

(No Model.)

3 Sheets—Sheet 1.

R. P. THOMPSON.
CASH REGISTER AND INDICATOR.

No. 485,240.

Patented Nov. 1, 1892.

Fig. 1.

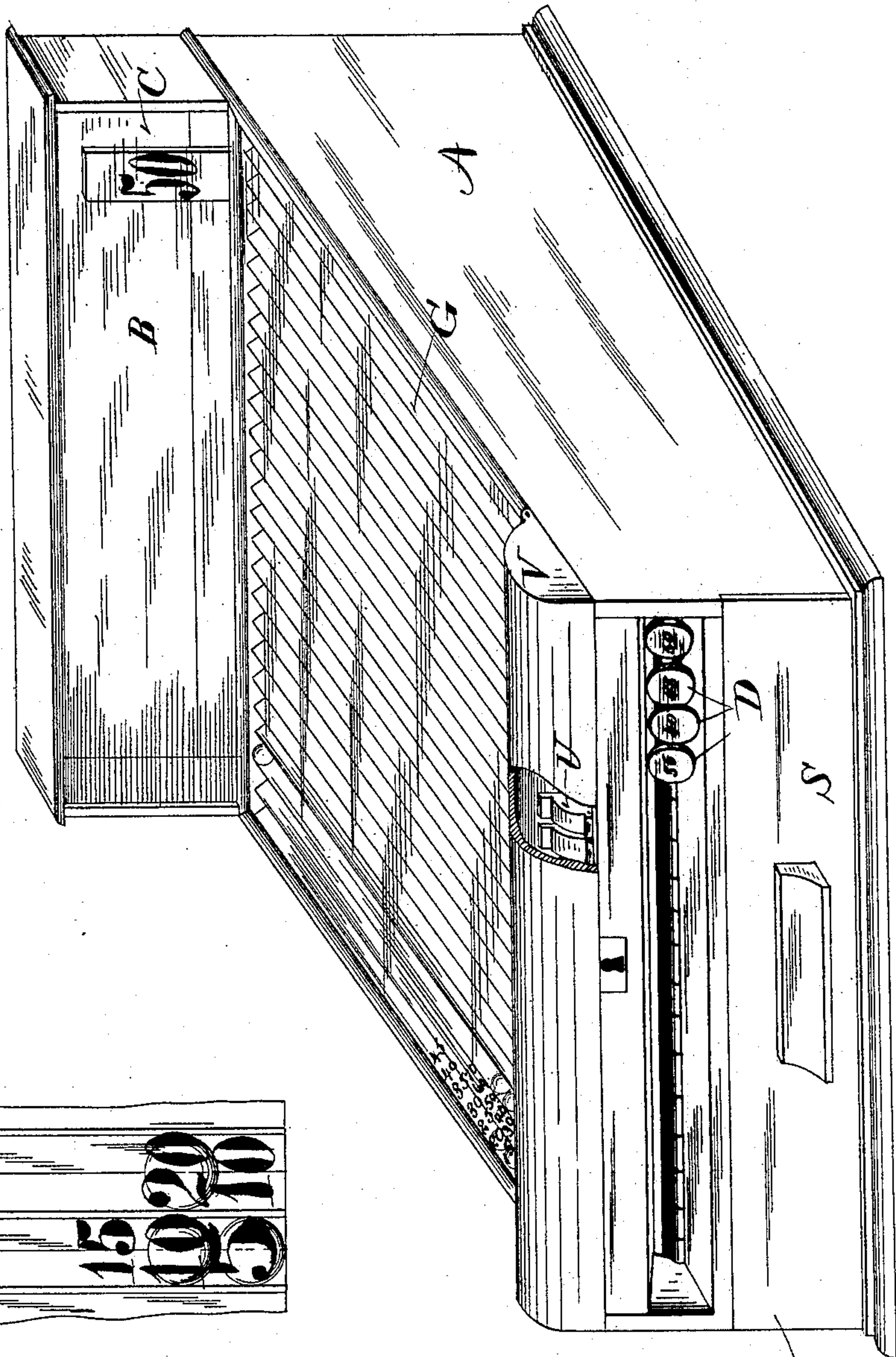
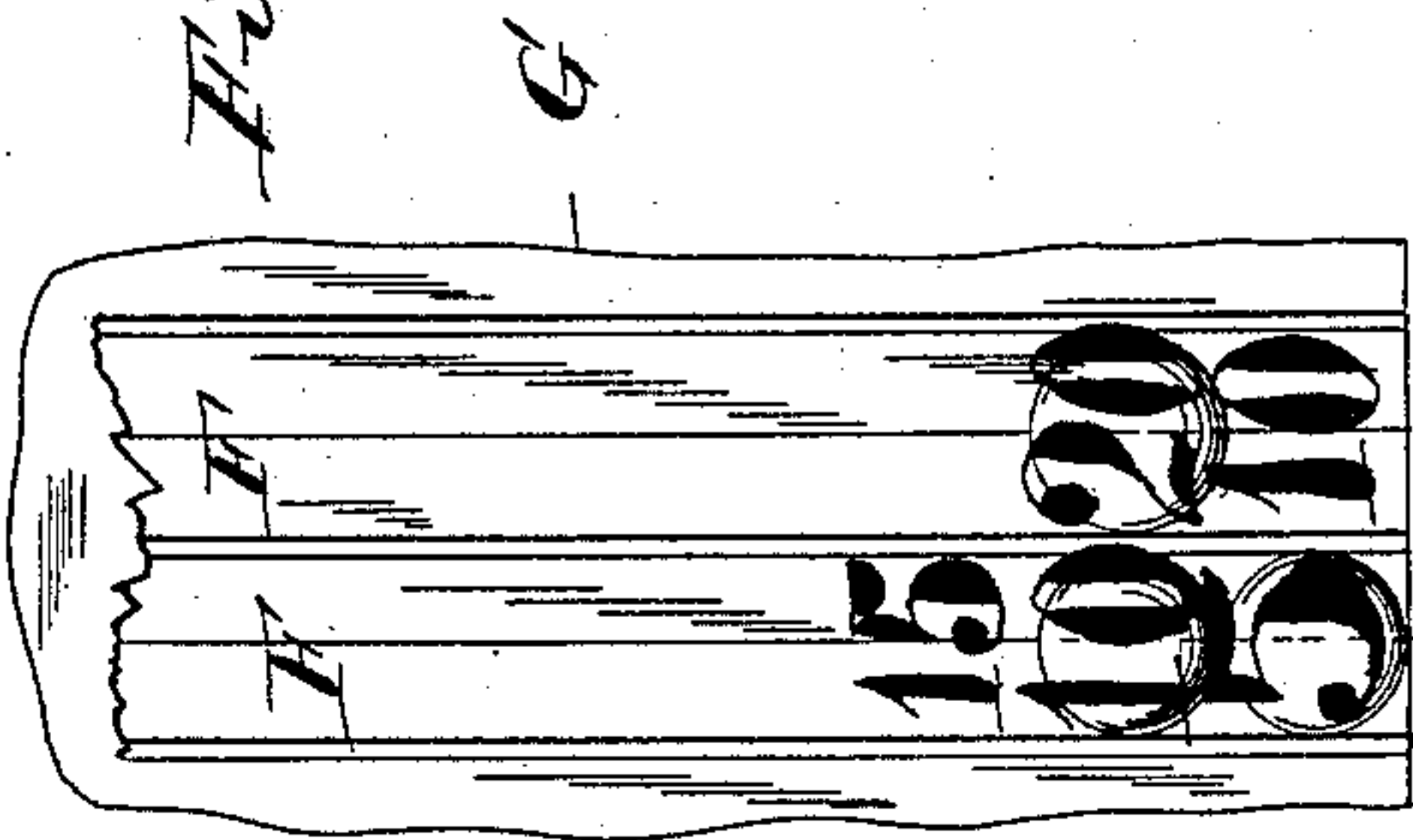


Fig. 2.



WITNESSES
H. M. Raisted
Jas. C. Dawley.

INVENTOR
Ralph P. Thompson,
By H. A. Toulmin,
his Attorney.

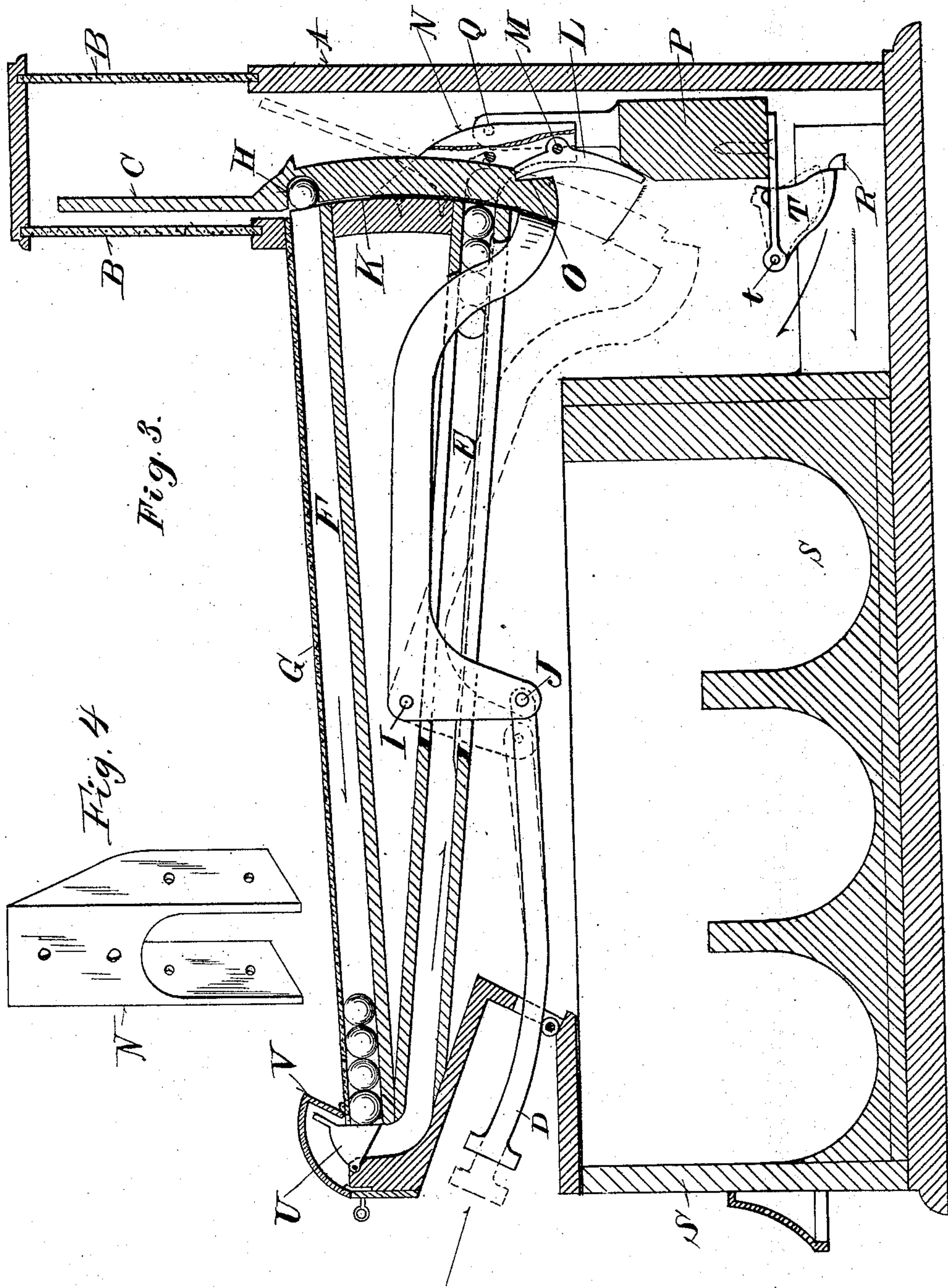
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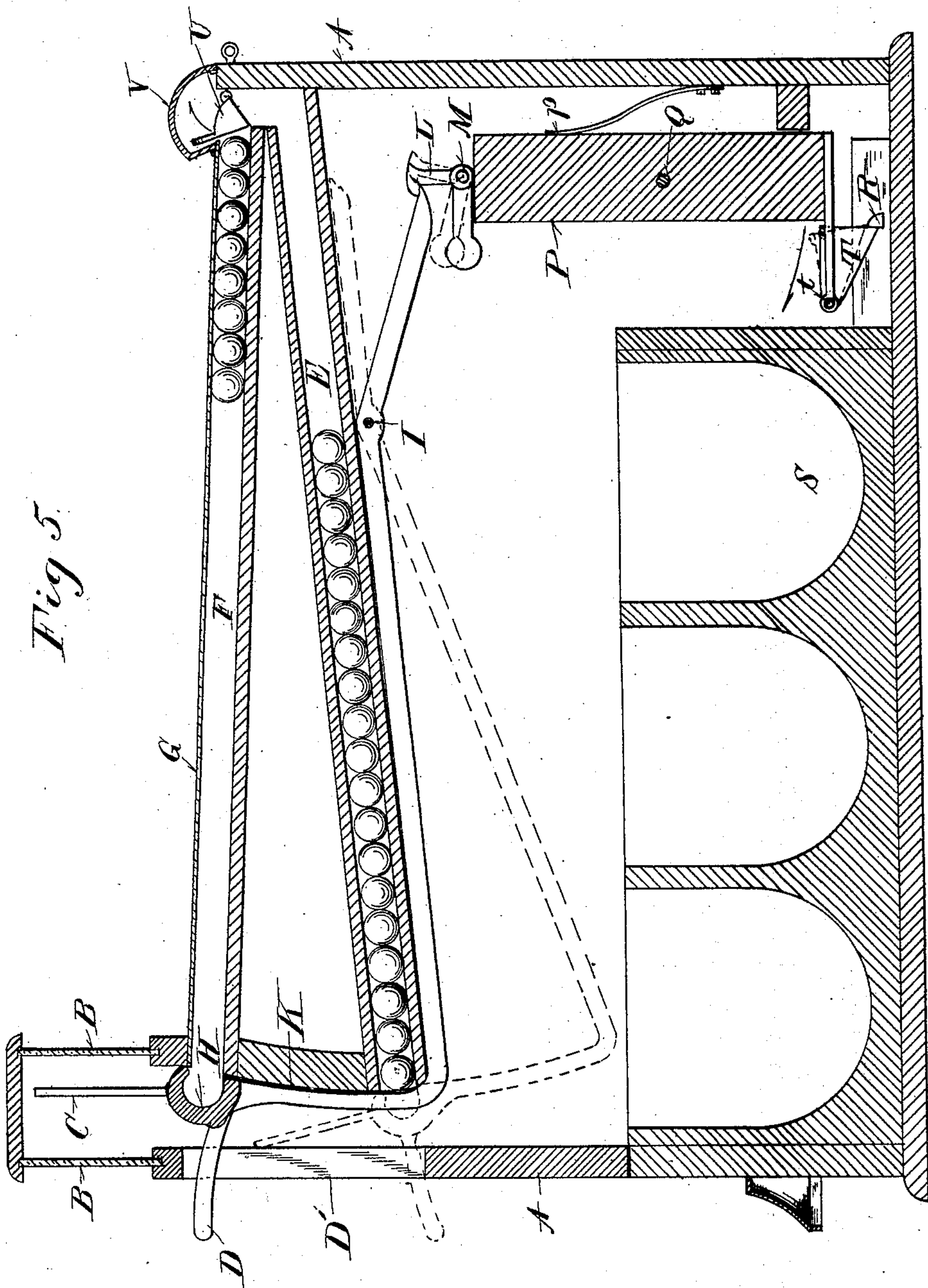
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WITNESSES
H. M. Plaisted.
Jas. C. Dawley.

INVENTOR
Ralph P. Thompson,
By S. A. Coulman,
his Attorney.

UNITED STATES PATENT OFFICE.

RALPH P. THOMPSON, OF GREENFIELD, OHIO, ASSIGNOR TO THE JOHN M. WADDEL MANUFACTURING COMPANY, OF SAME PLACE.

CASH REGISTER AND INDICATOR.

SPECIFICATION forming part of Letters Patent No. 485,240, dated November 1, 1892.

Application filed April 9, 1892. Serial No. 428,491. (No model.)

To all whom it may concern:

Be it known that I, RALPH P. THOMPSON, a citizen of the United States, residing at Greenfield, in the county of Highland and State of Ohio, have invented certain new and useful Improvements in Cash Registers and Indicators, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to certain new and useful improvements in cash registers and indicators.

The object of my improvements is to provide means for delivering registering-balls to and from a magazine without direct handling by the operator, such delivery being effected by the ordinary operation of the machine in indicating and registering.

One means whereby my object is obtained is illustrated in the accompanying drawings, on which like reference-letters indicate corresponding parts, in which—

Figure 1 represents a perspective view of my machine; Fig. 2, a partial plan view; Fig. 3, a sectional view between two adjacent troughs, showing the lower position of the shifting mechanism in dotted lines; Fig. 4, a detail of a brace-support for a trip-rod, and Fig. 5 a modified construction of the shifter and operative means.

I will proceed to describe one means whereby my object may be obtained.

The letter A designates a case provided with sight-openings B B, at which are exposed indicating-cards C, bearing figures corresponding to those on push-keys D, operatively connected thereto by intervening mechanism, which is adapted, also, to raise the balls or other registering-pieces from a magazine or inclined trough E to the registering trough or compartment F corresponding thereto, the series of troughs being covered by a glass G, having figures thereon, beneath which the balls roll and are successively hidden or partially so. The scale of figures over each register-trough F increases according to the number of the indicator-card and push-key corresponding thereto. It is evident, therefore, that any convenient number or sets of this indicating and registering apparatus may be placed side by side in the case A. The balls,

in the construction illustrated, enter a pocket H in the upper end of a rocking shifter, pivoted at I and connected at J with its corresponding push-key D. The indicator-card C therefor is carried on this rocking shifter and the ball enters the pocket H, when the latter is in the lower position (shown by dotted lines) opposite the magazine E. The pocket H will be loaded with one ball, and when the push-key is operated the shifter will carry the ball upward opposite the inclined register-trough F, into which it will roll and take its place under the proper successive number on the register-glass. The indicator-card corresponding thereto will be shown at the same time at the sight-slots B. The arched surface K will prevent the discharge of the ball till it reaches the trough F.

In order to maintain the indicator in its raised position, I provide a catch L, pivoted at M to a shield or guard N, which catch enters a notch O in the end of said shifter when the proper height is reached for the indicator. In order to trip this catch, I arrange a cross-bar P, pivoted at Q and adapted to swing forward in the direction of the arrow when a pin R on the cash-drawer S engages with a ratchet-finger T, carried by said bar P, and is drawn forward in opening the drawer. This allows the descent of the indicator and the shifter to bring the pocket H opposite the magazine again. When the drawer is pushed back, the ratchet-finger T is raised about its center to the dotted position shown and allows the pin R to pass under the finger.

The shifter-arm may operate between the magazines, as shown in Fig. 3, or be located under them, as in Fig. 5.

In Fig. 1 a gate U is pivoted opposite the end of each trough to block the passage of the ball to the magazine. A cover V, provided with a lock, prevents tampering with the register. The inner edge of the cover is curved inward, as in Fig. 3, or otherwise shaped to allow a view of the registering-balls. The gates are preferably separate or in section, so that they may be independently operated. Thus when one register becomes full the gate corresponding thereto may be operated to allow the return of the balls to the magazine

without interfering with the other registers. The gravity of the registering-pieces effect their transition from the magazine into the shifter and from the shifter into the registering device; also, the inclination of the register-troughs and the magazines cause the ball by their own weight to take their proper position therein. The shield-pieces act as bracing-supports for the cross-rod M, on which the trips are mounted. They may be of any convenient form, as in Fig. 4, and attached to the casing in any suitable manner. The pocket in the shifter is adapted to receive the balls successively from said magazine and deliver them to the registering device or trough. In the form shown the change of position of the pocket as it swings about the center of the shifter changes the inclination thereof, so that it readily rolls into the trough of the register. The ball is maintained in the pocket by the guiding surface or guard between the magazine and the register or otherwise prevented from falling out. The shifter is adapted to close the exit of the magazine while operating past it, and thus prevent the exit of the balls, except when the pocket H is opposite the magazine.

In order to fully illustrate the adaptability of my shifting device, I have shown in Fig. 5 a modification of the same and adjacent mechanism thereto. In this form the key D is simply a projection extending through a slot D' in the casing and secured to the shifter itself directly. The arm of the shifter extends along under the magazine and the inner end engages with a trip-catch to hold it in its upper position, as shown. This catch is carried directly by the swinging cross-bar P, and a spring p, instead of gravity, may be employed, if so desired, to maintain the bar in its normal position. The outward movement of the drawer releases the shifter, as in the form shown in Fig. 3. Thus it will be seen that there is no necessity of handling any ball. They are used over and over again and automatically shifted one by one from the magazine to the register, from which they can be returned to the magazine by operating the gate U. This shifting device I claim, broadly; also, the same together with the inversely-inclined trough and gate intervening.

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

1. In a cash register and indicator, the combination, with a casing, of keys mounted therein, indicator-cards having figures adapted to be shown at sight-slots in said casing, inclined troughs, and registering-balls therefor, a magazine for said registering-balls, and shifting means operatively connected to said keys and indicator-cards to shift said registering-pieces from the magazine to the register-trough.

2. In a cash register and indicator, the combination, with a casing, of keys mounted therein, a shifting device connected to each key

and carrying an indicator-card adapted to be shown at sight-slots in said casing, a register-trough opposite each shifter and a magazine-trough for the same, and registering-balls adapted to travel in said troughs and be transferred by said shifting device from said magazine to said trough under the operation of the corresponding key.

3. In a cash register and indicator, the combination, with a casing and numbered keys mounted therein, of inclined register-troughs, registering-balls adapted to travel therein, a magazine for said balls, and a shifting device operatively connected to said keys to transfer said balls successively from the magazine to the register-trough corresponding to said key.

4. In a cash register and indicator, the combination, with a casing and numbered keys mounted therein, of an inclined register-trough, registering-balls adapted to travel therein, a gate at one end of said trough, a magazine-trough reversely inclined to said register-trough and communicating therewith through said gate, and a shifting device operatively connected to said key, adapted to receive the balls successively from the other end of the said magazine-trough and transfer them to the upper end of the said register-trough.

5. The combination, with a casing, keys mounted therein, a magazine, and a registering device corresponding to each of said keys, of registering-balls used in connection with said registering device and a shifting device having a pocket to receive said registering-balls successively from said magazine and adapted to be operated by said key to deliver said registering-balls to the registering device.

6. The combination, with weights or balls, a magazine for said weights or balls, and a register located higher than said magazine and adapted to receive and register said balls or weights, of a traveling shifting device having a pocket to receive one ball at a time from said magazine and transfer it bodily from a lower to a higher plane and deliver it to said register.

7. In a register and indicator, the combination, with a registering device, of a magazine and registering-balls therein, a gate at one end of said register, adapted to obstruct the return of the balls to the magazine communicating therewith, and a shifter at the other end of said magazine and registering device to effect the transfer of said balls from said magazine to said register.

8. In a cash register and indicator, the combination, with an inclined register-trough and an inclined magazine-trough communicating therewith, of a gate to obstruct the return of the balls to said magazine and a shifter at the other end of said troughs, having a pocket to receive the balls successively from said magazine and provided with an extension to operate said shifter, whereby said balls are transferred from the magazine to said register-trough.

9. In a cash-register and indicator, the combination, with an inclined register-trough and an inclined magazine-trough communicating therewith, of a gate to obstruct the return of the balls to said magazine from said register and a shifter at the other end of said troughs, adapted to receive the balls successively from the said magazine and bearing an indicator-card and adapted to be operated to show said

indicator and transfer said balls automatically.

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

RALPH P. THOMPSON.

Witnesses:

HARRY M. BROFFETT,
WILLIAM H. IRWIN.