

No. 673,591.

Patented May 7, 1901.

G. A. ALDRICH.
COIN CALCULATING DEVICE.

(Application filed Nov. 14, 1900.)

(No Model.)

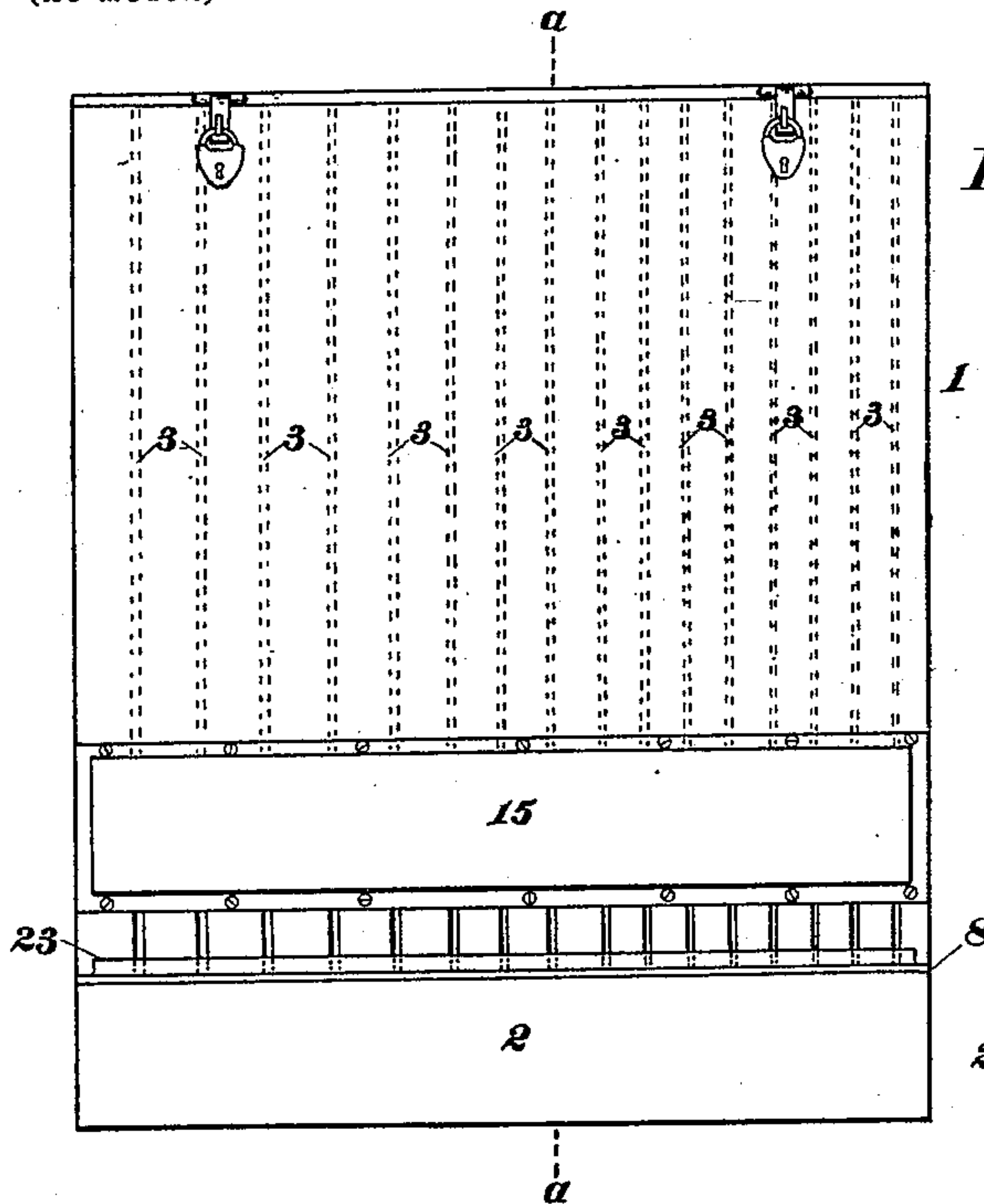


Fig. I.

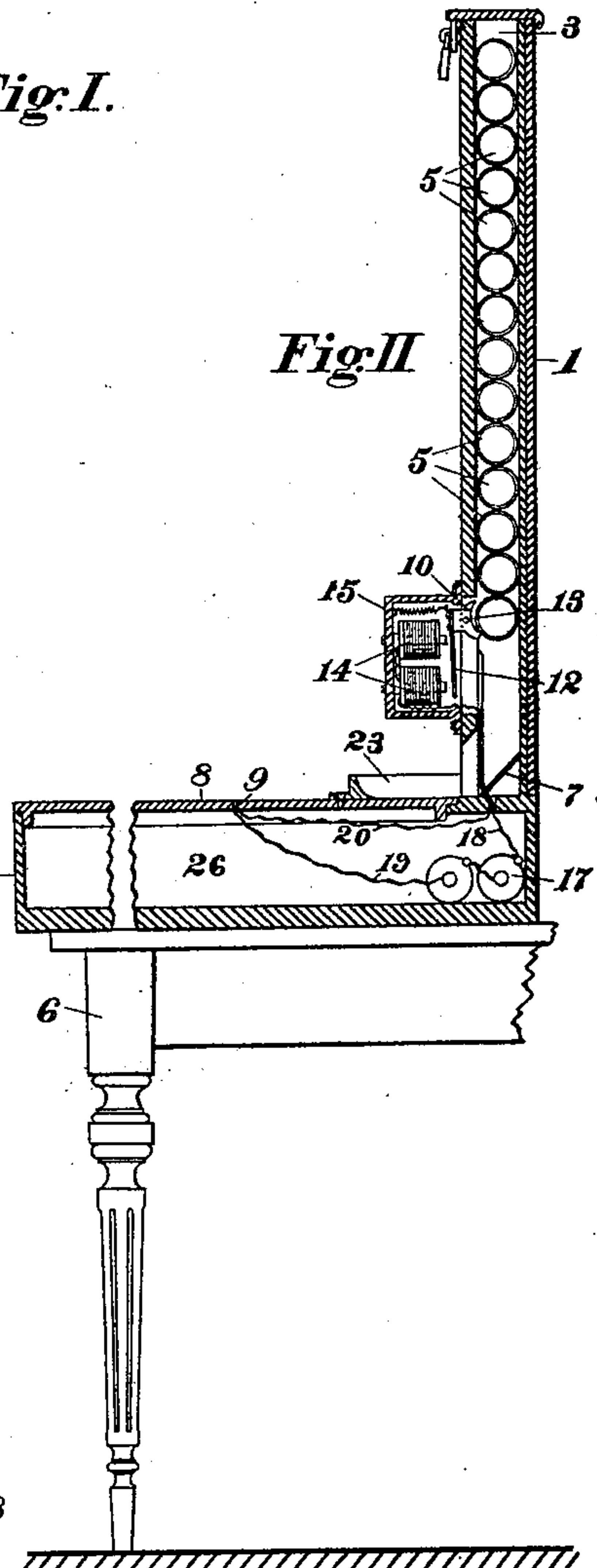


Fig. II.

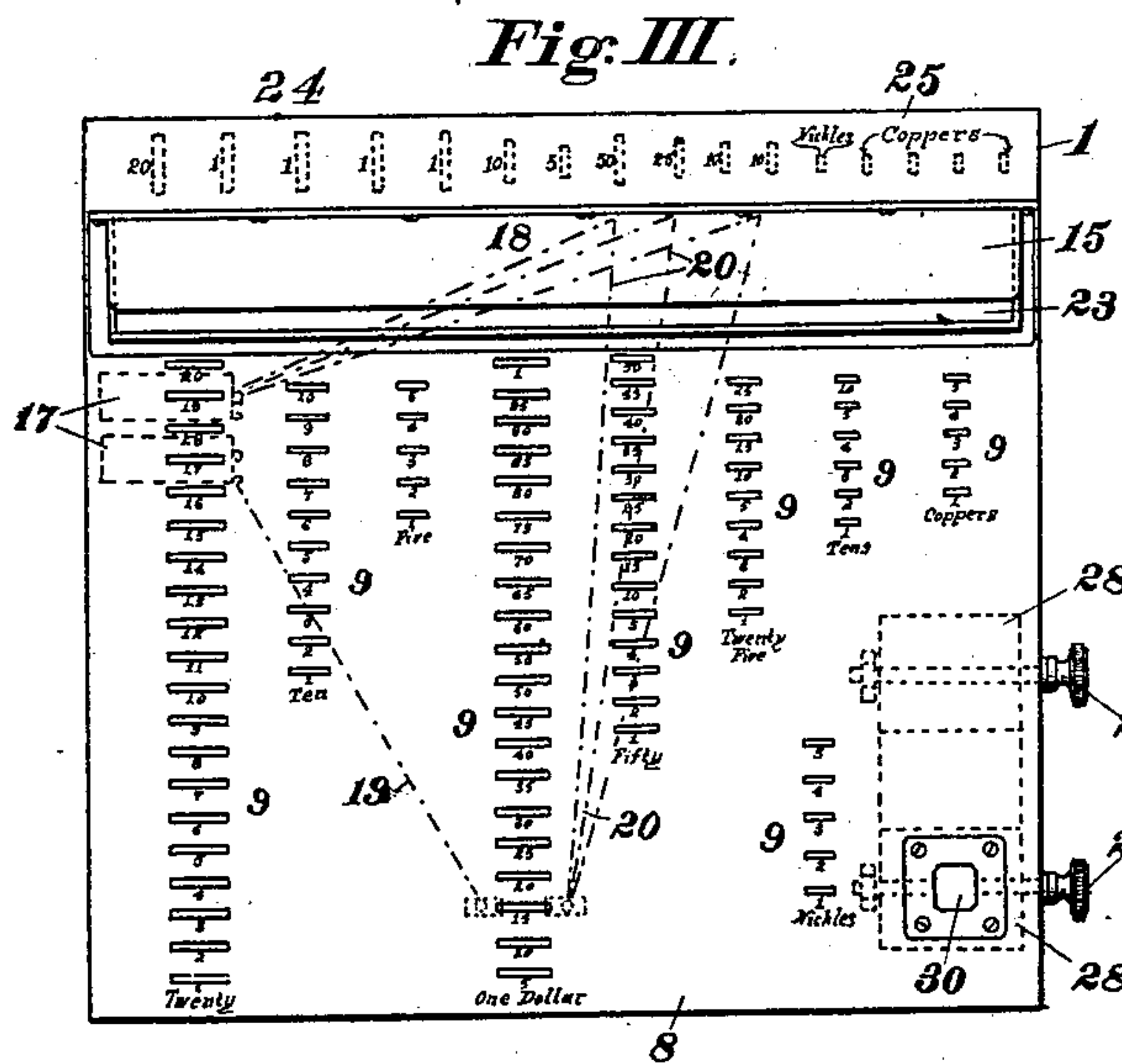


Fig. III.

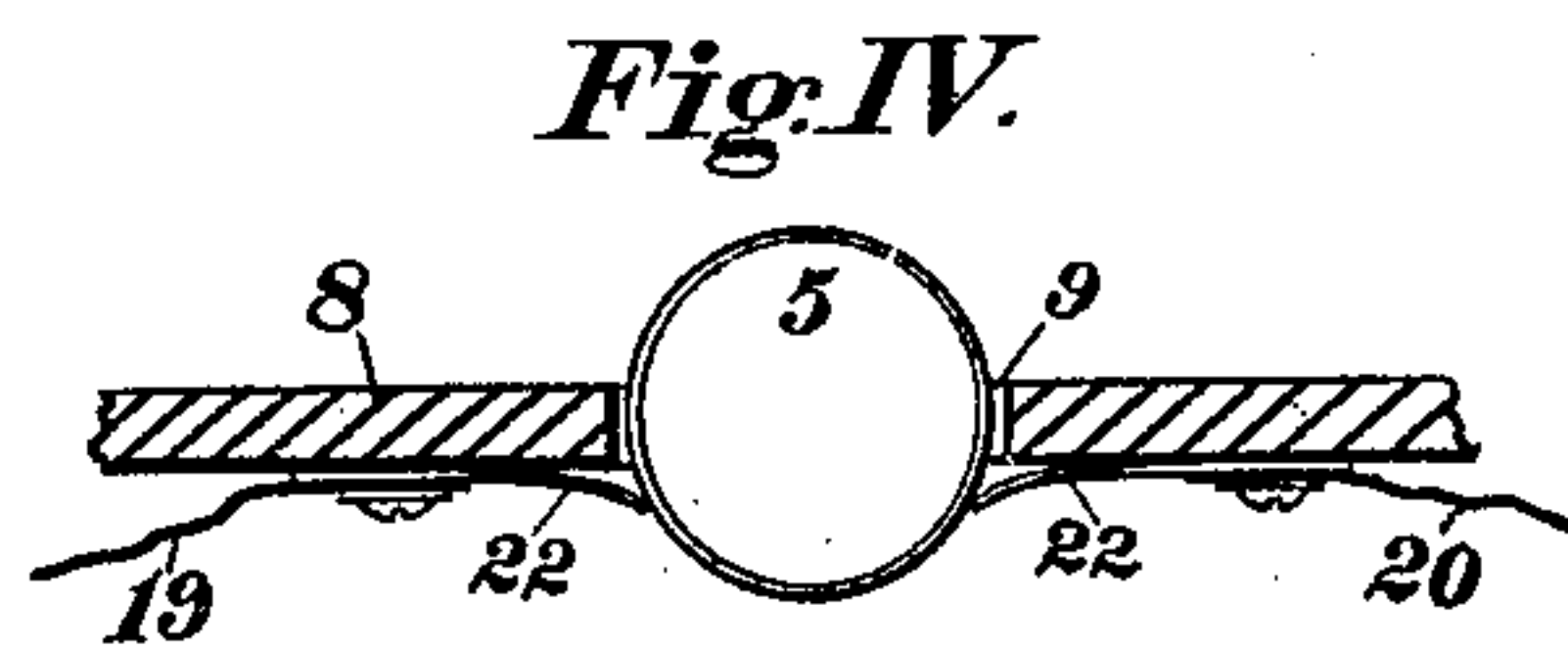


Fig. IV.

WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE A. ALDRICH, OF SAN FRANCISCO, CALIFORNIA.

COIN-CALCULATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 673,591, dated May 7, 1901.

Application filed November 14, 1900. Serial No. 36,497. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. ALDRICH, a citizen of the United States of America, residing at San Francisco, county of San Francisco, and State California, have invented certain new and useful Improvements in Coin-Calculating Machines; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to coin-changing devices whereby correct change for a coin of any denomination in common use is correctly calculated, selected, and returned to a cashier or clerk.

My invention consists in a series of vertical depositories for coins of different denomination that are released one at a time by electrically-operated detents, and in various combinations of the vertical depositories and a keyboard or table with a series of perforations through which the coins to be changed are dropped into a chamber beneath, closing when they are inserted an electric circuit, energizing electromagnets, and operating armatures that release the desired change from the depositories and present it in a tray in front of the operator.

The object of my invention is to avoid errors that are liable when change is selected in the usual way from tills and to save time required in selecting change for coins.

To these ends I provide devices as illustrated in the drawings herewith, forming a part of this specification.

Figure I is a front elevation of a cabinet and apparatus embodying my invention; Fig. II, a vertical section through Fig. I on the line *a a*; Fig. III, a plan view of Fig. I, and Fig. IV an enlarged detail showing the electrodes or contacts by which the electric circuits are closed.

Referring to the drawings, the cabinet that contains the devices forming my invention is divided into two parts 1 and 2, the former in a vertical position containing cells 3, that form depositories 3 for tiers of coins 5 of different denominations required for making change. The base or horizontal portion 2 of the cabinet is adapted to stand upon a desk or table 6, the top 8 forming what is herein-

after called the "keyboard," from which the electrical devices are operated. The rows of apertures 9 through the keyboard 8 are arranged, as designated in the drawings, for the various coins in common use in this country, from one cent to twenty dollars, and the cells 3 are similarly arranged for coins of values as designated in Fig. III. The several tiers of coins 5 are sustained by detents 10, held on an armature 12, pivoted at 13, that when operated by the electromagnets 14 is drawn back and permits one coin to escape and fall on the inclined guide 7, by which it is deflected into a tray 23. A series of these electric magnets, one for each tier 3, are contained in the case 15, and a battery 17 is provided at some suitable place and connected by wires 18 with electromagnets 14 and by wires 19 with the apertures 9. Each of the latter is also connected to the electromagnets 14 by the wires 20, as indicated by dotted lines in Fig. III, where, to avoid complication of the drawings, only a few of the wires are indicated by dotted lines. The wires 20 are at the slot-holes 9 connected to flexible electrodes or contacts 22, fastened beneath the keyboard 8, as shown in Fig. IV, and are bridged or connected and the circuit closed by the coins 5 as they are inserted, thereby operating so many of the armatures 12 as are connected from the slot through which the coin is inserted.

The manner of operating can be explained by supposing that the attendant is furnished one dollar to pay for a purchase amounting to fifteen cents and that eighty-five cents of change is to be returned. Referring to Fig. III, the dollar is inserted in the third slot, marked "15," in the one-dollar row. This closes circuits from the battery 17 to the armatures 12 in the columns or tiers marked "50," "25," and "10," the sum of which is eighty-five, the change required. The armatures 12 in these tiers are drawn back by the electromagnets 17 and one coin in each of these tiers is discharged down into the tray 23. If only a half-dime is to be taken from the dollar, it is put into the slot marked "95," and if no change is required the dollar is put in the top slot, marked "1," the operation being the same throughout the dollar row of slots and the same in all of the rows 9 for

coins of any denomination. For example, again, if the amount of a purchase is forty cents and half a dollar is tendered this is inserted in the slot marked "40" in the half-dollar row and ten cents will be returned to the tray 23. The left-hand row of slots 9 is for double eagles, the second row for eagles, and the third row for half-eagles. The next succeeding four rows 9 are for silver coins and the right-hand one for cents; also, one for nickel coins, as shown in Fig. III.

In the indices at the top of the tiers 3 it will be seen that besides the integers "5," "10," "20," "25," and "50" four tiers at 24 are marked "1." These are four dollars, as in making change of four dollars out of a half-eagle or five-dollar piece, while on the right at 25 are tiers of cents, half-dimes, and nickels.

The original coins that fall into the chamber 26 can be collected in any suitable manner—as, for example, chutes can be arranged beneath the rows of slots 9 to collect the different coins in separate depositories. I do not include such devices in my present invention.

The combination and classification shown are capable of variation and extension. I have shown the invention here in a form to meet the requirements of common use. The connecting-wires from the slots 9 are so numerous that it is not possible to distinguish them in a drawing; but those will be understood from the description and their partial indication by dotted lines from the slot marked "15" in the dollar row in Fig. III.

On the right of the operating or key board 8 I provide rolls of memorandum-paper 28, that can be wound forward or back by the handles 29 in the usual manner beneath a perforation 30 through the top 8, permitting entries to be made on this paper of the amount of deposits made in the chamber 26 or other memoranda, as may be desirable.

Having thus explained the nature and objects of my invention and a manner of applying the same, I claim as new and desire to secure by Letters Patent—

1. In a coin-calculating device, a keyboard

provided with coin-apertures, a coin-receptacle for containing coins in gravitating tiers, a movable armature at bottom of each tier for sustaining said coins, an electromagnet for said armature, an electric circuit for energizing said magnet, and electrical contacts in said circuit in the path of the inserted coin whereby said armature is operated by the completion of the circuit and a single coin released, substantially as specified.

2. In a coin-calculating device, a series of coin slots or apertures, a coin-receptacle for coins in gravitating tiers, electromagnetic armatures at bottom for sustaining said coins, electromagnetic circuits for operating said armatures, and electric contacts arranged at the sides of said coin-slots, in said electric circuits, whereby the insertion of a coin completes the circuit, energizes an armature, and releases a coin from the bottom of a tier, substantially as specified.

3. The keyboard 8 provided with rows of slots adapted for coins of different denomination, combined therewith tiers of coins of like denomination, electrical connections from the keyboard-slots to the tiers of coins, an electromagnet-armature and pivoted detent by means of which one coin at a time is discharged from the tiers thereof, arranged and operating substantially as specified.

4. In money-changing devices, a keyboard having a series of slots for coins of different denomination, a depository for tiers of coins of like denomination from which change is selected, electrical connections, electromagnets, armatures and detents operated thereby in combination therewith, electrodes or contacts in the keyboard that are closed by the coins when passed therethrough whereby correct change for any original coin is mechanically calculated and selected, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE A. ALDRICH.

Witnesses:

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