

(No Model.)

L. E. ALLEN.
CASH REGISTER.

No. 537,173.

Patented Apr. 9, 1895.

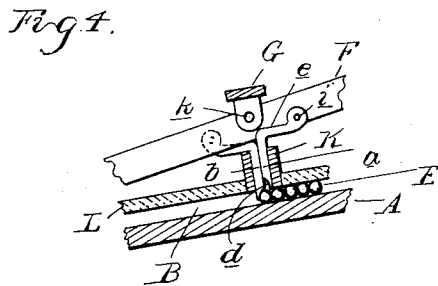
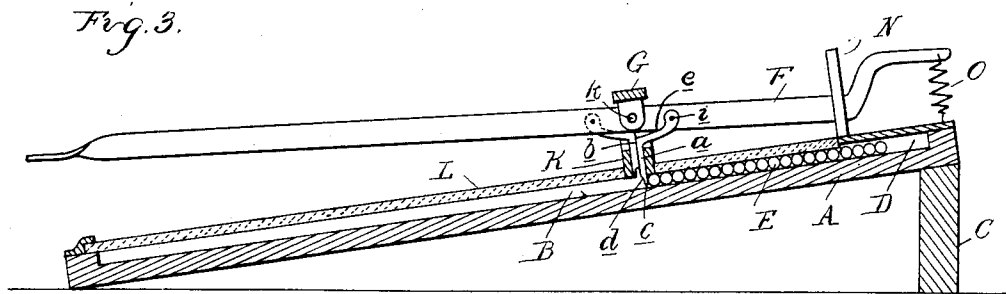


Fig. 1.

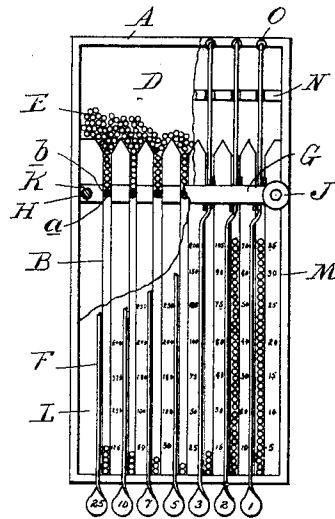
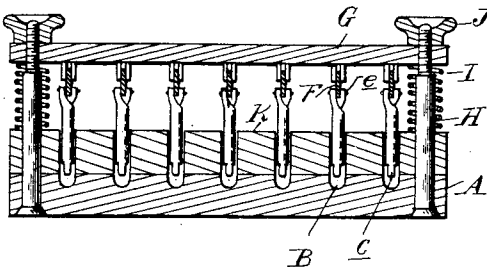


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

LUTHER E. ALLEN, OF DETROIT, MICHIGAN.

CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 537,173, dated April 9, 1895.

Application filed June 7, 1894. Serial No. 513,725. (No model.)

To all whom it may concern:

Be it known that I, LUTHER E. ALLEN, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Cash-Registers, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The invention consists in the peculiar construction of the registering mechanism, comprising chutes, spheres adapted to run in said chutes, a receptacle for the spheres at the top and a gate controlling the discharge of the
15 spheres from the receptacle into the chutes, the chutes being graduated to indicate the number or value of the sphere which passes through the gates.

20 The invention further consists in the peculiar construction, arrangement and combination of the various parts, all as more fully hereinafter described.

In the drawings, Figure 1 is a top, plan view of my device showing the case partly
25 broken away. Fig. 2 is a cross section thereof through the gates. Fig. 3 is a longitudinal section thereof through one of the gates. Fig. 4 is a similar section of one of the gates showing the parts in different position from Fig. 3.

30 In the prior state of the art, registering machines as a rule have been quite complicated in their mechanism, and exceedingly expensive to manufacture, and it is my object to construct a simple device which may be used
35 for ordinary registering purposes, which will be accurate in its operation and registration and which can be put upon the market at an inconsiderable price.

40 A is a plate or board raised at one end by the leg C so as to present an upper inclined surface and in this upper inclined surface are one or more grooves or chutes B which lead directly or straight down from a point near the top to a point near the lower end of the
45 board. These chutes at the top may connect into a common receptacle D, or they may be long enough to form a receptacle for each.

50 E is a series of spheres, such as shot or marbles in a receptacle adapted to enter the upper end of the chutes and which will roll

to the bottom thereof if it were not for interposed gates arranged in the chutes.

F is a series of keys pivoted at stated distances apart on the under side of the cross-bar G which is supported at its ends by the
55 standards H. I are springs sleeved about these standards and bearing with their upper ends against the under side of the cross bar G, and J are adjusting nuts engaging the upper screw-threaded portion of the standards
60 for adjusting the cross-bar G vertically.

K is a guide bar secured on top of the plate A and extending over the top of the chutes or grooves B. This block is provided with a series of vertical apertures in which the gates
65 a b are adapted to engage, one pair of these gates in each aperture. These gates have at their lower ends a cut-off c and an inclined or curved face d and at their upper ends they
70 are connected by means of the connecting arm e with a pivot pin i on a common lever on opposite sides of its pivotal point k.

L is a cover for the chutes, preferably of glass. Beside the chute is a mark or gage M
75 to indicate the number or value of the spheres which pass. The upper end of the key lever moves between guide pins N and is drawn
80 down by means of the spiral spring O, which normally holds the forward end up as shown in Fig. 3.

The operation of the device is as follows: The parts being as shown in Fig. 3, the operator depresses one or more of the key levers by striking with his finger which will move
85 downward the gate b and move upward the gate a allowing one of the spheres in the chute to move past the upper gate and against the lower gate, as shown in Fig. 4. Now as soon as he releases his finger, the spring O
90 will return the key to its normal position, shown in Fig. 3, which will release the sphere or ball by the movement of the gates and permit it to roll to the lower end of the chute, registering one, or a marble of any desired
95 number according to the value of the chute into which it runs. When it is desired to return the chute or ball into the receptacle I turn the nuts J when the springs I will lift the cross-bar and with it the gates out of the
100 chutes so that by inverting the device, the

balls will run into the receptacle. Now screwing down the nuts the device is ready for operation.

What I claim as my invention is—

- 5 1. The combination with a receptacle, of a series of direct inclined chutes leading therefrom and having permanently closed lower ends and open upper ends constituting the inlet and exit therefor, a plurality of gates for
10 each chute, one of which is normally in the same, means for removing both of the gates from the chutes, and spheres in the receptacle adapted to move into the chutes, substantially as described.
- 15 2. The combination of the inclined plate the grooves in the upper face thereof, the receptacle at the top of the chutes, the spheres in the receptacle adapted to enter the chutes, a gate for each chute, a key for operating
20 each gate, and means for raising the gates to permit the return of the spheres, substantially as described.
- 25 3. The combination with an inclined base having a series of direct chutes therein formed with a combined inlet and outlet opening at their upper ends only, a series of spheres adapted to move in the chutes, gates for controlling the movement of the spheres in opposite directions, and means permitting the
30 removal of the gates to allow the spheres to be moved back through the chutes com-

prising a spring-pressed bar, and means for compressing the spring, substantially as described.

4. The combination of a grooved base plate, 35 the spheres in the grooves, the guide bar K having vertical grooves therein, of the gates *a b*, working in the grooves having the curved arms *e* extending in opposite directions and pivotally engaging with a key on opposite
40 sides of its fulcrum, and the key for operating said gates, substantially as described.

5. The combination of the inclined groove plate, the spheres therein, the gates *a b*, the key for operating said gates as set forth, the
45 standards H, the cross-bar G upon which said keys are secured, the springs I under the cross-bar and the nuts J above the cross-bar, substantially as and for the purpose described.

6. In a register, the combination with a base, 50 of a series of inclined chutes therein, gates for each chute, keys for operating the gates, means common to all the gates for raising the same from the chutes, and spheres in the
55 chutes, substantially as described.

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

LUTHER E. ALLEN.

Witnesses:

JAMES WHITEMORE,
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