May 17, 1949. W. E. OLIVER 2,470,260

AUTOGRAPHIC REGISTER

Filed Jan. 27, 1948 2 Sheets-Sheet 1

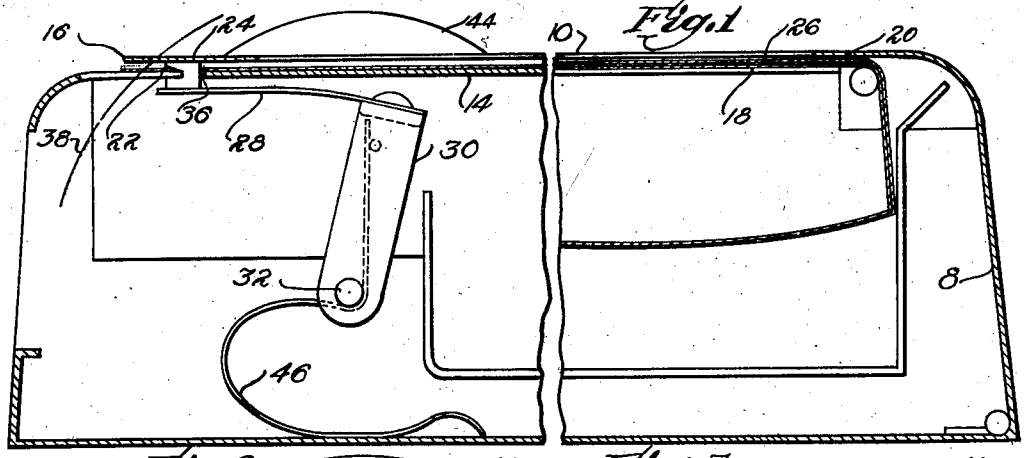


Fig. 1

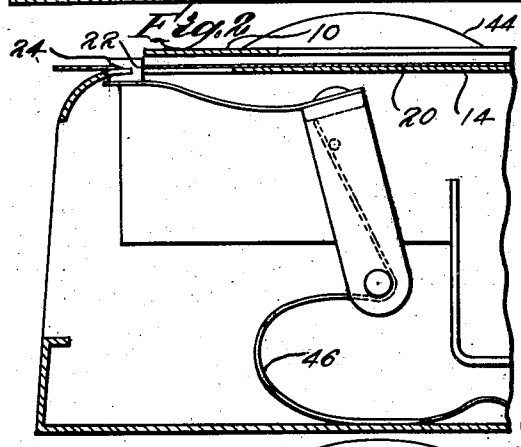


Fig. 2

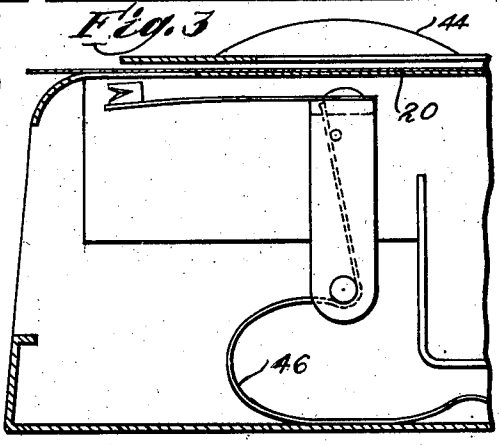


Fig. 3

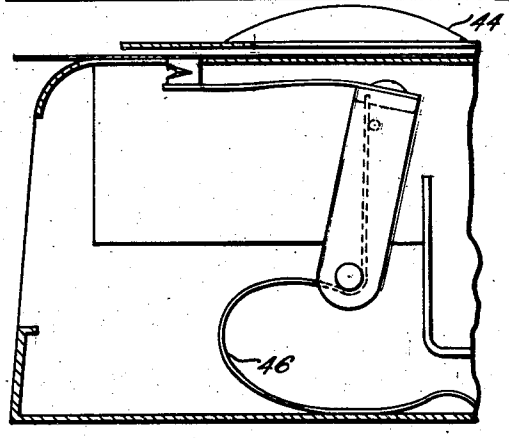


Fig. 4

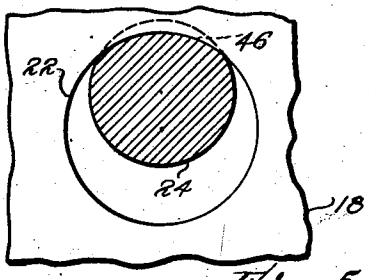


Fig. 5

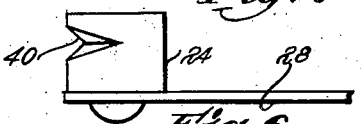


Fig. 6

Inventor
Walter E. Oliver
by Emery, Booth, Townsend, Miller & Alexander
Att'ys.

May 17, 1949. W. E. OLIVER 2,470,260

AUTOGRAPHIC REGISTER

Filed Jan. 27, 1948 2 Sheets-Sheet 2

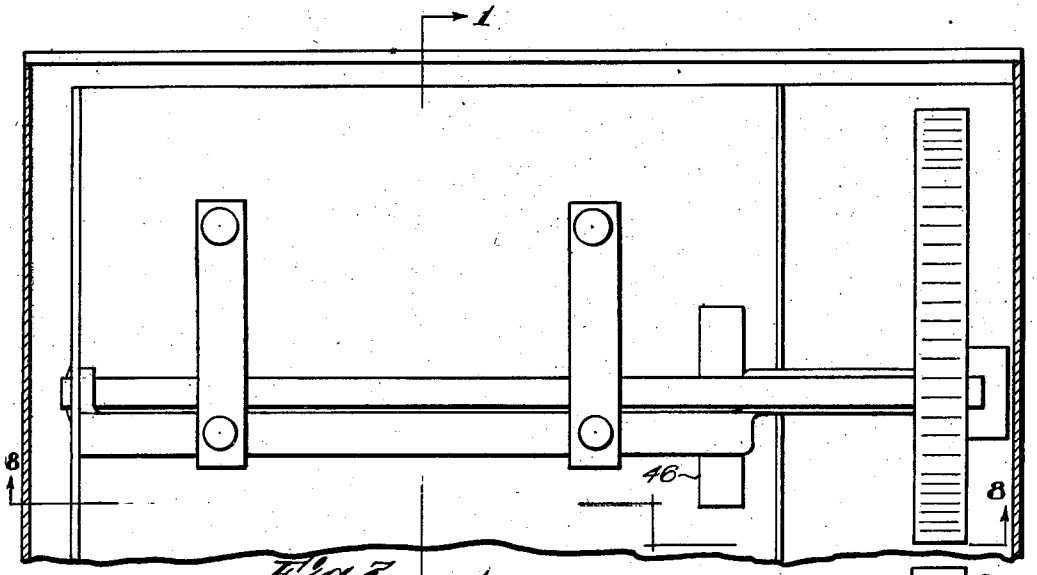


Fig. 7

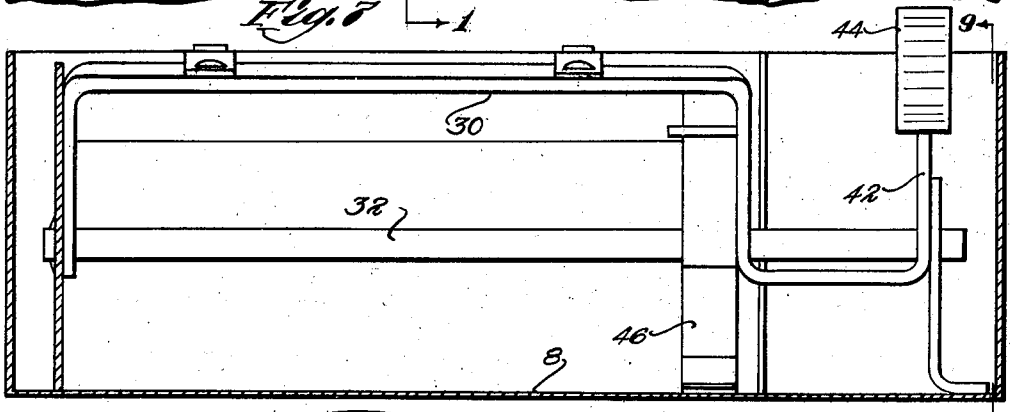


Fig. 8

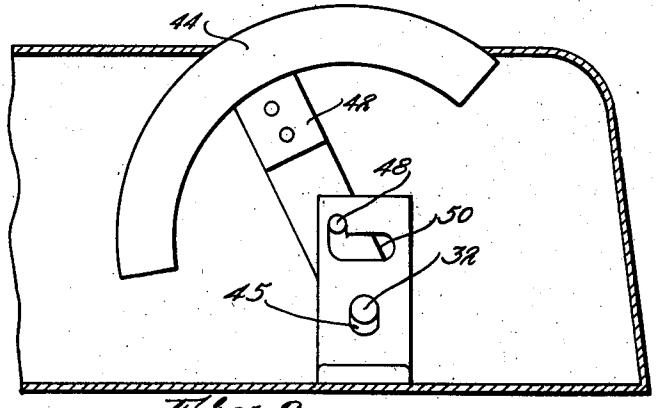


Fig. 9

Inventor
Walter E. Oliver
by Emery, Booth, Townsend, Miller & Henderson
Attys.

Patented May 17, 1949 2,470,260

UNITED STATES PATENT OFFICE

2,470,260

AUTOGRAPHIC REGISTER

Walter E. Oliver, Quincy, Mass.

Application January 27, 1948, Serial No. 4,692

2 Claims. (Cl. 282—21)

1

This invention relates to an "autographic register" wherein a series of forms or "tickets," as they are usually called, and which are sections of a long strip, are successively advanced over a platen for inscription. Two or more of such strips in superposed relation are provided to permit the making of multiple copies. The object of the present invention is to provide an improved mechanism for effecting an initial feeding movement of the inscribed tickets by the action of pins which engage holes adjacent the heads of the tickets and the release of such pins from such holes for engagement with the holes of a succeeding set of tickets when the inscribed set has been completely withdrawn to position such succeeding set properly on the platen.

Hitherto there have been known registers of the so-called hand-pull type in which the inscribed ticket was withdrawn from the register primarily by direct manual traction thereon and wherein a mechanism of the general type just referred to served to project from the machine the head portion of the inscribed ticket to be grasped by the fingers and which mechanism, subsequent to the complete manual withdrawal of that ticket, by cooperation with holes of the succeeding set of tickets served to position the succeeding set of tickets over the platen to permit the inscribed set to be torn off accurately at the division line between the successive sets without disarrangement of the new set just brought to inscribing position. My invention is advantageously used in such a hand-pull register which I here show as an illustrative embodiment of my invention in the accompanying drawings, wherein:

Fig. 1 is a longitudinal section of a register broken away and is substantially on the plane 1—1 of Fig. 7;

Figs. 2, 3 and 4 are similar views showing only the forward portion of the register with the parts in different positions;

Fig. 5 is an enlarged horizontal section of a paper engaging and positioning pin in a plane corresponding to the upper surface of the paper engaged therewith;

Fig. 6 is a side elevation of the pin;

Fig. 7 is a plan view of the forward portion of the register with the lid omitted and also the paper, and the platen broken away;

Fig. 8 is a section on the line 8—8 of Fig. 7; and

Fig. 9 is a fragmentary section on line 9—9 of Fig. 8.

It may be noted that for simplicity in Figs. 2, 3 and 4 I have shown only a single strip extending over the platen instead of attempting to show two superposed strips and an intervening carbon which is interposed between them over the platen, which, however, are shown in Fig. 1, much exaggerated in thickness, except at the left of the figure where to show two strips in this exaggerated manner would mislead.

2

Referring now to Fig. 1, the register takes the form of a suitable casing 8 provided with a movable lid 10 through which is an opening 12 giving access to the form or ticket supported beneath the opening by the platen 14 which extends across the upper portion of the casing 8. The forward or left-hand edge 16 of the cover frame 10 beneath which the strips are fed out herein provides a tear-off blade or ledger blade, against which blade a set of inscribed tickets may be torn off after they have been withdrawn from the register. That is, when a set of tickets is over the platen in proper position for inscription, their leading or forward edges are substantially directly underneath this forward edge of the cover frame.

The tickets are successive sections of long paper strips 18 and 20 (Fig. 1) provided with the usual holes 22 near the head of each section which are adapted to be entered by pins 24 located at the head of the platen. These pins align the superposed tickets of the several strips and position the heads of the tickets in alignment with the tear-off blade 16 against which the inscribed tickets are torn off after they are withdrawn from the register, which act of withdrawal serves to bring a new set of tickets over the platen by the engagement of the holes in these new tickets over the pins. In Fig. 1 I show a carbon leaf 26 extending transversely across the platen between the strips 18 and 20, as is usual in registers of this type. I may here repeat what has already been said, that for simplicity in all the figures except Fig. 1 I have not attempted to show superposed strips or the carbon paper since in the action of the mechanism which I am about to describe the two strips are handled as one and the carbon paper remains stationary, extending across the platen.

The initial feed of the strips is effected by movement of the pins 24 which move the heads of the tickets or leading ends of the strips from the position of Fig. 1 outwardly beneath the overhanging tear-off bar to the position of Fig. 2. The pins then leave the holes 22 of the strips and retreat idly beneath the strips to the initial position. The projecting ends of the inscribed

tickets may then be manually withdrawn toward the left of the figures until the holes 20 in the succeeding set of tickets come opposite the pins which then enter the same and stop the withdrawing movement. At this time the line of division between the inscribed set and the succeeding set is below the edge 16 of the tear-off blade and the inscribed tickets may be torn off while the tickets of the succeeding set are held and positioned by the pins engaging the holes therein.

The pins 24 are here shown as carried on the distal ends of leaf springs 28 projecting from the web of an inverted U-shaped yoke 30 which is in effect a rocker arm carried by a transverse rock shaft 32, which arm in the operation of the device swings forwardly past the vertical to the position of Fig. 2. The pins project upwardly through slots 36 in the forward end of the platen and move in a vertical plane longitudinal of these slots and the movement imparted thereto by the rock shaft tends to move them along the arc 38 in Fig. 1 in a path which crosses the plane of the platen, but on account of their form their yielding mounting and their cooperation with the paper in the manner hereinafter to be described they actually move rectilinearly forwardly to effect the initial feed of the paper and on the return stroke of the yoke automatically withdraw from the holes in the paper, move rearwardly beneath the unbroken surface of the paper at the rear of the holes and are automatically projected upwardly into a position to intercept the succeeding set of holes.

To effect this operation of the parts the pin 24 is smaller than the hole in the paper strip as seen in Fig. 5, and its forward face is provided with a notch 40 adapted to receive the leading margins of such hole when the pin is inserted therein and moved forwardly. Otherwise described it might be said that the pin has an overhanging shoulder at its front face in the nature of a hook which engages over the forward margin of the hole.

In the rearward position of the parts, as shown in Fig. 1, because the arm 30 is at the rear of center, the supporting springs 28 project forwardly and the pins 24 extend above the face of the platen and enter the holes in the superposed sheets, only one sheet 18 being shown in Fig. 1. Because in the preceding operation the strips were tensioned toward the left viewing that figure the rear surfaces of the pins serve as gauging surfaces engaging the rear margins of the holes and lining up the superposed strips. After the tickets have been inscribed and the arm 30 starts its counter-clockwise movement, viewing Fig. 1, the notch 40 will engage the forward margins of the hole after a slight movement of the parts in the manner illustrated in Fig. 5. As the arm moves over center to the forward position of Fig. 2 the pin 24 will be supported by the paper strips and will move rectilinearly with resultant upward flexure of the supporting spring 28. When this movement has ceased and the arm 30 starts its rearward movement, as soon as the pin has retreated to bring the notch 40 away from the margin of the strip it is released to the force of the spring and returns to its normal position underneath the plane of the paper as illustrated in Fig. 3, and as the movement continues it slides beneath the unbroken surface of the paper rearwardly of the hole and remains depressed on returning to the rearward position of Fig. 4. The paper is then drawn outwardly, by hand in the present instance, and the strips 18 and 20 slide over the top of the pins 24 until the holes in the

succeeding set of tickets come opposite the pins which then spring upwardly into the holes arresting the forward movement of the strips, the parts being then again in the position of Fig. 1.

To operate the pins the yoke 30 (see Fig. 8) is here shown as provided with a rebent end portion 42 forming an upwardly extending operating arm upon which is mounted a segmental handle 44 extending through the cover of the register. To delimit and control the movement of this operating arm the bearing opening 45 for the end of the shaft 32 adjacent thereto is somewhat enlarged upwardly, as seen in Fig. 9, the shaft being urged to the upward position by means of a spring 46. The operating lever carries a pin 48 (Fig. 9) adapted to work in a bayonet slot 50 in an upright adjacent to same, the slot having a horizontal portion providing for the necessary forward and backward movement of the handle and an upward offset at its rear end into which the pin 48 is projected under the stress of spring 46 when the lever is in its rearward position, as shown in Fig. 9. In this position the shaft 32 is tilted, but the effect on the position of the pins is negligible. To operate the register the handle 44 is pressed downwardly, compressing spring 46 and releasing pin 48 from the vertical portion of the slot 50 and permitting a forward stroke throughout the range determined by the dimension of its horizontal portion. When the return stroke is completed and the handle released the pin enters the vertical portion of the slot 50, locking the parts and positioning the pins 24 so that they serve as detents when the holes in the following set of tickets come over them, the pins and the set of tickets engaged thereby being held in position during the tearing off operation.

In the usual case a set of two pins is provided, as seen in Figs. 7 and 8, to advance the tickets through the machine. Since they are duplicates operating abreast, I have for simplicity couched the following claims in the single number.

I am aware that the invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof, and I therefore desire the present embodiment to be considered in all respects as illustrative and not restrictive, as is in fact clear in several matters from the description itself. Reference is to be had to the appended claims to indicate those principles of the invention exemplified by the particular embodiment described and which I desire to secure by Letters Patent.

I claim:

1. In a register for use with strips of perforated tickets each having a controlling hole at its head, a platen over which the tickets are successively positioned having a slot at its forward end, a rocker arm movable to opposite sides of the vertical, a spring projecting forwardly therefrom carrying at its end a hole-engaging pin which in the rearward position of the arm projects through the slot, the pin being smaller than the hole and having an overhanging projection at its leading face to engage over the forward margin of a hole to support the pin for rectilinear movement in an elevated position during the forward movement of the rocker arm with resultant upward flexure of the spring and releasing the same to the spring for movement to a depressed position below the paper at the first part of the rearward movement.

2. In a register for use with strips of perforated tickets each having a controlling hole at its head, a platen over which the tickets are successively positioned having a slot at its forward end, an

oscillating member having a hole-engaging pin resiliently mounted thereon and tending to move the pin along a forwardly and downwardly directed path in the vertical plane of the slot across the plane of the platen, the pin being smaller than the hole and having an overhanging projection at its leading face to engage over the forward margin of a hole to support the pin for rectilinear movement in an elevated position during the forward movement of the oscillating member with resultant upward tension on the pin and releasing the same for movement to a depressed position below the paper at the first part of the rearward movement.

WALTER E. OLIVER.

No references cited.