

The
ULTIMATE
Fare
Collection
System

BELL PUNCH CO. LTD.
39 St. James's Street
London, S.W.1
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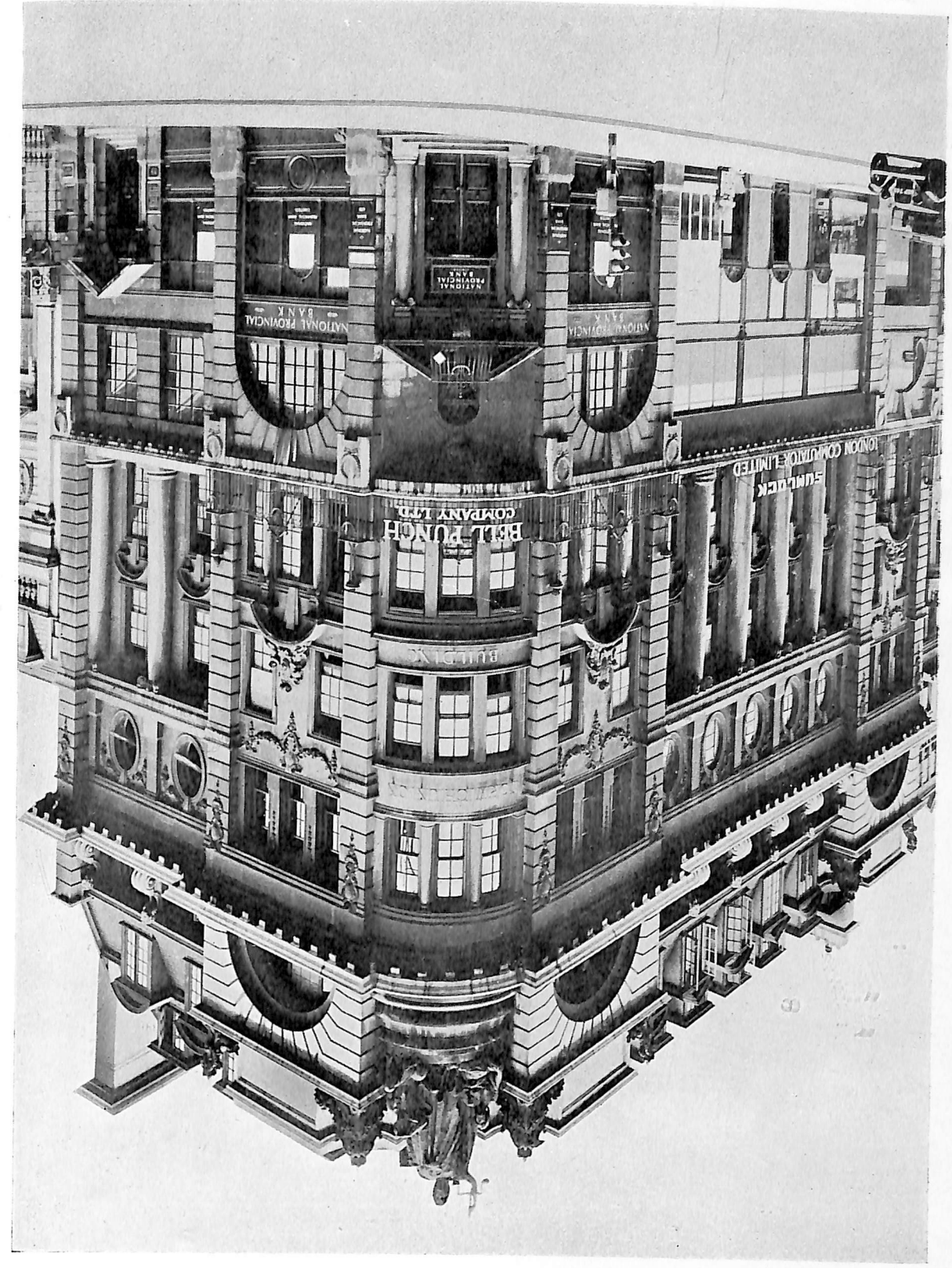
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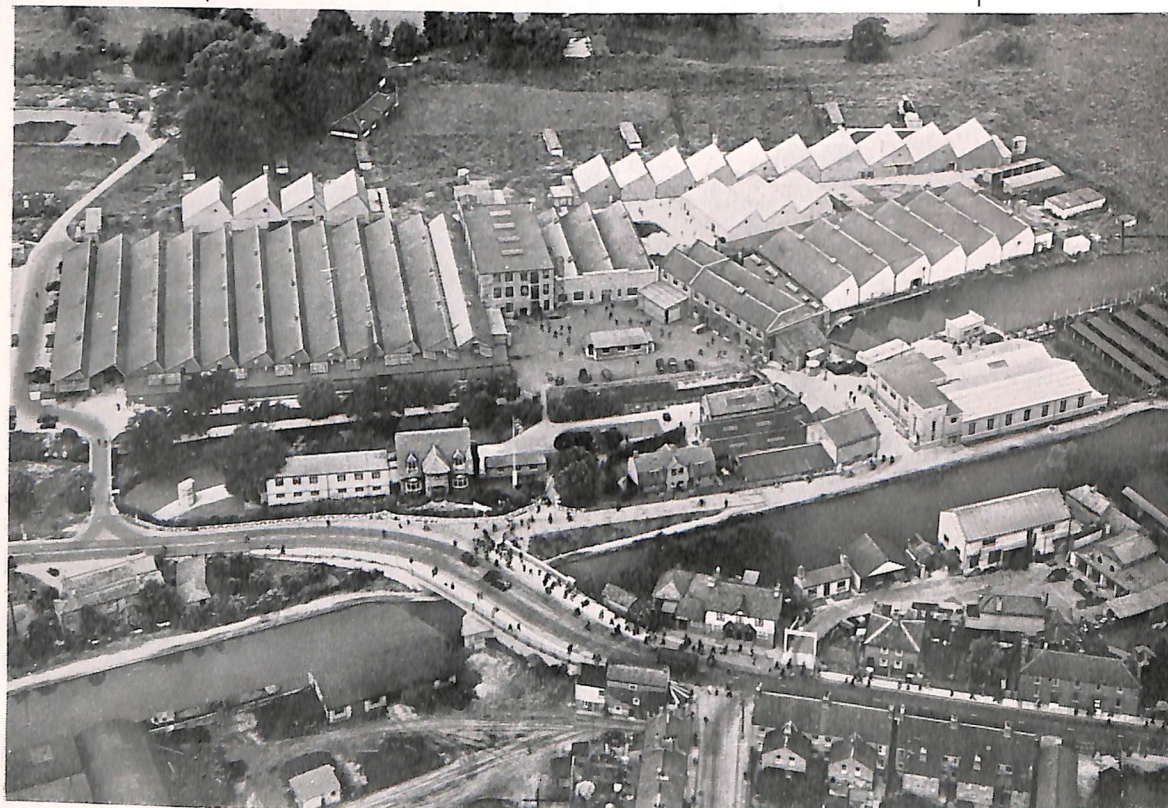
*Devised, Developed,
Perfected, and
Manufactured by*

BELL PUNCH CO. LTD.
LONDON & UXBRIDGE, ENGLAND

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London Offices of BELL PUNCH COMPANY LIMITED
Corner of St. James's Street and Piccadilly



AERIAL PHOTOGRAPH
of the Company's Factory at Uxbridge
taken in 1946, showing the war years'
extensions recognizable by their white
asbestos roofing.

The ULTIMATE

Fare Collection System

—another Bell Punch development

WITH the introduction of the ULTIMATE Ticket Issuing Machine and Fare Collection System, Bell Punch Company Limited has in mind only its constant endeavour to provide suitable cash collection and control facilities, and the ULTIMATE System is offered as an alternative to the Bell Punch and Pre-printed Ticket System.

The ULTIMATE System has been perfected after much experimentation, and has the confidence of many of the larger Municipal Undertakings in the Country. It has been strongly recommended by the Council of the Municipal Passenger Transport Association.

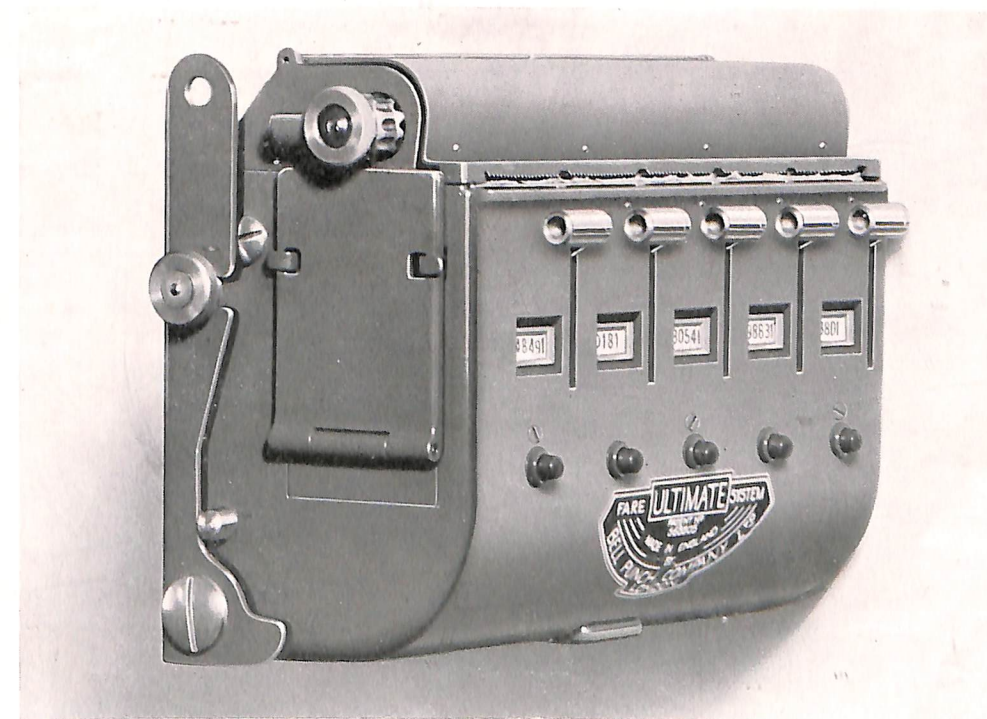


Fig. 1 The ULTIMATE Ticket Issuing Machine

GENERAL DESCRIPTION

of the Ultimate System

THE machine is designed to issue a range of nine fares from five rolls of pre-printed tickets, each being of a distinctive size and colour. The tickets have a basic size $1\frac{1}{4}$ in. square for the lower fare value, and can be divided into three classes, i.e. Single, Child, Workman Return, or other headings to suit the particular requirements of individual Undertakings.

As an example, an Undertaking whose fare range, including all Classes, is

1d. $1\frac{1}{2}$ d. 2d. $2\frac{1}{2}$ d. 3d. $3\frac{1}{2}$ d. 4d. 5d.

would require the following basic range of tickets:

1d. $1\frac{1}{2}$ d. 2d. $2\frac{1}{2}$ d. — $3\frac{1}{2}$ d. — —, and fares of these values would be represented by tickets size $1\frac{1}{4}$ in. \times $1\frac{1}{4}$ in.

Other value tickets required would be represented by tickets size $2\frac{1}{2}$ in. \times $1\frac{1}{4}$ in., viz :

The 3d. ticket by a double $1\frac{1}{2}$ d.

„ 4d. „ „ „ 2d.

„ 5d. „ „ „ $2\frac{1}{2}$ d.

The Class of ticket, i.e. Single, Child, or Workman Return, is indicated by the Stage Number printed on the ticket in respective class positions pre-printed upon the ticket.

The capacity of the standard machine is five hundred Units to each of the five compartments, which upon exhaustion can be re-charged in a simple operation by the Conductor. Return tickets could be cancelled on the second journey by a Cancelling Device similar to that illustrated on the facing page.

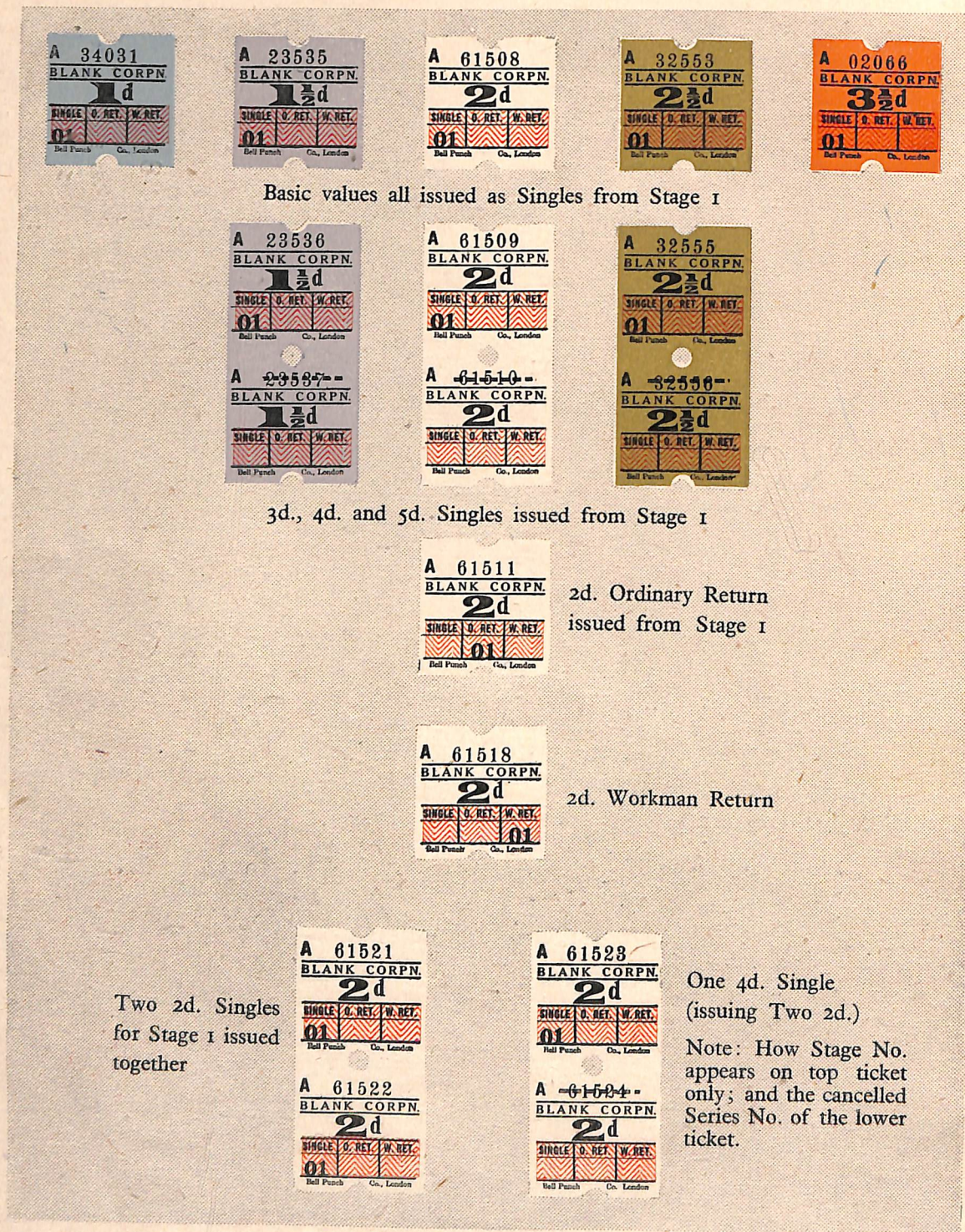


Fig. 2

The ULTIMATE machine *briefly described*

THE machine measures $8\frac{1}{2}$ in. \times 4 in. \times 6 in. and has five compartments all independently operated. It employs mechanical principles with which we have had long experience, and is considered to be sufficiently robust to give many years trouble-free service. Should the mechanism require attention at any time, however, this can be obtained at one of our many Service Depots located throughout the Country.

Incorporated in the mechanism are five numerators one of which records the total number of Units issued from all five compartments, the other four record the double-values, and therefore the double-length tickets issued. The numerators are included for the benefit of those Undertakings wishing to obtain full statistical data of tickets issued of each fare value.

The weight of the machine fully loaded is comparable with other ticket-issuing machines.

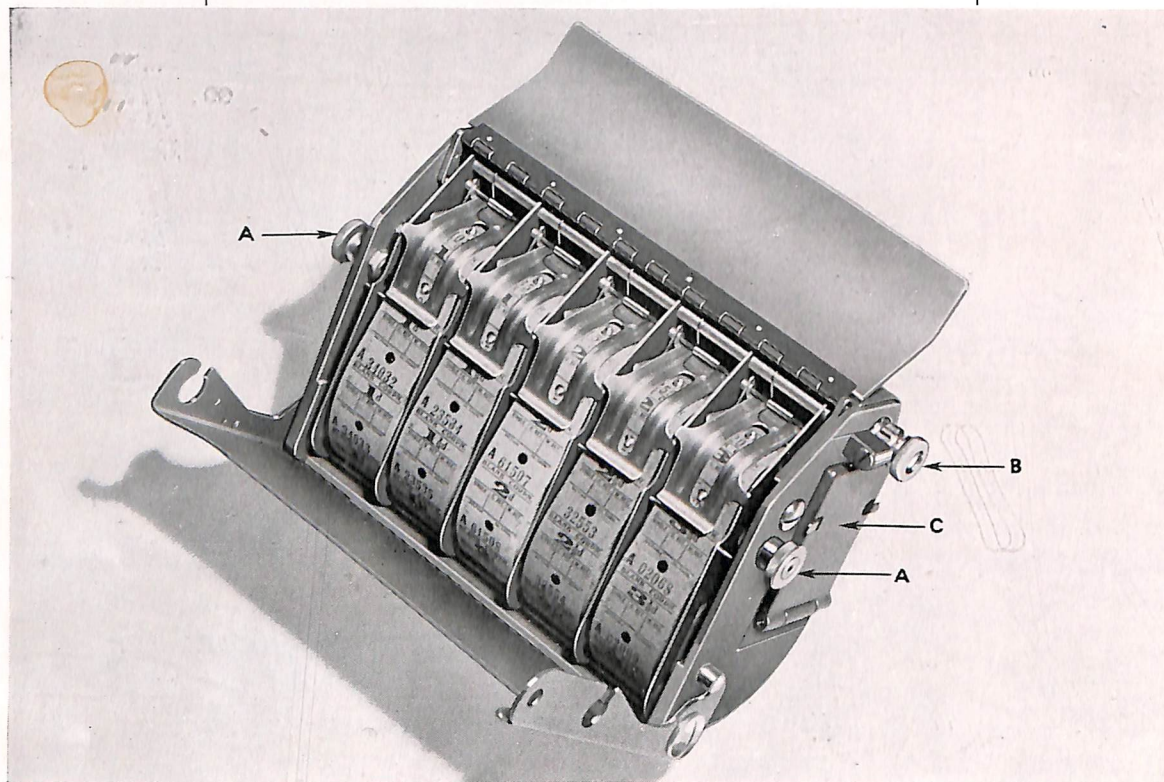


Fig. 3 Interior View of the ULTIMATE Machine

- A. Back Plate Release Catches
- B. Class and Stage Number Setting Lever
- C. Ribbon Housing



Fig. 4 Method of detaching tickets

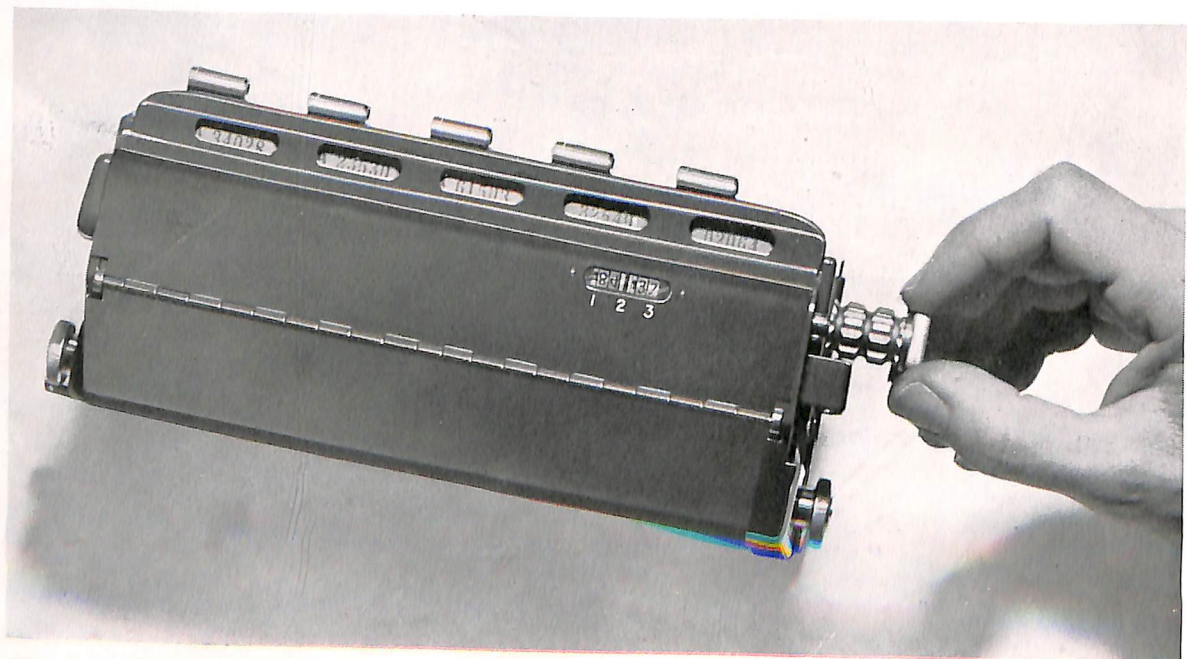


Fig. 6 Operation of Class-Stage Setting Lever—in this instance fully extended to print in Section 3 of ticket. Note the clarity of the ticket numbers

METHOD OF OPERATION

(1) *Ticket Issuing*

THE actual issue of a ticket in the case of basic values requires pressure upon the appropriate lever only, which, upon being released ejects the ticket. This is torn off by pulling it upwards against the serrated edge of the upper lip of the ticket aperture. (See Fig. 4.)

A ticket of a fare value beyond that of the basic fare range is delivered upon depression of the operating lever and simultaneous pressure of the respective small button at the base of the machine which permits a fuller depression of the lever. For example, in the case of the issue of a 3d. ticket as described on page 7, the small button at the base of the 1½d. container would be depressed, permitting a double length to be issued.

As mentioned earlier the tickets can be definitely identified to any one of three classes, and this is effected by the position of the Stage printing mechanism which must be pre-set by a sliding movement of the knurled knob situated at the right-hand top of the machine. (See Fig. 6.)



Fig. 5 Method of issuing higher value tickets

METHOD OF OPERATION

(1) Ticket Issuing—continued

The figures 1, 2, and 3 are engraved adjacent to the opening on the top of the casing, and to correctly position the printing wheels for Class indication, the indicator pointer should be level with the selected figure. The Class positioning is then held by a ball spring.

The Stage number is advanced by rotating the knurled wheel mounted on the above mentioned indicator, and printing is effected through the medium of a ribbon which is estimated to last at least six days before renewal. This ribbon is fitted into the machine as shown in Figs. 7 and 8.

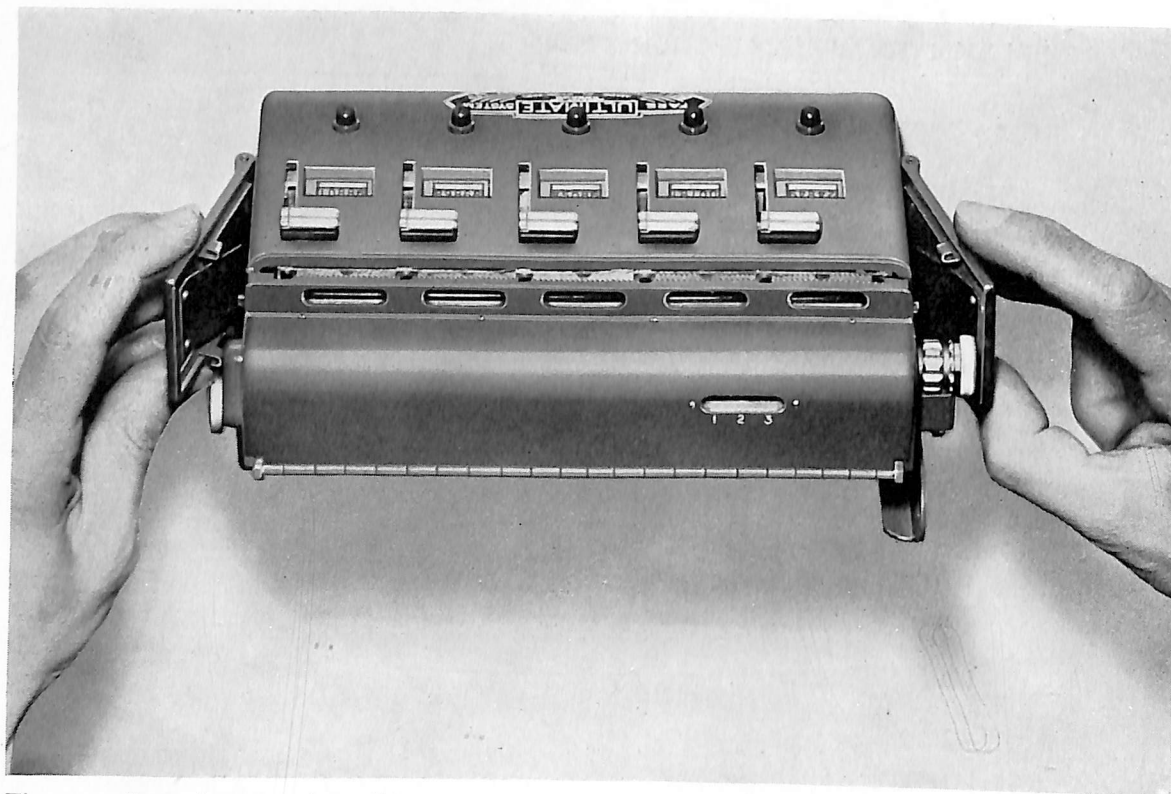


Fig. 7 Preparing to replace ribbon

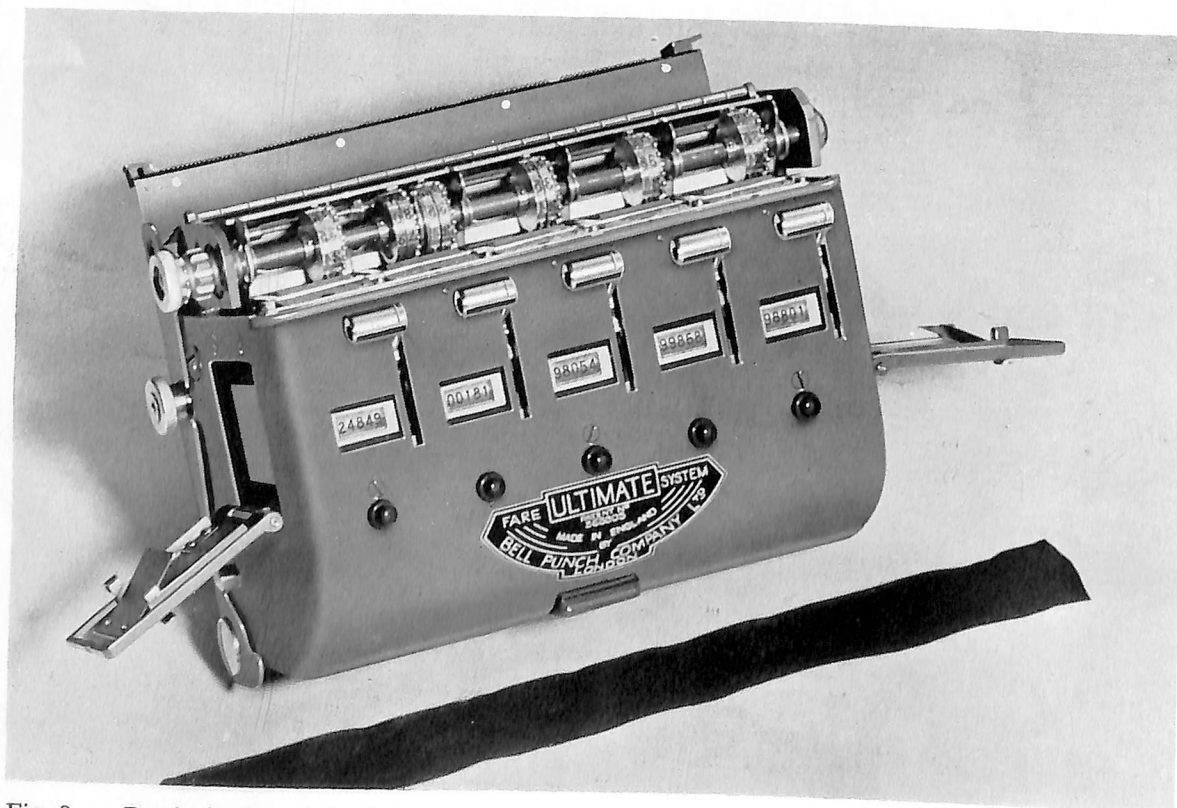


Fig. 8 Ready for insertion of ribbon

Fig. 9 Showing adhesive joint tab

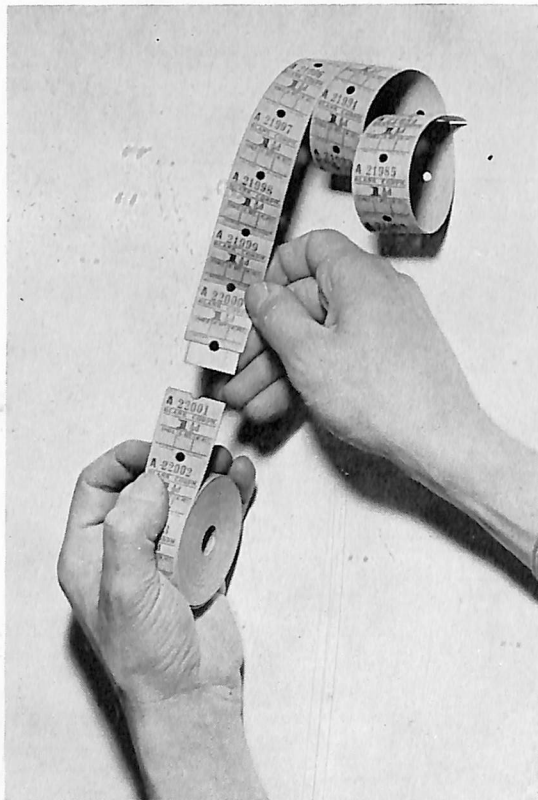


Fig. 10 The join completed

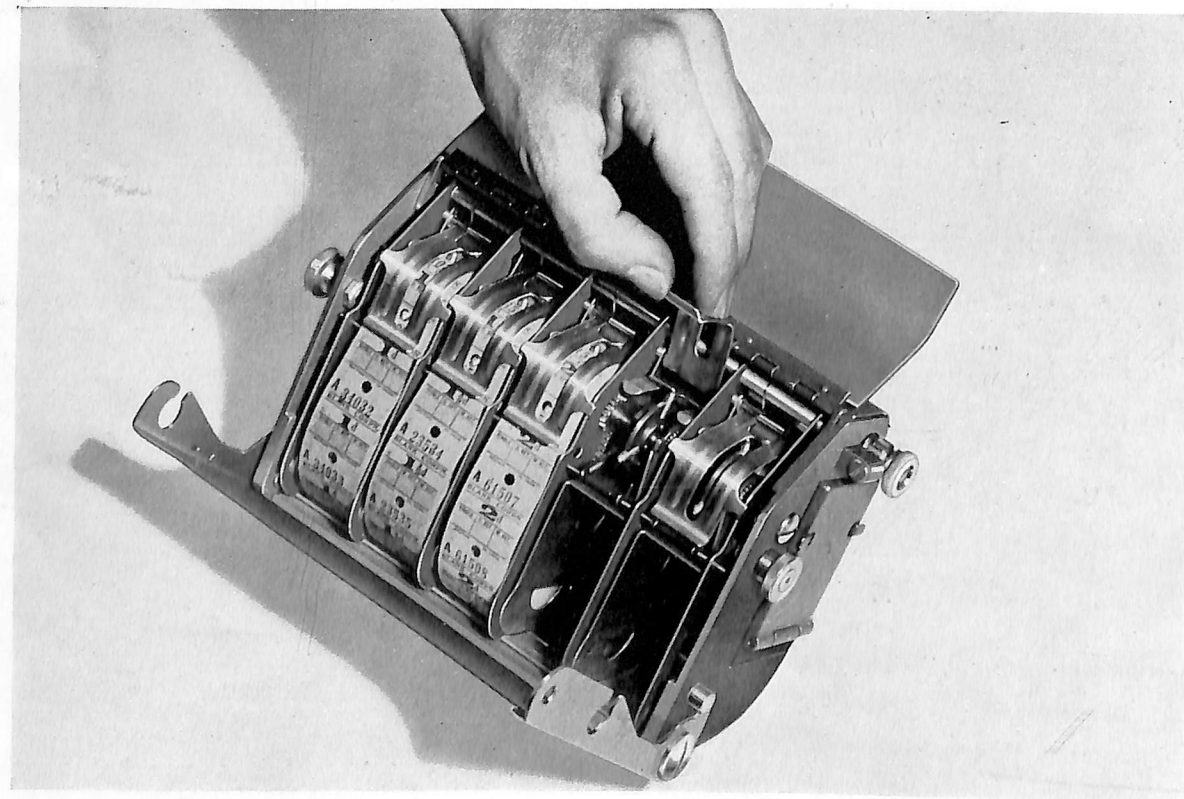
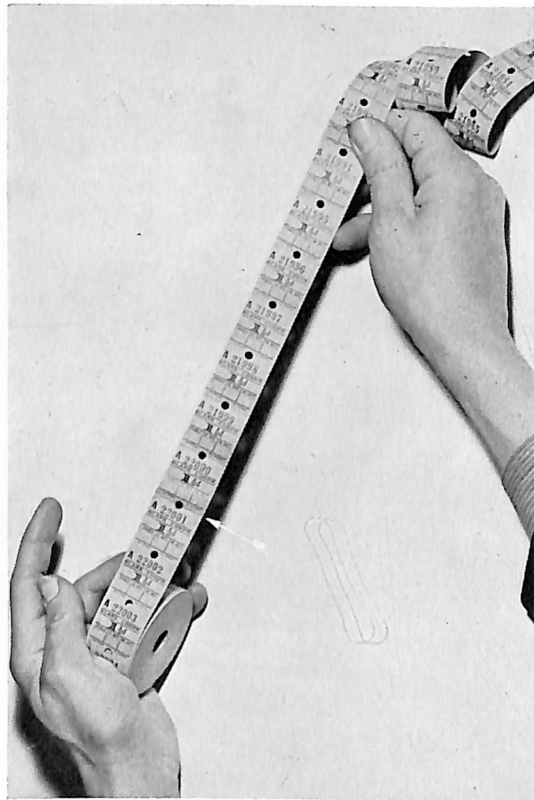


Fig. 11 Interior ready for loading

METHOD OF OPERATION

(2) *Machine Loading*

Fixed to the last ticket of each roll is a specially perforated adhesive tab, and this is provided so that the next roll of tickets to be used can be joined to the current roll, before the latter is completely exhausted. In fact, it is recommended that Conductors are instructed that the new roll should be loaded into the machine when about fifteen or twenty tickets still remain to be issued, and indication of this will be given by the last twenty tickets in any roll bearing a coloured stripe through the middle.

This in practice has proved to be a very simple operation, and in any case has to be performed only two or three times per shift.

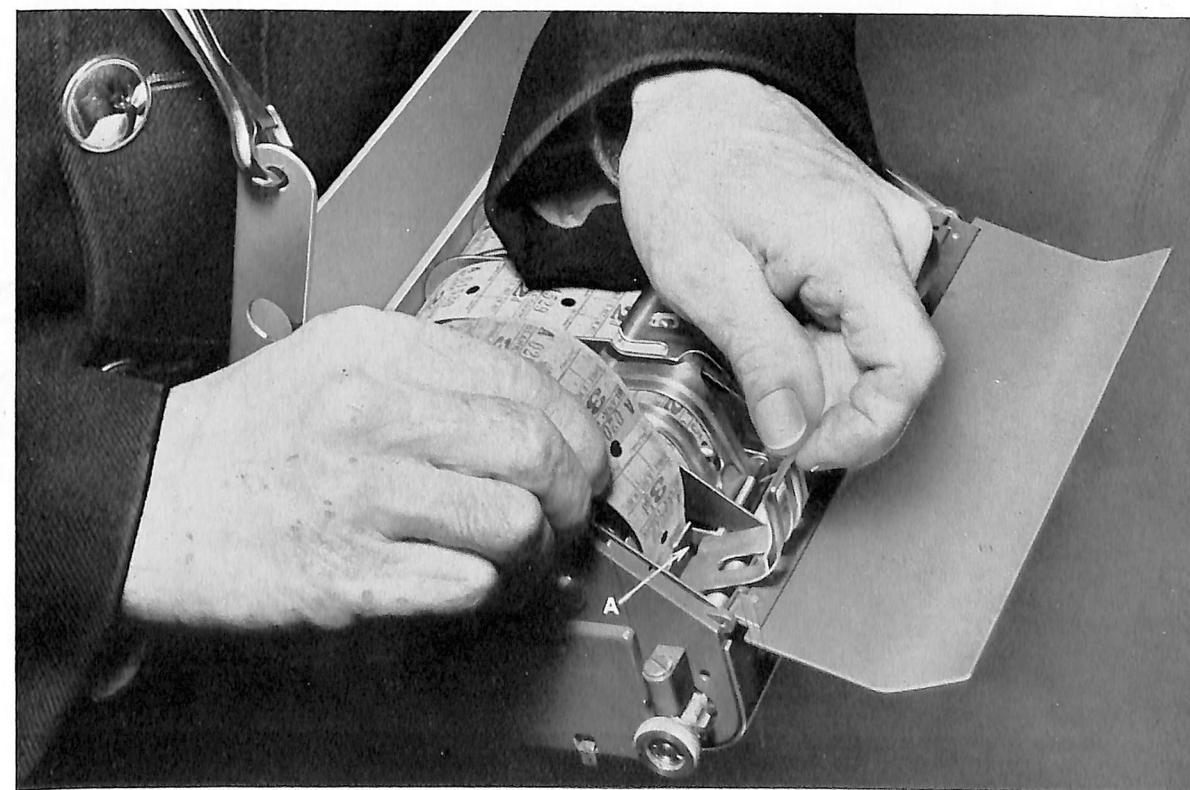


Fig. 12 Being loaded whilst worn

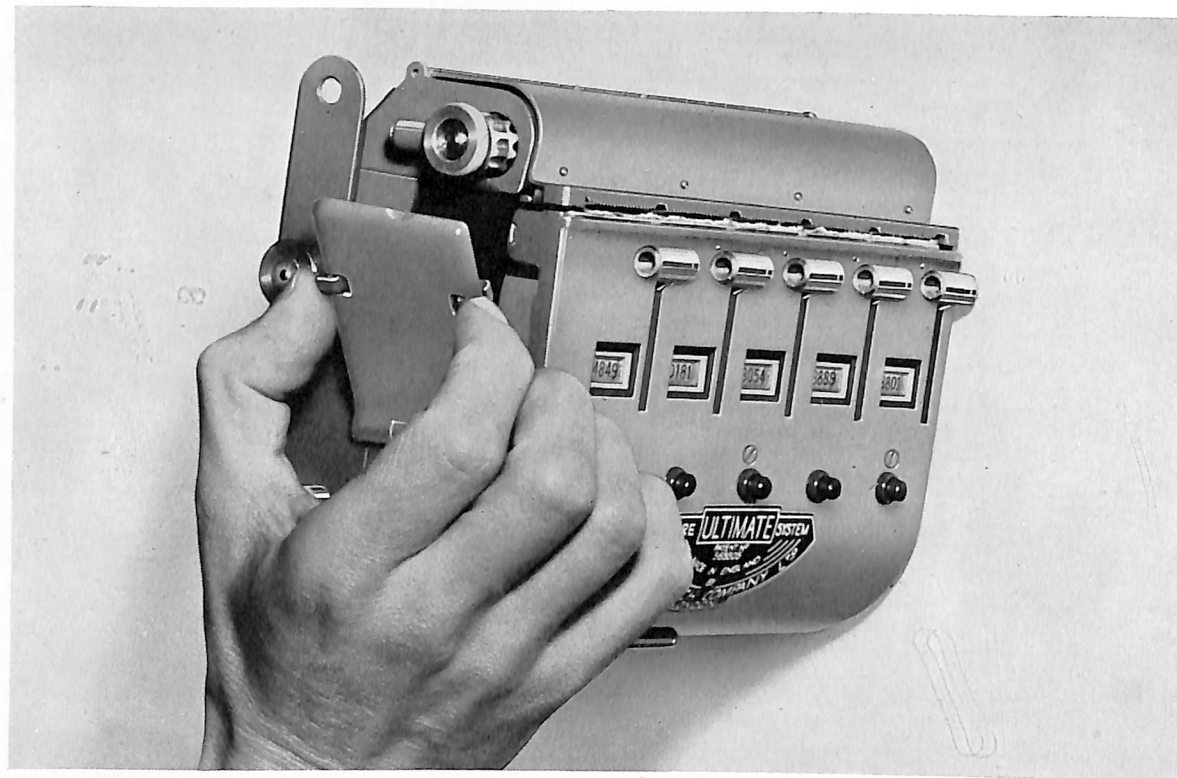


Fig. 13 Provision for access to ribbon

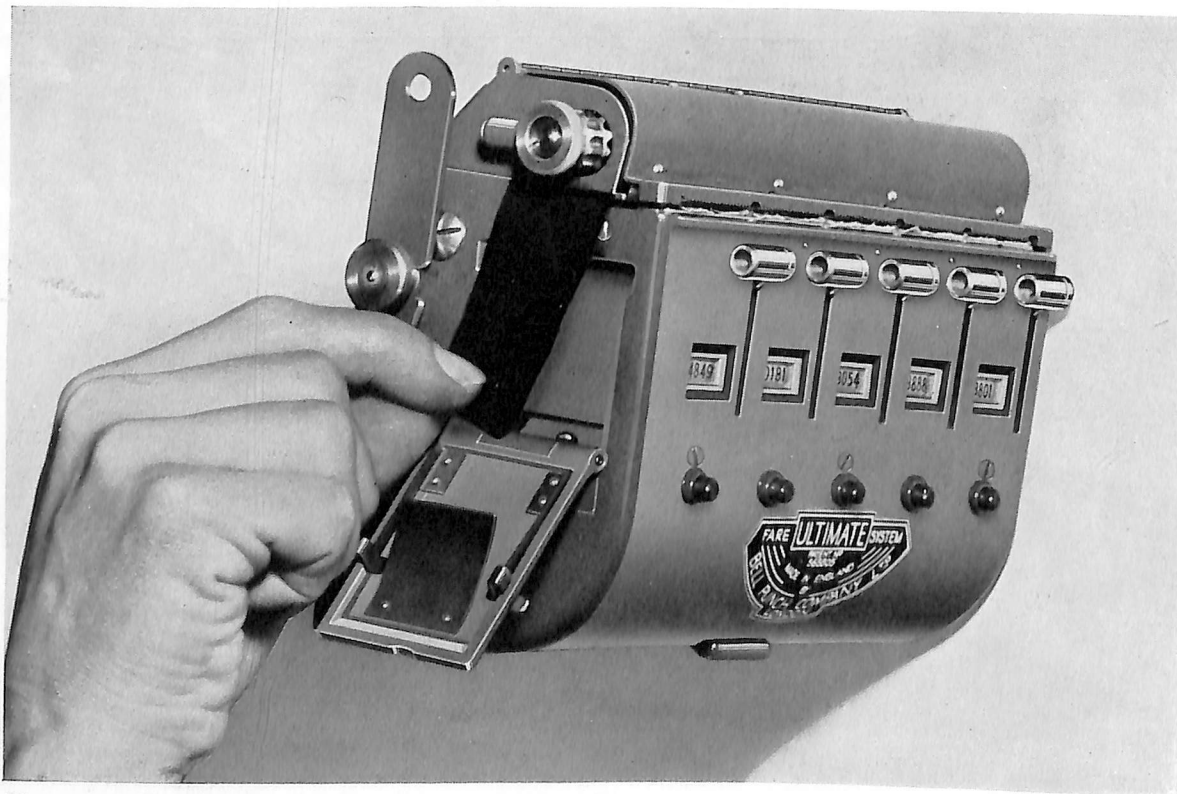


Fig. 14 Showing fractional movement of ribbon

METHOD OF OPERATION

(3) *Machine Maintenance*

Each day for three days it is necessary for the ribbon to be moved fractionally (about $\frac{1}{4}$ in.) on the fourth day the ribbon should be removed from the machine, reversed, and replaced. For the following two days the fractional movement is repeated, after which the ribbon is exchanged for a new one. This particular operation is depicted in Figs. 13 and 14.

Occasionally the fluff or dust which accumulates in the mechanism should be blown out by means of a compressed air bellows.

TICKET BOX

Figs. 15 and 16 show the specially designed Carrying Case. The posts fitted to the removable base are provided in an effort to ensure that the Conductors use tickets in correct sequence.



Fig. 15 Carrying Case for machine and tickets



Fig. 16 Tickets platform being lifted out

ADVANTAGES

claimed for the Ultimate System

Many advantages are claimed for the ULTIMATE Fare Collection System, and the more important of these are as under :—

- 1 The ever popular colour price check is retained.
- 2 The Conductor has both hands free for giving change and assisting passengers.
- 3 Infrequent breaks in Ticket Series on Waybills.
- 4 Economy of ticket costs (it will be appreciated that the majority of popular fares require tickets only $1\frac{1}{4}$ in. long).
- 5 Conductors' liability is controlled by numbered pre-printed tickets, and therefore cannot be disputed, as sometimes happens when mechanical cash counters are employed.
- 6 Inspection on the vehicle is simplified, and the correct staging of tickets can be ensured.

ADVANTAGES—*continued*

- 7 Point entries on Journey Waybills can be reduced to five entries on each form.
- 8 Smaller Waybills can be employed at lower cost.
- 9 Ticket ordering is simplified, and bulk stock reduced.
- 10 Speed of ticket issue is considerably accelerated.
- 11 NO EMERGENCY STOCK IS REQUIRED as in the case of other ticket-issuing machines of the self-printing type.



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