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SELECTOR FOR PRINTING MACHINES

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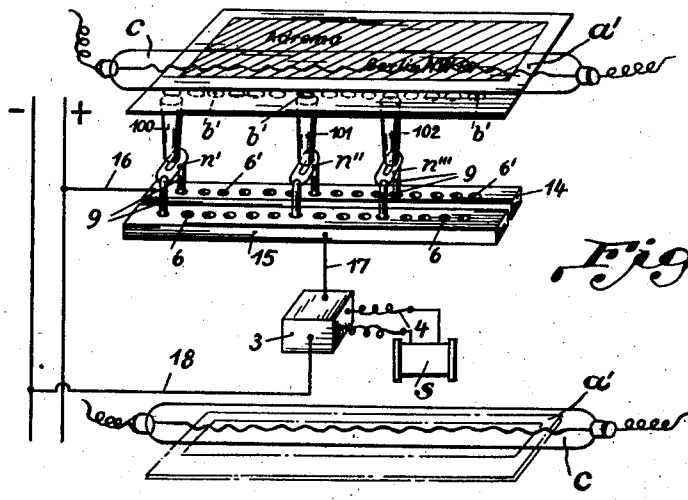
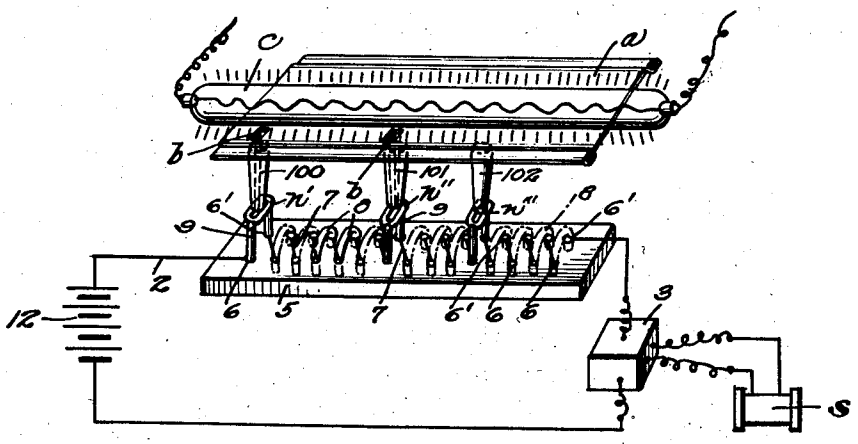


Fig. 2.

Fig. 1.



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SELECTOR FOR PRINTING MACHINES

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3 Claims. (Cl. 101—58)

My invention relates to selectors for printing machines. The selector will be described and shown as applied to an address-printing machine but is not limited to this particular type.

More particularly, my invention relates to machines having movable printing-control means, such as printing plates or control cards with signalling means which may be perforations in, or tabs or other means on, the printing plates or the like.

It is an object of my invention to design a selector for a machine of this general type for photo-electric instead of mechanical control, as the latter presents certain difficulties on account of the small size of the selector parts and the excessive stress and wear to which they are subjected on account of their smallness.

To this end, in combination with a photo-electric cell and a lamp for illuminating the cell, I provide movable individual printing-control means having light-controlling means of any suitable kind which may be reflectors or the like, or light-permeable portions such as holes for regulating the access of the light from the lamp to the cell. A circuit and means for operating the control of the printing machine, i. e., the means for printing or skipping the plates at the printing station, are connected to the cell.

I further provide means such as sockets in the circuit, and plugs connected to the cells, for connecting the cells to the circuit in various positions.

It has already been proposed to control a printing machine by selective photo-electric means but in this machine a photo-electric cell is influenced by light reflected from, and not passing through, control cards.

In the accompanying drawing, two types of selectors embodying my invention are illustrated by way of example.

In the drawing—

Fig. 1 is a perspective illustration of a selector with a plate of insulating material for the reception of several cells,

Fig. 2 is a perspective illustration of a selector having a pair of parallel conducting rails instead of the plate.

Referring first to Fig. 1, the lamp *c* is arranged above the track of the printing plates *a*. 12 is the battery, 3 is the amplifier to which the circuit 4 of the electromagnet *s* is connected, and 2 is the circuit of the battery and amplifier. 5 is a rail or plate, 6 and 6′ are two parallel rows of contact sockets in the plate which is of insulating material, the first socket in row 6 being connected to the wire 10, and the last contact socket in row 6′ being connected to the wire 11. 7 are wires connecting the pairs of sockets in series, 8 are short-circuiting plugs for connecting two opposite sockets, and 9 are plugs, also for connecting two opposite sockets, on which photo-electric cells *n* are arranged. In the present instance it has been assumed that all plates *a* will be printed which possess a certain group at three holes *b*. Three cells *n′*, *n″* and *n‴* are provided, each with its plug 9, and inserted in the sockets of rows 6 and 6′ as shown. 100, 101 and 102 are their tubular diaphragms.

The three cells *n′*, *n″* and *n‴* are connected in series and the circuit of the amplifier 3 and battery 12 is made only if all three are excited. In Fig. 1 a printing plate with only two holes *b* is shown so that light is admitted to cells *n′* and *n″* but not to *n‴*, the circuit is not made and this plate will not be printed. Only if a plate having three holes in the proper arrangement arrives at the selecting station the circuit will be made, and this plate printed. Obviously any number of signalling means in any desired grouping relation, with a corresponding number of cells, may be provided.

Fig. 2 shows a similar selector for a control card *a′* having holes *b′*. The control card is not a printing plate but a separate member which is moved through the machine with the printing plates *a* and controls the printing or skipping of the printing plate to which it is allotted, or a group of printing plates may be controlled by a single control card. In the present instance, three cells for three holes *b′* in the control card *a′* are provided but all those printing plates *a* must be printed which belong to three distinct groups of printing plates and therefore the three cells *n′*, *n″* and *n‴* must operate so as to print the printing plates belonging to all three groups but also those printing plates which belong to one group only. Each cell, consequently, must be able to establish a circuit through the amplifier 3 and the circuit 4 to the control magnet *s* independently of the other cells. In this case the cells must be connected in parallel and not in series as in the previous examples. The sockets 6 and 6′ are here arranged in parallel rails 15 and 14, respectively, which may be of conducting material, the rail 14 being connected to the + wire of a system replacing the battery 12 by a wire 16, and the rail 15 being connected to the — wire across amplifier 3 by wires 17 and 18.

If the printing plate *a* or control card *a′* which is presented at the selector station has only one

hole adapted to admit light to one of the cells the cell is excited and closes the circuit independently of the other cells from the + wire through rail 14, the excited cell, rail 15, wire 17, amplifier 3, wire 18, to the — wire. The number of groups of printing plates which are to be printed at the same time, may be any one desired, beginning with one.

I claim:

1. In a selector for printing machines, movable printing-control means, an operating circuit for said machine, photo-electric cells connected to said circuit so as to make it when excited, means for connecting said cells to said circuit in various positions, a source of light, and light-permeable portions on said control means for making and breaking the optical connection of said source and said cells.

2. In a selector for printing machines, movable printing-control means, an operating circuit for said machine, sockets in said circuit, plugs adapted to be inserted in said sockets, a photo-electric cell on each plug, a source of light, and light-permeable portions on said control means for making and breaking the optical connection of said source and said cells.

3. In a selector for printing machines, movable printing control means, an operating circuit for said machine, photo-electric cells connected to said circuit so as to make it when excited, means for connecting said cells to said circuit in various positions, a source of light, and light-controlling means on said control means for making and breaking the optical connection of said source and said cells.

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