

June 18, 1940.

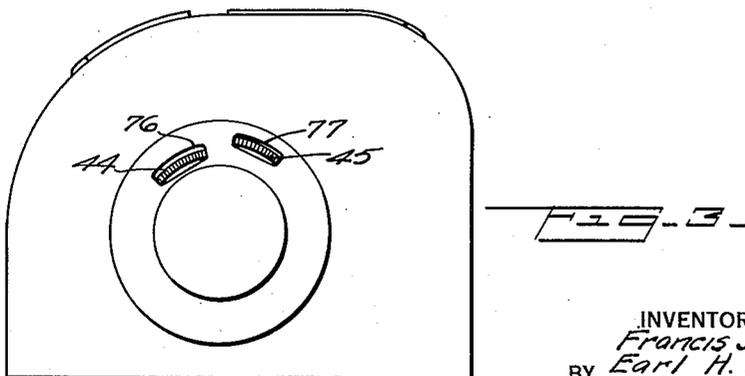
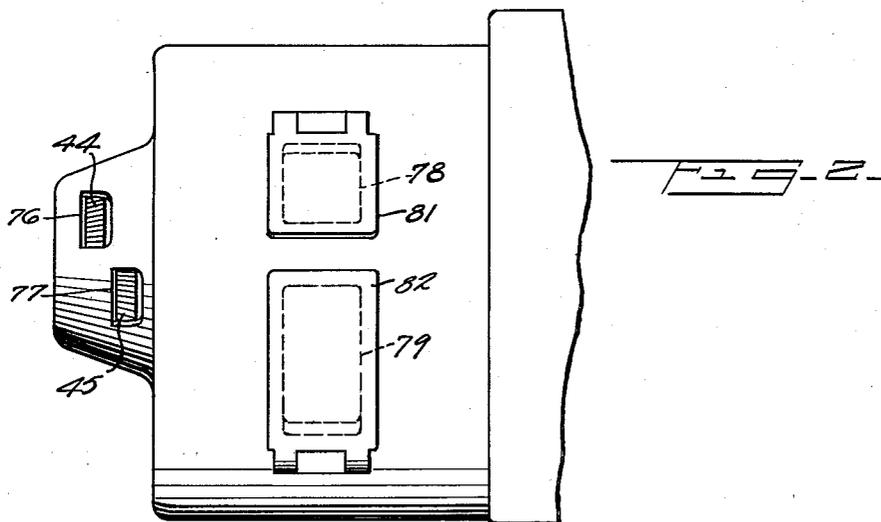
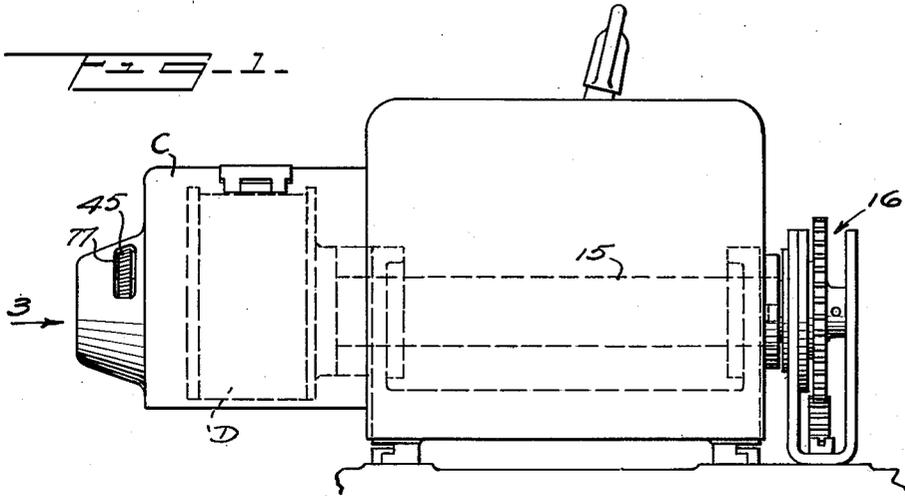
F. J. ROUAN ET AL

2,204,971

DISAPPEARING PRINTING DIE CONTROL

Filed April 27, 1938

3 Sheets-Sheet 1



INVENTORS
Francis J. Rouan
Earl H. Sorgatz
BY *Edwin H. Owen*
ATTORNEY

June 18, 1940.

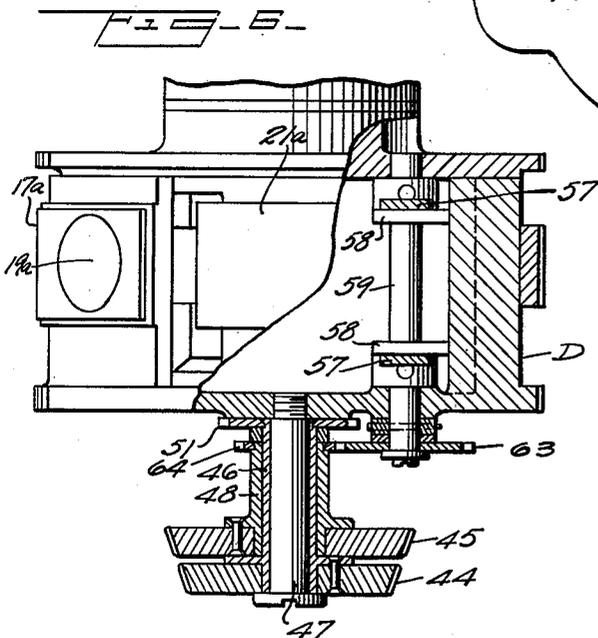
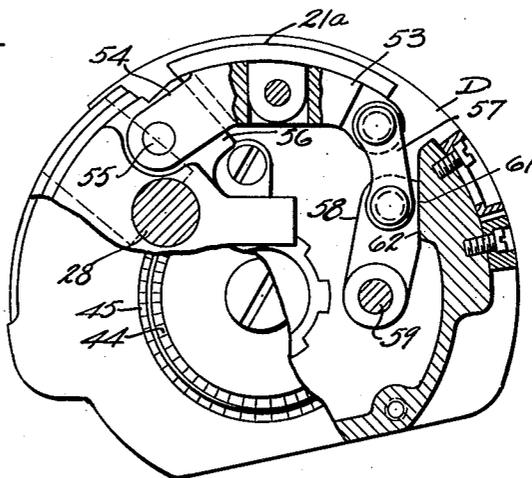
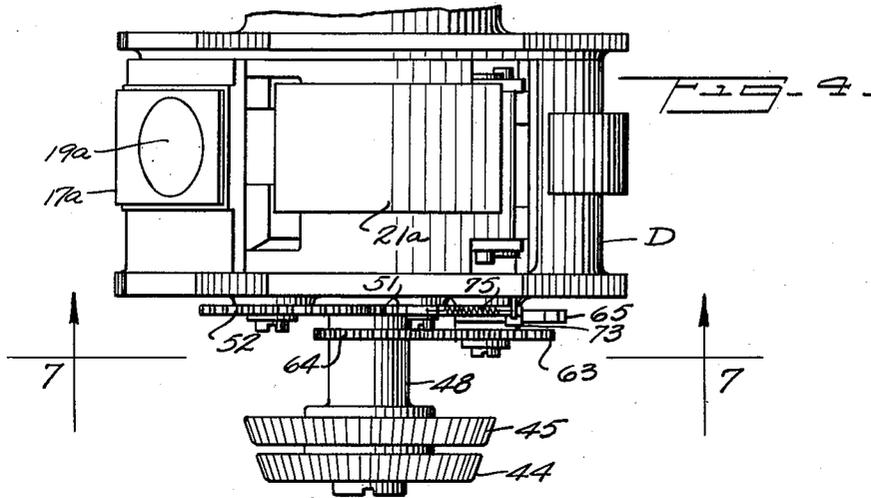
F. J. ROUAN ET AL

2,204,971

DISAPPEARING PRINTING DIE CONTROL

Filed April 27, 1938

3 Sheets-Sheet 2



INVENTORS
Francis J. Rouan
Earl H. Sorgatz
BY
Edwin H. Owen
ATTORNEY

June 18, 1940.

F. J. ROUAN ET AL

2,204,971

DISAPPEARING PRINTING DIE CONTROL

Filed April 27, 1939

3 Sheets-Sheet 3

FIG-7.

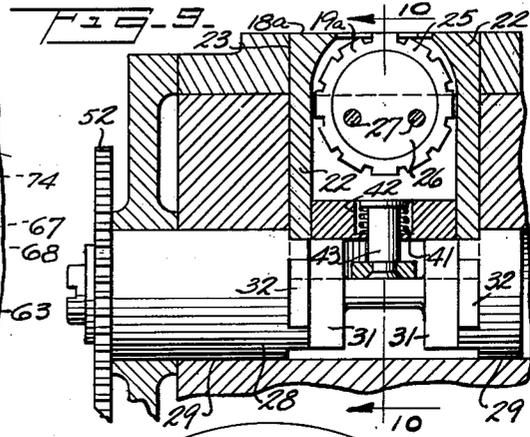
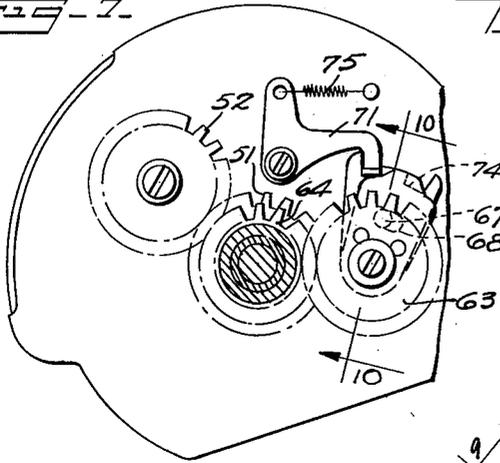


FIG-10.

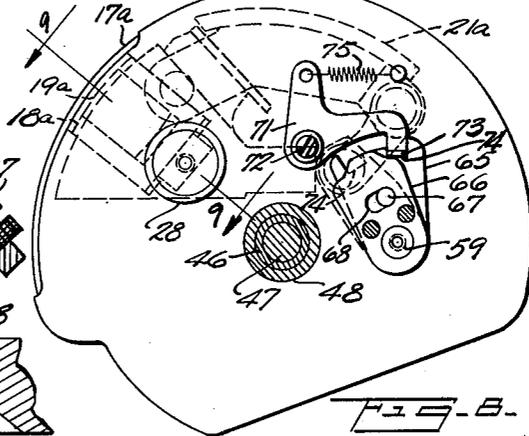
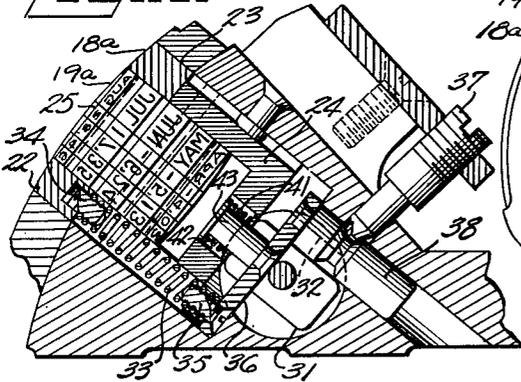
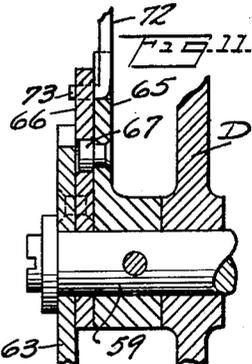
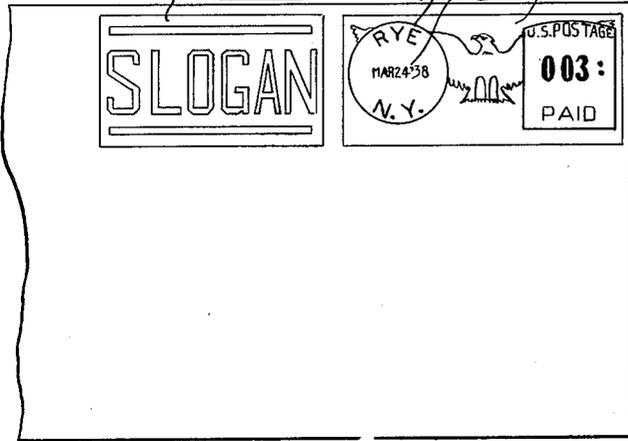


FIG-8.

FIG-12.



INVENTORS

Francis J. Rouan
Earl H. Sorgatz
BY Edwin H. Owen
ATTORNEY.

UNITED STATES PATENT OFFICE

2,204,971

DISAPPEARING PRINTING DIE CONTROL

Francis J. Rouan and Earl H. Sorgatz, Stamford, Conn., assignors to Pitney-Bowes Postage Meter Co., Stamford, Conn., a corporation of Delaware

Application April 27, 1938, Serial No. 204,490

4 Claims. (Cl. 101—110)

This invention relates to a device for adjusting the position of certain printing dies in the printing unit of a metered mailing machine, with relation to the normal printing surface.

5 In a printing unit of a metered mailing machine there is an indicia die member which normally remains in a printing position. There are also other printing dies such as the combined postmark and dater dies, and a die for the printing of advertising matter, more commonly known as a slogan die, which dies may be used for printing in conjunction with the indicia die or may be removed from a printing position, i. e., may be moved below the printing surface at the will of the operator.

15 The principal object of this invention is to provide means whereby the said combined postmark and dater dies, and the slogan die may be adjusted, by novel means under the control of manual control knobs at the front of the machine, to move the desired dies into or out of a printing position.

20 It is a further object to arrange said knobs in such manner that only a portion thereof will be accessible to the operator which portion may be adapted to be manipulated by a single stroke of the operator's finger across the peripheral surface of either knob.

25 It is a further object to provide means whereby the slogan die may be latched in either a printing or a non-printing position and to manipulate said latching means through the movement of the control knob.

30 It is also an object to provide means to normally urge the postmark and dater die members inward against the surface of a cam member to thereby permit the cam member to effect the removal of the die members from their printing positions.

40 With the foregoing and other objects in view which will appear as the description proceeds the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that various changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

50 A preferred embodiment of the invention is illustrated in the accompanying drawings, wherein:

55 Fig. 1 is a side elevation of a meter unit, including a portion of the base unit and drive;

Fig. 2 is a plan view of the printing drum housing shown in Fig. 1, on an enlarged scale;

Fig. 3 is an end view of the drum housing looking in the direction of the arrow 3 of Fig. 1,

Fig. 4 is a plan view of the drum and showing 5 the control knobs projecting therefrom;

Fig. 5 is a part front elevational and part sectional view of the drum looking in the direction of the arrow 5 of Fig. 4;

Fig. 6 is a view similar to Fig. 4 with part in 10 section;

Fig. 7 is a part sectional and part elevational view of the drum taken along the line 7—7 of Fig. 4;

Fig. 8 is a view similar to Fig. 7 with the latch 15 parts shown in another position;

Fig. 9 is a sectional view taken along the line 9—9 of Fig. 8 through the dater and postmark die portions on an enlarged scale;

Fig. 10 is a sectional view taken along the line 20 10—10 of Fig. 9;

Fig. 11 is a sectional view on an enlarged scale taken along the line 11—11 of Fig. 7, and

Fig. 12 is a fragmentary view looking at the 25 face of an envelope on which is printed an indicia, postmark, date and slogan.

The meter unit of a metered mailing machine includes a printing device which has a value printing die therein and which is adapted to be set to a desired value from a position apart from 30 the printing device. Said meter unit is attachable to and detachable from a power base and when attached, it forms a complete machine for the printing of value stamped impressions upon mail matter fed thereto.

35 Associated with the printing drum are two sets of dies known as the postmark and dater dies, and a slogan die, the former being used in various combinations for the printing of both the postmark and date or the postmark without the 40 date or neither the postmark nor the date, and the latter being provided to print advertising matter upon the envelope adjacent the postmark die. The said dies are adapted to be removed 45 from their printing positions by manually adjusting same below the printing surface of the printing device.

Referring now to the drawings, a printing drum D is shown concealed within the forward part of a meter unit casing C, Fig. 1, and is fixed 50 to a shaft indicated at 15, which shaft extends rearwardly through the casing to a drive unit 16, said drive unit being controlled by means of a one revolution clutch controlled device within the base of the mailing machine. Upon passing 55

or feeding letters to a printing position, a trip device will be actuated which will effect the drive of the printing drum D through one revolution. During the printing operation, a stamp 17, a date 18, a postmark 19 and a slogan 21 will be imprinted upon the letter in the positions indicated in Fig. 12. An indicia die 17a will print an impression each time the drum rotates but the postmark and dater dies 18a, 19a, and the slogan die 21a are adapted to be removed from the printing surface at will by means of a manual adjustment.

Through the medium of manually operated knobs, provided at the forward end of the drum housing or casing C, the postmark and dater die unit may be adjusted to print the combined postmark and date or the postmark without the date. Also, both the postmark and date may be removed from a printing position. Similarly the slogan die may be adjusted to a printing or a non-printing position.

Referring first to the control of the postmark and dater dies which are best shown in Figs. 9 and 10, the postmark die comprises a cylindrical sleeve 22, which is adapted to slide within an opening 23 in the periphery of the printing drum D, and has a yoke shaped member 24 slidable therein, which member is adapted to support a barrel shaped dater wheel device 25 of the well known adjustable type. A core 26 of the dater device is secured to the side arms of the yoke member by means of pins 27-27. Below the sleeve 22 and the yoke member 24, is a cam shaft 28 rotatably mounted within suitable bearings 29-29 provided within the printing drum D. The cam portion of the cam shaft is best shown in Fig. 10 and includes a rectangular shaped cam 31 which controls the position of the yoke member 24, also flats 32-32 (Fig. 9) on the cylindrical surface of the cam portion, directly beneath the sleeve 22, to support said sleeve when the printing surface of the postmark die is adjusted to a printing position and the dater is adjusted below the printing surface of the indicia die.

Means is provided for urging the yoke member 24 against the cam surfaces of the rectangular cam 31, and the sleeve member 22 against the cylindrical surface and flats 32-32 of the cam portion. Said means includes a spring 33, which is normally disposed within a slotted wall of one of the yoke arms and has each end threaded on screw members 34 and 35 as best shown in Fig. 10. The screw 34 is secured within the upper end of the sleeve member 22, and screw 35 is secured within a bar 36, which bar is maintained in a fixed position within the drum housing by means of the engagement of a cone pointed screw 37 with a lug or pin 38 projecting downwardly from said bar 36. Due to the tension of the spring 33, also the fact that the spring is threaded upon each of said screw members 34 and 35, a tension is exerted which is adapted to pull or urge the sleeve member 22 against the cam shaft 28 or flats 32-32.

By means of another spring 41 which normally is positioned within a recess 42 in the lower bridging portion of the yoke member 24, and which is confined between the flanged head of a pin 43, fixed within the bar 36, the said yoke member is normally urged inward against the surface of the cam member 31.

It will thus be seen that upon rotating the cam shaft 28, the high points of the cam portions will force either the sleeve or both the sleeve member and yoke member outward to a printing position, and when the low points of

the cam portions are brought into active position, the spring members 33 and 41 will urge said sleeve and yoke members inward into engagement with the said low cam surfaces. A particular feature of the adjustment disclosed lies in the fact that upon rotating the cam shaft, both the sleeve member 22 and the yoke member 24 are adjusted to either their printing or non-printing positions from a unitary point of control.

Two knobs 44 and 45 are rotatably mounted at the forward end of the printing drum D, and are associated with the postmark-dater dies and slogan dies respectively. Knob 44 is secured to a flanged portion of a sleeve 46, which sleeve is rotatably mounted upon a shaft 47 projecting outward from the front face of the drum D. The knob 45 is secured to a flanged portion of a sleeve 48 which sleeve 48 is rotatably mounted on the sleeve 46. At the inner end of the sleeve 46 is a gear 51, which gear is adapted to mesh with another gear 52, said latter gear being fixed to the end of the cam shaft 28, as best shown in Fig. 7.

The rotation of the knob 44 therefore, will affect the rotation of the cam shaft 28 through the drive of the gears 51 and 52 and after rotating said knob to each of four positions, which are spaced 90 degrees apart, the postmark and dater dies will have been adjusted to their several positions with relation to the indicia printing die surface.

The slogan die 21a which is best shown in Fig. 5, comprises a removable plate, which is secured within a rocker support 53, which support has an arm 54 pivotally mounted at 55 on a lug 56 projecting inwardly from the printing drum D. The free end of said rocker support is connected with links 57 of a toggle joint, the remainder of the toggle joint comprising toggle arms 58, to which said links 57 are also attached. Said arms 58 are pivotally mounted upon shaft 59, pivotally supported within bearings provided along the inner wall surface of the printing drum D. Each arm has an abutment face 61, which is adapted to engage a face 62 of an abutment wall provided within the drum casing D, when the slogan is raised to its printing position. The shaft 59 extends outward beyond the front face of the printing drum and has a gear 63 fixed thereto, which gear is adapted to mesh with another gear 64 fixed to the sleeve 48, as best shown in Fig. 6. It is thus obvious that any rotation of the knob 45 will effect the rocking of the shaft 59 and will consequently rock the toggle arms 58.

Means is provided to lock the slogan die member in either a raised printing position or a lowered non-printing position. Said means, which is best shown in Figs. 7, 8 and 11, comprises a pair of rocker plates 65 and 66, one plate 65, which will be referred to as the latch plate, being fixed to the shaft 59, and the other plate 66, which will be referred to as the cam plate, being secured to the gear 63. A pin 67, which projects inward from the inner face of the latch plate 65, is adapted to enter an elongated slot 68 in the cam plate 66, which assembly permits a partial movement of the cam plate before the latch plate is moved. A latch lever 71, pivotally mounted upon a stud 72 in the front wall of the printing drum D, has a foot 73 which is adapted to rest within one of two notched portions 74-74, provided in the upper edge of the latch plate 65, and is adapted to be maintained in engagement with one or the other of said notches 74-74 by means of a spring 75. The foot portion 73 pro-

jects beyond the front face of the latch plate 65 and engages with the upper cam edge of the cam plate 66. Therefore, when the cam plate 66 receives its initial movement upon rotating the knob 45, the cam surface of said cam plate will cam the foot portion upward and rock the latch lever 71 about its pivot to release the latch plate 65, before the pin 67 engages the end of the elongated slot 68. After the engagement of the pin with the end of the slot, the latch lever 65 will move with the cam plate until the foot portion 73 of the latch lever 71 engages the opposite notch 74 of the latch plate. It is thus seen that the slogan die is adapted to be rocked to a printing or a non-printing position through the rotation of the knob 44, and during said operation the release and latching of the latch plate 65 is effected.

It is to be particularly noted, as best shown in Figs. 1 to 3, that the knobs 44 and 45 are practically concealed within a portion of the casing C projecting forwardly from that portion of the casing which covers the printing drum D, there being only two small openings 76-77 through which the upper peripheral portion of each of said knobs are exposed. Said openings are so arranged to permit the operator to engage the knurled surface of each of said knobs, and by running a finger across the length of either opening, the movement of which will be sufficient to either provide the rotative motion of the knobs to shift the dater and postmark dies to one of their several adjusted positions or to shift the slogan die to a printing or a non-printing position. There of course is only a partial rotation afforded by the slogan control knob 45, whereas the dater and postmark die control knob 44 is rotated through a complete revolution in steps of 90 degrees.

By means of the foregoing devices, adjustment of the adjustable printing dies may be quickly made by merely passing a finger across the openings 76 or 77 and although the knobs 44 and 45 are exposed for immediate manipulation by the operator they are concealed sufficiently to continue the artistic or streamlined design effect of the casing.

To determine the position of the dies, they may be viewed by the operator through openings 78 and 79 in the drum casing, directly over the postmark-dater dies and the slogan dies respectively, upon opening covers 81 and 82, or suitable indications may be provided on the knobs.

Since the movable printing dies move below the normal printing surface with relation to the indicia die, they will be referred to in the claims as disappearing dies.

Having described the invention what is claimed is:

1. In a device of the class described, the combination of a printing drum having a relatively fixed stamp printing die surface, a disappearing die adjustably positioned within the printing drum, a manual control member to adjust said disappearing die to or from a printing position, latch means operable to latch the disappearing die in either a printing or a non-printing position, and means to control the release of said latch means upon the initial movement of the manual control member.

2. In a device of the class described, the combination of a printing drum having a relatively fixed stamp printing die surface, a disappearing die adjustably positioned within the printing drum, a manual control member to adjust said disappearing die to or from a printing position, latch means operable to latch the disappearing die in either a printing or a non-printing position, and a cam member movable upon the initial movement of the control member to control the release of said latch means.

3. In a device of the class described, the combination of a printing drum having a relatively fixed stamp printing die surface, a disappearing die adjustably positioned within the printing drum, a manual control member to adjust said disappearing die to or from a printing position, latch means including a movable latch plate and a latch lever cooperating therewith to latch the disappearing die in either a printing or a non-printing position, a cam member connected with said manual control member, and a foot on said latch lever normally engaging said cam member and a notch in said latch plate, whereby upon rotating the control member, the foot will be disengaged from the notch in said latch plate to permit the free movement of said latch plate and disappearing die.

4. In a device of the class described, the combination of a printing drum having a relatively fixed stamp printing die surface, a disappearing die, a shaft for said disappearing die positioned within the printing drum, a manual control member to rock said shaft and thereby adjust said disappearing die to or from a printing position, latch means including a movable latch plate fixed to said shaft and a latch lever operable to latch the disappearing die in either a printing or a non-printing position, a cam member connected with said control member, and a pin and slot connection between the latch plate and cam member, whereby the cam member may be moved to effect the release of the latch lever during the initial movement of the control member.

FRANCIS J. ROUAN.
EARL H. SORGATZ.