No. 753,412. PATENTED MAR. 1, 1904.

G. A. LONG.

TELEPHONE TOLL APPARATUS.

APPLICATION FILED NOV. 8, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1

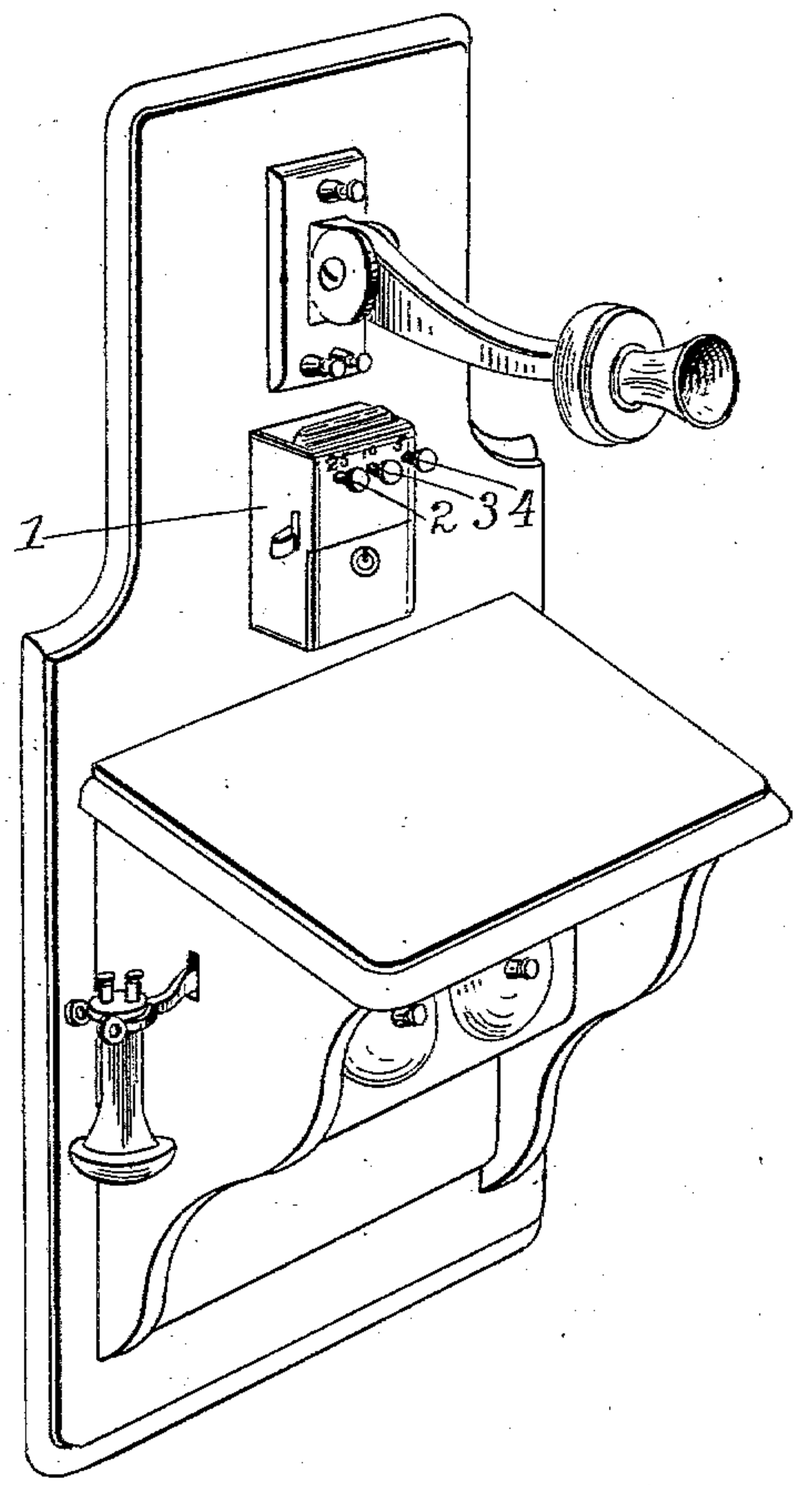
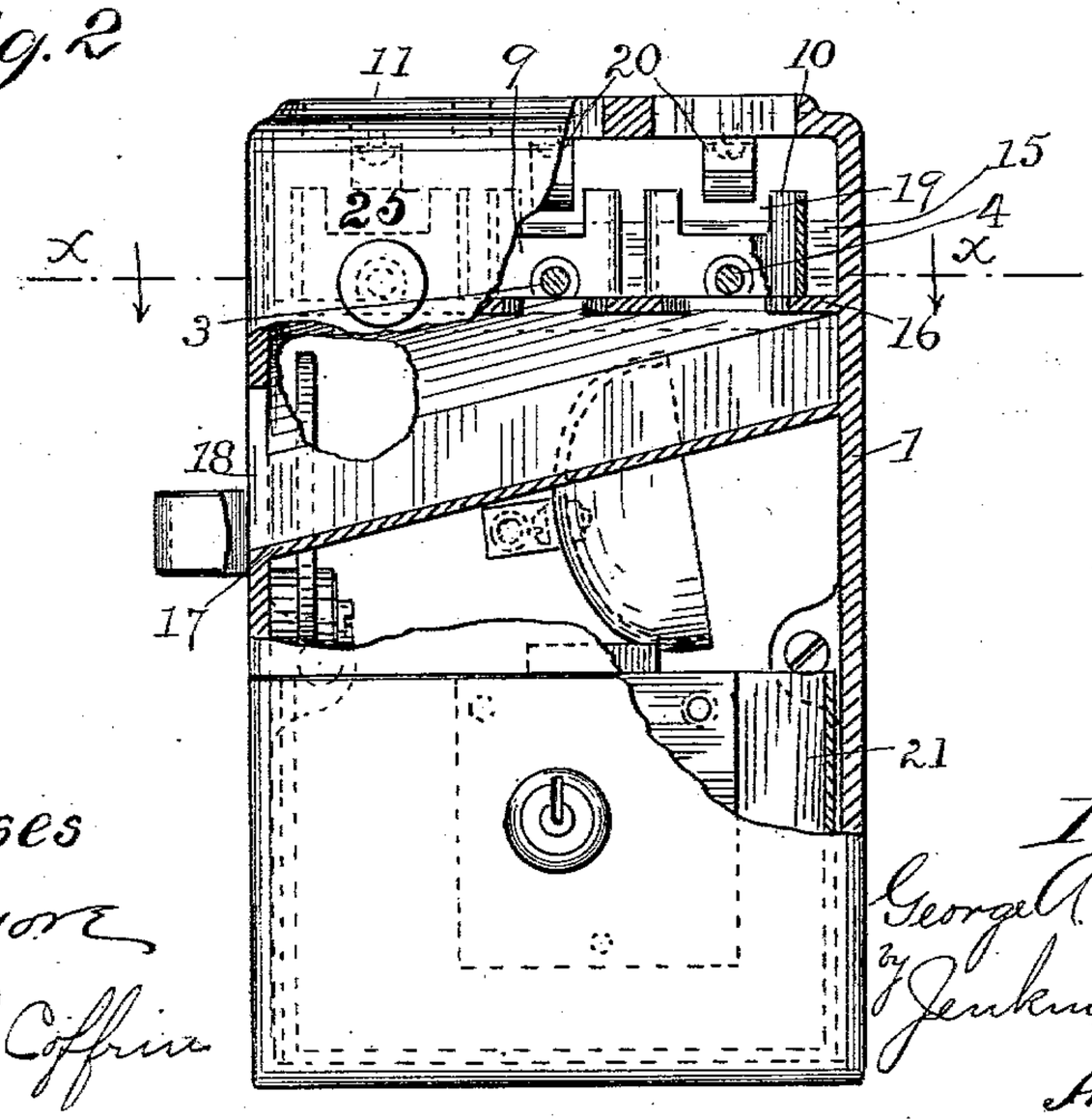


Fig. 2



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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3

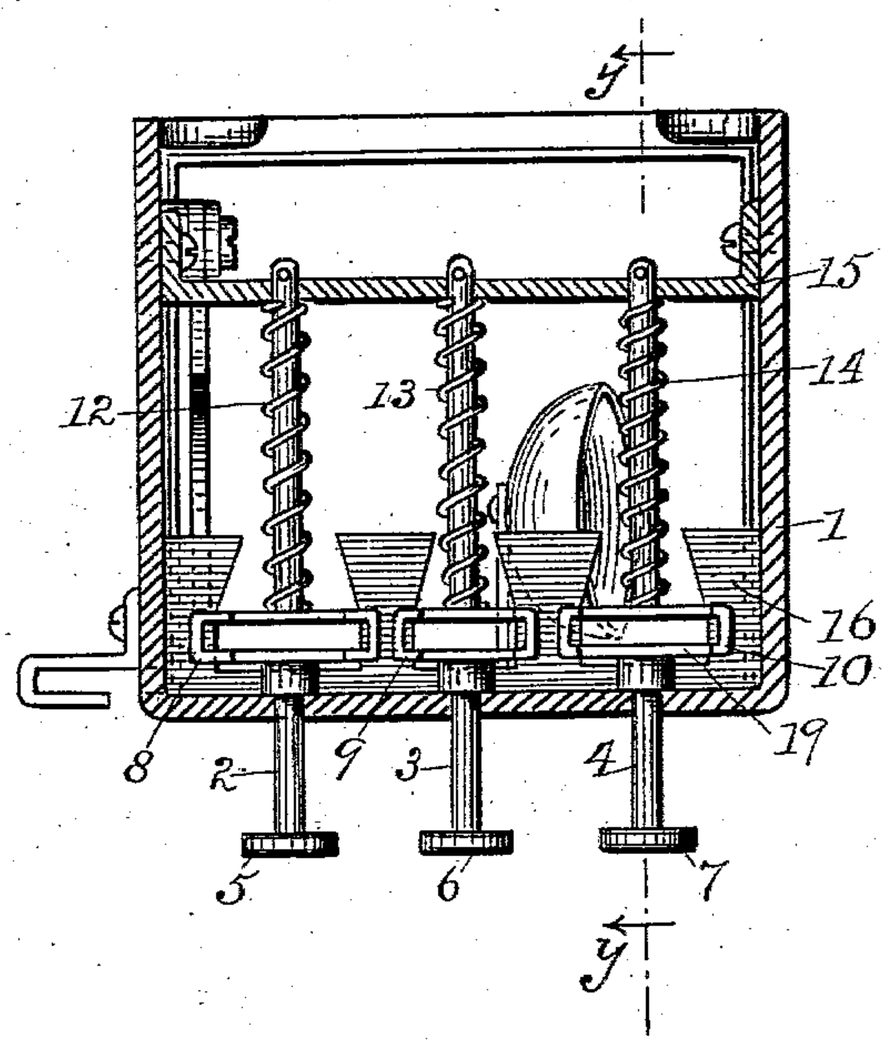
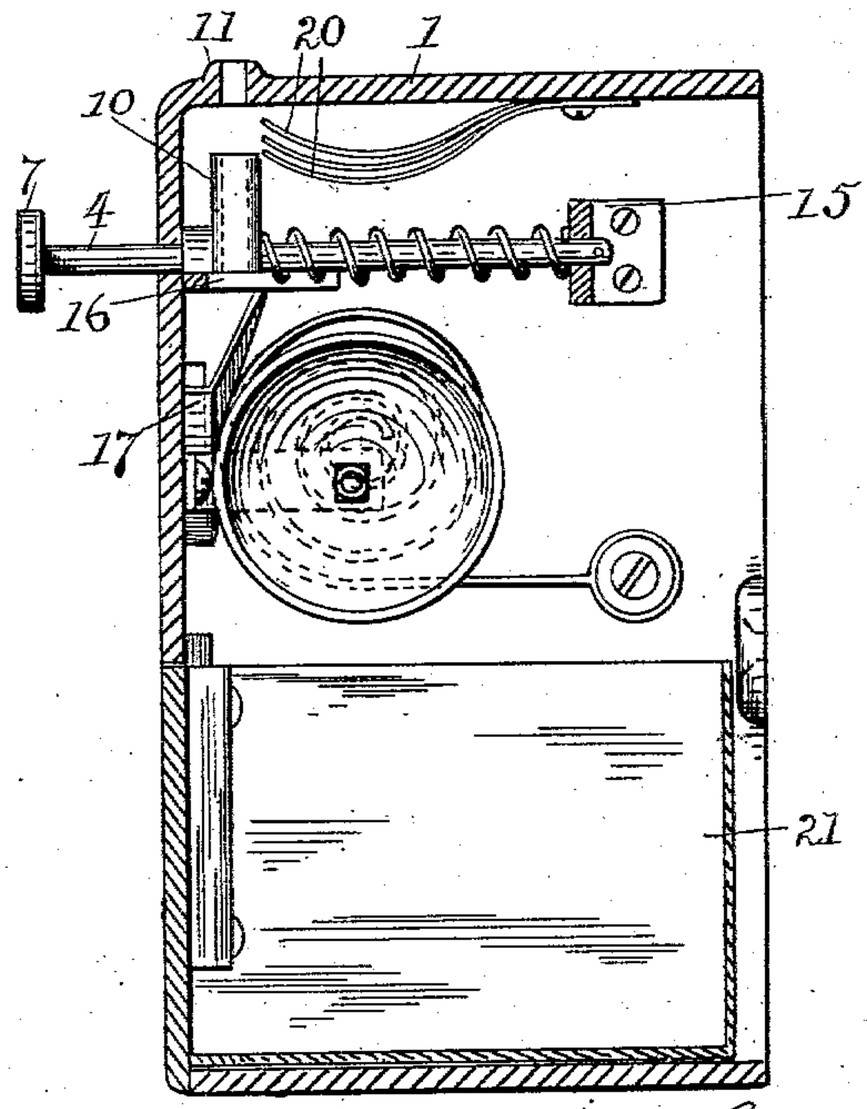


Fig. 4



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UNITED STATES PATENT OFFICE.

GEORGE A. LONG, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE GRAY TELEPHONE PAY STATION COMPANY, OF HARTFORD, CONNECTICUT, A CORPORATION OF CONNECTICUT.

TELEPHONE TOLL APPARATUS.

SPECIFICATION forming part of Letters Patent No. 753,412, dated March 1, 1904.

Application filed November 8, 1902. Serial No. 130,544. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. LONG, a citizen of the United States, and a resident of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Telephone Toll Apparatus, of which the following is a specification.

The invention relates to telephone apparatus, and more particularly to that class of mechanism which is applied to or used in connection with a set of telephone instruments for collecting tolls or tokens for each specific use of the instrument.

The object of the invention is to provide a very simple and effective mechanism which will be as far as possible provided against illicit use and in which the user will suffer no loss by inserting a coin in an improper slot or channel.

A further object of the invention is to provide a plurality of coin-receivers which may be individually actuated and which in their operation will select only coins of proper denomination and size, throwing out all coins not intended for the receiver sought to be used.

A still further object is to arrange the parts of the mechanism so that when a coin of proper size has been inserted the operation of the mechanism will cause the coin to directly actuate a gong or sounding device, which constitutes a signal and may be heard by the central operator.

Referring to the drawings, Figure 1 is a perspective view of a set of telephone instruments with the toll apparatus in position. Fig. 2 is a view in front elevation, the casing being broken away, together with other parts, to show construction. Fig. 3 is a sectional view on line *x x* of Fig. 2. Fig. 4 is a view in vertical section on line *y y* of Fig. 3.

Referring to the drawings, the numeral 1 denotes a casing, which may be made of any desired form and material and has projecting through one wall a series of plungers 2 3 4, provided with thumb-pieces 5 6 7. These plungers are arranged to actuate coin-receivers 8 9 10, which are located within the casing and when in normal position rest in registering position below the slots of a coin-plate 11. This coin-plate is supposed to have openings of just the proper size to receive perfect coins of certain denominations—say twenty-five cents, ten cents, and five cents—and the carriers 8 9 10 are preferably made a little larger than the ordinary coin intended to be carried by them.

The receivers 8 9 10 and their operating-plungers are forced forward into their normal position by springs 12 13 14, and in the preferred arrangement of the plungers they are carried through a bearing-plate 15, secured within the casing and in which they may reciprocate freely. The carriers are open at both ends, so that they may receive and discharge a coin; but when in normal position they rest over and bear upon a coin-selecting plate 16. This plate is provided with openings which register with the openings through the receivers when in normal position, and said openings are made of just the proper size to prevent the passage of a perfect coin. If, however, a coin of slightly smaller diameter than a perfect one is inserted, it will be trapped through the orifice in this plate. As will be seen from the detail drawings, this opening is slightly tapered, its widest point being just under the carrier when in its normal position.

Just below the coin-selecting plate 16 and in registering position with its trap-section is a chute or receiver 17, having an outlet 18 through one wall of the casing. This outlet receives any coins which drop through the coin-selecting plate and passes them to the outside of the casing, where they may be picked up by the operator from a proper receptacle or pocket.

Arranged just above the several coin-receivers and in their path of movement are a series of resilient ejectors 20. The coin-receivers have two of their walls cut away, as at 19, and the opening thus formed is in registering position with these resilient ejectors.

Below the coin-selecting-plate or in any con-

venient position are arranged a series of signals, preferably a distinctive one for each corresponding receiver and located in such position that a coin ejected from the receiver will be thrown with more or less violence against the gong or signal, causing such a sound to be emitted as will be plainly transmitted over the ordinary line-wire to the central operator.

In using the device a coin is inserted through one of the openings in the coin-plate and finds its way into one of the receivers. If it is a coin of proper size, it rests therein until the receiver has been forced inward by a pressure upon its operating-rod to such an extent that the receiver, with its coin, has passed beyond the inner edge of the coin-selecting plate 16. During this inward movement the upper edge of the coin comes in contact with the resilient ejector 20, which exerts a certain pressure upon it, and from the very shape of the coin-selecting plate 16 the pressure upon the coin is exerted just at the instant it passes beyond the edge of the plate. This ejector 20 throws the coin downward through the coin-carrier and projects it against the gong or signal device. Of course it is understood that it immediately falls into the bottom of the casing into a money-drawer 21.

In the preferred form of the device the carriers are of course made of a sufficient length and size to give a proper initial direction of movement to the coin and cause it to impinge against its particular signal or signals. In fact, a coin-chute is entirely superfluous, as the carriers, being made of sufficient length to give the proper directional movement to the coin upon ejection, answer all the required purposes and serve as a barrel for directing the movement of the coin which is forcibly projected through it. The term "projected" is used to imply that the coin moves freely through space after leaving the carriers. The advantages of such an arrangement are apparent, as obviously the carriers may be arranged to throw the coin in any one of several directions so long as the forcible ejector exerts the required pressure to "project" the coin against the sound-yielding body.

Obviously the signals may be varied to suit any particular case, and more than a single signal may be interposed in the path of movement of the falling coin. The purpose of such an arrangement is apparent, as it is essential that the signals for the several different carriers and representing the coins of different denominations must be distinctive ones which may be distinguished from one another by the central operator.

It is apparent that the details of the device herein described might be varied to a great extent without deviating from the purpose and intent of the invention, which contemplates one or more coin-carriers arranged for retaining only coins of proper size in said carriers and means for releasing the coins from the carrier or carriers at a predetermined instant and a sounding mechanism adapted to be actuated upon the release of the coin.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination in a telephone toll apparatus including a casing, a carrier adapted to receive a token, means for forcibly projecting the token from the carrier upon a predetermined movement thereof, and a gong or sound-yielding body operatively arranged with relation to said carrier and adapted to be struck by the projected token upon the release of said token from the carrier.

2. In combination in a telephone toll apparatus including a casing, a carrier adapted to receive and retain a token, means for moving said carrier, means for forcibly projecting the token from the carrier, and a gong or sound-yielding body arranged in the path of movement of the projected token and adapted to be sounded thereby.

3. In a telephone toll apparatus including a casing, a plurality of carriers adapted to receive tokens of various denominations, independent means for actuating each of said carriers, means for releasing the tokens from the carriers, projectors for forcibly throwing the tokens in a predetermined path from the carriers, and gongs or sound-yielding bodies arranged in the path of the projected tokens.

4. In combination in a telephone toll apparatus, a casing, a movable carrier mounted therein and adapted to receive a token, means for releasing the token from the carrier at a predetermined point in its movement, an ejector for forcibly throwing the token from the carrier in a predetermined direction, and a gong or sound-yielding body operatively arranged with relation to the carrier and ejector and adapted to be sounded by the impact of the projected coin.

5. In a telephone toll apparatus including a casing, one or more carriers adapted to receive a token or tokens, means for retaining the tokens in the carriers during a predetermined movement thereof, an ejector adapted to forcibly throw the token from the carrier when said carrier has reached its releasing position, and a gong or sound-yielding body arranged to be sounded by the impact of the projected coin.

GEORGE A. LONG.

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