Nov. 9, 1937. A. A. JOHNSON 2,098,496

MANIFOLDING MACHINE

Filed Jan. 31, 1935

Fig. 1

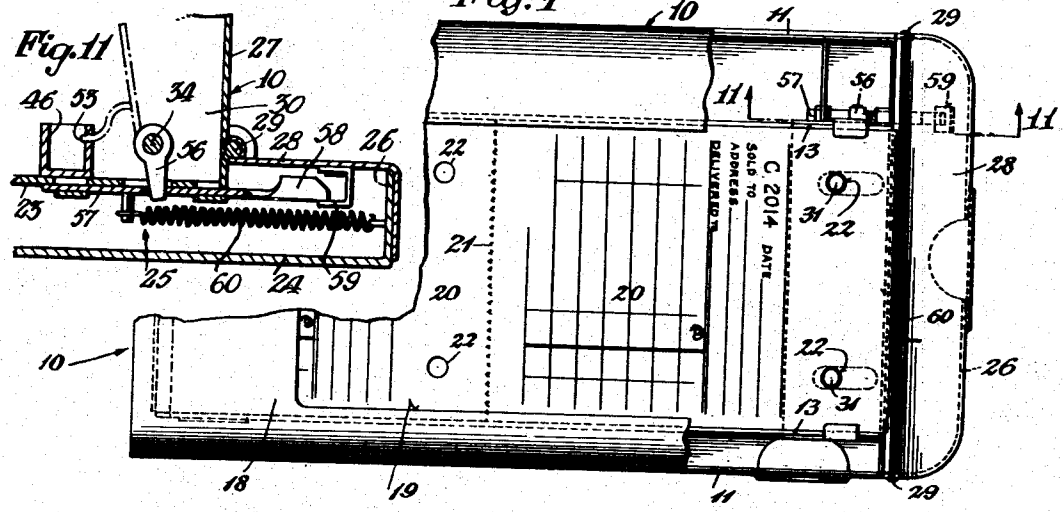


Fig. 11

Fig. 2

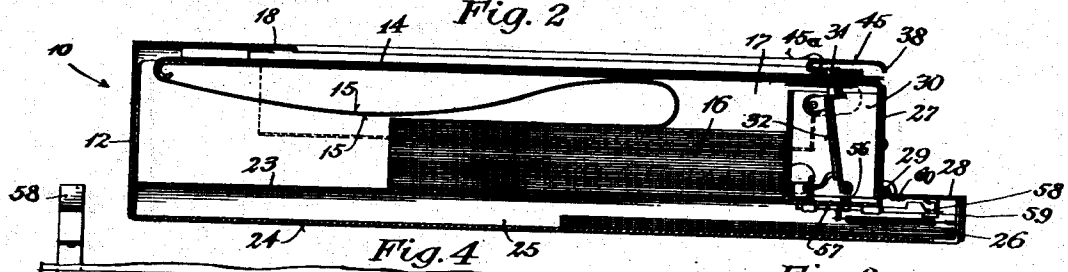


Fig. 4

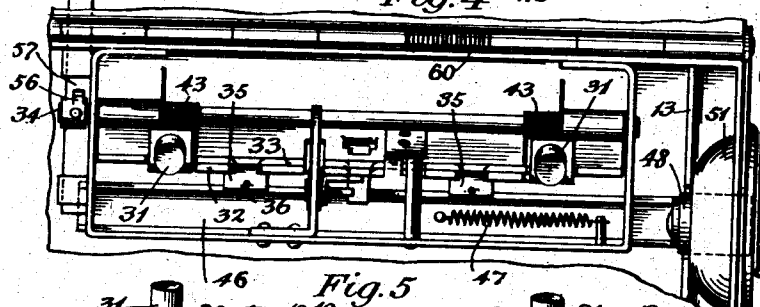


Fig. 8

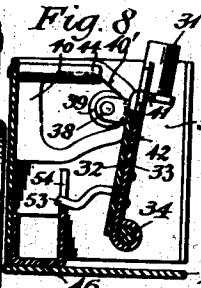


Fig. 9

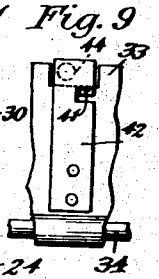


Fig. 5

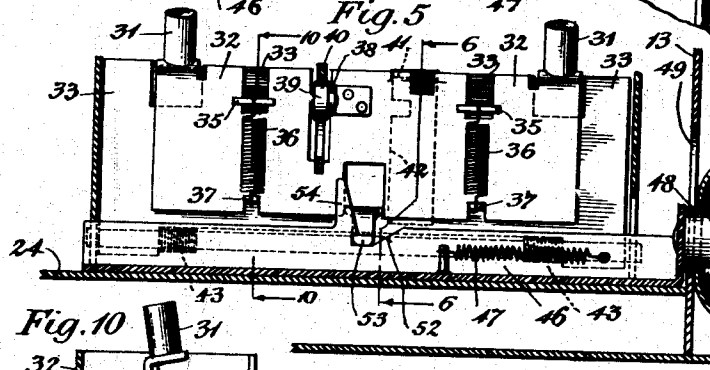


Fig. 6

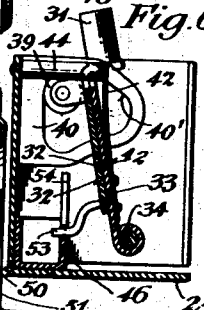


Fig. 7

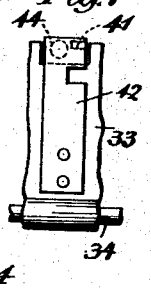


Fig. 10

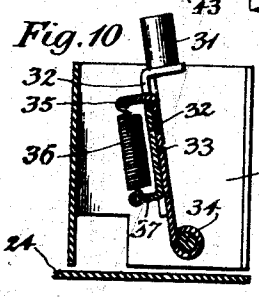
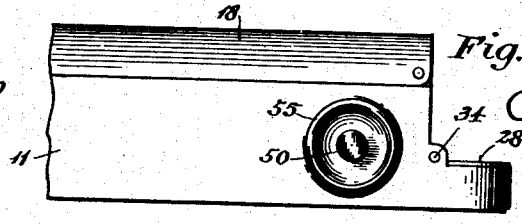


Fig. 3



INVENTOR

Patented Nov. 9, 1937

2,098,496

UNITED STATES PATENT OFFICE

2,098,496

MANIFOLDING MACHINE

Arthur A. Johnson, Bridgeport, Conn., assignor to Autographic Register Company, Hoboken, N. J., a corporation of New Jersey

Application January 31, 1935, Serial No. 4,265

10 Claims. (Cl. 282—21)

This invention relates to manifolding machines, and more particularly, to machines constructed and designed especially to be portable.

In such machines as heretofore made, there is sometimes provided paper intercepting and ejecting mechanism comprising a pair of pins or fingers adapted to enter successive apertures in the record strips and intercept withdrawal of the strips. These same fingers under control of a handle are caused to advance the record strips to position where they can be grasped to be manually pulled from the machine until again arrested. Heretofore, the handle for operating the ejecting fingers was provided on a shaft protruding from the side of the machine.

An object of this invention is to provide an improved paper intercepting and ejecting mechanism, and particularly, to so arrange the mechanism that no part of it need protrude beyond the side walls of the casing for manual engagement. With this arrangement, the sides of the register are straight and smooth and the register may be carried conveniently in an outside coat pocket. Besides this convenience, by having the fingerpiece located in or below the plane of the adjacent portion of the casing, danger of the fingerpiece being broken off inadvertently is avoided.

Heretofore, the paper intercepting and ejecting mechanism was operated by a shaft projecting from the machine and having a fingerpiece or handle for rotating the shaft.

According to the present invention, the shaft projection and its fingerpiece are omitted entirely and, instead, a transversely movable plunger or slide is provided to cause the pins to travel forwardly, depress, return, and rise.

In its preferred form, the plunger has a fingerpiece at one end located in a recess or well in one side wall so that the fingerpiece will not protrude beyond the side wall of the casing or frame and the adjacent portions of the wall will protect the fingerpiece from being damaged or from doing any damage.

Other features and advantages will hereinafter appear.

In the accompanying drawing which shows one form of the invention, that at present preferred—

Figure 1 is a top plan view of a register made in accordance with the present invention.

Figure 2 is a longitudinal section of the register shown in Fig. 1.

Fig. 3 is a side elevation of the forward portion of the register shown in Figs. 1 and 2.

Fig. 4 is a top plan view of the paper intercepting and ejecting mechanism of the present invention.

Fig. 5 is a transverse section thereof showing the pin mechanism in elevation and looking from the rear.

Fig. 6 is a longitudinal section taken on the line 6—6 of Fig. 5.

Fig. 7 is a detail view showing a portion of the pin mechanism looking at it from the front.

Fig. 8 is a view similar to Fig. 6, but showing the pin mechanism in its forwardly-operated and depressed position.

Fig. 9 is a view similar to Fig. 7, but showing the pin plate locked in depressed position preparatory to its return to normal position.

Fig. 10 is a sectional view taken on the line 10—10 of Fig. 5, to show the connection between the pin plate and its carrier.

Fig. 11 is an enlarged section taken on the line 11 of Fig. 1.

As shown in Figs. 1 and 2, the manifolding register of the present invention comprises a casing 10 made up of outer side walls 11, a rear wall 12, and an inner frame 13 having a platen 14 over which continuous record strips 15 are led from a zigzag folded pile 16 supported in a supply compartment 17.

Over the platen 14 there is a margin frame 18 having a writing zone 19 through which the record strips are available to be written upon and at which place the record strips are interleaved with transfer or carbon material not shown.

Each record strip 15 comprises a succession of printed forms 20 usually divided by lines of weakness 21 and each form has a pair of apertures 22.

The casing 10 has a false bottom 23 on which the supply pad 16 rests, and between this false bottom and a bottom plate 24 there is provided a record storing compartment 25 having a front wall 26 projecting substantially beyond a front wall 27 of the casing to provide an opening through which tickets or forms written upon on the platen 14 and severed from the strips 15 may be inserted to be stored until desired. This open space is normally covered and closed by a cover 28 hinged at 29 to the front wall 27.

As stated above, the withdrawing movement of the record strips 15 is intercepted and the strips are held in desired position on the platen 14 by a pin mechanism. In the form of the invention herein disclosed, this mechanism is carried by a box-like frame 30 located at the forward upper part of the casing 10. It comprises a pair of pins 31 mounted on a plate 32

which is slidably mounted on a carrier plate 33 which is hinged on a shaft 34 carried by the side plates of the frame 30. The plates 32 and 33 overlap and are held in overlapping relation by ears 35. Springs 36 connecting the ears 35 on the plate 33 and ears 37 on the plate 32 tend to cause the pins 31 to move vertically as far as they may.

Normally, the plates 32 and 33 incline rearwardly so that the pins 31 are in a position shown in Figs. 1, 2 and 6, with the pins projecting through the apertures 22 in the paper strips 15. When it is desired to advance the strips so that the leading edges which were left when the previous set of tickets had been torn therefrom along the tearing knife 38, the plates 32 and 33 are rocked forwardly by mechanism hereinafter described, and, at the same time, according to the present invention, the pins are caused to recede from the apertures 22 and finally occupy the position shown in Fig. 8.

For the purpose of causing the pins to recede, the pin carrying plate 32 is provided with an ear 38 having a roller 39 located in an aperture of a cam plate 40, so that as the plates 32 and 33 swing forwardly the roller engages a descending portion 40' of the cam plate and is pushed down causing the pins 31 to be depressed and to recede below the surface of the platen 14 so as to be withdrawn from the apertures in the paper. During the downward movement of the pins and their plate 32, a lug 41 on the latter moves from the position shown in Fig. 7 in dotted lines to the position shown in Fig. 9, where it is engaged under a spring catch 42 carried by the plate 33 and this causes the pins to be retained in depressed position during the return movement of the plates 32 and 33 under the influence of springs 43 shown in Fig. 4. During this return movement, the pins 31 move idly under the paper strips, but, at the end of the return stroke, the spring catch 42 encounters the forward end of a fixed pin 44 which pushes it forwardly and causes the lug 41 to be released. This permits the pins 31 to rise against the surface of the paper which is held down for this purpose by a slotted extension 45a of a cross bar 45, and it is in this position that the pins remain until the next set of apertures 22 are engaged by the pins.

According to the present invention, instead of rocking the shaft 34 by means of a finger-piece contained on an extension of the shaft and projecting beyond the side walls 11 of the casing, there is provided a plunger or slide 46, generally U-shaped in form, as shown in Figs. 6 and 8, and guided by the side walls of the frame 30. The plunger 46 is disposed transversely of the machine and is held in its normal position shown in Figs. 4 and 5 by a spring 47. The end of the plunger 46 is provided with a button 48 projecting through a hole 49 in the frame-side 13 of the casing, but its outer end 50 terminates approximately in the plane of the adjacent side wall 11, which, as shown in Fig. 5, may be made concave to provide a well 51 in which the button 48 is located. By pressing the button 48, the slide is moved to the left as shown in Figs. 4 and 5, and in so doing a cam surface 52 on the slide engages an arm 53 carried by the rocker-plate 33 and causes the arm to be raised and the plate 33 to be swung clockwise so as to move from the position shown in Fig. 6 to that shown in Fig. 8. To hold the pin plates 32 and 33 in paper-intercepting position shown in Fig. 6 when the slide 46 is in its normal position, a locking arm 54 is provided on the slide and this overhangs the arm 53 and prevents the plates 32 and 33 from being rocked forwardly until the slide has begun to move inwardly.

Thus it will be seen that, to operate the ejector, it is merely necessary for the operator to put his finger or thumb on the end of the button 48 and push inwardly releasing the button at the end of the inward stroke and permitting it to return to normal position. The rim of the well or cavity 51 may be strengthened and defined by a small bead 55 so that the operator may find the place where the button is located by feeling for the same and without taking his eyes from the other work which is being done.

It will be noted that, according to the present invention, the fingerpiece for the ejecting mechanism does not protrude beyond the side walls of the casing, and hence danger of any projection catching onto the operator's clothing or being broken off when the casing is accidentally struck by some other object is avoided.

At the same time that the pin plates 32 and 33 are rocked from the position shown in Fig. 6 to that shown in Fig. 8, suitable mechanism is operated to release the door 28 and cause it to be opened. This mechanism is illustrated in Figs. 2 and 3 and 11, and comprises an arm 56 carried by the shaft 34 and engaging an aperture in a bar 57, the forward end of which has a catch 58 engaging an arm 59 on the door. When the shaft 34 is rocked, the bar 57 is moved to the rear, releasing the arm 59 and permitting the door 28 to be opened by a spring 60 shown in Fig. 1.

There is lost motion between the arms 56 and the bar 57, and the end of the bar 57 is inclined so that when the door 28 is returned to normal closed position by hand, the bar 57 will recede and catch over the arm 59 on the door 28.

Variations and modifications may be made within the scope of this invention and portions of the improvements may be used without others.

Having thus described the invention, what is claimed as new and for which it is desired to obtain Letters Patent, is:—

1. A manifolding machine having a box-like casing, a platen over which a plurality of continuous worksheet strips may be advanced, and a tearing edge along which the strips are severed; means at the forward end of the casing for engaging the strips to advance the leading edges thereof beyond the tearing edge to position to be grasped by hand; and means including a manually operable button located in a recess in one wall of the casing for operating said advancing means.

2. A manifolding machine having a box-like casing, a platen over which a plurality of continuous worksheet strips may be advanced, and a tearing edge along which the strips are severed; means at the forward end of the casing for engaging the strips to advance the leading edges thereof beyond the tearing edge to position to be grasped by hand; and means including a fingerpiece flush with a wall of the casing for operating said advancing means.

3. A manifolding machine having a box-like casing, a platen over which a plurality of continuous worksheet strips may be advanced, and a tearing edge along which the strips are severed; means at the forward end of the casing for engaging the strips to advance the leading edges thereof beyond the tearing edge to position to be

grasped by hand; and means including a fingerpiece flush with a side wall of the casing for operating said advancing means.

4. A manifolding machine having a box-like casing, a platen over which a plurality of continuous worksheet strips may be advanced, and a tearing edge along which the strips are severed; means including a pair of pins for engaging apertures in the worksheet strips at form-length intervals; a hinged plate on which said pins are mounted to be moved toward and from the front end of the machine; and a manually operated slide for operating said hinged plate.

5. A manifolding machine having a box-like casing, a platen over which a plurality of continuous worksheet strips may be advanced, and a tearing edge along which the strips are severed; means including a pair of pins for engaging apertures in the worksheet strips at form-length intervals; a hinged plate on which said pins are mounted to be moved toward and from the front end of the machine; and a manually operated cam slide movable transversely of the machine for controlling the movements of the hinged plate forwardly and backwardly of the machine.

6. A manifolding machine having a box-like casing, a platen over which there is advanced a plurality of continuous worksheet strips having a succession of printed forms, each provided with apertures; pins movable in the casing for entering the apertures in the strips to intercept advancing movements of the strips; and means including a manually reciprocatively movable button located in a recess in one wall of the casing for withdrawing said pins to permit advancement of the strips to continue.

7. A manifolding machine having a box-like casing, a platen over which there is advanced a plurality of continuous worksheet strips having a succession of printed forms, each provided with apertures; pins movable in the casing for entering the apertures in the strips to intercept advancing movements of the strips; and means including a fingerpiece having its operating end flush with a wall of the casing for withdrawing said pins to permit advancement of the strips to continue, said means including an actuator movable with the fingerpiece through a plane nonparallel with the path of movement of said pins.

8. A manifolding machine having a box-like casing, a platen over which a plurality of continuous worksheet strips may be advanced to be severed at form-length intervals into tickets; a record compartment for receiving and storing said severed tickets; a door for said compartment; means for regulating the advancement of the strips over the platen; and means including a button flush with a side wall of said casing for controlling the opening of said door and the operation of said regulating means.

9. A manifolding machine having a box-like casing, a platen over which a plurality of continuous worksheet strips may be advanced to be severed at form-length intervals into tickets; a record compartment for receiving and storing said severed tickets; a door for said compartment; means for regulating the advancement of the strips over the platen; and means including a manual actuator non-protrusive beyond the casing for controlling the opening of said door and the operation of said regulating means.

10. A manifolding machine having a box-like casing, a platen over which a plurality of continuous worksheet strips may be advanced to be severed at form-length intervals into tickets; a record compartment for receiving and storing said severed tickets; a door for said compartment; means for regulating the advancement of the strips over the platen; and means including a push button non-protrusive beyond the casing for controlling the opening of said door and the operation of said regulating means.

ARTHUR A. JOHNSON.