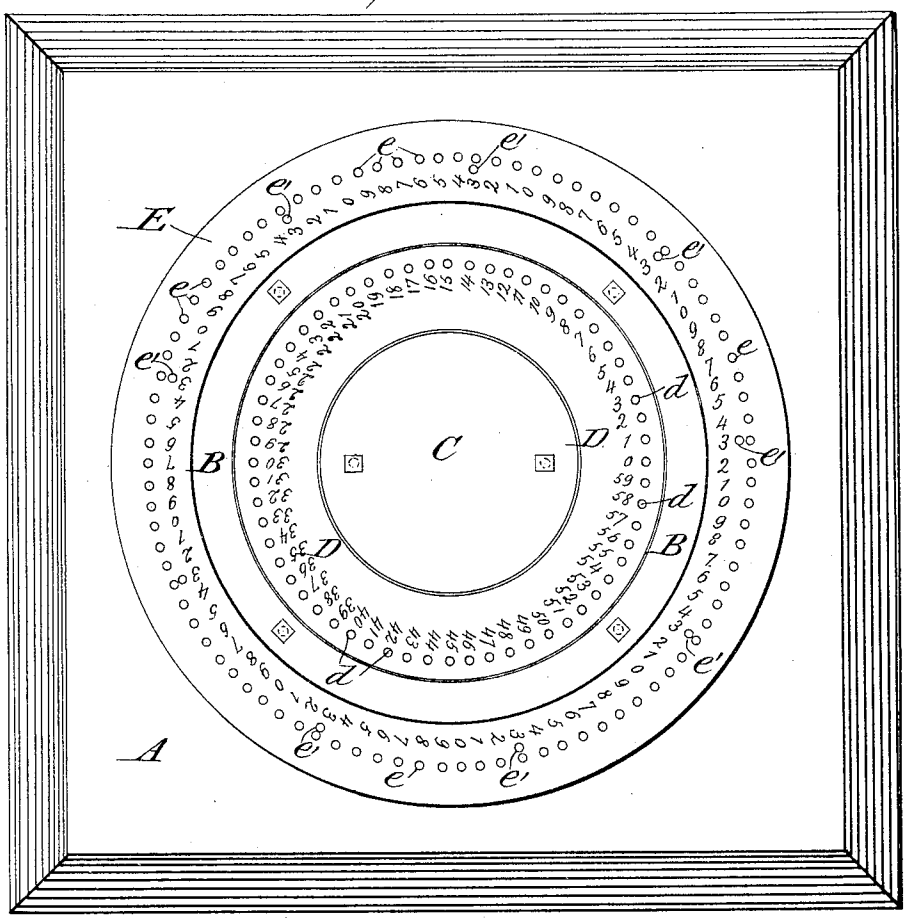
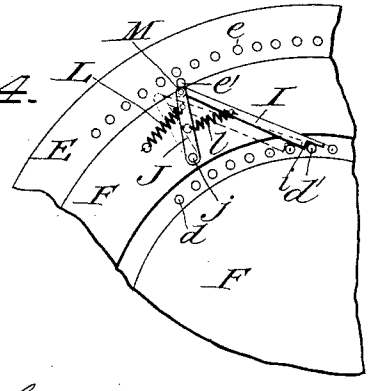


Fig. 4.



Attest:

F. H. Schott

Wm. E. Boyden

Inventor:

Joseph W. Wright.

per Wm. Edgar Rogers

atty

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOSEPH W. WRIGHT, OF GUION, TEXAS.

ADDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 476,350, dated June 7, 1892.

Application filed October 1, 1891. Serial No. 407,471. (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 certain new and useful Improvements in Adding-Machines; and I do hereby 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.

This invention relates to an improvement in adding-machines, the object of the invention being to provide a simple, cheap, and efficient device of this character which may accomplish with facility and ease all the purposes for which it is intended; and the invention consists in the construction, arrangement, and combination of the several parts, substantially as will be hereinafter described and claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a plan view of my improved adding-machine. Fig. 2 is a cross-section of the same on the line *x x* of Fig. 1. Fig. 3 is a plan view of the machine with the cover removed. Fig. 4 is a detail view showing the carrier device in operation.

Similar letters of reference designate corresponding parts throughout all the different figures of the drawings.

A designates the base or frame of my improved adding-machine, which may be of any suitable form and size and which has a suitable horizontal surface. On this base A is secured by bolts or otherwise a stationary circular central piece or disk C. Concentric with the central piece C and at a short distance outside therefrom is a stationary ring B, which is secured upon the base A. Between the ring B and the central part C is a ring D, which has the function of a tens-disk. Outside of the ring B is another larger annulus or ring E, which has the function of a units-disk. The central disk C and annulus B furnish bearings for the annuluses D and E, respectively.

F designates a cover, consisting of a central disk and annulus (see Figs. 1 and 2) adapted to lie flat on the machine and carrying a short cross-piece G, extending partially across the cover parallel with the lower edge of the base and serving to connect the parts of the cover and for other purposes, as will be hereinafter stated.

The annulus or tens-disk D is provided with a circular series of holes *d*, the number thereof being an exact multiple of ten, and alongside of these holes *d* are delineated the figures corresponding thereto, which figures are arranged in order, running from "0" upward as far as may be desirable. The annulus or units-disk E is likewise provided with the circular series of holes *e*, and on this disk alongside of the series of pins are delineated numerals arranged in order from "0" to "9," the groups of this character being repeated enough times to extend entirely around the annulus.

The cover F, as shown in Fig. 1, is provided with notches *h h* to provide openings through which the aforesaid series of numerals on the disks beneath may be clearly and plainly viewed by the observer looking down upon the machine. Furthermore, it will be particularly noted that the cover F is provided with an annular slot, through which circular series of pins *d'* project upwardly, and that the diameter of said cover F is of proper length to bring the outer periphery of the cover inside of the row of pins *e'*, thus allowing said pins to project upward close by said periphery, all as is shown in Fig. 2. One of the said openings *h*, therefore, exposes to view the numerals belonging to the pins *d* on the tens-disk D, while the other side opening *h* exposes to view the numerals belonging to the pins *e* on the units-disk E. Again, the cover F is provided upon the right-hand edge of each portion thereof, just inside the adjacent rows of pins, with series of digits delineated thereon, increasing from "0" to "9" upwardly from a point near the cross connecting-piece G. Thus if the device be set at zero and it be desired to add "7," the finger may be inserted between two of the pins on the units-disk opposite the number "7" and moved down until it strikes the cross-piece G, when the units-disk will have been turned just seven points forward. In a similar manner the tens-disk can be turned forward any desired number of points by a similar manipulation.

The units-disk E is provided with supplemental pins *e'*, located opposite every tenth pin. In the present example of the invention

they are located opposite each figure "3" on the units-disk. These supplemental pins *e'* are in correct position to be struck by the carrier. The carrier consists of an arm I, one end of which is formed with a shoulder, rabbet, or indentation *i*, adapted to engage the pins *d*, as shown in Figs. 1 and 4. The other end of the arm I is pivoted to the outer end of an arm J, which is pivoted on the outer section of the cover F at point *j*.

L designates a spring secured to the cover F at one end and at the other end to the arm J, and *l* designates another spring secured at one end to the arm J and at the other end to the carrier-arm I. The pivotal connecting point or junction between the carrier-arms J and I at M is so located as to be struck by the supplemental pins *e'* when the device is operated. The effect of the striking of the pin *e'* against the carrier at point M will be to thrust the arm I inwardly, causing its inner end to push against one of the pins *d*, and thus impart an impulse of rotation to the tens-disk D. Of course this impulse of rotation will be brief and short, carrying the annulus D forward one numeral, for the pin *e'* will not have a chance to push the arm I very far, but it will ride off the point M, as shown in Fig. 4. As soon as pin *e'* is thus released from the carrier, the springs L and *l* will turn the arms J and I into normal position, as before, and as seen in Fig. 1. In this way one is carried from the units to the tens disk whenever it may be necessary. If it is desired to add "77" the tens-disk will be turned forward seven points and then the units-disk seven points, and if the latter carries the sum-total into another group of units it will automatically, through the carrier means just described, by reason of the fact that the pin *e'* will come into operation, and cause the tens-disk to be turned another point, so as to give the proper result.

Although I have illustrated a machine having two disks only, it will be understood that a greater number could be employed, if desired, the larger disks standing for units and the smaller for the greater denominations; but it must be remembered that each disk should be connected with the one next outside by a carrier, 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.

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

1. In an adding-machine, the combination of the units-annulus, provided with pins in multiples of ten and a supplemental pin opposite every tenth pin, the tens-annulus surrounded by the units-annulus and having a series of pins, and the carrier, consisting, essentially, of two interpivoted spring-provided arms, one end of one of said arms being adapted to engage a pin on the tens-annulus and the junction point of the two arms being adapted to be engaged by a supplemental pin, substantially as described.

2. In an adding-machine, the combination of the units-annulus, provided with pins in multiples of ten and a supplemental pin opposite every tenth pin, the tens-annulus surrounded by the units-annulus and having likewise a series of pins, and a carrier device normally out of engagement with all the pins and simultaneously engaging a supplemental pin and one pin on the tens-annulus, said carrier device consisting of two arms pivoted to each other, one of said arms being pivoted at its opposite end to the cover of the machine while the opposite end of the other arm is rabbeted to engage a pin on the tens-annulus, a spring secured to each of said arms and another spring secured to the cover and to the arm which is pivoted on the cover, substantially as described.

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

JOSEPH W. WRIGHT.

Witnesses:
J. T. MELTON,
W. M. MELTON.