T. H. ROLAND.

TELEPHONE PAY STATION.

APPLICATION FILED AUG. 11, 1908.

922,045.

Patented May 18, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

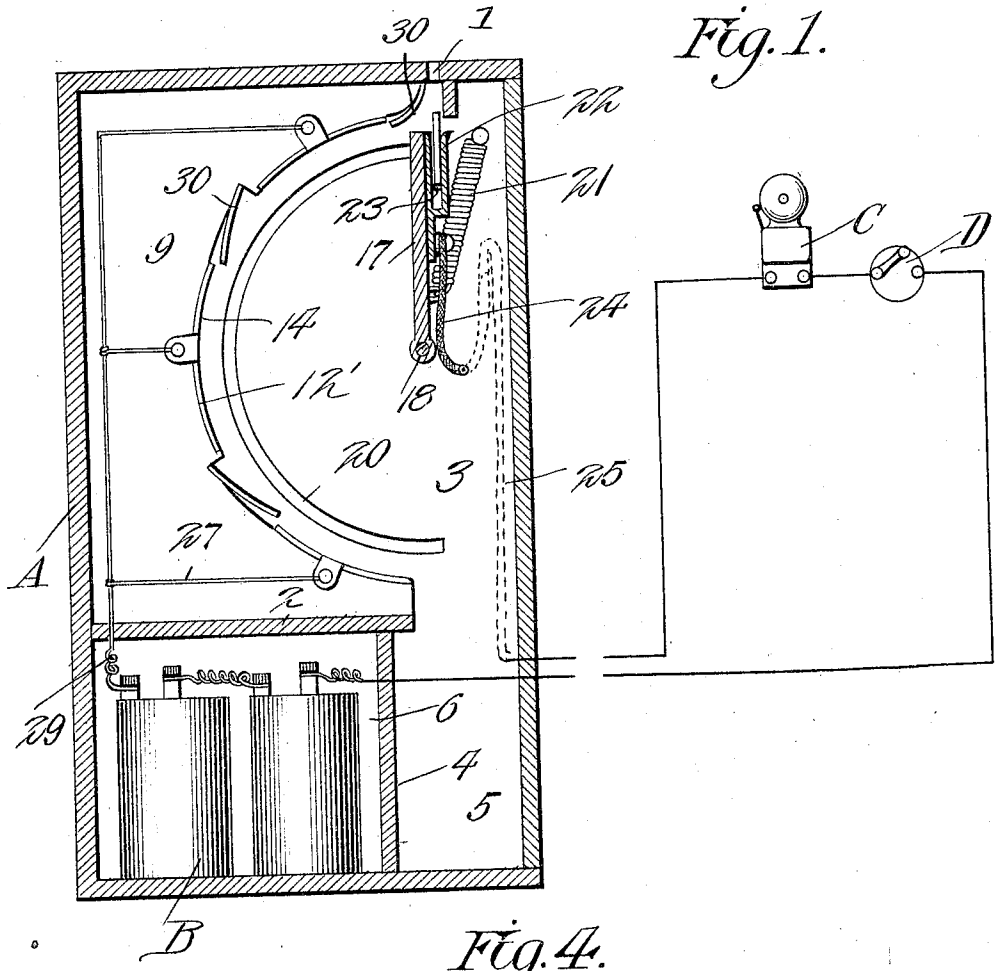
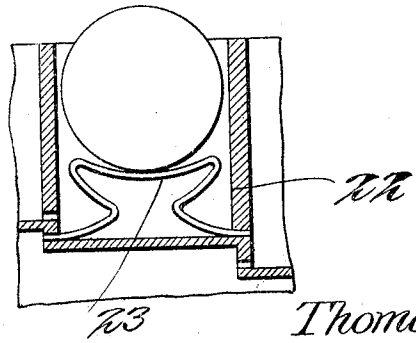


Fig. 4.



Witnesses

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2 SHEETS—SHEET 2.

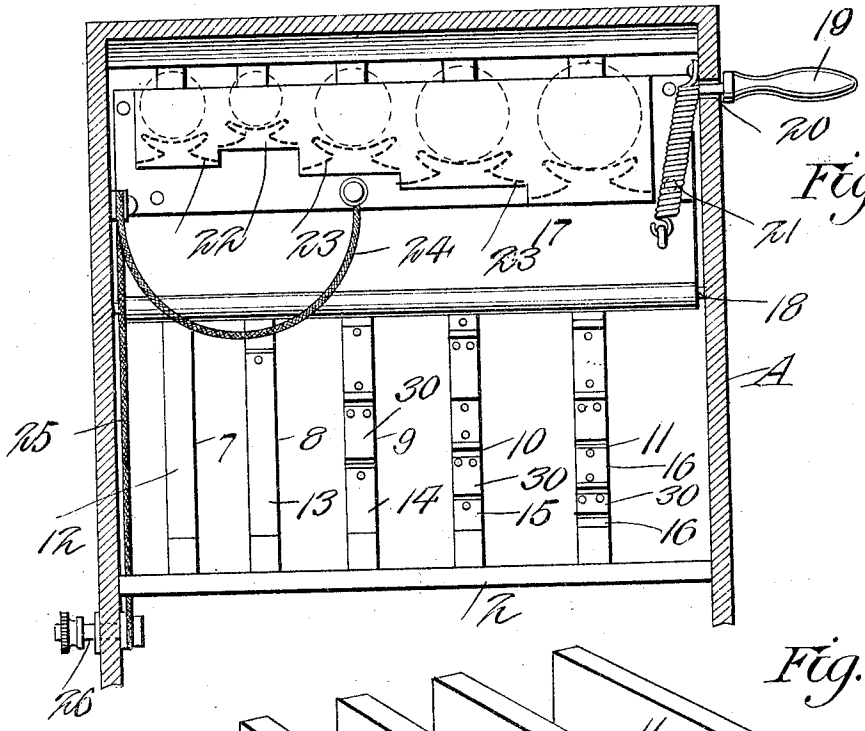


Fig. 2.

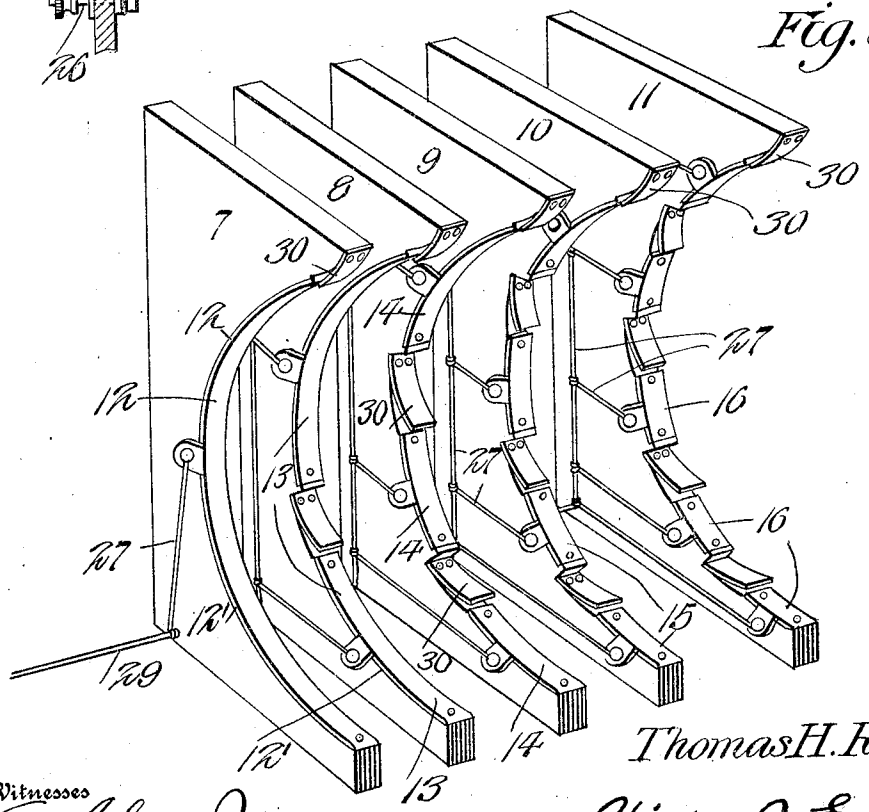


Fig. 3.

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UNITED STATES PATENT OFFICE.

THOMAS H. ROLAND, OF HUNTINGTON, WEST VIRGINIA, ASSIGNOR OF ONE-FIFTH TO ABRAHAM TWEEL, OF HUNTINGTON, WEST VIRGINIA.

TELEPHONE PAY-STATION.

No. 922,045. Specification of Letters Patent. Patented May 18, 1909.

Application filed August 11, 1908. Serial No. 448,044.

To all whom it may concern:

Be it known that I, THOMAS H. ROLAND, a citizen of the United States, residing at Huntington, in the county of Cabell and State of West Virginia, have invented new and useful Improvements in Telephone Pay-Stations, of which the following is a specification.

This invention relates to telephone systems and more particularly to a coin box and signal system for pay stations whereby the operator at the central exchange will be enabled to determine the denomination of the coin which the user at the pay station has deposited preparatory to making the talking connections.

The invention has for one of its objects to improve and simplify the construction and operation of apparatus of this character so as to be comparatively simple and inexpensive to manufacture and install, thoroughly reliable and efficient in use, and readily manipulated.

Another object of the invention is the provision of a coin receptacle containing suitably arranged contacts and a coin-carrier disposed in coöperative relation thereto so that each coin of proper denomination and size will engage its respective contact or contacts and thereby make and break a signal circuit leading from the pay station to the central exchange for informing the toll operator of the nature of the coin deposited and thus keep a check on the users of the pay station.

With these objects in view and others, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawings, which illustrate one embodiment of the invention, Figure 1 is a vertical section of the apparatus, together with a diagram of the circuit connections. Fig. 2 is a front interior view of the apparatus. Fig. 3 is a perspective view of the contact-carrying members. Fig. 4 is a detail view of one of the coin pockets of the coin carrier.

Similar reference characters are employed to designate corresponding parts throughout the views.

Referring to the drawings, A designates a box or casing of any suitable construction which is adapted to be located under a telephone set in the usual manner and provided at its top with a plurality of coin slots 1 of different sizes for receiving such coins as nickels, dimes, quarters, half-dollars, and dollars. The interior of the casing is divided by a horizontal partition 2 into an upper switch compartment 3 and a lower compartment that is divided by a vertical partition 4 into a coin chamber 5 and a battery chamber 6, the coin chamber communicating with the compartment 3 so that coins can be deposited from the carrier freely into such chamber. In the chamber 3 are vertical parallel plates of wood or insulation on which the various contacts are mounted. In the present instance, there are five such plates designated 7, 8, 9, 10 and 11, for use in connection with the five coins above mentioned. The plates have approximately semicircular surfaces 12′ on which the stationary contacts are arranged. The plate 7 is provided with one contact 12, the plate 8 with two contacts 13, the plate 9 with three contacts 14, the plate 10 with four contacts 15, and the plate 11 with five contacts 16. These contacts are in the form of strips and extend longitudinally over the concave or arcuate faces of the plates. Disposed in front of the contact-carrying plate is an oscillatory coin-carrying member 17 mounted on a horizontal shaft 18 that is coincident with the centers from which the semi-circular faces 12′ of the plates are struck. Secured to one end of the coin carrier is an operating handle 19 which passes out of the casing through a slot 20 concentric with the shaft 18 whereby the carrier can be turned half revolution for the purpose of causing a coin to engage its contact or contacts to make and break the signal circuit extending from the pay station to the central exchange and to finally deposit the coin at the end of the stroke of the carrier. The carrier is normally maintained in an upright position by a spring 21 so that it will receive a coin dropped through any slot in the top of the casing. The carrier 17 is constructed with recesses or coin pockets 22 of different sizes to suit the coins, and in each pocket is a spring 23 so arranged as to yieldingly hold the coin with a portion of its periphery projected out of the pocket and in the path of the stationary contact or contacts opposite such pocket. A strip of metal extends across the open front

sides of the recesses for the coin pockets to act as a keeper and retain the coins in position after entering the pockets from the coin slots and during the time the carrier is turned to its lowermost position. On the carrier are wires 24 that lead to the several pockets so as to electrically connect with the coin in any pocket whereby the engagement of the coin with the stationary contact or contacts opposite the same will make and break the signal circuit. The wires 24 are connected with a common conductor 25 that is connected with a binding post 26, the conductor being flexible so that the carrier can be freely oscillated without breaking connections. The stationary contacts are connected by wires 27 with a common conductor 29 that leads to the battery B. The batteries are connected with one side of a main line that leads to the central exchange office, while the opposite side is connected with the binding post 26, and arranged in the main line circuit at the central station is an electric bell C or equivalent signaling means and a cut-out D. Arranged over the top end of each stationary contact is a leaf spring 30 that has its upper end fastened to a contact-carrying plate and its lower end curved outwardly away from the concave face of the plate to act as a stop for preventing backward movement of the coin carrier as long as a coin is held in the latter. The coins, while in the carrier, are free to slide over the springs or stops as the carrier is moved downwardly, but any backward movement is prevented by the coins engaging the lower edges of the spring stops. This prevents a person, by a back and forth movement of the carrier, to make and break the signal circuit successively with a coin of smaller denomination in an endeavor to deceive central that a coin of larger denomination has been dropped into the coin box to pay for the use of the phone. When the coin carrier has reached the limit of its downward stroke, the spring pressing on the coin held in the carrier will be ejected by the spring and also by gravity and thus drop into the coin chamber. The coin carrier is then released so as to return to normal position for use by the next person.

In using the apparatus, the person desiring to send a message first calls up the central exchange operator and asks for connection with the person to whom he desires to speak, and if such connections can be obtained, central informs him to deposit a coin of the required denomination to pay the toll. The user deposits such coin in the appropriate slot and then turns the crank handle 19 downwardly for the purpose of making and breaking the signal circuit and to deposit the coin in the coin chamber. The central exchange operator will thus know by the number of times the bell rings whether or not the coin of proper denomination has been dropped into the pay station coin box. In the present instance, the stationary contacts are so arranged that when a nickel is deposited and the device operated, the bell will ring once, whereas with dimes, quarters, half-dollars and dollars, the bell or signal will be energized two, three, four and five times.

From the foregoing description, taken in connection with the accompanying drawings, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the apparatus shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claims appended hereto.

Having thus described the invention, what I claim is:—

1. A device of the class described comprising a casing, a plurality of sets of contacts, a carrier movable along the contacts, means for holding a coin on the carrier opposite any set of contacts to engage the same as the carrier is moved, devices arranged in line with the contacts to be engaged by the coin for preventing backward movement of the carrier prior to the deposit of the coin from the latter, a circuit made and broken by the coin passing over any set of contacts, and a signal included in the said circuit.

2. A device of the class described comprising a casing, sets of arcuate contacts arranged therein, the contacts of all sets being disposed around a common center, an oscillatory carrier, means for yieldingly holding a coin on the carrier in a position to engage any set of contacts, means for manually operating the carrier, and a signal circuit leading from the device to the central station and adapted to be opened and closed by a coin engaging any set of contacts.

3. A device of the class described comprising a casing, sets of contacts arranged therein and disposed around a common center, an oscillatory carrier, means for yieldingly holding a coin on the carrier in a position to engage any set of contacts, means for manually operating the carrier, means adapted to be engaged by a coin for preventing reverse movement of the carrier, and a signal circuit controlled by a coin engaging any of the contacts.

4. A device of the class described comprising a plurality of sets of contacts each arranged in an arc of a circle, a coin carrier arranged to hold a coin opposite any set of contacts and to engage the same, a stop arranged at the end of each contact to be engaged by a coin in the carrier for prevent-

ing backward movement of the latter, means for moving the carrier in one direction, and a spring for returning the carrier after the same deposits the coin.

5. The combination of a plurality of plates disposed side by side in spaced relation and having arcuate front edges struck around a common center, metal strips facing the arcuate edges and varying in number, leaf springs arranged on the plates at the beginning of each contact strip and normally projecting beyond the face thereof, a carrier, a shaft for the carrier disposed coincident with the center of the said edges of the plates, means for holding coins of different denominations on the carrier to move over and in contact with the said strip and springs, and means for operating the shaft.

6. A device of the class described comprising a plurality of sets of contacts, the contacts of each set being arranged in a line, yielding members adjacent each set of contacts and projecting normally beyond the same, a movable carrier, means for holding a coin on the carrier opposite any set of contacts for engaging the same and depressing the said members as the carrier moves forwardly, said members being arranged to engage the coin to prevent backward movement of the carrier while the coin remains thereon, a conductor connected with the contacts, a conductor on the carrier arranged to be electrically connected with the coin, and a signal connected with the said conductors to be actuated as the circuit is made and broken by the coin passing over the contacts.

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

THOMAS H. ROLAND.

Witnesses:
J. W. PERRY,
ABRAHAM TWEEL.