June 29, 1937. W. P. HARRIS 2,085,655

TICKET ISSUING MACHINE

Filed Feb. 11, 1936 2 Sheets-Sheet 1

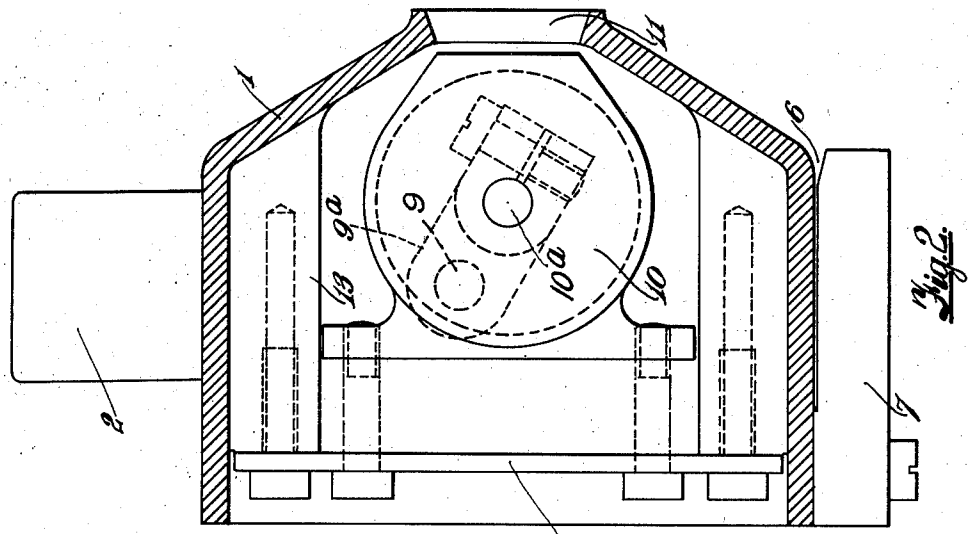

Fig. 2.

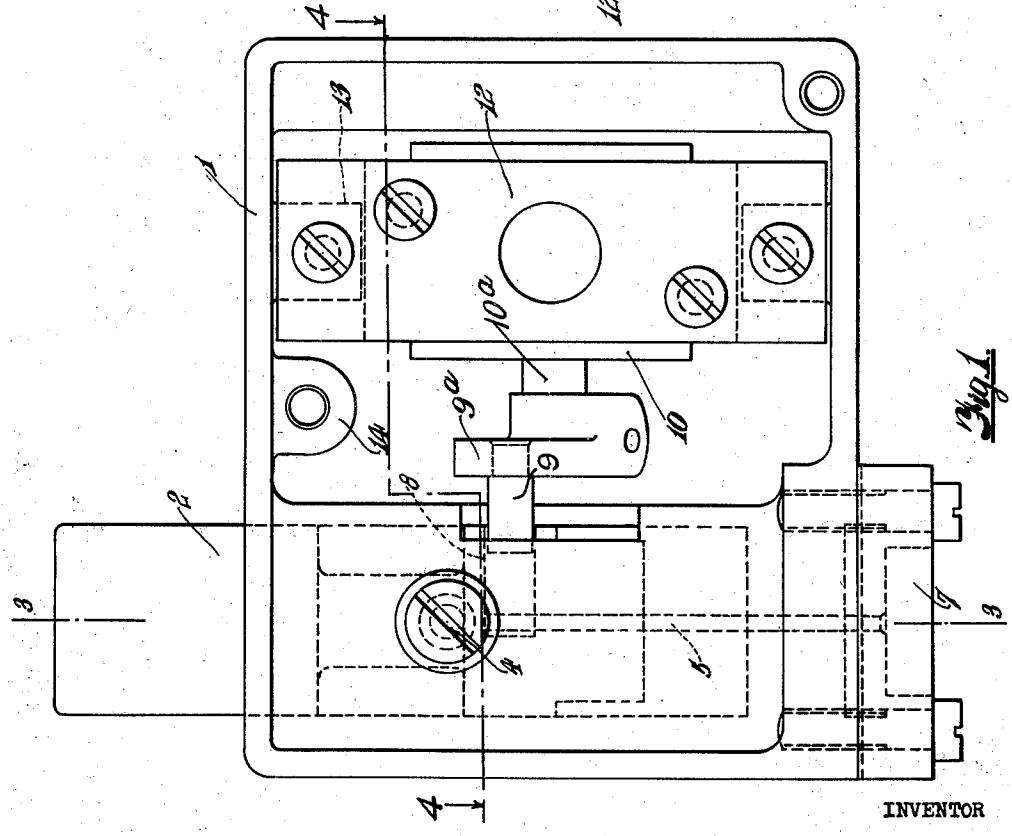

Fig. 1.

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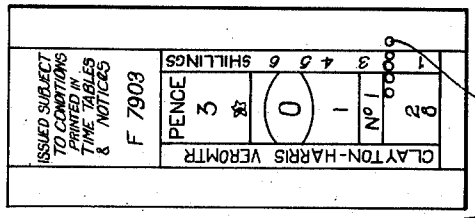

Fig. 5

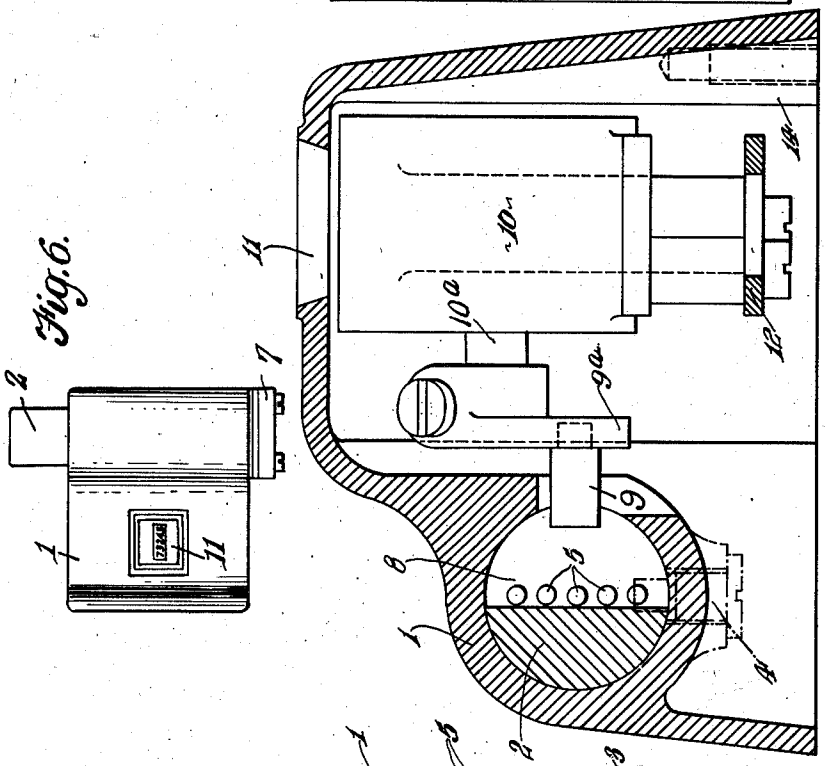

Fig. 4.

Fig. 6.

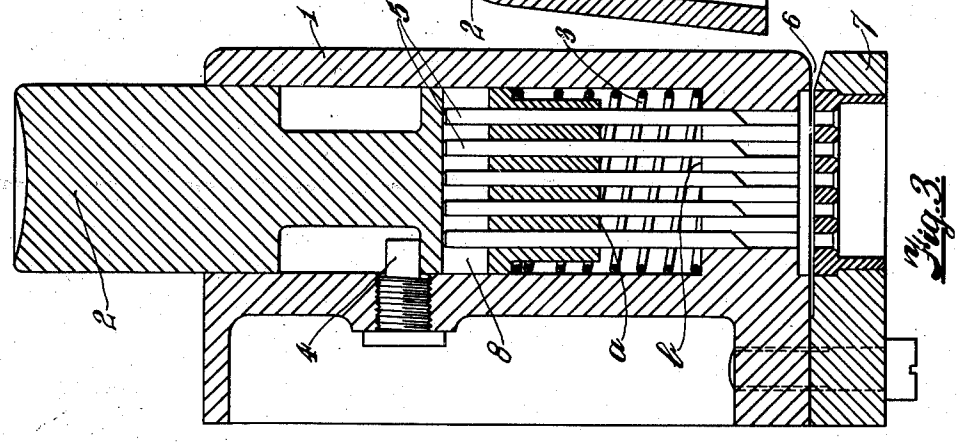

Fig. 3

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TICKET ISSUING MACHINE

William Percy Harris, Romford, England

Application February 11, 1936, Serial No. 63,444
In Great Britain February 14, 1935

4 Claims. (Cl. 164—119)

This invention relates to ticket issuing machines for use on public passenger vehicles and for similar purposes and has more particular reference to the type of machine wherein tickets of varying values are printed or otherwise marked by means which also operate to register the number and/or value of the tickets issued.

The object of the present invention is to provide an improved construction of the kind above referred to which will avoid unnecesary complexity in the operating mechanism in machines which are designed to issue tickets over a wide range of values.

The present invention is intended more particularly for use on public passenger vehicles in which the fares amount to anything up to say £1.0.0. and is adapted to be used in conjunction with a ticket issuing machine of the general type which may, for example, be provided with means for printing variable values up to say one shilling of the character described in the prior patent specification No. 397,889.

In order to avoid the necessity for a large number of operating devices the present invention provides a machine with sufficient operating keys or the like to issue a ticket of any value up to say one shilling, whilst multiples or the latter unit are marked on the ticket by the use of an auxiliary punch coupled with a registering device which may be as a unit applicable to an existing machine.

According to the present invention the apparatus comprises a machine for issuing tickets wherein an auxiliary device is provided operable by hand to punch a ticket to indicate multiple or fractions of the amount printed on the ticket during its issue by the machine, said auxiliary device operating in conjunction with registering means.

Reference will now be made to the accompanying drawings which illustrate by way of example an apparatus constructed according to the invention and in which:—

Fig. 1 is a longitudinal elevation looking towards the rear of the machine,

Fig. 2 is a cross sectional end elevation showing the registering mechanism,

Fig. 3 is a cross sectional end elevation taken on the line 3—3 of Figure 1,

Fig. 4 is a sectional view taken on the line 4—4 of Fig. 1,

Fig. 5 is a view of the ticket, and

Fig. 6 is a rear elevational view of the machine.

The apparatus comprises a casing 1 containing a depressible plunger 2 limited in its vertical movement by faces *a* and *b* in one direction and in the other direction by a stop 4 screwed into the said casing. The plunger 2 carries a plurality of punching elements 5 which are chamfered at their lower ends to form a cutting edge and which are adapted to pass through a ticket inserted in a slot 6 when the said plunger is depressed. The plunger and punches are returned to normal-position after operation by a spring 3. The slot 6 is of such dimensions that it is not possible to insert more than one ticket at a time and is formed between the base of the casing 1 and a plate 7 which is screwed to said casing and which acts as a support for the ticket during the punching operation.

A groove 8 is provided within the said plunger and is adapted to be engaged by a crank pin 9 carried by a crank arm 9*a* which is in turn fixed to the spindle 10*a* of a counting device 10 of any known type, such as a "Veeder" counter, so that as the plunger descends it causes operation of the spindle of the said counting device to register one unit at each depression of the plunger and to indicate the value of one shilling on the ticket.

The number or value of the tickets punched which is recorded on the counting device is visible through a window 11 in the front of the casing 1.

The counting device 10 is mounted on a plate 12 screwed to lugs 13 formed on the casing 1. Other lugs 14 are provided on the said casing to enable the apparatus to be fitted to the main portion of the machine.

The tickets employed, one of which is illustrated in Fig. 5 have the value in pence printed by the main portion of the machine in a space provided in the body of the ticket, whilst to indicate the shillings a row of numerals is provided in a suitable position on the ticket from one to any desired number. To indicate the number of shillings perforations or rows of perforations as shown at 15 (Fig. 5) are made to one side of the numeral which indicates this value. For example a ticket valued at 2/3d will be issued by the machine with 3d printed in the space provided and after detachment of the ticket from its strip it will be inserted into the slot in the above described punching device and a row or rows of perforations made to one side of the numeral 2 at the edge of the ticket.

When a ticket for one shilling or any multiple of one shilling is required the machine may be arranged so that the ticket is printed and

issued with the word "nil" in the space normally occupied by the pence indication.

Alternatively the machine as a whole can be arranged so that the printing of the ticket is in shilling values whilst fractions of shillings are indicated by the punchings at the side. Also the punchings at the side can be effected at any desired part of the ticket.

In another form the shilling value may be printed in the space normally occupied by the pence indication. In other words, the normal range of the machine may be increased up to the shilling value. In this case a ticket showing the multiple of shillings would have one less perforation or rows of perforations than the face value of the ticket, the first shilling having been already printed by the machine. For example, a ticket of two shillings would have a value of one shilling printed in the normal cash position and one perforation or row of perforations immediately to one side of the numeral 2 at the edge of the ticket.

When a ticket of pence value only has to be issued, this value is set up and printed by the normal operation of the machine and a perforation made adjacent to the fare value or in any suitable position on the ticket. This perforation indicates that the ticket is of pence value only and the precaution prevents "dead" tickets from being fraudulently perforated in the shillings position.

It is to be understood that the invention is not restricted to the exact method of punching above described as the depressible plunger may be arranged to operate punches having any desired arrangement.

I claim:

1. In a machine for punching tickets, a hollow casing providing a guideway, a plunger mounted for reciprocation in said guideway, said plunger having a plurality of sockets therein, said casing having a plurality of passages registering with said sockets, a plurality of punching elements secured within said sockets and mounted for guided sliding movement in said passages in response to reciprocation of said plunger, said casing having a ticket slot disposed transversely to said guideway and communicating with said passages, the wall of said ticket slot opposite said passages defining a plurality of openings into which said punching elements may project when said plunger is reciprocated into operative position, and resilient means for restoring said plunger and punching elements to normal position after a ticket has been punched, said plunger being provided with a reduced diameter portion and said resilient means comprising a compression spring disposed in said guideway and encircling said portion of said plunger.

2. In a machine for punching tickets, a hollow casing providing a guideway, a plunger mounted for reciprocation in said guideway, said plunger having a plurality of sockets therein, said casing having a plurality of passages registering with said sockets, a plurality of punching elements secured within said sockets and mounted for guided sliding movement in said passages in response to reciprocation of said plunger, said casing having a ticket slot disposed transversely to said guideway and communicating with said passages, the wall of said ticket slot opposite said passages defining a plurality of openings into which said punching elements may project when said plunger is reciprocated into operative position, resilient means for restoring said plunger and punching elements to normal position after a ticket has been punched, said plunger being provided with a slot extending transversely to said guideway, and a registering device operably associated with said casing and having an actuating crank pin disposed in said slot and operated by engagement with the walls thereof.

3. In a punching machine, a casing, a plurality of punching elements therein adapted to be projected through openings provided in the base of said casing, a slidable plunger disposed above said punching elements, a member detachably secured to the base of said casing and providing in co-operation therewith a narrow ticket slot, the said member having a plurality of apertures aligned with the openings of said casing and into which said punching elements may project when said plunger is reciprocated into operative ticket punching position and means disposed within said casing and actuated by said plunger for registering the operations of said plunger.

4. In a ticket punching machine, a casing providing a guideway, a plunger mounted for reciprocation in said guideway, said plunger having a recess therein, a stop pin secured to said casing and extending transversely to said guideway and cooperating with the walls of said recess to limit the range of reciprocation of said plunger, said plunger having a plurality of sockets therein, a plurality of punching elements mounted in said sockets and projecting through, and disposed in slidable engagement with a plurality of passages provided in said casing, said casing having a transversely disposed ticket slot into which said passages open, the wall of said ticket slot opposite said passages defining a plurality of openings into which said punching elements may project, a compression spring disposed in said guideway and resiliently urging said plunger toward inoperative position, a registering device operably associated with said casing and having an actuating crank, said plunger having a second recess into which said crank projects, said crank being operated by contact with the walls of said second slot as said plunger is reciprocated to punch a ticket.

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