(No Model.) 2 Sheets—Sheet 1.

I. PFORZHEIMER.

TICKET AND CASH REGISTERING MACHINE.

No. 409,649. Patented Aug. 20, 1889.

Fig. 1

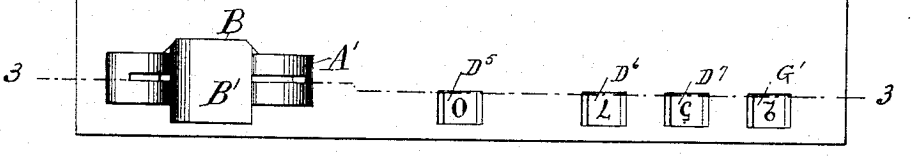


Fig. 2

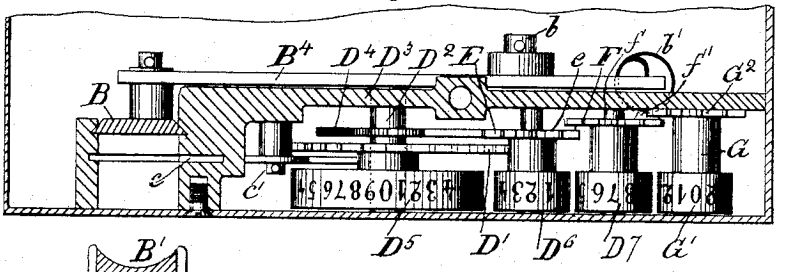
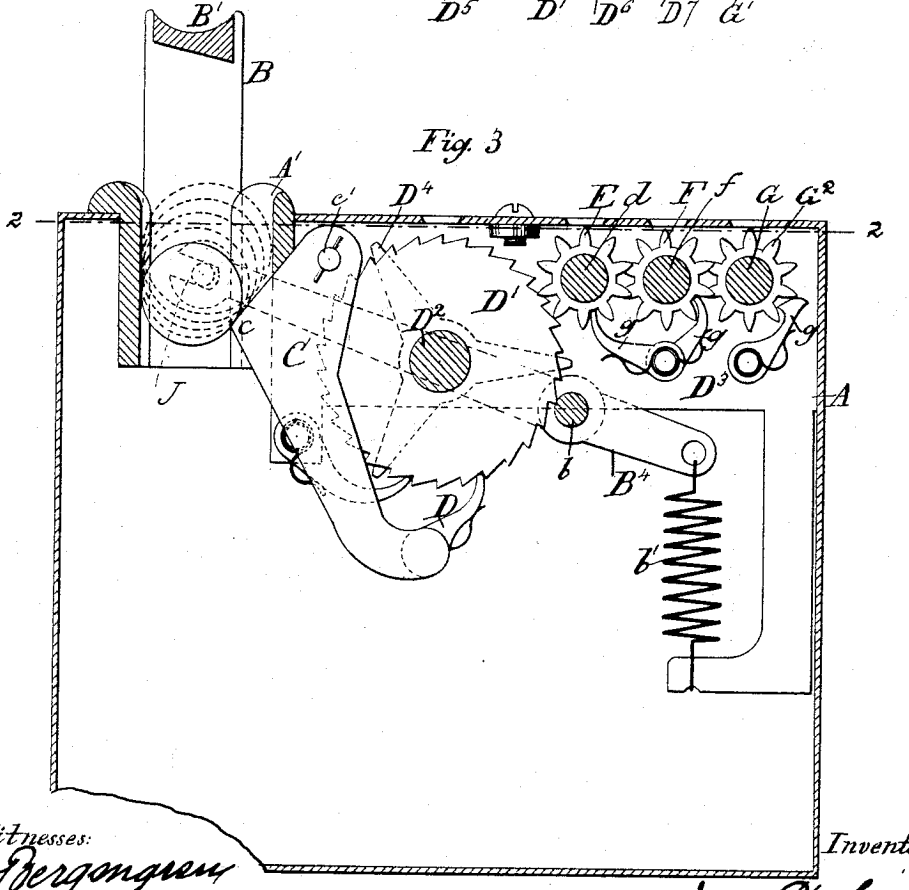


Fig. 3



Witnesses:
F. F. Bergongren
John Birker

Inventor:
Isaac Pforzheimer
by his attorneys
Brown & Friedly

(No Model.) 2 Sheets—Sheet 2.

I. PFORZHEIMER.

TICKET AND CASH REGISTERING MACHINE.

No. 409,649. Patented Aug. 20, 1889.

Fig. 4

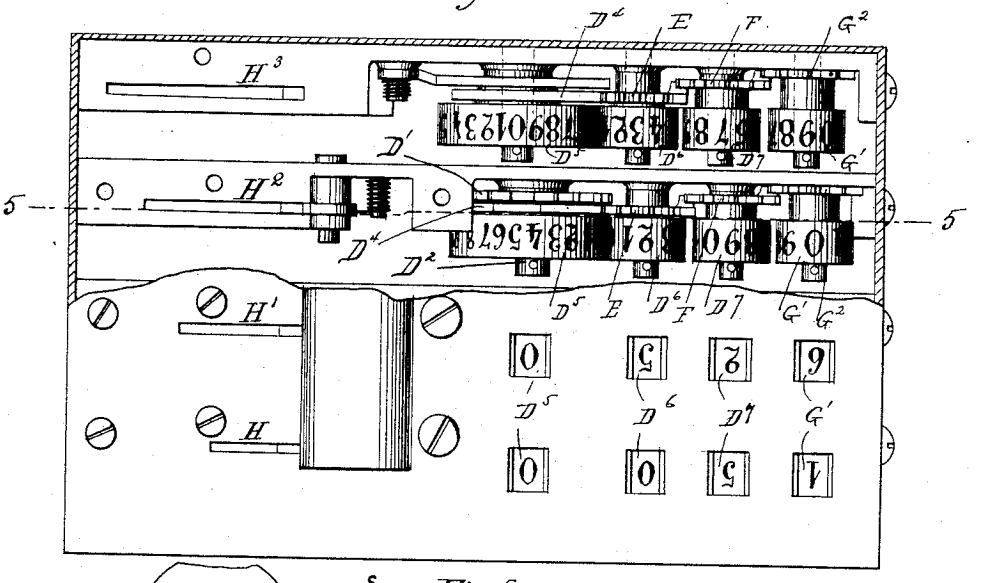
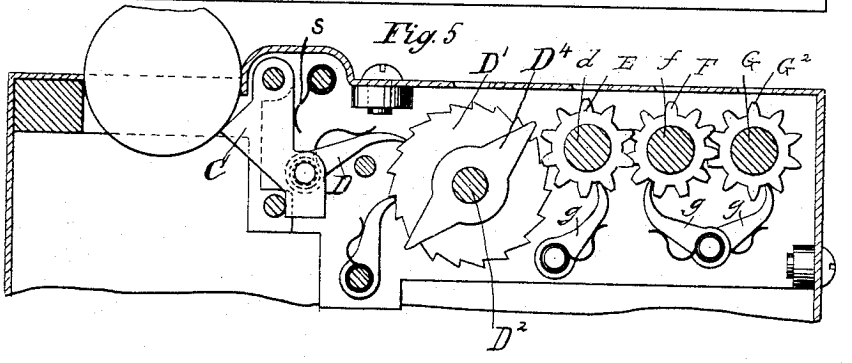


Fig. 5



Witnesses:
Fr. Bergengren
John Bickett

Inventor:
Isaac Pforzheimer
by his attorneys
Brown Sherwood

UNITED STATES PATENT OFFICE.

ISAAC PFORZHEIMER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO CARL ZALLUD, OF SAME PLACE.

TICKET AND CASH REGISTERING MACHINE.

SPECIFICATION forming part of Letters Patent No. 409,649, dated August 20, 1889.

Application filed December 10, 1888. Serial No. 293,146. (No model.)

To all whom it may concern:

Be it known that I, ISAAC PFORZHEIMER, of New York, in the county and State of New York, have invented a certain new and useful Improvement in Ticket and Cash Registering Machines, of which the following is a specification.

The object of my invention is to provide a machine wherein the value of coins deposited in a cash-box will be accurately registered or wherein cash checks or tickets may be deposited and the value of the check or ticket registered.

In carrying out my improvement I rely upon the diameter of the coin or the ticket or check to operate mechanism to register the value of the coin or check, and for this purpose I may use checks or tickets of circular or other form, which will vary in diameter or width according to the value represented, so that only definite numbers may be registered by the machine.

In the accompanying drawings, Figure 1 is a plan or top view of a portion of a ticket or check registering machine embodying my improvement. Fig. 2 is a horizontal section taken on the line 2 2, Fig. 3. Fig. 3 is a horizontal section taken on the line 3 3, Fig. 1. Fig. 4 is a plan or top view, a part of the case in which the machine is contained being removed and showing a slight modification. Fig. 5 is a vertical section, partly broken away, taken on the line 5 5, Fig. 4.

Similar letters of reference designate corresponding parts in all the figures.

Referring first to the example of my improvement illustrated in Figs. 1, 2, and 3, A designates a case or box, which, as shown, is rectangular. In the upper side of this case or box is a slotted guide A′. The slot in this guide extends vertically, and into it is to be passed the coin or ticket the value of which it is desired to register.

B designates a push-piece, a portion of which extends upwardly above the case and another portion of which extends downwardly at the side of the guide A′, and which is provided at its upper end with a thumb-piece B′. A coin or check having been placed in the slotted guide A′, the push-piece B may be forced downwardly until the thumb-piece B′ will contact with the coin or check. The downward movement of the coin or check when inserted is stopped by a lever or swinging piece C, which lever or swinging piece has a projecting portion *c*, extending into the slot in the guide A′ and into the path of the downwardly-passing coin or check. When the push-piece B is moved downwardly and the thumb-piece B′ contacts with the coin or check, the further movement of the push-piece operates to rock the lever or swinging piece C upon a pivot or pin *c*′, upon which it is hung. A continued downward movement of the push-piece B will force the coin or check past the swinging piece C, and will rock the latter upon its pivot a distance depending upon the diameter of the coin or check. In this example of my improvement, after the coin has been pushed inwardly past the swinging piece C the latter will be returned to its normal position by gravity.

Upon the lower extremity of the lever or swinging piece C is a pawl D, which pawl is spring-actuated and held in contact with the teeth upon a ratchet-wheel D′, mounted upon a shaft D^2, which latter is journaled in suitable bearings in the side of the box or case A and a frame D^3 within said box or case. The wheel D′ in this example of my improvement is provided with thirty teeth, and each insertion of a coin or check and consequent rocking of the lever or swinging piece C causes the rotation of the wheel B′ a distance determined by the diameter of the coin or check— as, for instance, if a check representing the value of ten cents be inserted, it may move the wheel D′ a distance corresponding to the length of one of the teeth on said wheel. If, on the contrary, the check representing the value of fifty cents be introduced, it may move the wheel D′ a distance corresponding to the length of five teeth on the said wheel. The wheel D′ is fast upon the shaft D^2, and the latter therefore rotates with the wheel.

Mounted upon the shaft D^2 is an indicator-wheel D^5, which indicator-wheel has upon its periphery numbers or figures indicating tens; or, in other words, the figure 1 will indicate one ten, the figure 2 two tens, and so on.

Also rigidly mounted upon the shaft D^2 is a spider D^4, which spider in this example of my improvement has three projecting arms, or, in other words, one for every ten teeth on the wheel D′. As the shaft D^2 is rotated by the wheel D′ the spider D^4 is of course rotated with the shaft. When it has been rotated a distance equivalent to the distance of ten teeth, one of the arms of the spider D^4 contacts with the tooth upon a gear-wheel E and rotates said gear-wheel a distance equivalent to the distance between two of the teeth on said gear-wheel. The gear-wheel E is rigidly mounted upon a shaft *d*, journaled in the case of the machine and in the frame D^3. Upon this shaft *d* is rigidly mounted an indicator-wheel D^6. Each time one of the arms of the spider D^4 contacts with a tooth upon the gear-wheel E the indicator-wheel D^6 is rotated to present an additional figure to view. As each of the teeth upon the wheel D′ represents a ten, it is therefore clear that, as there are but three arms upon the spider D^4 and these arms are an equal distance apart, each time the wheel E and indicator D^6 make a complete rotation there will be indicated by the indicator-wheel D^6 ten tens, or one dollar.

Upon the wheel E is a tooth *e*, which, whenever said wheel makes a complete rotation, will engage one of the teeth upon a gear-wheel F, mounted upon a shaft *f*, and rotate said gear-wheel and shaft a distance equivalent to the distance between two of the teeth on said gear-wheel.

Upon the shaft *f* is an indicator-wheel D^7, registering thousands. Upon a shaft G is another indicator-wheel G′, deriving motion in the manner just described from a tooth *f*′ upon the gear-wheel F, engaging a gear-wheel G^2 upon the shaft G.

I do not herein lay claim to any novelty in the construction and operation of the multiple gear or multiple registering-gear which I have just described. I have shown stop-pawls *g* for preventing the rotation of the gear-wheels E F G^2 in the wrong direction. Having a sliding connection J with the push-piece B is a lever B^4, fulcrumed upon a pin or stud *b* and actuated in one direction by a spring *b*′. The spring *b*′ operates through the lever B^4 to return the push-piece B to its normal or elevated position after it has been once depressed.

In the example of my improvement shown in Figs. 4 and 5 I do not employ the push-piece B, but the coin or check is forced downwardly by hand in order to operate the lever or swinging piece C. In this example I have also shown means whereby coins or checks of different value may be inserted in slots adapted particularly to receive them—as, for instance, in the slot H may be inserted ten-cent checks, in the slot H′ twenty-five-cent checks, in the slot H^2 fifty-cent checks, and in the slot H^3 one-dollar checks.

The registering-wheels operating in conjunction with the lever or swinging piece C for registering the ten-cent checks will register ten cents at a time, those for the twenty-five-cent checks will register twenty-five cents at a time, and so on. In this example I have shown a ratchet-wheel D′ having but twenty teeth and a spider D^4 having but two arms. The lever or swinging piece C is also of somewhat different form from that shown in the example of my improvement illustrated in Figs. 1, 2, and 3, and is returned to its normal position by a spring S. The principle of operation, however, is the same in both cases.

In both examples of my improvement it will be observed that the swinging piece C is pivoted beyond the slotted opening through which the coin is passed and so adapted to be swung into and out of said slot.

It will be seen that by my improvement I provide a very simple and effective machine whereby the value of coins and checks inserted will be accurately registered.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a coin or ticket registering machine, the combination, with a box or case provided with a slotted opening upon one side thereof adapted to receive a coin or ticket, of a train of registering-wheels, a vertically-extending swinging piece mounted on a pivot near its upper end and outside of said slot, said swinging piece having a projection adapted to extend normally into the said slot, and with which a coin or ticket, when passing through the slot, will contact to move it out of said slot and cause said swinging piece to swing on its pivot, a pawl pivoted upon said swinging piece near the lower end of the latter, and a ratchet-wheel with which said pawl engages to cause the operation of the registering-wheels, said swinging piece being returned to its normal position within the slot after the passage of the coin or ticket, substantially as specified.

2. In a coin or ticket registering machine, the combination, with a box or case provided with a slot or opening upon one side adapted to receive a coin or ticket, of a train of registering-wheels, a movable piece extending into said slot or opening, and a push-piece extending to the exterior of the box or case for moving inwardly the coin or ticket to cause the latter to operate the movable piece to rotate the train of registering-wheels, substantially as specified.

ISAAC PFORZHEIMER.

Witnesses:
FREDK. HAYNES,
ARTHUR H. GAMBLIN.