F. X. BEE.

AUTOMATIC TELEPHONE PAY STATION.

APPLICATION FILED APR. 10, 1908.

938,949.

Patented Nov. 2, 1909.

3 SHEETS—SHEET 1.

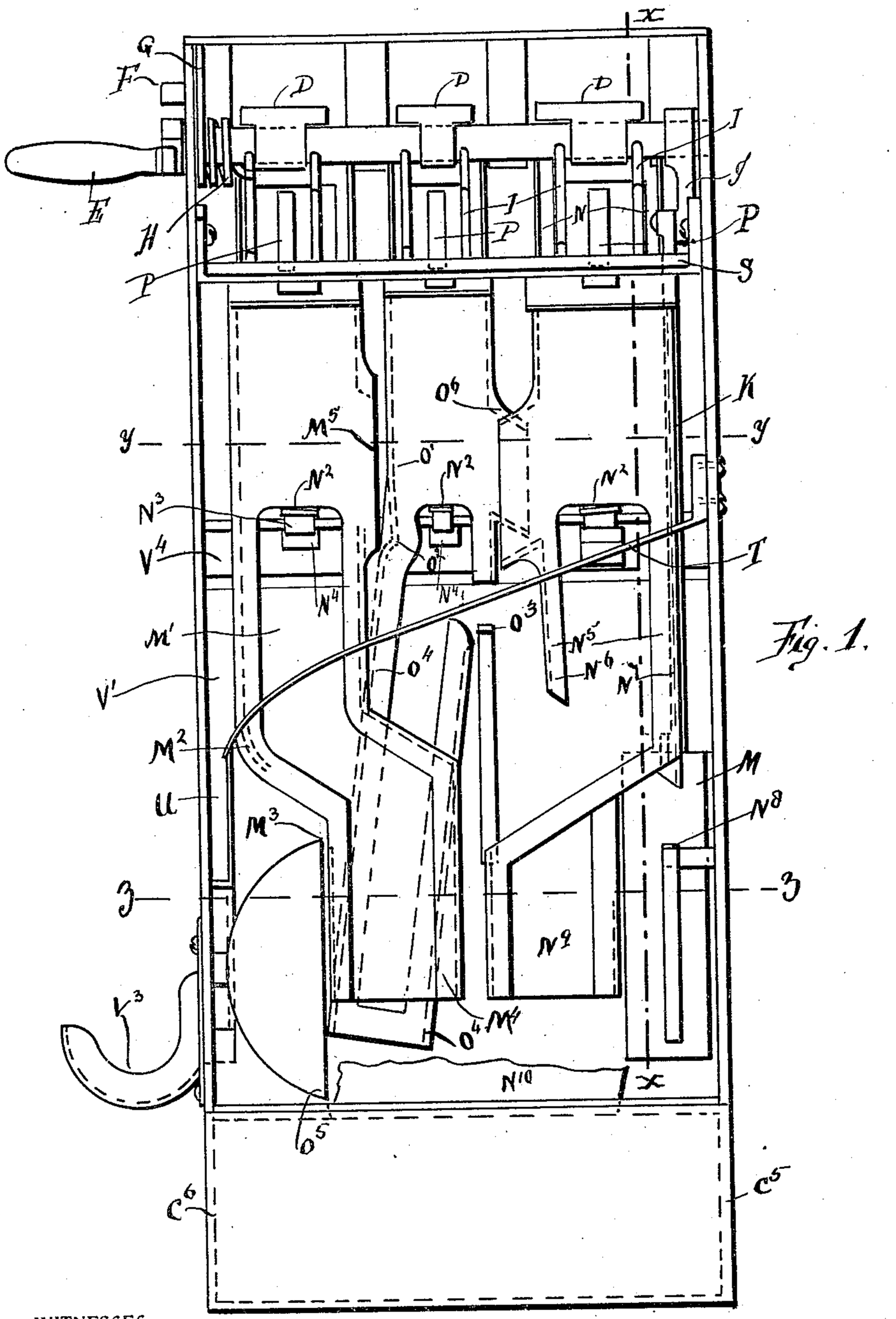

Fig. 1.

WITNESSES

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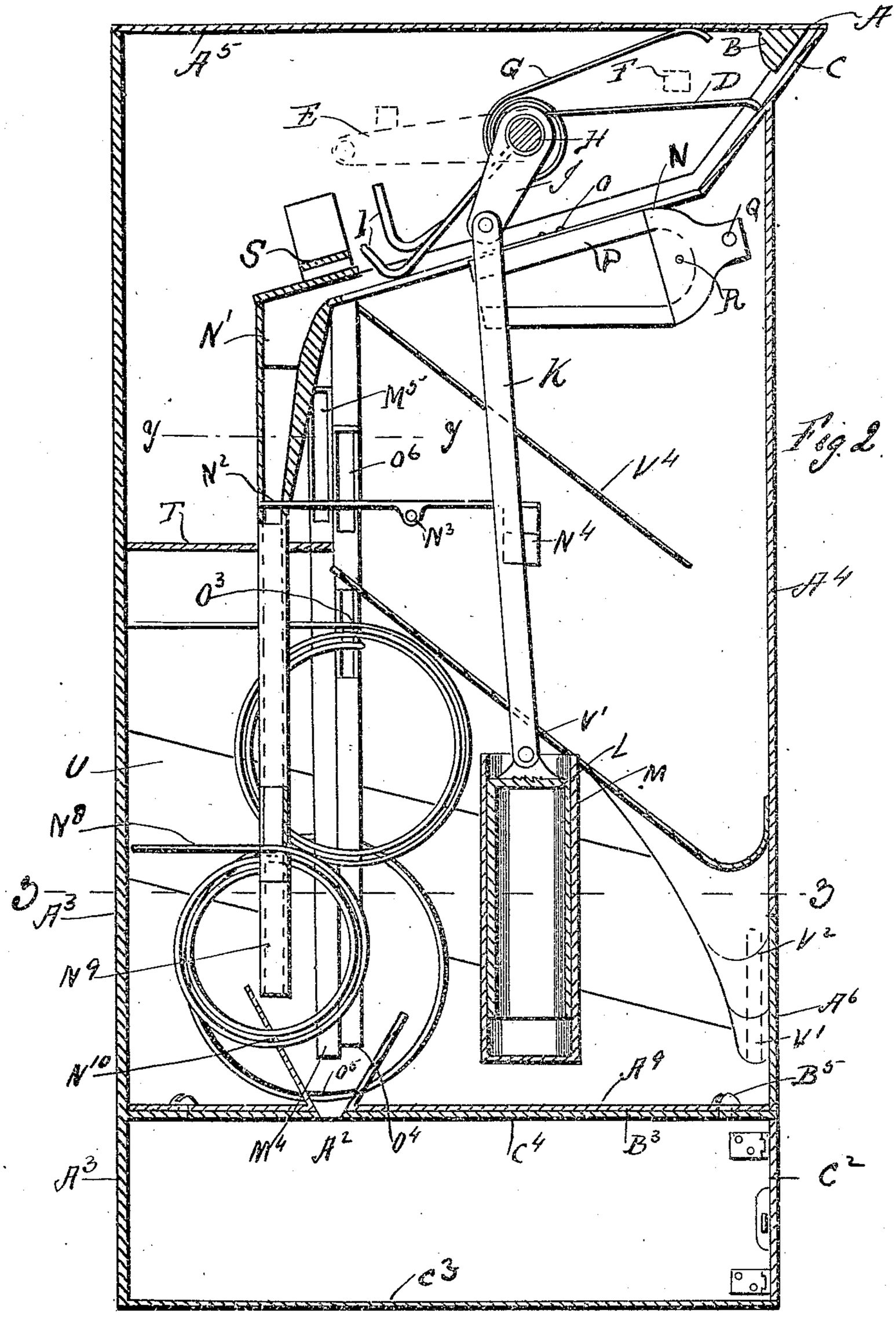

Fig. 2.

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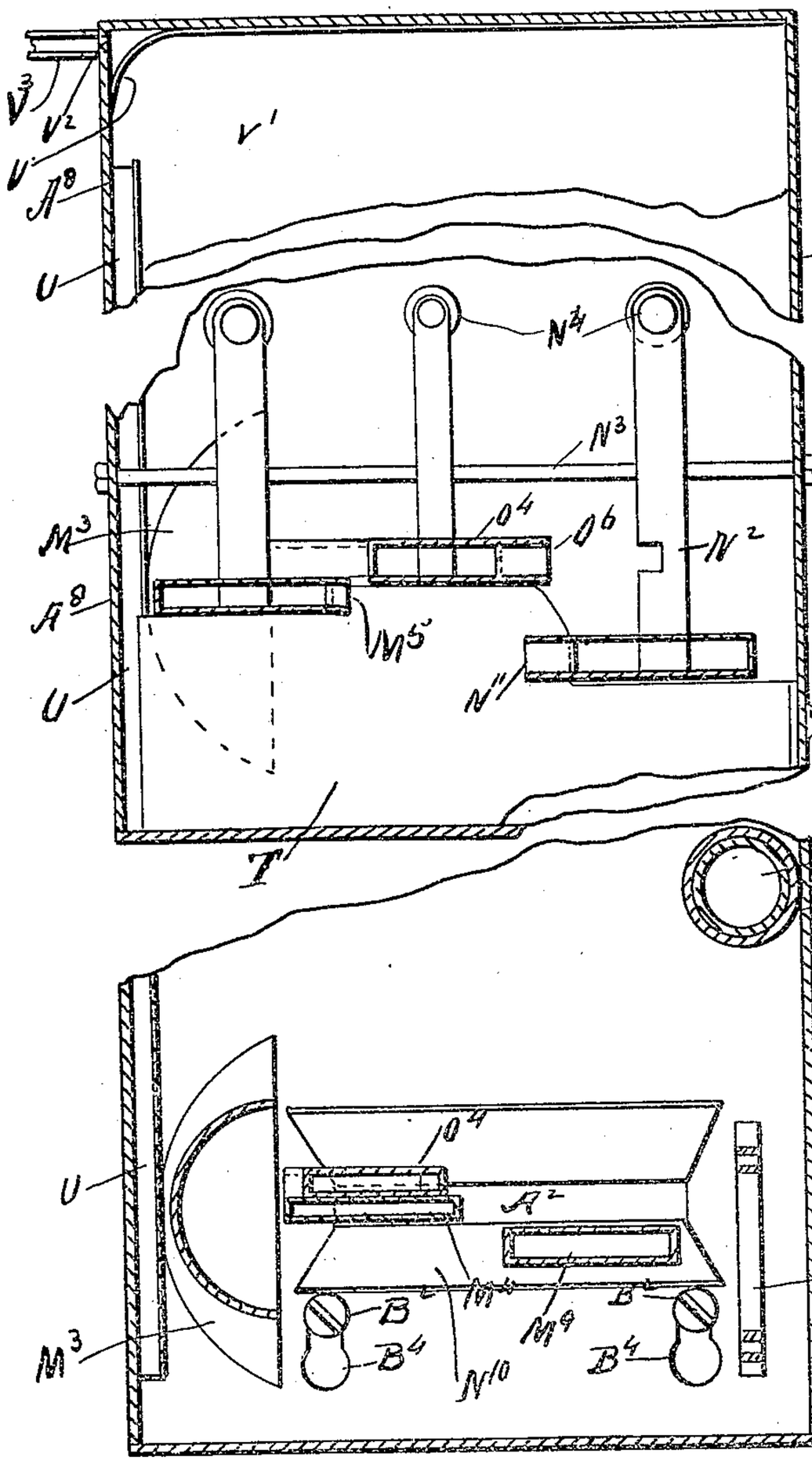

Fig 3.

Fig 4

Fig. 5.

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AUTOMATIC TELEPHONE PAY-STATION.

938,949. Specification of Letters Patent. **Patented Nov. 2, 1909.**

Application filed April 10, 1908. Serial No. 426,231.

To all whom it may concern:

Be it known that I, FRANCIS X. BEE, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a certain new and useful Improvement in Automatic Telephone Pay-Stations, of which the following is a specification.

My invention relates to a new and useful improvement in automatic telephone pay stations and has for its object to construct an exceedingly simple and effective apparatus which will detect and discard coins of undersized and light weight, spurious coins, and slugs conveying the same to the outside of the box or casing and a further object of my invention is to regulate the action of the kick out fingers so as to cause them to automatically move at a slow rate of speed when transmitting the coin from the guide ways to the chutes and then to move at a high rate of speed so as to effect the ejection of spurious coins.

A still further object of my invention is to cause one denomination of coin to ring a bell or gong while another denomination will ring two bells and still another denomination will ring another bell or gong of different tone.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same I will describe its construction in detail, referring by letter to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a rear view of the apparatus with the back plate removed, Fig. 2, is a side view partly in section on the line X—X of Fig. 1, Fig. 3 is a section on the line W—W of Fig. 2, Fig. 4, is a section on the line Y—Y of Fig. 2, and Fig. 5, is a section on the line Z—Z of Fig. 2.

In Fig. 2 the coin slot A passes the coin down between the frame B and the chute C until it is caught on the plate D where it will remain until the handle E is rotated to the stop F, during which time the spring G is coiled about the shaft H and the prongs I are brought around until they lift the plate D, thus freeing the coin and this action is the same for each coin slot on the machine no matter how many there may be.

On the near side of the shaft H and the handle E is a crank J to which is attached the connecting rod K connecting the hollow piston L, working in the cylinder M, the action of which will be more fully described later.

The coin is freed by the prongs I lifting the plate D passes down the chute N to the chute below the floor of which is cut away so that a small coin will drop through as is usual in this class of apparatus. At O there are slight projections roughening the surface and preventing the lead slug from traveling too rapidly, a magnet P is supported in this space upon the bar Q and held in position by the bolt R, there is one magnet for each sized coin, this magnet will retain and hold an iron slug which may be inserted which is of the same size as the coin for that particular slot.

After the handle E has been released by the caller it is evident that the spring G will immediately endeavor to resist the crank, as this however will compress the air in the cylinder M and hollow piston L the action will be slow until the crank J passes its lower center at which time the prongs I will be immediately behind the spurious coin held by the magnet P, the air in the cylinder M is free to expand, thus giving a very sharp, rapid movement to the prongs which throws the slug over the frame S and on to the chute T over which it goes by gravity to the chute U down which it travels going around the curve V and dropping into the bottom part of V′ and so on through the slot V^2 into the receptacle V^3, where it is delivered back to the caller. Should the coin be too small it will drop through the chute on the plate V^4 and off this into the plate V′ and so be delivered through V^2 to V^3, should the coin pass these two tests it will travel into the chute N′ and fall upon the end of the lever N^2, which is fulcrumed at N^3 and weighted at N^4, if the coin is of correct weight it will trip this lever and continue falling; should this coin be a quarter it will pass down the open chute N^5 on the wall N^6 which gradually tapers inward as shown toward the vertical wall N^7 causing the coin to strike the gong N^8 and jumping

from there into the chute N^9, from which it is delivered by the chute N^{10} into the cash box A^2.

Should the quarter coin be too light to trip the lever N^2, it will be thrown out on the chute N^{11} and falling on the plate D passing by the chute U around V to V′ through V^2 and be delivered to the caller at V^3.

The end of the lever at N^2 is inclined toward the discharge opening for lighter coins in each case so that the coin cannot balance and lodge on the end of the lever, and these ends are covered with leather to prevent any metallic sound.

The action of a five cent piece is the same after being weighed at N^2, it passes down the chute M′ being guided at M^2 it strikes the bell at M^3 and bounds into the front chute M^4 from which it is delivered into the cash box at A^2. Should this coin be too light it is passed out by the chute M^5 and falls on the chute T from which it is delivered as the other light coins were to the caller at V^3.

Should the coin be a ten cent piece it passes down the chute O′ being guided by the projection O^2, will strike the gong O^3 which it will ring then rebound into the chute O^4 which passes behind the five cent chute M^4 and delivers the coin which strikes the gong M^3 at O^5 from which it is delivered into the cash box A^2. It is therefore evident that the ten cent piece strikes the gong first and then the bell making two distinct sounds in its passage to the box. Should this coin be too light to trip the weight it will pass out by the chute O^6 falling through the slot in the lever N^2 onto the plate V′ and be delivered as the iron slug was through V^2 to the caller at V^3.

The whole of this mechanism is inclosed within the case A^4, it has a top A^5, a front having a door A^6 and two side walls A^7 and A^8 all integral with the bottom A^9.

The screws B^2 are fastened on the top of the cash box B^3 and the bottom of the mechanism box has slots B^4 through which these bolt heads must pass, when the screws B^5 has been removed by the inspector thus allowing the whole of the machine to be lifted away from the cash box leaving it impossible for the inspector to in any way handle the cash or any necessity for him to open the lock door C^2 and it is evident that this cash box composed of the door C^2, a bottom C^3, a top C^4 two sides C^5 and C^6 with the projecting back A^3 which extends to the top of and close the whole of the mechanism box, and completes the apparatus of my invention.

Having thus fully described my invention what I claim as new and useful, is—

1. In an automatic telephone pay station, the combination of a suitable casing having slots formed therein for the passage of coins of different denominations, a series of chutes leading from said slots, a shaft plates mounted upon said shaft, a spring for actuating the shaft in one direction, a handle for actuating the shaft in the opposite direction, prongs carried by the shaft for lifting the plates, a crank secured to the shaft, an air cylinder, a hollow piston fitted to slide therein, a rod connecting said piston with said crank, a magnet located in proximity to each chute, a chute T for receiving the spurious coins when ejected from the first named chute, a chute V with which the chute T communicates, a receptacle V^3 for receiving the spurious coin outside of the frame, a plate V^4 for receiving coins of under size, a plate V′ also communicating with the receptacle V^3, a series of chutes N′ each of which communicates with one of the first named chutes, a series of weighing levers so arranged relative to the chutes N′ as to intercept the coins passing down said chutes, a series of signals of different tones, and means for reflecting the coins of different denominations into contact with different signals.

2. In an apparatus of the character described, a suitable casing, having a series of slots formed therein, chutes leading from said slots, means for intercepting the coins in the upper portion of the chutes, roughenners for retarding the movement of non magnetic spurious coins, plates for arresting the movement of magnetic spurious coins, prongs for lifting the plates and ejecting magnetic spurious coins, and a receptacle outside of the casing to which the spurious light weight coins are conveyed, as specified.

3. In an apparatus of the character described, a suitable casing having slots formed therein, chutes leading from said slots, a shaft, plates pivoted to said shaft, the ends of which normally lie in the upper portion of said chutes, a spring for actuating the shaft in one direction, a handle for operating said shaft against the action of the spring, prongs carried by the shaft, for lifting the plates at predetermined times and for ejecting spurious coins, and means for retarding the reverse movements of the shaft through a portion of its rotation and accelerating its movement through the remainder of its rotation, as and for the purpose set forth.

4. In an automatic telephone pay station, a casing having a series of slots formed therein, chutes C leading from said slots, permanent magnets located beneath the cut away portion of said slots, a spring actuated shaft, plates pivoted to said shaft, the ends of which normally lie in the upper portion of the chutes, a handle for rotating the shaft against the action of the spring, prongs for lifting the plates, means for retarding the movement of the shaft through a portion of

its rotation, and accelerating its movement through the remainder of its rotation, chutes N′ leading from the first named chutes, weighing levers projecting into the chutes for ejecting coins of light weight, a signal such as a gong or bell provided for each of the chutes N′, an inclined surface located at the bottom of one of the chutes N′ for deflecting the coins passing through against one of the signals, and means carried by one of the chutes for deflecting the coins passing therefrom, first against one of the signals and then the other, as specified.

In testimony whereof, I have hereunto affixed my signature in the presence of two subscribing witnesses.

FRANCIS X. BEE.

Witnesses:
EDW. W. ANSTICE,
S. M. GALLAGHER.