This device relates to an order plate which may be set with certain code numbers and which thereafter can be used as a part of an ordering system to transmit the message corresponding to the code.

The machine is designed primarily for use with an order mg system such as is described in my co-pending application Ser. No. 705,137, filed October 23, 1946 and now abandoned. Such a system is intended for use in the automatic dispensing of items from stock in accordance with a code number, and it consists primarily of a selector system which will be actuated in accordance with the setting of the order plate to select a circuit corresponding to the item ordered, and automatically signal to cause the dispensing, or to dispense a unit of that item.

It is an object of this invention to provide a device of the character described which will be easy to set, which will retain its setting until that setting is positively brought back, and which can actuate the ordering system with a minimum of trouble.

The invention accordingly comprises an article of manufacture possessing the features, properties, and the relation of elements which will be exemplified in the device hereinafter described and the scope of the application of which will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description taken in connection with the accompanying drawings, in which:

Fig. 1 is an elevation of a plate embodying this invention. Fig. 2 is a top plan view thereof. Fig. 3 is an exploded view of the elements comprising a single dial. Fig. 4 is a view similar to Fig. 1 of a modification. Fig. 6 is a section on the line VI-VI of Fig. 5. Fig. 7 is a diagrammatic view showing the use of such a device in an ordering system. Fig. 8 is a diagrammatic perspective view of the mechanism with which the device is intended to be operated.

In the drawings, the numeral 16 (Fig. 1) shows a flat plate having a plurality of bearing holes 11 thereon, arranged in rows and columns. Each hole 11 is surrounded on one face by a counter bored surface 12 to receive the disc 13, flush with the surface of the plate. Each disc 13 has a stem 14 to extend through bearing hole 11, which stem has a shoulder 15. Each bearing hole 11 is also surrounded on the other face by a counter bored surface 16 to receive a spring washer 17, and a fixed washer 18, which may fit upon the shoulder 15 upon stem 14 to hold the parts in place.

A plurality of indicating holes 20 are symmetrically and concentrically arranged about the hole 14, seven being here shown for each bearing hole 11 that is for each dial.

The discs 13 comprise the dials and each is provided with a hole 21 in alignment with one of the indicating holes 20, and the disc is cut away at 22 adjacent to hole 21 to expose a portion of the surface 12, upon which a code digit 22 may be embossed. Thus as the dial is rotated each indicating hole 20 and its corresponding code digit will be exposed in turn. Partly pressed out portions 24 may be provided in the dials, in alignment with other indicating holes 28 so as to serve as resilient stops to hold the dials at any setting.

An irregular central opening 25 is made in the stem 14 to receive a mating key 26 by which the dials may be set. As shown, this opening and key are square.

The several dials 13 in any row are intended to be set so that the exposed digits represent the code number of the item to be ordered, or if desired the first four digits may designate the code number and the fifth the number of units of that item which the customer desires.

Upon a different portion of the plate is arranged another dial 33 similar in construction to the dials 13, which may be used to determine the routing of the order. This dial 33 is so situated or so connected that it will not interfere with the detecting mechanism employed for the first set of dials.

The dials and shafts shown in Figs. 5 to 7 are similar in function, but the shafts are made of plates having a diametrically placed squeezed up flange 31 serving as a handle by which to turn the dial, and the dials are pivoted upon a hollow rivet 32.

In the order system disclosed in Fig. 8 there is shown diagrammatically the cooperation of the order plate with the various mechanisms it is designed to control.

The numeral 35 designates a frame slideable upon guides 36 depending from a table 37 having a slot 38 through which the plate 10 may be inserted. The frame is so situated as to sup-
port the plate when the latter is inverted in the slot, and is provided with mechanism not here shown but disclosed in the copending application herein referred to for lowering the plate step by step to bring each row of dials in registry with a detecting mechanism in sequence.

The detecting mechanism, also shown in detail in the companion case, for selecting the items comprises primarily a head movable toward and from the plate and carrying a spring pressed pin in alignment with each indicating hole. The motion of the head is such as to move all the pins against the plate. Only one pin in registry with the opening can pass through, to operate a contact pair on the other side of the plate. All other pins yield when they encounter the imperforate portions of disc. The contact pair closes a circuit. There is one such contact pair and circuit for each index hole in the slot, so the dialing of a row will determine what particular group of circuits will be closed.

The circuits are connected and coordinated to order individual items through the medium of a selector system or relays, also shown in the copending application and here shown only in diagram. These relays combine to close a circuit to a solenoid of an item releasing system as disclosed in the copending application filed June 20, 1947, Serial No. 455,394, now abandoned.

The dial in the fifth column closes a circuit to one of several repeat mechanisms, there being one such mechanism if two of an item are to be delivered, a second to deliver three, a third to deliver four, etc. Such repeat mechanisms are disclosed in detail in the copending application, Serial No. 765,137 above referred to. Each consists primarily of a solenoid connected to operate a ratchet wheel which drives a disc, one ratchet tooth for each actuation of the solenoid.

The disc has recesses in its periphery, spaced from each other by an angle equal to the angle subtended by a number of ratchet teeth equal to the number of items to be ordered by this particular repeat mechanism. In the drawing there are two ratchet teeth for each recess, so that the mechanism will order two units of an item.

The contact pair is arranged to be connected in the circuit with the step by step moving mechanism of frame and, as shown, this contact pair is spring pressed closed, and is opened by a rod, having a roller rolling on the periphery of the disc; the construction being such that when the roller is on the high portion of the disc the contact is open and the step by step mechanism will not operate, but when the roller falls into a recess, contact is made at the step by step mechanism will be actuated by its own controls.

The routing disc has also a similar detector mechanism adapted to close circuit through one or another of a group of relays, only one of which is here shown, each of which controls the passage of the delivered item to a selected destination; controlling of all the elements necessary to that end. All these are diagrammatically represented by wire here diagrammatically indicated by the wires. Where, as in the form illustrated, the routing disc is in alignment with the path of the other dials, it is necessary to insure that the item selecting detectors shall not be actuated by the routing, and that the routing selector shall not be actuated by the item detectors. To accomplish this result, there may be mounted in circuit with the detector operating mechanism a contact switch which will disconnect the routing detector, except when this detector is in alignment also shown in detail in the companion case, for selecting the items.
said plate circumferentially spaced beneath said discs, and an opening in said disc adapted to be brought into alignment with each of said indicating holes in succession, said discs each having a non-circular opening in the center and being constructed and arranged to be rotatable by a key.

6. A device in accordance with claim 1 having a separate and similar rotatable disc, out of alignment with any of said rows.

7. An ordering device comprising in combination a plate having a settable means thereon, settable in accordance with a code, an ordering system adapted to be operated by said plate to transmit an order signal in response to the setting of said plate, said settable means comprising a plurality of rows of discs pivoted to said plate and an additional disc out of alignment with said rows, said plate having a plurality of indicating holes therein circumferentially spaced around the pivot of each said disc beneath said disc, each of said discs having an opening therein in position to be brought into registry with one of said indicating holes, said ordering system including a feeler responsive to the particular setting of each of said discs in any row, a circuit selector system operated by said feeler for ordering a specific item, a second feeler responsive to the setting of said other disc, and means operated by said other feeler for determining the destination of the item.

8. An ordering device comprising a flat plate, a plurality of rows of discs pivoted upon said plate and resiliently held against it, said plate having a plurality of circumferentially spaced indicating holes surrounding the pivot of each disc and said disc having an opening adapted to be brought into registry with any one of said holes by rotation of said disc, said disc having a number thereon corresponding to each of said holes and said disc having a window adapted to be brought into registry to expose any number to view when said opening is in registry with the corresponding hole, and a projection upon the underside of said disc in position to engage one of the holes in said plate when the opening is in registry with another indicating hole in the plate, whereby the plate is resiliently retained in a given setting.

HARRY RUSSELL BRAND.

REFERENCES CITED

The following references are of record in the file of this patent:

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>291,349</td>
<td>Hyatt</td>
<td>Jan. 1, 1884</td>
</tr>
<tr>
<td>1,311,314</td>
<td>Bedell</td>
<td>Mar. 9, 1915</td>
</tr>
<tr>
<td>1,502,602</td>
<td>Fox</td>
<td>July 29, 1924</td>
</tr>
<tr>
<td>2,323,833</td>
<td>Mixer</td>
<td>July 6, 1943</td>
</tr>
<tr>
<td>2,374,537</td>
<td>Goldsmith</td>
<td>Apr. 24, 1945</td>
</tr>
</tbody>
</table>