

(No Model.)

2 Sheets—Sheet 1.

W. A. ROGERS.

COIN OPERATED TOLL COLLECTOR AND ANNUNCIATOR.

No. 542,109.

Patented July 2, 1895.

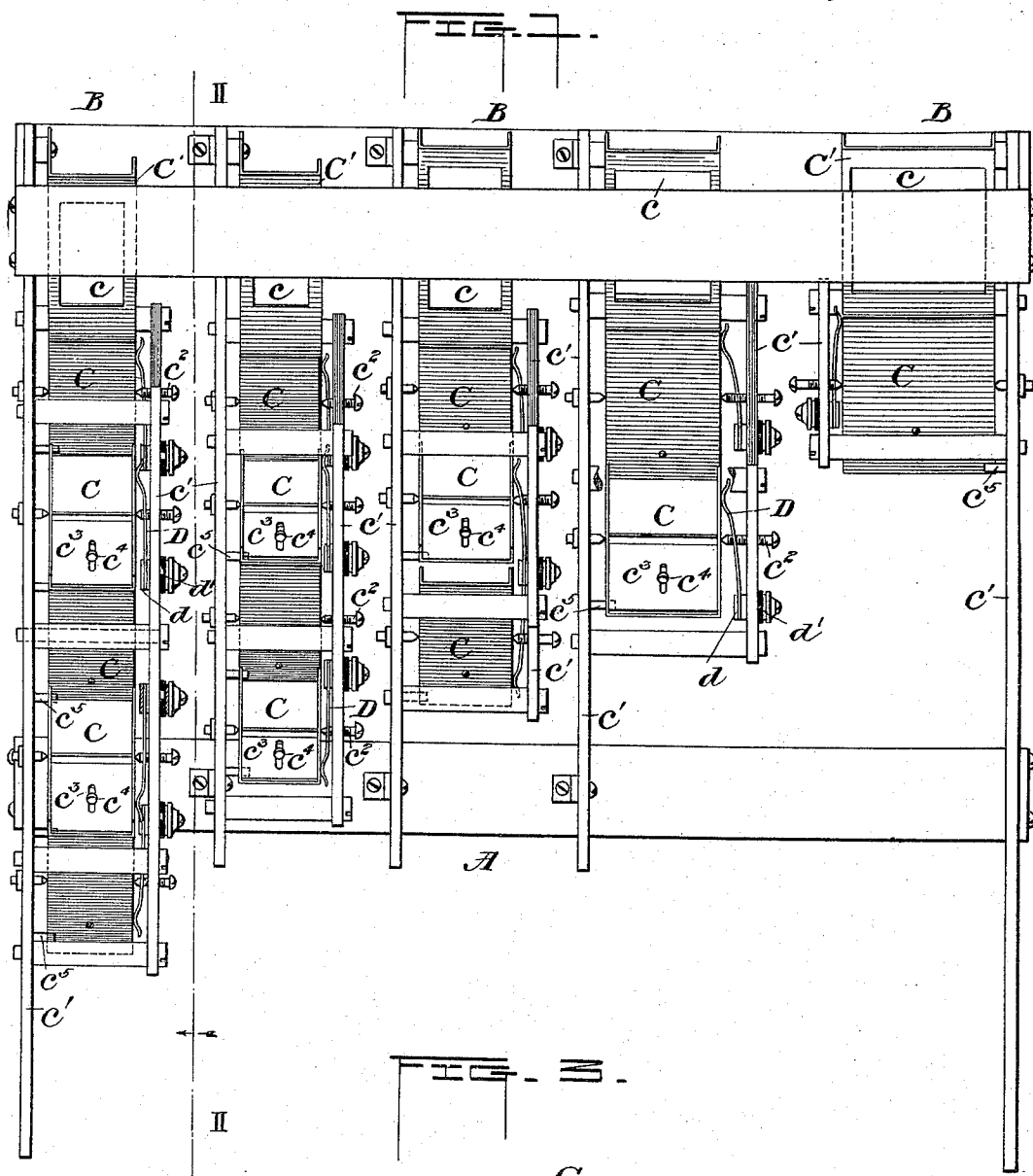
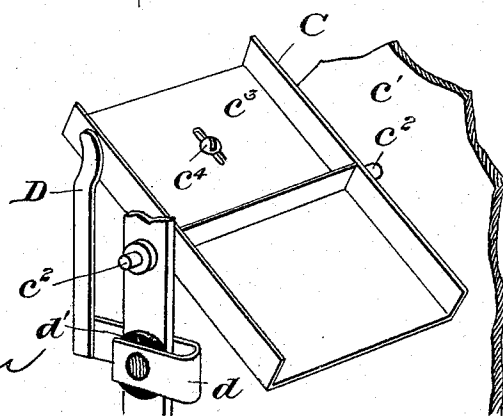


FIG. 1.



Witnesses

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By Butcherworth
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(No Model.)

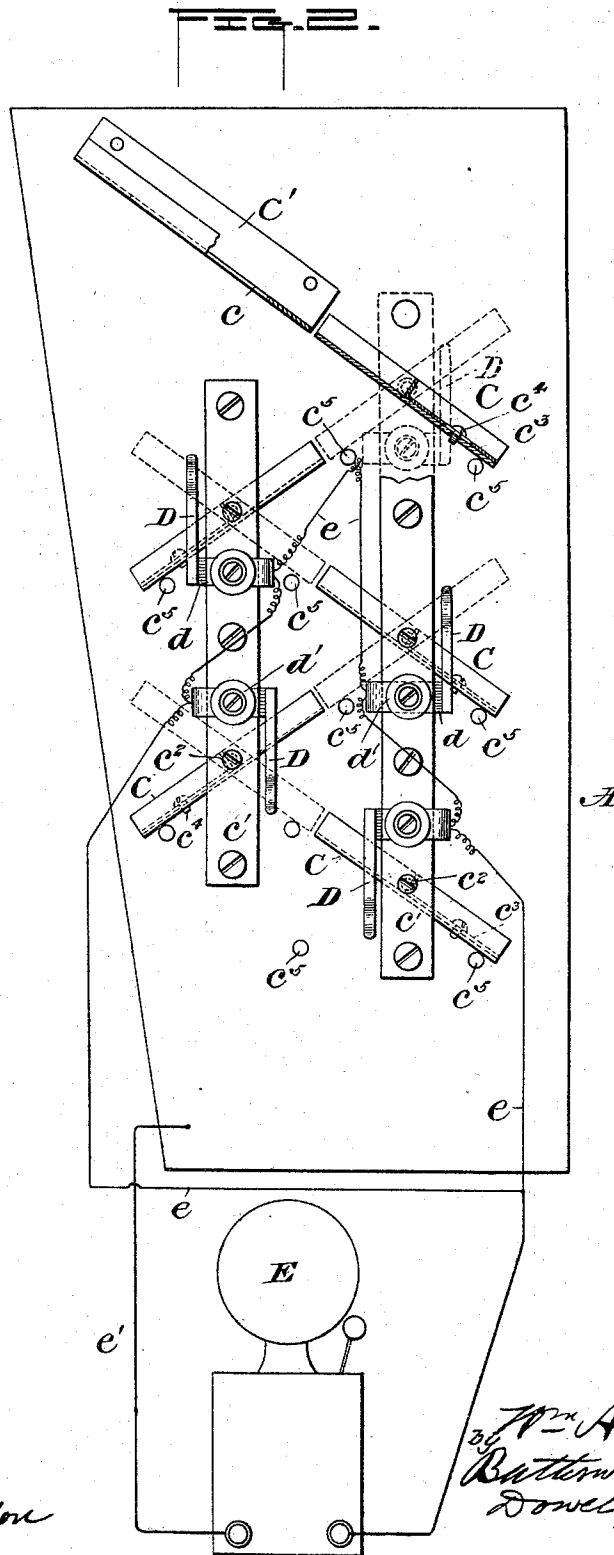
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Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM A. ROGERS, OF OMAHA, NEBRASKA.

COIN-OPERATED TOLL COLLECTOR AND ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 542,109, dated July 2, 1895.

Application filed March 7, 1895, Serial No. 540,856. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. ROGERS, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Coin-Operated Toll Collectors and Annunciators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to toll-collecting and coin-operated annunciators, but more particularly to those which may be used in connection with telephones and other devices.

The primary object of my invention is to provide means whereby the operator at a central office or a person located at a distance from the machine may be notified and made cognizant of the denomination or value of a coin when deposited in said machine without the liability of being defrauded by the depositing of a spurious coin or other token of an improper size, or for securing the use of the machine, for which the toll is being paid, for a longer time or to a greater extent than will be properly paid by the coin or other token deposited in the collecting-machine.

Another object is to provide means operated by the coin to make and break connections during the passage of said coin into the machine, which will cause like breaking and making in an audible or visual signal to cause distinctive responses by which the denomination or value of the deposited coin or token may be readily ascertained.

Further objects of the invention are to provide separate coin-chutes for coins of different denominations and to provide a simple, efficient, and durable device which may be used in various connections.

With these and other objects in view the invention consists in the construction and combination of the several parts, substantially as hereinafter described, and more particularly defined in the claims at the end of the description.

Referring to the accompanying drawings, forming a part of this specification, Figure 1 is a front elevation of the machine removed from the casing. Fig. 2 is a vertical section, partly broken away, taken on the line II II

of Fig. 1, illustrating in dotted lines the positions assumed by the sections of the chutes when forming an electrical connection, together with one form of signal or annunciator and its electrical connections with the machine; and Fig. 3 is a perspective view of one of the sections or pans of the chute with its electrical contact.

In the drawings, A may designate a frame of any suitable or preferred construction, which may be placed in any suitable casing to properly inclose the same and prevent tampering with the working parts. This frame is preferably of metal and may be provided with a separate chute B for each denomination or value of coin for which the machine is constructed, each chute in this case being similar in construction and operated in the same manner, differing mainly in the number and size of the sections or pans C which compose each chute, so that a greater or less number of makes and brakes in the circuit may be made to render it possible for the operator or a person located at a distance to instantly ascertain the denomination or value of the coin deposited in its respective chute, as will be hereinafter explained.

Each chute may be provided with an inclining stationary upper section C', having preferably an opening c of sufficient size to permit a counterfeit or coin of less diameter to drop through said opening without passing through the sections to form an electrical connection. This stationary section has its lower end opposed to an open end of one of the tilting or pivoted sections or pans, which are supported on suitable uprights c', provided with set-screws c², which have their ends engaging the sides of said sections and serve as pivots therefor, though it is obvious that any other suitable pivot may be employed instead of said set-screws. These sections may alternate as to their angles and be arranged at a suitable distance beneath each other to form a substantially zigzag chute for the passage of the coin, and each section is provided with a weight or counterbalance c³, which may be adjustable by a set-screw c⁴, or otherwise, which weight serves as a stop for the coin and to return the chute to its normal position after the passage of the coin, which, in this case, is open, the said sections being

limited in their movement on their pivots in either direction by the stops c^5 .

For forming the electrical connection I prefer to provide a contact D, preferably a platinum strip, for each section C, which may be secured to a preferably U-shaped bracket d , suitably insulated from said uprights by the washers d' , or otherwise, the said strips D having their free ends arranged in the path of oscillation or movement of the sections when the weight of the coin tilts the same on their pivots. These platinum points, or the brackets to which they are secured, may be electrically connected in series, as shown in Fig. 2, and be connected by the wires e to a binding-post of a bell E, the other binding-post being connected by the wire e' to the frame A to complete the circuit, though it is to be understood that the connections may be made in any other suitable manner, and any other signal, whether audible or visual, may be employed instead of the bell E.

The electrical connections for each chute have not been shown in Fig. 1 for the sake of clearness, for in each case it may be the same, as shown in Fig. 2, or the whole may be connected in series or otherwise. In Fig. 1 the chutes are arranged for nickels, dimes, quarters, half-dollars, and dollars, respectively, the less denomination having five tilting or oscillating sections, so as to give five distinct signals or responses, while for the dollars only one section is provided, and consequently one signal or response will be given.

The operation and manner of using the machine will be readily understood from the foregoing description, in connection with the accompanying drawings. It will be seen should a nickel be placed in section C', Fig. 2, it will descend on to the first-section C, where it will overcome the weight of the counterbalance c^3 , and will tilt said section on its pivot, as shown in dotted lines in said figure, at which time an electrical connection will be made between said section and its contact D, causing the signal E, through the wires $e e'$, to respond. The coin in the meantime passing to the next chute will permit the weight c^3 to return the section to its normal position, which will break the circuit and likewise cause a break in the signaling. The coin will now cause the second section to tilt, as indicated in dotted lines, with a second respond from the signal, which will continue by makes and breaks in the circuit during the successive passage of the coin through the several sections, the coin during its descent taking a zigzag course, and finally being deposited in the lower portion of the box or casing in which the machine is usually placed, but which is not shown. This same result will be obtained should a proper coin be placed in any of the other chutes, except that there will be a less number of responses from the signal, the number of times that the signal responds designating the denomination or value of the coin deposited into the machine. By

this construction the operator may readily ascertain the value of the coin deposited, so that if a telephone is to be used the proper connection may be made at the central office.

It is obvious that I may change the construction of the machine somewhat, and may vary the number of chutes and sections of each chute at will, and that any suitable connection operated by the sections or by the passage of the coin through the chute or chutes may be employed without altering the character of my invention.

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

1. A coin-operated toll collector and annunciator comprising a suitable signal, a chute consisting of a series of sections, the first section being stationary and each succeeding section pivotally supported and inclined alternately at different angles, so as to form a zig-zag way for the passage of a coin, electrical contacts arranged in the path of movement of said pivoted sections, whereby the latter are adapted to close the electric circuit when tilted by the weight of the coin; each alternate pivoted section being located below and at one side of the preceding section and adapted to cause a distinctive response from said signal during the passage of the coin or token from one section to the next succeeding section, whereby the operator may readily ascertain the value of the deposited coin, substantially as described.

2. In a coin-operated toll collector and annunciator, the combination, with a suitable signal, of a chute comprising a series of sections, two or more of which are pivotally supported and arranged alternately upon suitable supports in different vertical planes; each pivoted section being supported in normal position at an angle to the next succeeding section below the same, so that the lower section will form a continuation of the upper one when the latter is tilted, whereby the pivoted sections of the chute are adapted to make and break said electrical connections during the passage of the coin or token from one section to the next succeeding section, so that said signal may be caused to give distinctive responses according to the denomination or value of the coin deposited in said chute, substantially as described.

3. In a coin-operated toll collector and annunciator, the combination with a suitable signal, of a series of independent chutes, each designed to form a conduit for a coin of a specific value, and provided with one or more pivoted sections adapted to be tilted by the weight of the coin, normally open electrical connections adapted when closed to close an electric circuit between said pivoted section and said signal; the pivoted section being adapted to be tilted on its pivot by the coin or token deposited in the chute and to make and break said electrical connections so as to cause a distinctive response from said sig-

nal, whereby the operator may readily ascertain in which chute the coin has been deposited and thereby determine the value of said coin, substantially as described.

5 4. In a coin-operated toll collector and annunciator, the combination, with a suitable signal, of a series of chutes each comprising a series of sections, two or more of which are pivotally mounted and alternately arranged
10 upon suitable supports, contacts arranged in the path of movement of said pivoted sections, electrical connections between the contacts and the signal, means for automatically restoring the pivoted sections to normal position out of engagement with the contacts,
15 each alternate pivoted section being located below and at one side of the next preceding section and adapted to make and break the electric circuit through said electrical connections during the passage of a coin or token
20 from one section to the next succeeding sec-

tion, whereby said signal may be caused to give distinctive responses according to the denomination or value of the coin deposited in said chute, substantially as described. 25

5. In a coin-operated toll collector and annunciator, a chute comprising two or more sections, one of which is stationary and the other pivotally supported and adapted to be tilted on its pivot by the weight of a coin
30 when deposited in said chute, and a weight carried by the pivoted section for restoring the same to normal position after the passage of the coin, said weight being also adapted to serve as a stop for the coin, substantially as
35 described.

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

WILLIAM A. ROGERS.

Witnesses.

CASPER E. YOST,
EDWARD B. SMITH.