

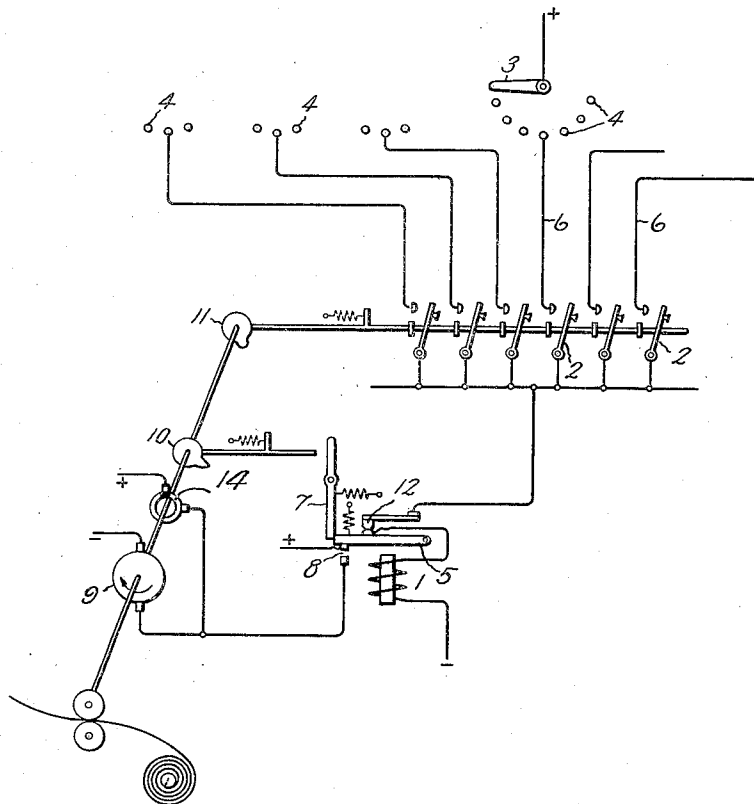
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A. J. JOHNSTON

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TICKET ISSUING MACHINE

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Inventor:
Arthur J. Johnston,
by *Charles E. Tuller*
His Attorney.

UNITED STATES PATENT OFFICE

ARTHUR J. JOHNSTON, OF ALDAN, PENNSYLVANIA, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK

TICKET ISSUING MACHINE

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My invention relates to ticket issuing machines used in connection with totalizers of the kind in which the issue of a ticket from the machine is not caused directly by the depression of a key by the operator, but is effected electrically, or by other means, when an impulse is transmitted through the totalizing device consequent upon the operation of the key.

This has been effected by causing the impulse transmitted to energize an electric relay which sets into operation the ticket-issuing apparatus, the relay being reset in order that it might be ready for operation by succeeding impulses when the operation of issuing a ticket had been completed. Difficulties have arisen in an arrangement of this character owing to the fact that in the event of a fault developing in the ticket-issuing apparatus, preventing the issue of a ticket in response to the depression of the operator's key, the relay has been in a position to cause the sending of successive impulses in response to a single depression of the operator's key, thereby resulting in faulty indication in the totalizing apparatus.

The present invention consists in removing this disadvantage by providing on the relay associated with the ticket-issuing machine an auxiliary contact which is opened on the energization of the relay by an impulse sent through the totalizing apparatus, the opening of which contact prevents the sending of more than a single impulse until a ticket has been issued, and the relay reset. This additional contact may be provided on the armature of the relay, so that when the armature is attracted and held in its attracted position until the issue of a ticket has been effected, the additional contact is opened, thereby preventing further energization of the relay until its armature has been released by means associated with the ticket-issuing apparatus.

The accompanying drawing shows diagrammatically one arrangement for carrying the invention into effect, in connection with a known type of ticket-issuing machine, in which a relay 1 associated with the machine is prepared for energization when one of a number of operator's keys 2 is depressed

for the issue of a ticket, the actual energization of the relay 1 taking place on the completion of a circuit in the totalizing apparatus for the sending of an impulse there-through, the armature 5 of the relay being then held in its attracted position by a catch 7 which is only released when the ticket is issued. Each of the keys 2 may be adapted to control the issue of a ticket of one denomination, and each key is connected by a conductor 6 to one of a number of stationary contacts 4 associated with a rotary wiper 3, these elements forming part of the totalizing equipment. A separate wiper 3 and contacts 4 are provided for the transmission of impulses corresponding to the issue of tickets of each denomination, and the remaining contacts 4 associated with the wiper 3 may be connected with keys in other ticket issuing machines.

On the closure of one of the keys 2 for the issue of a ticket of any particular denomination, a circuit is completed when the wiper 3 arrives on the corresponding contact 4 through conductor 6, key 2 and winding of relay 1. The armature 5 of the relay 1 is thereby attracted so that the contacts 8 are closed. The contacts 8 complete an energizing circuit for the motor 9 to cause it to operate the ticket machine so that a ticket is issued therefrom in a manner well known in the art. While the ticket is being issued, the armature 5 of the relay 1 is held in its attracted position by the catch 7 as described above and, therefore, the original energizing circuit of the motor 9 is maintained completed through the contacts 8. The release of the catch 7 after the ticket has been issued is effected by a cam 10 on a shaft associated with the motor 9. Prior to the release of the armature 5, the depressed key 2 of the ticket machine is restored to its normal position by a second cam 11 on a shaft associated with the motor 9.

In order to restore the motor 9 to its normal position after the original energizing circuit therefor is interrupted by the opening of the contacts 8 after the ticket is issued, I provide a suitable off-normal contact device 14 which is arranged to maintain a cir-

cuit for the motor 9 completed until the motor reaches its normal position after the contacts 8 are opened. As shown in the drawing, this contact device includes two stationary brushes and cooperating conducting ring which is operated by the motor and which has an insulated segment so positioned thereon that it is under one of the brushes and interrupts the energizing circuit for the motor through the brushes when the motor is in its normal position.

Now, in accordance with my invention, I provide on the armature 5 of the relay 1 an additional contact 12 which is opened on the energization of relay 1 and thereby prevents the sending of more than one impulse by way of the wiper 3 and contact 4, until the relay has been reset by the cam 10. In the event of a fault developing in the ticket-issuing machine whereby the latter failed to complete its operations, the opening of the contact 12 ensures that more than one impulse shall not be sent into the totalizing equipment.

The keys of the ticket machine have not been shown as being interlocked, so that only one can be operated at a time, but it is to be understood that a suitable interlock, examples of which are well known in the art, is provided on the ticket machine for this purpose.

While I have, in accordance with the patent statutes, shown and described my invention as applied to a particular system and as embodying various devices diagrammatically indicated, changes and modifications will be obvious to those skilled in the art and I, therefore, aim in the appended claims to cover all such changes and modifications as fall within the true spirit and scope of my invention.

What I claim as new and desire to secure by Letters Patent of the United States, is:—

1. In a ticket issuing machine, the combination of driving means for said machine, a relay, a circuit for said relay, contacts in said circuit, means responsive to the energization of said relay for opening said contacts and for effecting the operation of said driving means, locking means for maintaining said contacts open, and means controlled by said driving means for releasing said locking means.

2. In a ticket issuing machine, the combination of driving means for said machine, a relay, a circuit for said relay, normally closed contacts in said circuit, switching means for closing said circuit, means responsive to the energization of said relay for opening said contacts and for effecting the operation of said driving means, locking means for maintaining said contacts open after said relay becomes deenergized, and means controlled by said driving means for operat-

ing said switching means and for releasing said locking means.

3. In a ticket issuing machine, the combination of driving means for said machine, a relay, a circuit for said relay, normally closed contacts in said circuit, switching means for closing said circuit, means responsive to the energization of said relay for opening said contacts and for effecting the operation of said driving means, locking means for maintaining said contacts open after said relay becomes deenergized, and means controlled by said driving means for operating said switching means and said locking means in a predetermined sequence.

4. In a ticket issuing machine, the combination of driving means for said machine, a relay, a circuit for said relay, normally closed contacts in said circuit, switching means for closing said circuit, means responsive to the energization of said relay for opening said contacts and for effecting the operation of said driving means, locking means for maintaining said contacts open after said relay becomes deenergized, and means controlled by said driving means for operating said switching means so as to open said circuit and then to effect the release of said locking means.

In witness whereof, I have hereto set my hand this 18th day of June, 1930.

ARTHUR J. JOHNSTON.