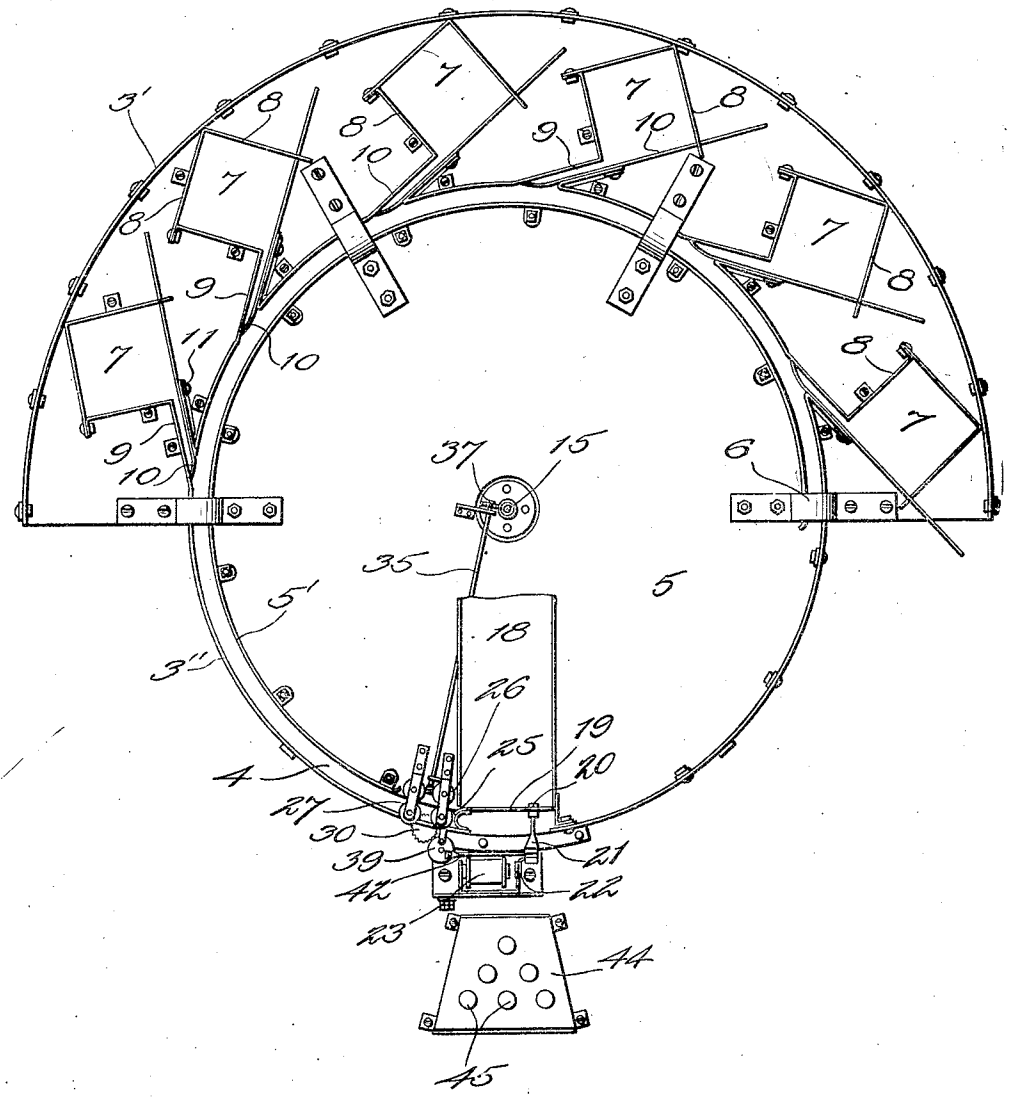
June 22, 1926. 1,589,383

V. GARCIA

MAIL DISTRIBUTING MACHINE

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Fig. 1.



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V. GARCIA

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Fig. 2.

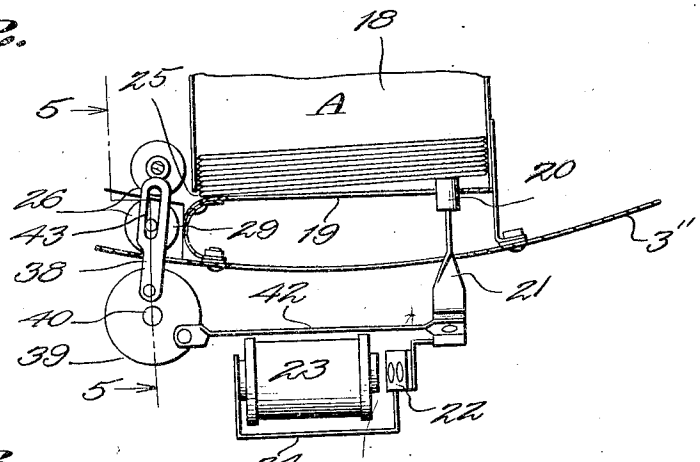


Fig. 3.

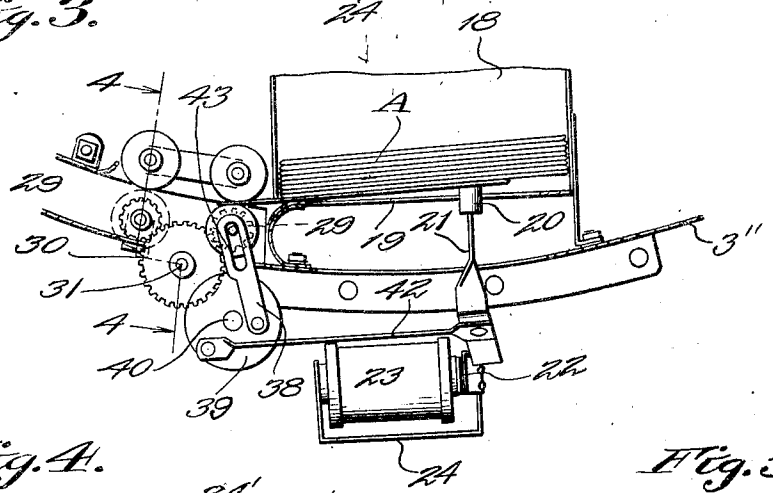


Fig. 4.

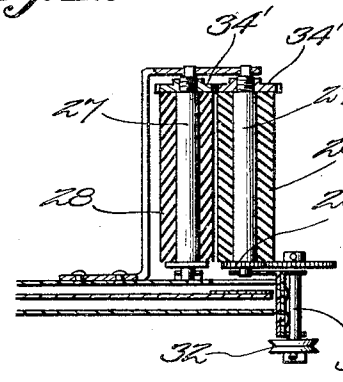
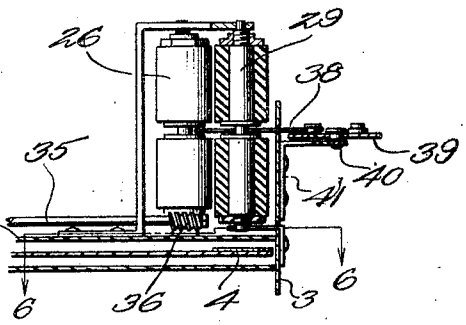


Fig. 5.



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MAIL DISTRIBUTING MACHINE

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Fig. 6.

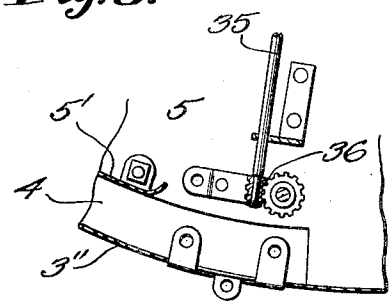


Fig. 7.

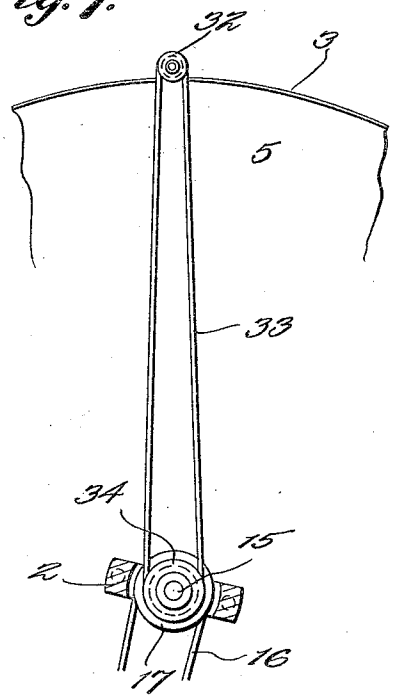


Fig. 8.

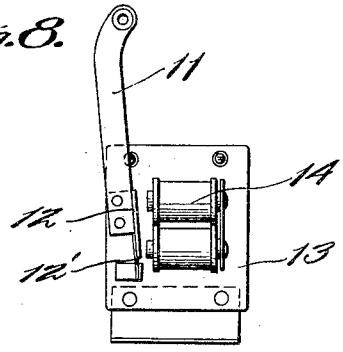
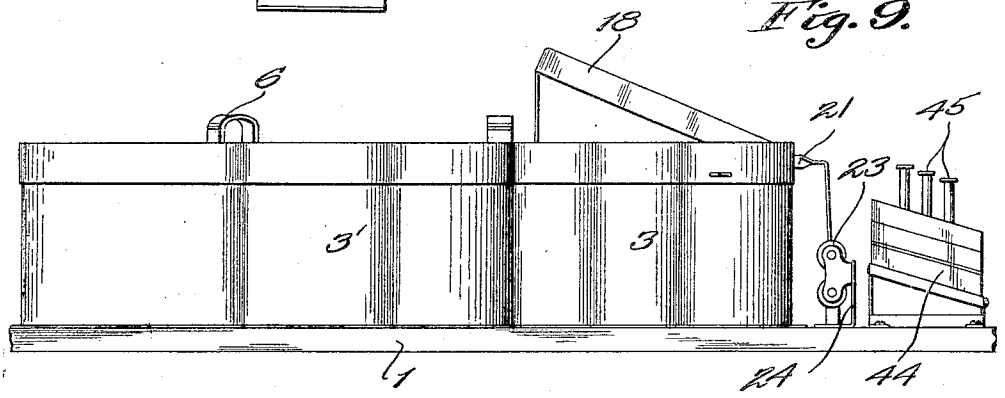


Fig. 9.



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MAIL DISTRIBUTING MACHINE

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Fig. 10.

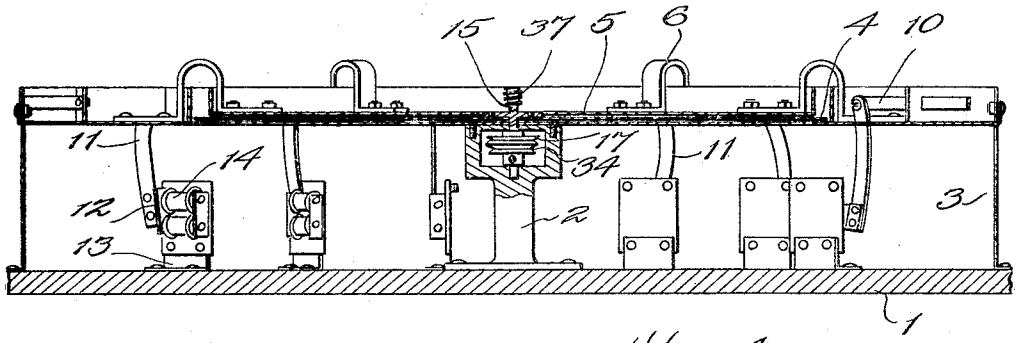


Fig. 12.

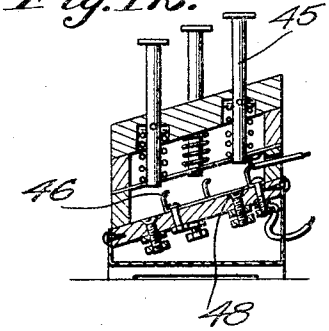


Fig. 11.

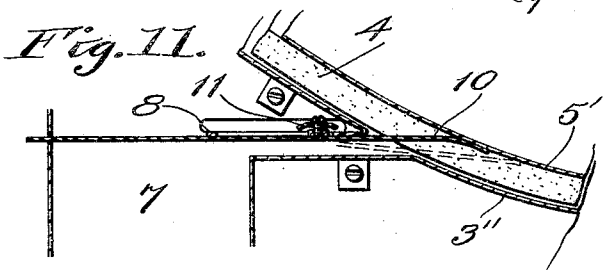
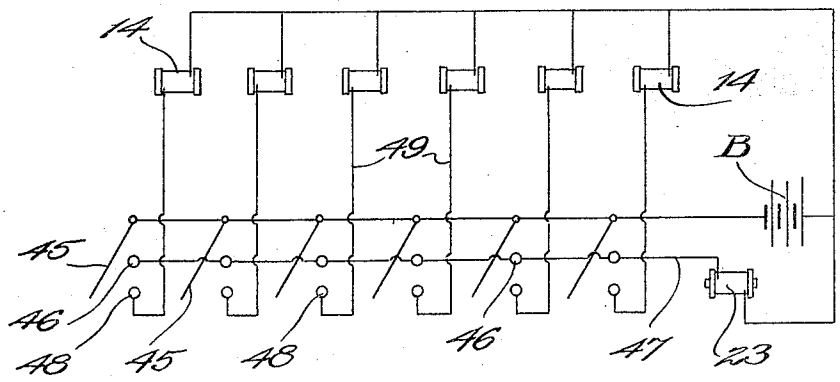


Fig. 13.



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UNITED STATES PATENT OFFICE.

VINCENT GARCIA, OF BROOKLYN, NEW YORK.

MAIL-DISTRIBUTING MACHINE.

Application filed October 19, 1925. Serial No. 63,510.

This invention relates to a mail distributing machine, the general object of the invention being to provide key operated means for distributing mail from a pile to any desired one of a plurality of chambers, so that the mail will be separated according to States or other localities.

A further object of the invention is to provide electric means, operated from the keys, for taking the mail from the pile and placing it upon a rotary member, with electric operated means for causing the mail to pass from the rotary member into the chambers.

A still further object of the invention is to provide means for preventing the feeding of more than one piece of mail at a time from the pile.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a plan view of the invention.

Figure 2 is an enlarged plan view, with parts in section, of the means for taking the mail from the pile.

Figure 3 is a similar view but showing the parts in a different position.

Figure 4 is a section on line 4—4 of Figure 3.

Figure 5 is a section on line 5—5 of Figure 2.

Figure 6 is a horizontal sectional view on the line 6—6 of Figure 5.

Figure 7 is a fragmentary bottom plan view.

Figure 8 is a view of one of the magnetic means for operating a sliding gate.

Figure 9 is an elevation.

Figure 10 is a vertical sectional view.

Figure 11 is an enlarged horizontal sectional view showing the entrance to one of the chambers and the gate of said chamber.

Figure 12 is a vertical sectional view through the switch block.

Figure 13 is a diagrammatic view of the circuits.

In these views, 1 indicates a base upon which is supported the central post 2 and the casing 3. The casing includes a rear extension 3′ of semi-circular shape. A disk 4 is rotatably mounted on the top of the casing and a plate 5 supported by the bracket 6 from the casing and its extension covers the disk 4 with the exception of a small part of the edge thereof which is left exposed between the flanges 5′ and 3″ formed on the plate 5 and the casing. These flanges form a trough, the bottom of which is formed by the parts of the disk. Chambers 7 are formed by the flanges or partitions 8 on the extension 3′, and these chambers are in communication with the trough by means of the narrow passages 9 and a sliding strip 10 forming a gate is mounted in each chamber and its passage. An arm 11 is fastened to each gate and said arm extends downwardly into the casing where it is connected with an armature 12 pivotally supported on a plate 13 which also supports the magnets 14 which, when energized, will attract the armature and thus cause the arm to move the gate until its curved front end strikes the inner wall or flange 5′ of the trough, thus closing the trough and directing the article therein into the passage 9 and chamber 7. The armature is connected with the base 13 by a spring 12′ which tends to hold the parts with the gate in open position or in a position where it will not obstruct the trough. The disk 4 is connected with a vertically arranged shaft 15 supported by the post 2 and rotated from any suitable source by the blade 16 engaging a pulley 17 on the shaft. Thus the disk will carry with it an object placed in the trough, the disk being formed of or covered with frictional material which will cause the objects to travel in the trough with the disk.

The objects or mail, shown at A, are placed in a chute 18 or they may be brought to said chute by a conveyor. The first object in the pile will rest, by the action of gravity, against a partition 19 at the front lower end of the chute, where it will engage a friction block of rubber or the like, shown at 20, carried by an arm 21 which is fastened to the armature 22 of the magnets 23 which are carried by the bracket 24 in front of the casing. When the magnets are energized and attract the armature,

the arm 21 will swing over and thus slide the first piece of mail through a small slot 25 at the front end of the chute 18 at one side thereof which is in communication with the trough so that this piece of mail will be moved into the trough and upon the disk 4. As it is being passed from the chute, it will be seized by the pair of feeding rollers 26 and then by the pair of feeding rollers 27. These rollers are rubber covered, as shown at 28, and the outer rollers of each pair are provided with gears 29 which mesh with a gear 30 on a stub shaft 31 which also carries a pulley 32 which is connected by a belt 33 with a pulley 34 on the shaft 15, so that the outer rollers of the two pairs of feed rollers are rotated from said shaft 15. The two rollers 27 are geared together by the gears 34 so that the rollers rotate in unison. The inner roller of the pair 26 is driven at a slower speed than is the outer roller of this pair, through means of the shaft 35 which is connected with the shaft of said inner roller 26 by means of the worm gear 36 and which is connected with the shaft 15 by the worm gearing 37. This slow movement of the inner roller 26 with the movement of the outer roller will prevent more than one piece of mail from being fed between the rollers at once.

To prevent the mail from being accidentally fed from the chute before the operation of the magnetic means, I provide an arm 38 which normally extends across the path of the pieces of mail passing through the opening 25 and this arm is eccentrically connected to a disk 39 rotatably mounted on a stub shaft 40 carried by a bracket 41, and said disk is connected by a link 42 with the arm 21, so that the disk will be rocked by the movement of said arm. The arm 38 is provided with a slot 43 through which passes the shaft of the outer roller 29. These rollers 29 are each formed of two portions spaced apart at their inner ends to receive the arm, as clearly shown in Figure 5. Thus the arm 39 normally lies in the path of an envelope or other piece of mail, but is swung out of said path when the arm 21 moves forwardly under the action of the magnetic means, so that the piece of mail moved forwardly by the block 20 can pass between the feed rollers and thus be fed into the trough.

A switch board 44 is arranged in front of the device and is provided with the switch plungers 45, each of which, when depressed, will first engage a contact 46 in the circuit 47 of the magnet 23, the battery being shown at B, so as to energize said magnet 26 and then on the further downward movement of each plunger 45, it will engage a contact 48 and thus close the circuit 49 to one of the magnets 14, it being seen from Figure 13 that the plungers 45 will all close the circuit to the magnet 26, but each plunger will only close a circuit to one of the magnets 14. Thus, upon the operation of each switch plunger, the circuit of the magnet 23 will first be closed to actuate the arm 21, which will move the first piece of mail from the pile into the trough, the piece being fed into the trough by the rollers 26 and 27. It is then fed forwardly through the trough by means of the rotating disk 4. On the final movement of the key, the magnet 14, which is associated with said said key, will be energized and thus the gate 10, connected with the armature of said magnet will be moved across the trough, so that as the piece of mail reaches this part of the trough, it will strike the gate and will thus be directed into the chamber 7 of said gate. In this manner, the mail is sorted. The operator can read the addresses on the pieces of mail as they appear before him when seated at the switch board 44, so that it is simply necessary for him to depress that key which is designated with the chamber where the piece of mail is to be sent. The apparatus will then take said piece of mail to said chamber. Thus the mail and the like can be easily and quickly sorted.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:—

1. A sorting device comprising a rotary member, supporting means adjacent the rotary member, flanges supported thereby and forming with an edge of said rotary member a trough, a plurality of receiving chambers in communication with a trough, a gate in each chamber which, when projected, will enter the trough and cause articles on the rotary member within the trough to pass into the chamber, a receptacle for holding the articles to be sorted, means for feeding the articles therefrom into the trough and means for actuating the gates.

2. A sorting device, comprising a receptacle for holding the objects to be sorted, chambers for receiving the sorted articles, a conveyor for carrying the objects from the receptacle to the chambers, a gate associated with each chamber and extending across the conveyor when projected to cause an article on the conveyor to enter the chamber, magnetic means for moving the gates, magnetic means for feeding the objects from the receptacle on to the conveyor, circuits for such means and keys for closing the circuits, each key first closing the circuit of the feeding means for the receptacle and then the cir-

cuit for the magnetic means of the gate, the chamber of which the key is associated with, a pair of feed rollers for receiving the articles passing from the receptacle and delivering them on to the conveyor and means for rotating the rollers at different speeds so that but one object will be fed at a time.

3. A sorting device, comprising a receptacle for holding the objects to be sorted, chambers for receiving the sorted articles, a conveyor for carrying the objects from the receptacle to the chambers, a gate associated with each chamber and extending across the conveyor when projected to cause an article on the conveyor to enter the chamber, magnetic means for moving the gates, magnetic means for feeding the objects from the receptacle on to the conveyor, circuits for such means and keys for closing the circuits, each key first closing the circuit of the feeding means for the receptacle and then the circuit for the magnetic means of the gate, the chamber of which the key is associated with, two pairs of feed rollers for feeding the objects from the receptacle on to the conveyor, means for rotating one pair of rollers and one roller of the other pair at the same speed and means for rotating the fourth roller at a slower speed.

4. A sorting device, comprising a receptacle to hold the articles to be sorted, a plurality of chambers for receiving the sorted articles, a conveyor for conveying the articles from the receptacle to the chambers, a gate in each chamber, magnetic means for projecting the gate across the conveyor to cause an article on the conveyor to enter the chamber, magnetic means for feeding the articles one by one from the receptacle upon the conveyor, circuits for the magnetic means, keys for controlling the circuits, an arm normally extending across the path of an object leaving the receptacle and means for swinging the arm out of said path by the operation of the magnetic means for the receptacle.

5. A sorting device, comprising a chute for holding the articles to be sorted, a plurality of chambers for receiving the sorted articles, a conveyor for conveying the articles from the chute to the chambers, a gate in each chamber, magnetic means for projecting each gate across the conveyor to cause an article on the conveyor to enter the chamber, a pivoted arm, a friction member thereon for engaging the front object in the chute to move it on to the conveyor when the arm is operated, magnetic means for operating the arm, circuits for the magnetic means, keys for closing the circuits, each key first closing the circuit of the magnetic means for the arm and then the circuit of the magnetic means of the gate with which the key is associated, two pairs of feed rollers for receiving the article from the chute and delivering it to the conveyor, means for rotating three of the rollers, means for rotating the fourth roller at a slower speed, an arm extending across the path of an object leaving the chute and means for moving the arm from across said path by the operation of the arm which carries the friction member.

6. A sorting apparatus, comprising a chute for holding the objects to be sorted, a plurality of chambers for receiving the sorted objects, a disk, means for rotating the same, flanges forming with a portion of the disk a trough for conveying the objects from the chute to the chambers, gates in the chambers, magnetic means for projecting the gates across the trough to cause an object to leave the conveyor and enter the chamber, magnetic means for conveying the objects from the chute on to the conveyor, magnetic means for moving the gates, circuits for such magnetic means and keys for closing the circuits.

In testimony whereof I affix my signature.

VINCENT GARCIA.