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Date of filing Complete Specification : May 4, 1950.

Application Date : April 7, 1949. No. 9519/49.

Complete Specification Published : July 2, 1952.

Index at Acceptance :—Class 106(iii), G6a2, G6d(1 : 2).

COMPLETE SPECIFICATION.

Improvements in or relating to Machines for Printing and Issuing Tickets, Labels and the like.

We, T. I. M. (TICKET-ISSUE MACHINES) LIMITED, a British Company, of Ashcroft Road, Cirencester, Gloucestershire, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement :—

This invention relates to machines for printing and issuing tickets, labels and the like, and to the kind wherein a ticket or the like is completely printed on a strip of paper drawn from a supply roll by a hand operated rotary printing element having adjustable dies to enable values and other data to be varied and the operation of which causes the printed portion of the paper strip to be projected through a slot in the machine casing for detachment and use.

The object of the present invention is to provide improvements in the construction of a machine of the kind described in the preceding paragraph for the purpose of extending the range of its applications and to enable tickets, labels and the like which hitherto needed to be written or completed by hand, to be printed and issued automatically with a copy or more than one copy and an automatic record to be kept of the transactions effected by the aid of the machine.

A machine constructed according to the present invention may be used, for example, to print and issue simultaneously two or more tickets of identical character for use in conditions such as obtain in cloakrooms where one label is affixed to an article of luggage and a receipt therefor is handed to the depositor. Alternatively, the invention can be applied to machines for use in car parks to enable two identical tickets of different colours to be issued simultaneously one for affixing to the vehicle and one as a receipt to the owner of the vehicle.

[Price 2s. 8d.]

According to the invention a machine of the kind above described for printing and issuing tickets, labels, receipts or the like includes two or more rotary printing elements each adapted to draw a supply of paper from a separate supply roll, common setting means for adjusting the variable printing dies in the rotary printing elements, a single actuator for simultaneously effecting a printing and issuing operation of the two or more rotary printing elements, and common means for recording the transactions effected by the machine.

Reference will now be made to the accompanying drawings which show machines constructed according to the invention and in which :—

Fig. 1 is an elevation of a machine of a portable character,

Fig. 2 is an end elevation of the machine shown in Fig. 1,

Fig. 3 is a plan of the machine shown in Figs. 1 and 2,

Fig. 4 is a sectional view of one of the printing drums and taken on the line A—B of Fig. 3,

Fig. 5 is a longitudinal sectional view of the machine taken on the line C—D of Fig. 4,

Fig. 6 is a detail view of the paper roll magazines,

Fig. 7 is a bottom plan of the printing die setting mechanism,

Fig. 8 is a sectional view of the mechanism shown in Fig. 7, and

Fig. 9 is a perspective view of a machine similar to that shown in Figs. 1—6 but adapted for stationary purposes.

The machine shown in Figs. 1 to 8 is of a portable character and is constructed to print and issue two tickets or labels simultaneously. Such a machine can be utilised, for example, by an attendant in charge of a

parking place who is enabled to issue two tickets in different colours one of which is intended to be affixed to the vehicle and the other handed to the driver. These tickets

5 apart from their difference in colour are identical in character and would bear such variable data as the amount paid, a serial number, and the date of issue.

The machine comprises a casing 1 having therein two rotary printing drums 2 and 3 10 mounted upon a common shaft 4 having an external handle 5 one complete revolution of which serves for the printing and issuing of one pair of tickets. The casing also includes 15 inking rollers 6 and 7 making frictional contact with the surfaces of the printing drums and also magazines 8 and 9 housing the paper spools and the pressure rollers between which and the printing drums the 20 paper strips pass as they are printed and simultaneously ejected through slots 10. The inking rollers 6 and 7 and the spool magazines 8 and 9 may be constructed respectively according to our prior Specifications 25 Nos. 598,492 and 598,491. The printing drums 2 and 3 may be conveniently constructed, mounted, provided with die setting means, transmission mechanism and recording devices of the forms shown in any of our 30 prior Specifications Nos. 368,802, 477,685 or 598,939. In the present invention, however, the construction is modified to apply one arrangement for setting the variable dies in both printing drums with a single set 35 of auxiliary mechanisms such as the recording mechanism.

Each printing drum has fixed printing surfaces arranged to print certain invariable matter such as the particulars of the authority 40 by whom the tickets are issued, the conditions of issuing and/or advertising matter. In addition each printing drum has variable dies 12, 13, 14, 15 and 16 (Fig. 4) for printing items which vary with each issue such as the 45 cash paid and the serial number or items which vary daily such as the date of issue.

The value printing dies 12 are adjusted by operating a disc 17 (Fig. 3) mounted on the exterior of the casing and having a number 50 of apertures 18 adjacent each of which is marked one of the values which the machine is arranged to print. To operate this disc a finger is inserted in one of the apertures 18 and the disc partially rotated until the finger 55 abuts against a stop 19 mounted on the casing and projecting partially over the surface of the disc. The stop 19 has an extension which engages a ratchet wheel 20 and temporarily locks the disc in the adjusted position. This arrangement is shown and 60 described in detail in our prior Specification No. 398,805. The movement imparted to the disc has in the meantime been transmitted through a spindle 21 (Figs. 7 and 8) 65 and gear wheel 21a to a toothed rack 22 (Fig.

5) to cause axial movement of a number of discs 23 into a position wherein a tooth on one of them actuates an appropriate counter of which a number is arranged in the space 70 within the casing around the discs 23. The rack 22 also engages pinions 24 movable with the value printing wheels 12 to bring a printing die corresponding to the value set up on the disc 17 into alignment with the printing surface of each drum. 75

The printing wheels 13 within the printing drums are adjustable in position by operation of an arm 25 (Fig. 3) situated below the finger disc and movable over a dial or scale marked on the exterior of the casing. Movement of 80 the arm 25 causes rotational movement of a pinion 26 and a second toothed rack 27 (Fig. 5) which adjusts the position of a second group of discs 28 whereby an appropriate counter is actuated during the rotary operative 85 movement of the machine. The rack 27 also engages pinions 37 movable with the printing wheels 13 to bring a printing die appropriate to the position to which the arm 25 is set into alignment with the printing 90 surface of each drum.

The printing wheels 14 within the printing drums are for printing the date of issue on the tickets and are adjusted daily by hand.

Also within the printing drums are the 95 printing wheels 15 which print a serial number on each ticket issued. These wheels are progressed by a distance corresponding to one digit during each operation of the machine, the adjustment being effected by 100 fixed snail cams 29 engaging pinions 30 meshing with toothed wheels 31 co-axial with the number printing wheels 15.

The printing wheels 16 within the printing 105 drum are adjustable in position by means of a rotary knob 32 (Fig. 5) at one end of the casing. Rotational adjustment imparted to this knob causes similar movement of a spindle 33 carrying bevel wheels 34 meshing with bevel wheels 35 whose movements are 110 transmitted through gear trains 36 to the spindles of the printing wheels 16. In order to ensure that the printing wheels 16 are correctly positioned, the knob 32 rotates in co-operation with a device such as a pawl and 115 ratchet or a spring pressed ball catch which will retain the spindle 33 and its associated components temporarily in an adjusted position.

To enable the tickets issued by the machine 120 to be readily distinguished, it is preferable in most instances to employ one roll of white paper and one roll of coloured paper and as a safeguard against improper use of the machine either intentionally or accidentally, one roll 125 (that enclosed within the magazine 9) is made of slightly greater width than the other. The roll of paper of the narrower width is formed with a smaller central hole than the roll of paper of the greater width, thereby 130

ensuring that each roll can be operatively positioned only in the magazine intended to receive it. The arrangement is illustrated in Figs. 1 and 6 wherein a spindle comprising two portions 38 and 39 of different diameters is carried by an arm 40 pivotally mounted to enable the spindle to be moved out of the magazine, as shown in Fig. 6, for re-charging. The arrangement shown requires that the roll of paper of lesser width has the smaller central aperture and can therefore be positioned only over the portion 38 of the spindle while the roll of paper of greater width is too wide to be accommodated in the magazine 8. In this manner correct positioning of the two supply rolls is ensured. The side walls of the magazines are provided with arcuate slots 41 through which the spindle 38—39 is moved after the positioning thereon of the paper spools, the operative position being reached when the spindle rests in the inner ends of the slots 41. When this position has been reached the magazine covers 42 can be moved to the closed positions shown in Fig. 2. As each cover embodies a pressure roller within its structure, the printing and issuing of tickets cannot take place until a cover is in the closed position shown in Fig. 2.

When a machine of the construction described with reference to Figs. 1 to 6 is to be used in a stationary position, it may be mounted in a supporting frame as shown in Fig. 9. This frame allows the machine to be readily removed for inspection, adjustment or repair by disengaging hooks 43 from eyes 44 to allow a portion 45 of the framework to be moved around a hinge 46 and thereby free the machine from engagement with the frame.

It is to be understood that the invention is not limited to the details of construction above described. For example, a machine may be provided having more than two rotary printing elements but with the same common setting and operating means as shown in Figs. 1 to 8. In a machine having three printing elements, for example, each paper strip could be of a different width and arranged for mounting over a spindle having portions of three different diameters.

Further, it is not essential that two or more tickets or labels issued simultaneously should be exact replicas the one of another as although it would be necessary that each should bear the same value, serial number and date other matter could be varied especially where one of two tickets issued simultaneously is to serve as a receipt and the other as an identification of ownership.

What we claim is:—

1. A machine of the kind described for

printing and issuing tickets, labels, receipts or the like including two or more rotary printing elements each adapted to draw a supply of paper from a separate supply roll, common setting means for adjusting the variable printing dies in the rotary printing elements, a single actuator for simultaneously effecting a printing and issuing operation of the two or more rotary printing elements, and common means for recording the transactions effected by the machine.

2. A machine for printing and issuing tickets according to Claim 1, including rotational setting devices disposed on the exterior of the machine for adjusting the variable dies in co-axially mounted printing drums, the said devices being arranged to operate sliding rack bars which engage pinions co-axial with rotationally adjustable dies and position means for actuating recording devices, the operation of one of said setting devices serving to adjust simultaneously similar dies in all the printing drums.

3. A machine for printing and issuing tickets according to Claim 1, wherein a separate roll of paper is provided for each printing element, each roll being of a colour and width different from the other roll or rolls, and the rolls being arranged for mounting over a spindle having portions of different diameters all for the purpose of ensuring correct positioning of the differently coloured rolls.

4. A machine for printing and issuing tickets according to Claim 3, wherein the said spindle is carried by an arcuately movable arm to enable the spindle to be moved out of a magazine casing for re-charging, the magazine covers being arranged so that they cannot be closed until the paper rolls have been correctly positioned to enable the leading edges of the paper strips to be passed between the printing drums and pressure rollers carried within the said magazine covers.

5. A machine for printing and issuing tickets, labels, receipts or the like constructed, arranged and adapted to operate as herein described with reference to Figs. 1—8 or 9 of the accompanying drawings.

Dated this 4th day of May, 1950.

HERON ROGERS & CO.,

Agents for Applicants,

Bridge House, 181, Queen Victoria Street,

London, E.C.4.

PROVISIONAL SPECIFICATION.

Improvements in or relating to Machines for Printing and Issuing Tickets, Labels and the like.

We, T. I. M. (TICKET-ISSUE MACHINES) LIMITED, a British Company, of Ashcroft Road, Cirencester, Gloucestershire, do hereby declare the nature of this invention to be as follows :—

5 This invention relates to machines for printing and issuing tickets, labels and the like, and to the kind wherein a ticket or the like is completely printed on a strip of paper drawn from a supply roll by a rotary printing element having adjustable dies and the operation of which results in the printed portion of the paper strip being projected from the casing of the machine for detach-
10 ment and use.

15 The object of the present invention is to provide an improved machine of the kind above described designed to print and issue simultaneously two or more tickets of identical character for use in conditions such as obtain in cloakrooms where a label is required to be affixed to an article of baggage and a receipt therefor is to be given to the depositor. Under existing conditions such
20 labels and receipts have to be written or completed by hand whereas by means of the present invention the operations are performed automatically with the addition of an automatic record of the number and/or
25 value of the tickets, labels or the like issued.

30 According to the invention a machine for printing and issuing tickets, labels, receipts or the like comprises two or more rotary printing elements each adapted to draw a supply of paper from a supply roll and linked together for setting from common printing die adjusting means and for operation by a
35 single actuator.

40 In carrying the invention into effect and according to the preferred form thereof the ticket printing and issuing machine comprises a casing having therein two rotary printing drums mounted upon a common shaft and arranged to withdraw paper from two

45 separate supply rolls disposed in the upper part of the casing. The rotary printing drums may be conveniently constructed, mounted, provided with die setting means, transmission mechanism and recording devices of the kind described in the Spec-
50 ifications of our prior Patents Nos. 368,802, 477,685 or 598,939. In the present invention, however, the construction is modified to apply one arrangement of setting, operating and auxiliary mechanisms to the two printing
55 drums which always rotate together and print identical matter. For the purposes of the present invention the printing drum is arranged to print certain invariable matter such as the particulars of the authority by
60 whom the tickets or labels are issued and the conditions of issue and variable matter such as a serial number, date of issue, amount paid, classification, number of articles and the like, the dies for printing these variable
65 items being set by mechanisms similar to those described in our aforesaid prior Patents.

70 With the arrangements above described two separate tickets or labels are printed and issued at every operation of the machine, preferably on different coloured papers one being intended for application to the article deposited and the other to be handed to the depositor. If desired the labels for affixing
75 to articles deposited may be printed on gummed paper. By means of the automatically operated recording mechanism the machine can be made to record the total number of transactions and/or the total value in units of the receipts for deposited
80 baggage.

Dated this 7th day of April, 1949.

HERON ROGERS & CO.,
Agents for Applicants,
Bridge House, 181, Queen Victoria Street,
London, E.C.4.

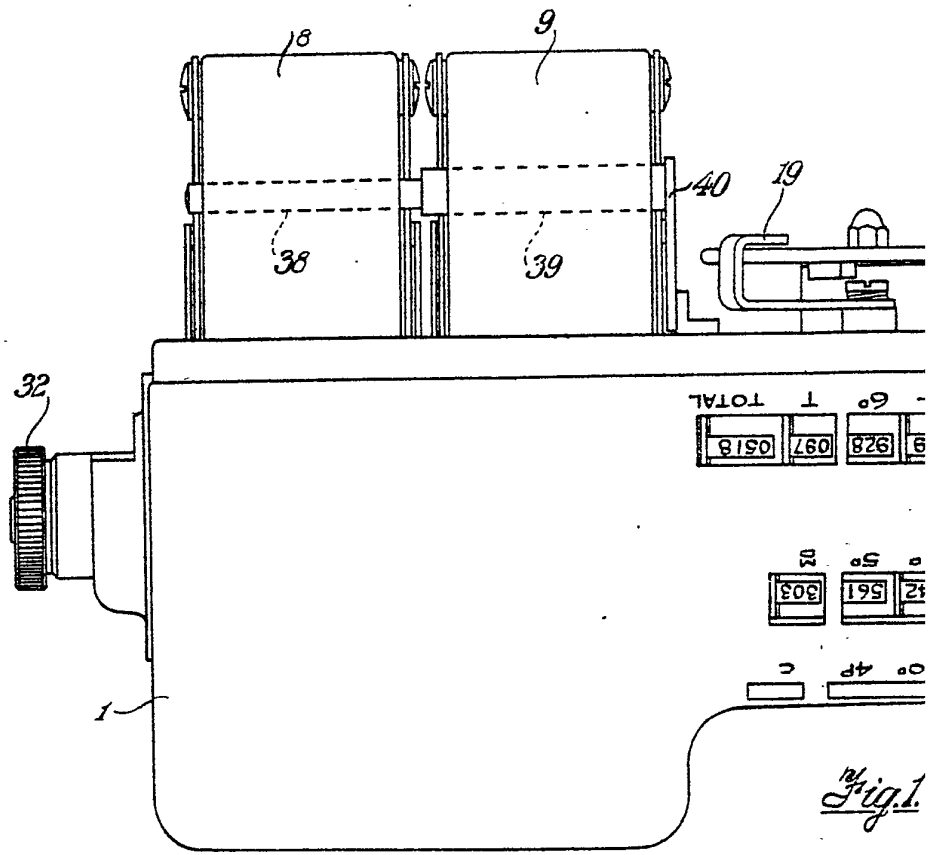
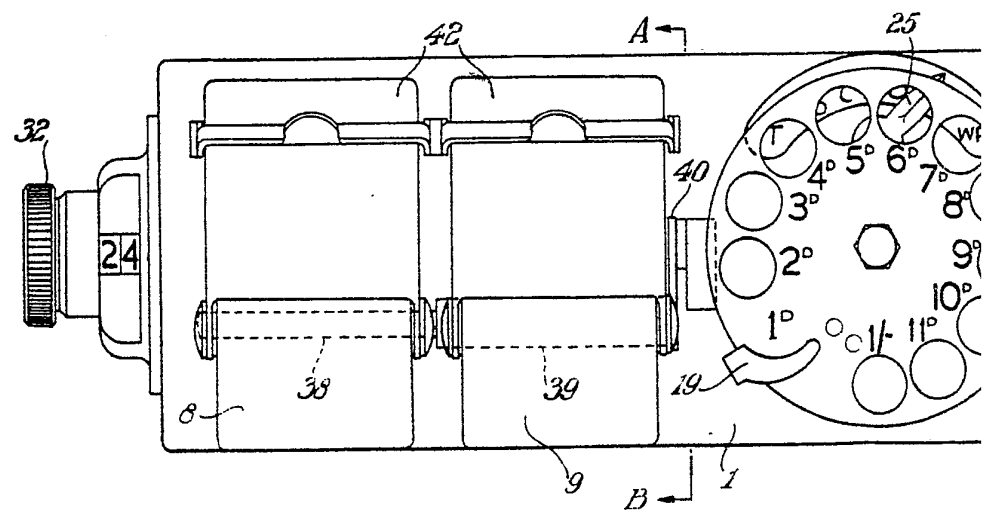
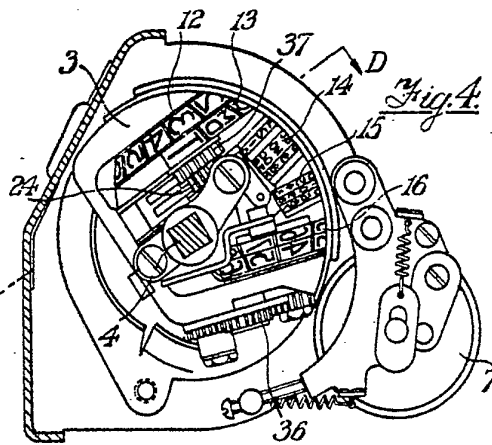
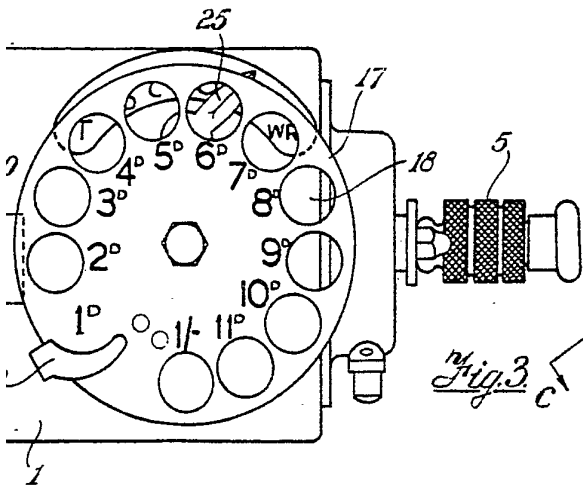
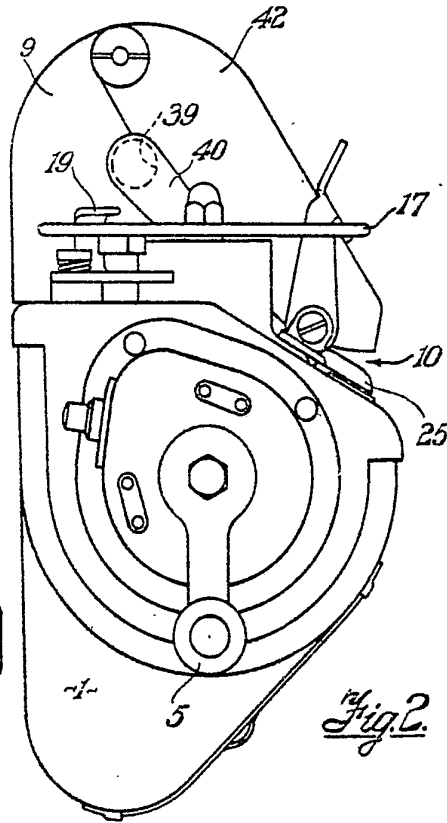
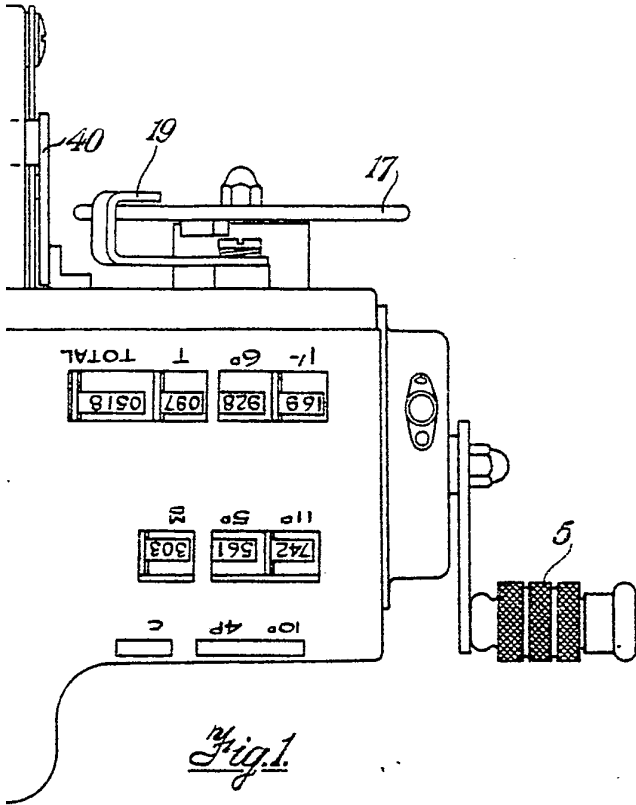


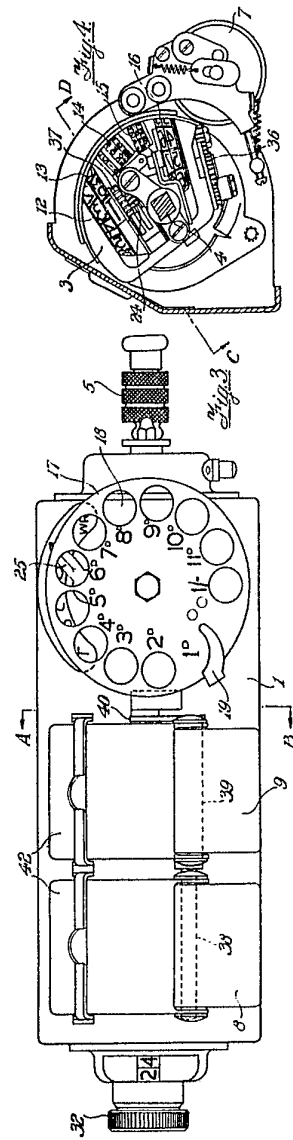
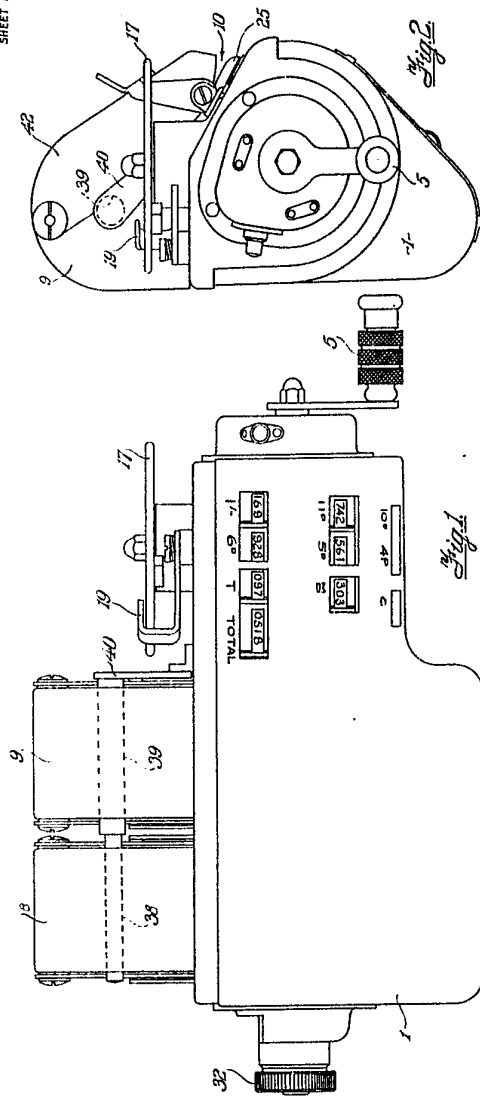
Fig. 1.



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SHEET 1





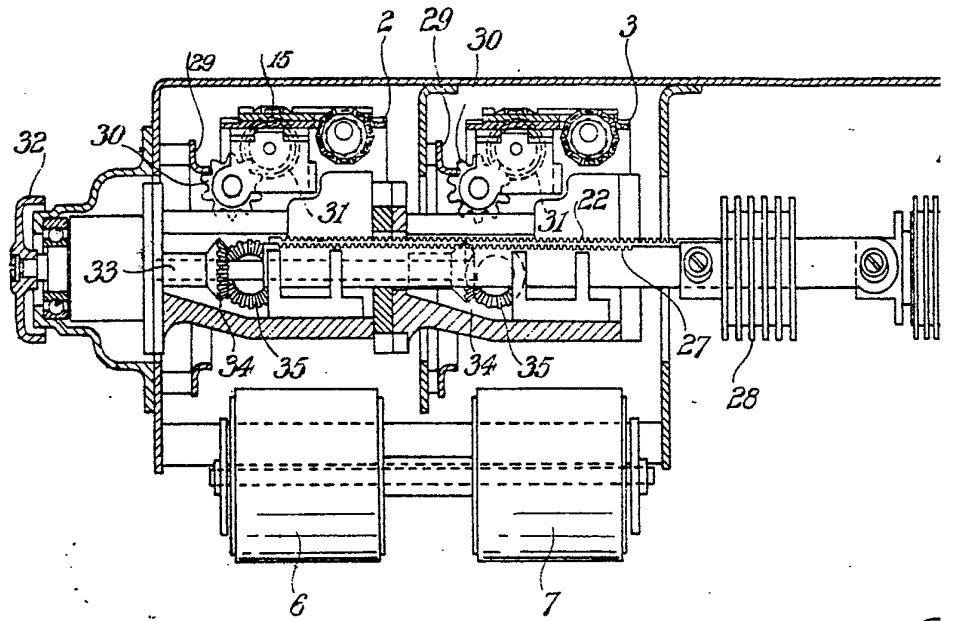


Fig. 5

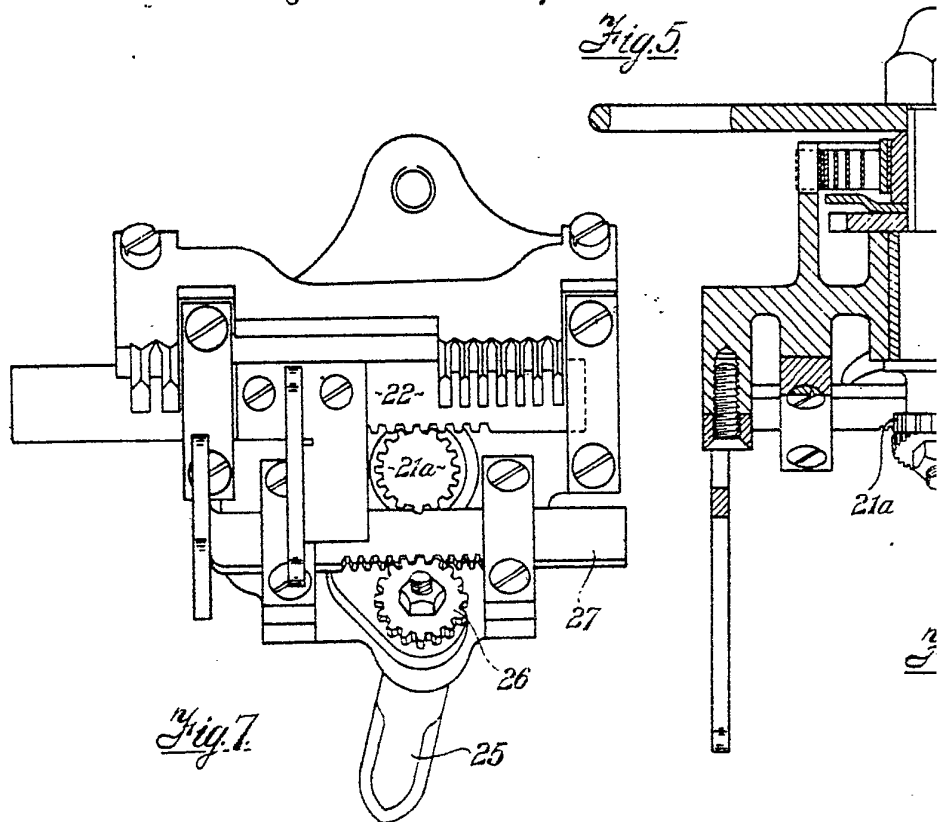


Fig. 7

674,955 COMPLETE SPECIFICATION
2 SHEETS

This drawing is a reproduction of
the Original on a reduced scale.

SHEET 2

