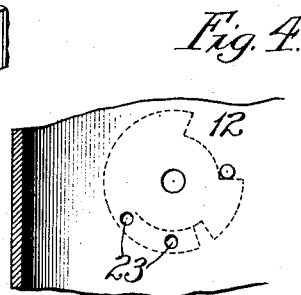
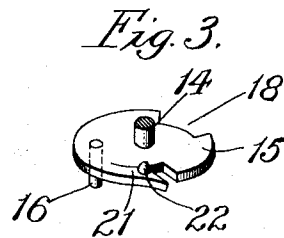
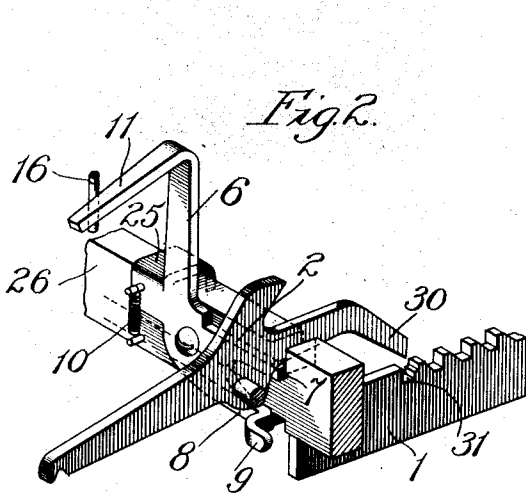
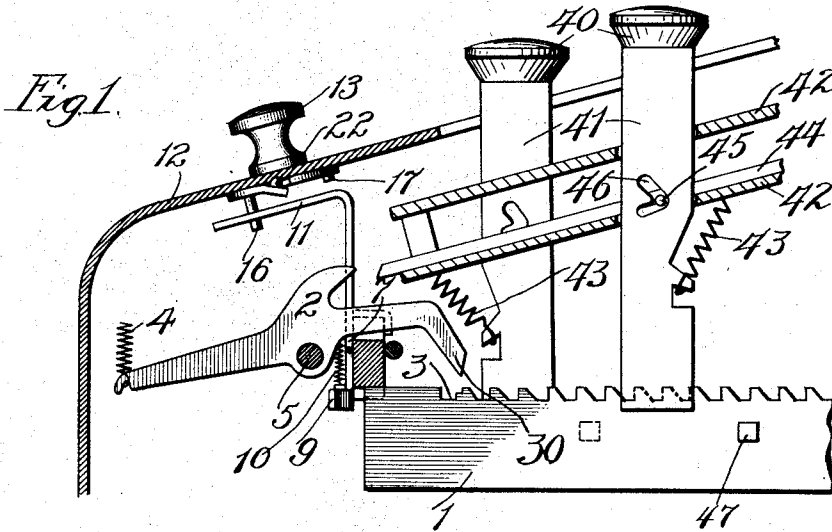


F. C. RINSCHÉ.
 ADDING MACHINE.
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948,636.

Patented Feb. 8, 1910.



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UNITED STATES PATENT OFFICE.

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ADDING-MACHINE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANK C. RINSCHÉ, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Adding-Machines, of which the following is a specification.

My invention is an improvement in adding machines of the class described in the two patents granted to me July 24, 1900, and February 2, 1904, respectively numbered 654,181 and 751,207.

The object of the invention is to provide means for keeping a record of the number of items entered in the machine without the necessity of performing any separate and distinct operation for that purpose. In certain classes of work, such as the recording and totaling of the number of yards of cloth in bolts, or the quantity of any commodity contained in a plurality of packages thereof, it is desirable not only to have a record of the entire quantity but also of the number of bolts or packages. In order to accomplish this purpose, I provide means whereby the printing and accumulating mechanism of a part of the machine, preferably the part at the left-hand thereof representing the higher orders, will automatically record and accumulate a single unit at each movement of the operating handle of the machine. The remainder of the machine, at the right of the parts so adjusted, can be used for recording and accumulating the quantity contained in the packages. When the machine is so arranged it is necessary only to impress upon the keyboard of the machine the number representing the quantity contained in the package under consideration, and then to move the operating handle in the usual manner, which will have the effect of recording and accumulating the number representing the quantity in a package and also will operate to record and accumulate a unit at the left-hand of the machine.

In the drawings—Figure 1 is a sectional elevation of the forward part of the adding machine to which my improvement is applied. Fig. 2 is a perspective view of the mechanism shown in Fig. 1. Fig. 3 is a detail of part of the operating key. Fig. 4 is a view of the under side of the casing.

In adding machines of the class to which my improvement is applied, the accumulator is actuated by means of reciprocating bars,

one of which is shown in the drawings and designated by the numeral 1. It is not necessary for the understanding of my present invention to illustrate or describe in detail the accumulating or printing mechanism. Moreover, the said accumulating and printing mechanism are fully disclosed in my prior patents referred to in the foregoing part of this specification. The accumulator wheels are moved by means of racks attached to the reciprocating bars 1. These bars are impelled forward by springs, but are normally restrained from movement by the engagement of detents 2 with notches 3 in the forward end of said bars. The detents 2 are normally held in engagement with said notches by means of springs 4. It will be understood that there are reciprocating bars 1 and detents 2 corresponding to each order of digits, the detents 2 being pivotally mounted upon a transverse rod 5 running from side to side of the machine. Keys for each digit from 1 to 9 are provided for each order, and the depression of any key operates to raise the corresponding detent 2 and to permit the corresponding reciprocating bar 1 to move a distance which varies for the different digits. The mechanism whereby these functions are accomplished is fully described in my patents above referred to.

For the purpose of accomplishing the objects of my present invention, I provide means whereby one of the detents 2, preferably the second one from the left-hand of the machine, may be disengaged from its reciprocating bar 1, and a stop interposed in the path of said reciprocating bar, said stop permitting sufficient movement of said reciprocating bar to actuate the accumulator sufficiently to record a single unit and to cause the printing mechanism to print the numeral 1. By attaching this mechanism to the second reciprocating bar from the left, it is possible to record ninety-nine articles in the manner referred to above. If it is desired to increase the capacity of this part of the machine, the mechanism hereinafter described may be applied to one of the reciprocating bars farther to the right. The disengagement of the detent 2 from the reciprocating bar 1 is effected by means of a lever 6, one arm 7 of which projects beneath the forward part of the detent 2. The lever 6 is also provided with an extension 8 formed near its end with a stop 9. The end 7 of the

lever 6 is impelled upwardly by the spring 10 attached to the opposite end of the lever and to a stationary part of the machine. The upper end of the lever 6 is formed with an arm 11 adapted to lie adjacent to and below the casing 12 of the machine.

A rotary key 13 is pivoted to the casing 12 and the lower end of its stem 14, which is rotatably fitted in a perforation in the casing, carries a disk 15. The disk 15 is provided with a depending stem 16 adapted to co-act with the arm 11 of the lever 6. The movement of the key 13 is limited by the stud 17 projecting from the under side of the casing and co-acting with a notch 18 in the disk 15. In order to firmly hold the key 13 in the position to which it is adjusted, the disk 15 is slitted to form a spring tongue 21, provided on its upper surface with the projection 22. Depressions 23 are formed in the lower side of the casing, and upon the movement of the key 13 to one of its extreme positions the projection 22 enters one of said depressions, thus holding said key against accidental displacement. In order to limit the movement of the lever 6 in one direction, said lever is provided with a stop 25 adapted to contact with a fixed part of the machine 26.

When the machine is to be operated in the regular manner as an adding machine, the key 13 is adjusted in such manner as to force the part 11 of the lever 6 to the right from the position shown in Fig. 2, thus permitting the end 30 of the detent 2 to engage the notch 31 of the accumulator bar 1. In the position of the parts illustrated in Figs. 1 and 2, the detent 30 is prevented from engaging the notch 31 by the part 7 of the lever 6, said part 7 being held in elevated position by the spring 10, which is of a strength sufficient to overcome the spring 4 secured to the tail of the detent 2. When the key 13 is rotated—as above described—to such a position as to depress the end 7 of the lever 6, the machine may be operated to its full capacity in the ordinary manner. Upon rotating the key 13 to the opposite position, however, thus permitting the arm 7 of the lever 6 to rise under the tension of the spring 10 and thus disengage the detent 2 from the accumulator bar 1, said accumulator bar will be free to move forward upon each actuation of the operating handle of the machine. The forward movement of the accumulator bar 1, however, will be limited by the stop 9 of the lever 6, which occupies a position in front of said accumulator bar when the lever 6 is adjusted to the position necessary to raise the detent 2. The stop may be placed at any desired distance from the accumulator bar 1. When, as in the cases referred to above, it is desired to register unity at each actuation of the operating handle, the stop 9 will be so spaced from the accumulator bar as to permit the latter to move a distance just

sufficient to rotate the accumulator wheel unit space. In operating the machine when so adjusted, the number representing the quantity in any package will be impressed upon the keyboard and the operating handle actuated in the usual manner. This will have the effect of printing and accumulating said number in the usual manner, and will also record and accumulate the numeral 1 in the ordinal column corresponding to the accumulator bar to which the improvement herein described is applied. When any desired number of items have been entered in the machine in this manner, and a total taken, said total will consist of two parts, that at the right representing the quantity and that at the left the number of packages.

Two keys of one of the series of nine are shown in Fig. 1, the same being designated by the numeral 40. These keys protrude above the casing 12 and their stems 41 slide through supporting plates 42 and are upheld by springs 43. 44 designates a slide strip or bar on the lower one of said supporting plates and having lateral projections 45 entering angular slots 46 in the key stems. Depression of any key 40 causes the slide strip or bar 44 to be thrust forward by reason of the camming action of the upper side of the slot 46 against the projection 45. This movement of the strip or bar causes its front end to lift the detent or latch 2 unless in the case of the particular detent or latch shown in the drawings it is already displaced by the lever 11. The keys cooperate with graduated stops 47 on the rack bar 1, as usual.

I claim:

1. In an apparatus of the class described an accumulator bar, a detent normally restraining said bar against movement, keys to displace said detent and position stops in the path of movement of said bar, and supplemental means for permanently holding said detent out of engagement with said bar and at the same time interposing a stop in the path of movement thereof.

2. In an apparatus of the class described, an accumulator bar, a detent normally restraining said bar against movement, keys to displace said detent and position stops in the path of movement of said bar, a movable member engaging said detent, a stop on said movable member, and means whereby said movable member can be moved at will to disengage said detent from said bar and to interpose said stop in the path of movement of said bar.

3. In an apparatus of the class described, an accumulator bar, a detent normally restraining said bar against movement, keys to displace said detent and position stops in the path of movement of said bar, a lever engaging said detent, a stop on said lever, and means whereby said lever can be moved

to disengage said detent from said bar and to interpose said stop in the path of movement thereof.

4. In an apparatus of the class described, 5 an accumulator bar, a detent normally engaging said bar, a lever adapted to engage said detent, a stop on said lever, a spring whereby said lever is impelled toward one of its extreme positions, and a rotatable 10 member adapted to move said lever against the tension of said spring.

5. In an apparatus of the class described, an accumulator bar, a detent normally engaging said bar, a lever adapted to engage 15 said detent, a stop on said lever, a spring whereby said lever is impelled toward one of its extreme positions, a key whereby said lever may be moved to the opposite position, and locking means to hold the key 20 against the spring, said locking means being adapted to yield only by the direct application of force to the key.

6. In an apparatus of the class described,

a reciprocatory accumulator bar, a detent pivoted near the end of said bar, a trans- 25 verse lever adapted to engage the detent and remove it from the bar, a projection on said lever adapted to be interposed as a stop in the path of movement of the bar when the lever raises the detent, and means to shift 30 said lever.

7. In an apparatus of the class described, an accumulator bar, a detent normally engaging said bar, a frame member extending transversely above the end of the bar, a lever 35 pivoted on said frame member, its plane of movement being transverse to the bar, a projection on the lever adapted to raise the detent, another projection on the lever adapted to act as a stop for the bar, and 40 means to permanently hold the lever in either of its two limiting positions.

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