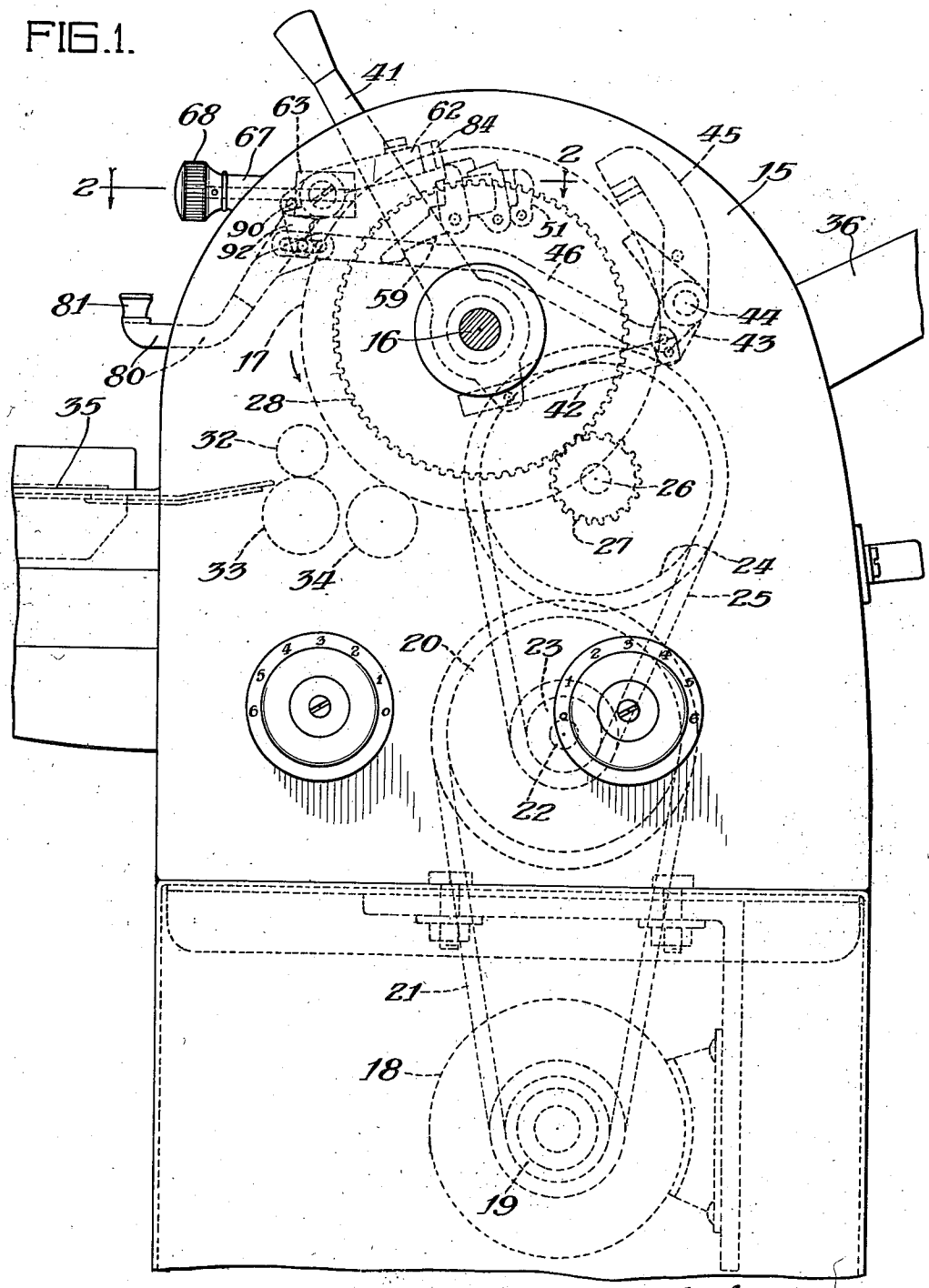
Oct. 1, 1940. A. MARCHEV ET AL 2,216,593

DUPLICATING MACHINE

Filed May 18, 1938 6 Sheets-Sheet 1

FIG. 1.



Inventors:
Alfred Marchev,
Robert F. Morrison.
By: Zalkel, Carlson, Fitzhugh & Wells
Attorneys.

Oct. 1, 1940. A. MARCHEV ET AL 2,216,593

DUPLICATING MACHINE

Filed May 18, 1938 6 Sheets-Sheet 2

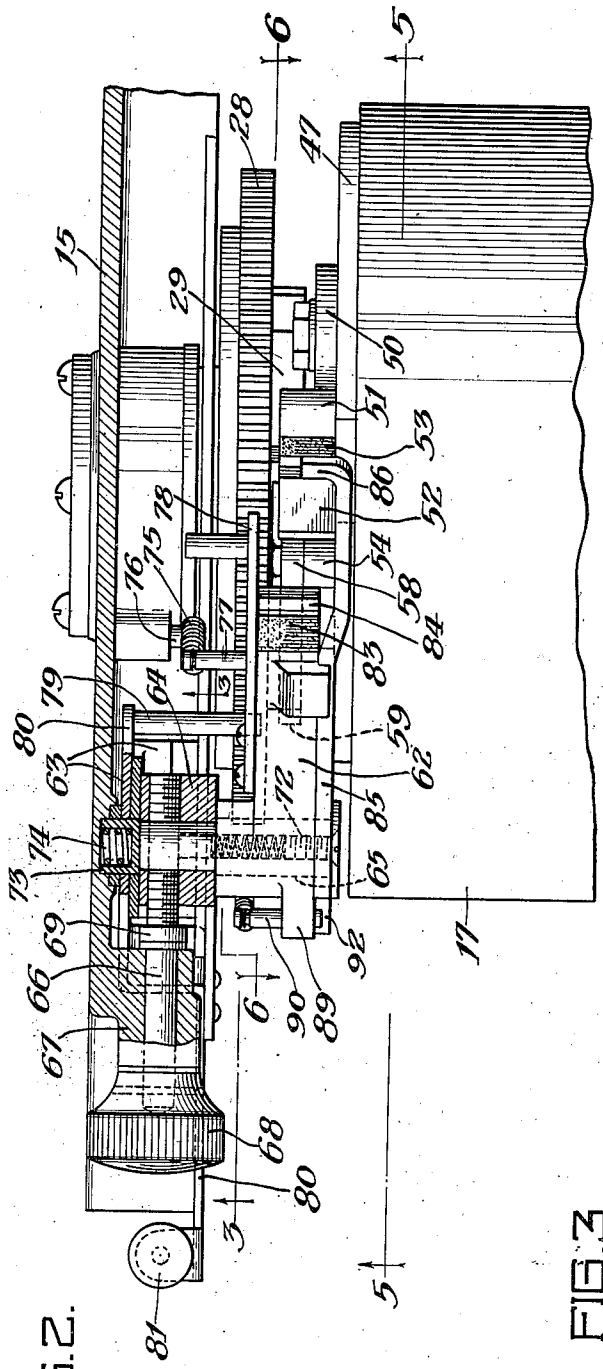


FIG. 2.

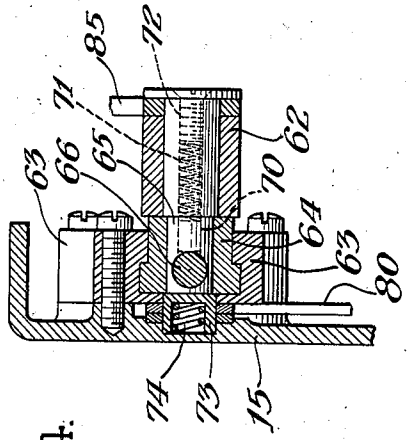


FIG. 4.

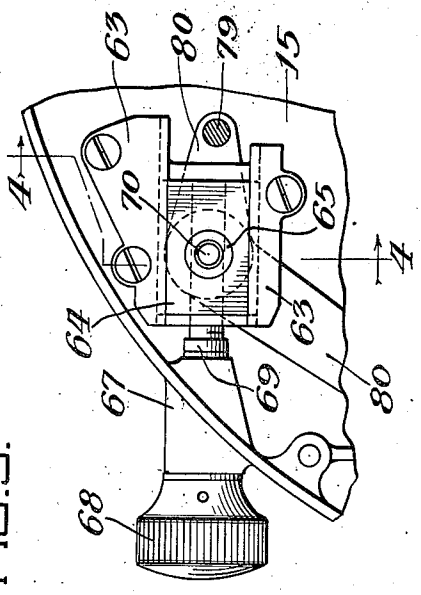


FIG. 3.

Inventors:
Alfred Marchev,
Robert F. Morrison.
By: Zabel, Carlson, Fitzbaugh & Wells
Attorneys.

Oct. 1, 1940. A. MARCHEV ET AL 2,216,593

DUPLICATING MACHINE

Filed May 18, 1938 6 Sheets-Sheet 3

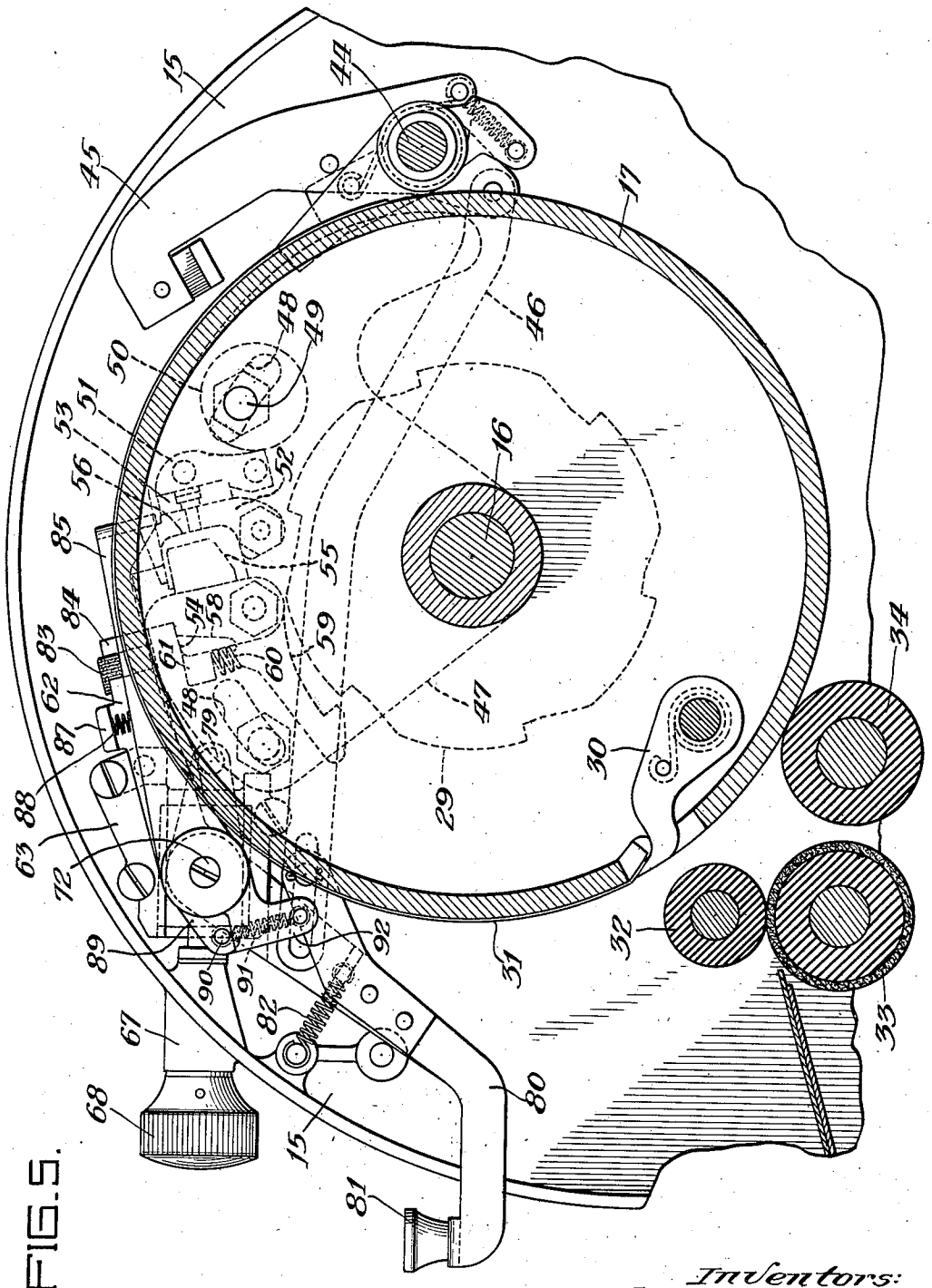


FIG. 5.

Inventors:
Alfred Marchev,
Robert F. Morrison.
By: Zabel, Carlson, Dritzbaugh & Wells
Attorneys.

Oct. 1, 1940. A. MARCHEV ET AL 2,216,593

DUPLICATING MACHINE

Filed May 18, 1938 6 Sheets-Sheet 4

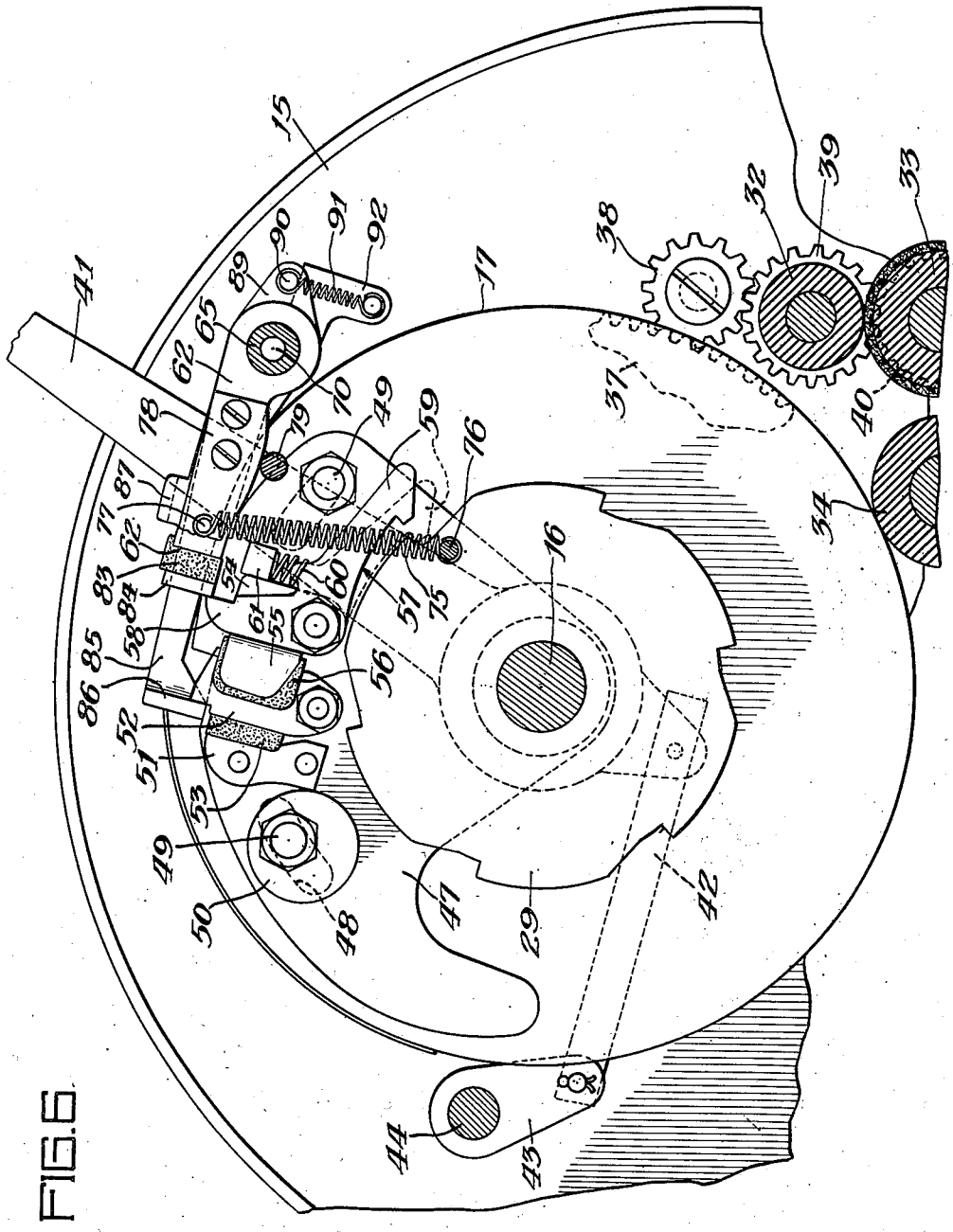


FIG. 6

Inventors:
Alfred Marchev,
Robert F. Morrison.
By: Zabel, Carlson, Gitz, Laughs & Wells
Their Attorneys

Oct. 1, 1940. A. MARCHEV ET AL 2,216,593

DUPLICATING MACHINE

Filed May 18, 1938 6 Sheets-Sheet 5

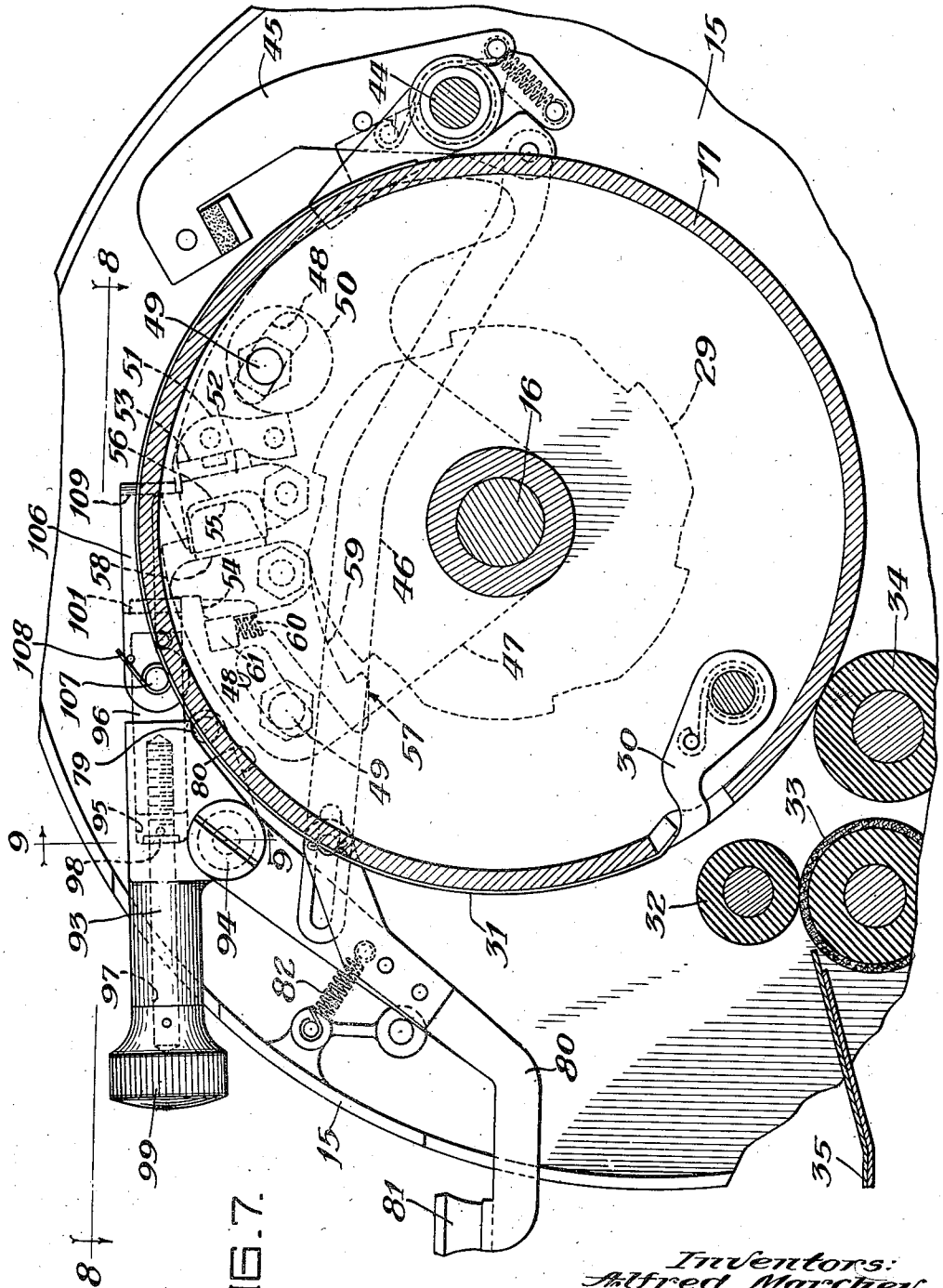


FIG. 7.

Inventors:
Alfred Marchev,
Robert F. Morrison
By: Zabel, Carlson, Fitzhugh & Wells
Attorneys

Oct. 1, 1940. A. MARCHEV ET AL 2,216,593

DUPLICATING MACHINE

Filed May 18, 1938 6 Sheets-Sheet 6

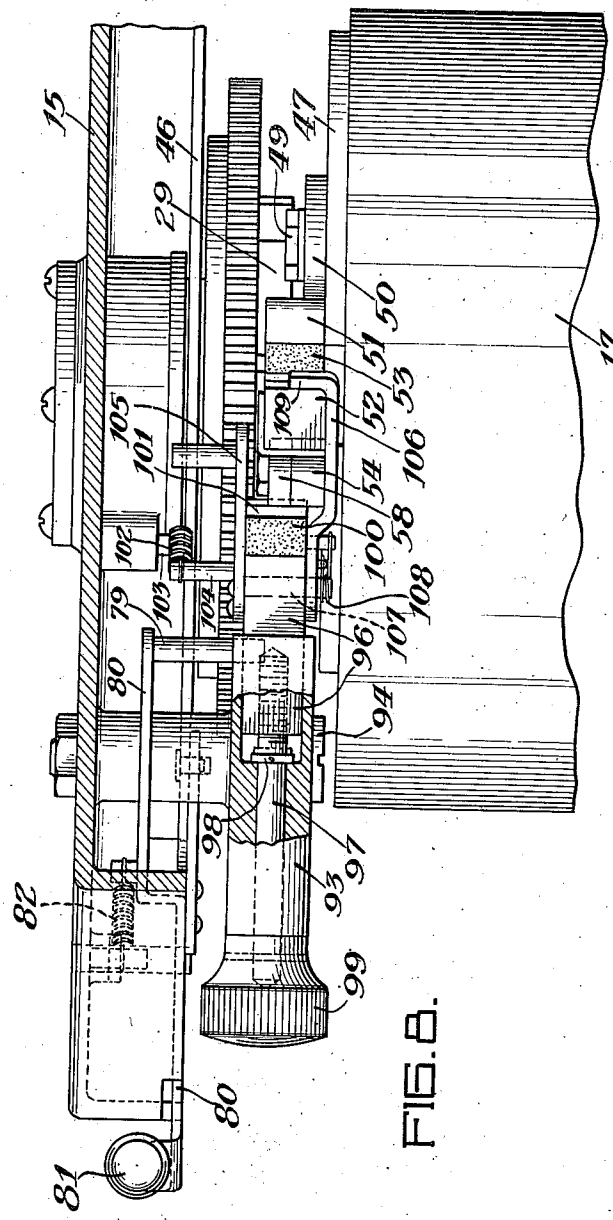


FIG. 8.

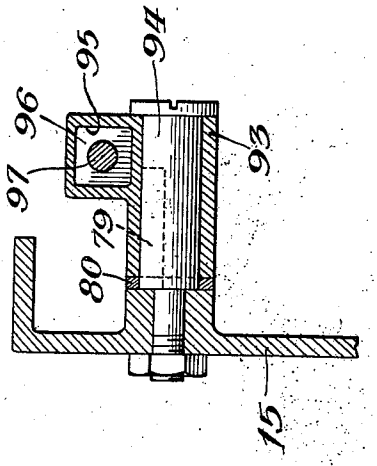


FIG. 9.

Inventors:
Alfred Marchev,
Robert F. Morrison.
By: Zabel, Carlson, Fitzpatrick & Wells
Attorneys.

Patented Oct. 1, 1940 2,216,593

UNITED STATES PATENT OFFICE

2,216,593

DUPLICATING MACHINE

Alfred Marchev, La Grange, and Robert F. Morrison, Oak Park, Ill., assignor to Ditto, Incorporated, Chicago, Ill., a corporation of West Virginia

Application May 18, 1938, Serial No. 208,532

10 Claims. (Cl. 101—132)

Our invention relates to duplicating machines of the wet-process type in which a master sheet is carried around by a drum for effecting engagement with copy sheets which are fed one at a time to the drum. It is the principal object of our invention to provide an improved form and arrangement of parts in a machine of this type whereby the width of the margin at the top of the copy sheet may be varied to suit different conditions or to meet different requirements.

In machines of this type, it has been customary heretofore to provide means for stopping the drum at the end of each complete revolution, the operation of the means for delivering copy sheets to the drum being regulated with reference to the time of the stoppage of the drum rather than with reference to the particular position of the drum. In our improved construction which employs this type of timing, we have provided improved means for varying the position at which the drum is stopped so as to vary accordingly the position of the master sheet at the time when the copy sheet is fed thereto.

For accomplishing this result, we have provided an improved arrangement of stopping means for the drum comprising a pawl pivotally mounted on the framework in position to engage a stop carried by the drum together with means for shifting said pawl on the framework circumferentially of the drum so as to be effective at the changed point. An alternative construction is also provided for changing the effective length of the pawl whereby its engagement with the stop device of the drum takes place at a changed point without the necessity for moving the pivot of the pawl.

Our invention comprises also an improved arrangement of adjusting means by which the parts are moved accurately to their operative positions and there secured strongly in position by the expert at the factory before the machine is sent out for use.

It is another object of our invention to improve machines of this type in sundry details hereinafter pointed out. The preferred means by which we have accomplished our several objects are illustrated in the accompanying drawings, in which—

Fig. 1 is a side elevational view of our improved machine, with some of the parts shown in dotted lines, with many parts omitted, and with some parts broken away.

Fig. 2 is a horizontal sectional view taken on an enlarged scale at the line 2—2 of Fig. 1.

Fig. 3 is a vertical sectional view taken at the line 3—3 of Fig. 2.

Fig. 4 is a vertical sectional view taken at the line 4—4 of Fig. 3.

Figs. 5 and 6 are vertical sectional views taken at the line 5—5 and the line 6—6, respectively, of Fig. 2.

Fig. 7 is a view similar to Fig. 5 but showing a modified form of construction.

Fig. 8 is a horizontal sectional view taken at the line 8—8 of Fig. 7, and

Fig. 9 is a vertical sectional view taken at the line 9—9 of Fig. 7.

Referring now to Figs. 1 to 6 inclusive of the drawings, in which corresponding parts are indicated by the same reference characters, 15 indicates a frame preferably formed of metal, having a heavy shaft 16 journalled thereacross with a duplicating drum 17 rotatably mounted with respect to the shaft. In the arrangement shown, a motor 18 is provided connected by means of pulleys 19 and 20 and a belt 21 with a stub shaft 22, such stub shaft in turn being connected by means of pulleys 23 and 24 and a belt 25 with a stub shaft 26. The shaft 26 is provided with a pinion 27 which meshes with a gear 28 rotatably mounted on the shaft 16 and having a ratchet wheel 29 fixedly connected therewith, as is clearly shown in Fig. 2. Our invention relates primarily to the means by which the ratchet wheel 29 is connected in the desired timed relation with the drum 17.

In the drawings, we have shown grippers 30 of any approved type holding a master sheet 31 in position upon the drum (see Fig. 5). We have shown also feed rollers 32 and 33 rotatably mounted in cooperative relation for feeding a copy sheet forward to the right in Fig. 5 to the drum so as to be fed between the drum 17 and a platen roller 34 rotatably mounted so as to engage the drum and be driven thereby. We have also shown a table 35 of any suitable type in position for supporting a copy sheet to be fed manually or otherwise to the feed rollers 32 and 33 for delivery to the drum. A tray 36 of any suitable type is provided for receiving the copy sheet from the drum.

In Fig. 6, we have shown the means provided for driving the rollers 32 and 33, comprising a gear 37 constrained to rotate with the drum 17 and meshing with an idler pinion 38 rotatably mounted in position so as to mesh with a pinion 39 carried by the roller 32. The roller 33 is in turn provided with a pinion 40 meshing with the pinion 39. The arrangement is such that

the rollers 32 and 33 are driven in cooperative relation at the same surface speed as that of the drum 17.

In the arrangement shown in the drawings, a lever 41 is provided journalled upon the axis of the drum 17 connected at its lower end with a link 42 which in turn is connected with the lower end of an arm 43 carried by a rock shaft 44. The shaft 44 is provided with a pawl 45 and other cooperating mechanism for stopping the drum 17 in suitable position for the insertion of a master sheet 31 into position upon the drum. The mechanism mounted on the shaft 44 is connected by means of a link 46 with the operating devices hereinafter described for causing the desired cooperation. The arrangement comprising the shaft 44 and lever 41 and their connected parts is old and well-known in the art and forms no part of our present invention. The construction and its operation will accordingly not be described further in detail.

The means for connecting the drum 17 with the ratchet wheel 29 comprises a cam plate 47 which is journalled with respect to the shaft 16, having slots 48 therein arranged concentrically about the axis of the drum. Bolts 49 passing through the slots 48 and through suitable openings in the end plate of the drum hold the cam plate 47 in adjusted position with respect to the drum. Upon the bolt 49 at the left in Fig. 6, we have provided an eccentric disc 50 which bears at its edge against a bracket 51 fixedly mounted upon the cam plate 47. When it is desired to adjust the cam plate 47 with respect to the drum, the bolts 49 are loosened sufficiently for permitting the plate 47 to be moved, and the eccentric 50 is given a rotary movement for shifting the bolt 49 upon which it is mounted to a slight degree with respect to the bracket 51. After the parts have reached the desired adjusted position, the nuts are tightened upon the bolts 49 so as to hold the plate 47 strongly in position. By the use of this arrangement, a very fine adjustment of the plate 47 with respect to the drum is easily effected.

Upon the cam plate 47, there is provided a block 52 pivotally mounted in position with a cushion 53 of rubber inserted between the block 52 and the bracket 51. Adjacent to the pivoted block 52, we have provided a second pivoted block 54 having a plate 55 thereon arranged so as to support a cushion 56 of rubber in position between the blocks 54 and 52. Directly adjacent to the pivoted block 54, we have provided a latch member 57, preferably mounted on the same axis as that upon which the block 54 is mounted, such latch member 57 comprising an outwardly extending arm 58 and a latch arm 59 which stands opposite the edge of the ratchet wheel 29. The latch member 57 is normally pressed to the limit of its motion in clockwise direction in Fig. 6 by a spring 60 which bears at one end upon a pin 61 carried by the cam plate 47.

For cooperation with the blocks 52 and 54 and the latch member 57 and their associated parts, we have provided a pawl 62 pivotally mounted upon the framework in position to engage the block 54 upon rotation of the drum 17 in clockwise direction in Fig. 6 for stopping the drum. The pawl 62 at the same time engages the arm 58 of the latch member 57 for disengaging the latch from the ratchet 29. As will be readily understood, when the pawl 62 is moved outwardly, it is released from the block 54 and the arm 58 of the latch lever so as to permit the latch 59 again to engage the ratchet 29 for renewed rotary movement of the drum 17. The latch arm 59 and the ratchet 29, constituting in effect a releasable clutch, and the parts carried by the plate 47 so as to cooperate with the latch member 57 form in and of themselves no part of our present invention.

The construction and operation of the pawl 62 and its associated parts will now be described. As is best shown in Figs. 2, 3 and 4, a bracket 63 is mounted on the inner face of the end frame plate 15, such bracket 63 being cut out so as to provide a slideway for a slide block 64. The slide block 64 is provided with an opening horizontally therethrough in which we have mounted a bolt 65 upon which the pawl 62 is pivotally mounted, such bolt 65 in turn having a transverse opening therethrough for the insertion of a pin 66, the slide block 64 being provided with registering openings for the reception of said pin. The inner end of the pin 66 is connected by means of screw-threads with the slide block 64, the outer end of the pin extending outwardly through an opening in a lug 67 carried by the framework 15. A knob 68 mounted on the outer end of the pin 66, in cooperation with a collar 69 fixedly mounted on the pin 66, serves to hold the pin against movement longitudinally of itself. Upon the rotation of the pin 66 through the medium of the knob 68, the slide block 64 is moved inwardly or outwardly along the mounting bracket 63 so as to give the pawl 62 a movement longitudinally of itself.

As is shown in Figs. 2 and 4, the bolt 65 is provided with a central longitudinal bore which is threaded at the outer end portion. Within the central bore of the bolt we have provided a block 70 which is pressed by a coiled spring 71 against the adjusting pin 66, the spring 71 being held in position by means of a machine screw 72 in the outer end portion of the bore of said bolt 65. By this arrangement, sufficient pressure is applied upon the pin 66 for holding it in adjusted position.

In the connecting wall portion of the bracket 63 opposite the slide block 64, we have provided an opening therethrough in which a member 73 in the form of a cup is mounted, such cup member having a coiled spring 74 therein serving normally to press the member toward the right in Fig. 4 into frictional engagement with the slide block 64 and the bolt 65 for taking up lost motion and for putting a slight frictional grip on the parts.

For holding the pawl 62 yieldingly down in operative relation, we have provided a long coiled spring 75 connected at one end with a pin 76 carried by the frame, the opposite end of said spring being connected by means of a pin 77 with a plate 78 mounted rigidly upon the side face of the pawl 62 as is clearly shown in Figs. 2 and 6. For moving the pawl 62 outwardly against the action of the spring 75, we have provided a pin 79 underlying the plate 78, such pin 79 being mounted upon the inner end of a push lever 80 which is pivotally mounted upon the cup member 73, such lever 80 extending toward the left in Fig. 2 from the cup member 73 to a point outside of the frame, where it is provided with a fingerpiece 81 by which downward pressure is adapted to be applied to said lever. A coiled spring 82 is connected between the lever 80 and the framework 15 adapted normally to hold the push lever 81 in its raised position.

As is clearly shown in Fig. 6, the bottom face of the plate 78 against which the pin 79 of the

lever 80 bears is in the form of a cam, the arrangement being such that, when the movable pivot of the pawl 62 is shifted horizontally by the adjustment of the slide block 64 through the medium of the pin 66, the vertical position of the operative end portion of the pawl 62 is not changed to any substantial extent.

As is best shown in Fig. 6, the pawl 62 is provided with a block of rubber 83 at its free end at the left in said figure, such block being provided on its outer face with a bearing plate 84 which is yieldingly mounted with respect to the pawl by reason of the provision of said block 83.

Upon the outer end of the bolt 65, alongside of the pawl 62, we have provided a latch lever 85 which has a turned end portion 86 at the right in Fig. 2. On the top face of the pawl 62, we have provided a lug 87 overlying the latch lever 85, a coiled spring 88 being interposed between the lever and the lug for holding the lever yieldingly in its lowered position. Upon the end of the pawl 62 adjacent to the pivot bolt 65, we have provided a lug 89 carrying a pin 90 which is connected by means of a coiled spring 91 with the lower end portion of an arm 92 carried by the latch lever 85, such spring 91 also serving normally to hold the latch lever 85 in lowered operative position with respect to the pawl 62.

When the drum is being rotated in clockwise direction in Fig. 6 through the medium of the clutch mechanism comprising the ratchet 29 and the latch arm 59, when the arm 58 of the latch member is brought into engagement with the bearing plate 84 of the pawl 62 the latch is caused to release from the ratchet 29 and the plate 84 is brought into engagement with the block 54 for stopping the drum. At substantially the same time, the latch lever 85 is brought into engagement with the block 52 as shown in Fig. 6, the pawl and the latch member 85 serving thus to hold the drum against rotary movement in either direction. As will be readily understood, the point at which the drum is stopped as shown in Fig. 5 depends upon the points at which the operative end portions of the pawl 62 and the latch lever 85 stand at the time when they are brought into engagement with the cooperating stop parts of the drum. If the slide block 64 is moved toward the right in said Fig. 5 so as to be brought at a slightly earlier instant into engagement with the cooperating stop parts of the drum, the drum will be stopped earlier so as to hold the leading edge of the master sheet 31 at a slightly higher position than is shown in said Fig. 5. If on the other hand the slide block 64 and its connected parts are shifted toward the left in said Fig. 5, the drum 17 rotating in counterclockwise direction in said Fig. 5 is stopped slightly later so as to cause the leading edge of the master sheet to be correspondingly lower. In this manner, the width of the margin at the top of the copy sheets is controlled.

In Figs. 7, 8 and 9, which show a modified form of construction, the same reference characters are employed so far as the construction corresponds to that above described. The arrangement shown in said Figures 7, 8 and 9 corresponds to that shown in Figs. 1 to 6 inclusive except for the pawl and latch means mounted upon the framework in position for cooperation with the blocks 52 and 54 and the latch arm 58.

In the arrangement shown in Figs. 7, 8 and 9, the pawl and latch mechanism carried by the frame are mounted upon a fixed pivot as distinguished from the movable pivot upon which the corresponding parts are mounted in the construction first described. In this arrangement, a block 93 is pivotally mounted upon a bolt 94 (see Fig. 9) which is carried by the frame 15, the push lever 80 being also pivotally supported by this bolt 94. This block 93 is provided with a socket 95 at its forward end at the right in Fig. 8, within which socket a slide block 96 is adjustably mounted, such slide block 96 being held in adjusted position with respect to the block by means of a pin 97 connected by means of screw-threads with the slide block, such pin 97 being held against axial movement in the block 93 by means of a collar 98 secured thereon at an intermediate point and a knob 99 secured by means of a pin upon its rear end. The arrangement is such that upon rotation of the pin 97 through the medium of the knob 99 which extends beyond the framework 15, the slide block 96 is moved backwardly and forwardly in substantially a horizontal direction with respect to the block 93.

Upon the forward end of the slide block 96, we have provided a resilient block 100, preferably of rubber, upon the forward face of which in turn we have provided a bearing plate 101, the slide block 96 and the pivotally mounted block 93 constituting together a pawl of adjustable length corresponding to the pawl 62 of the arrangement first described.

The pawl comprising the slide block 96 and the pivotally mounted block 93 is held normally in lowered position by means of a spring 102 connected at its lower end with a pin 103 carried by the framework and connected at its upper end with a pin 104 mounted upon a plate 105 rigidly secured upon the side face of the slide block 96, as is clearly shown in Fig. 8. This pawl is moved upwardly against the action of the spring 102 by means of the pin 79 on the push lever 80.

Upon the opposite face of the slide block 96 from that at which the plate 105 is mounted, we have pivotally mounted a latch lever 106, such latch lever being mounted upon a pin 107 extending horizontally through the slide block, such pin 107 having a spring 108 mounted thereon so as normally to hold the latch member 106 in its lowered position. Upon its forward end, the latch lever 106 is provided with a head portion 109 at right angles to the body of the latch member.

The arrangement is such that upon the operation of the machine the bearing plate 101 of the pawl mechanism is normally held in position to engage the block 54 and the arm 58 of the latch member 57 for disengaging the latch arm 59 from the ratchet 29 and for stopping the rotation of the drum. When such stoppage of the drum takes place, the operative head portion 109 of the latch member is moved downwardly into engagement with the block 52, the pawl and the latch member together serving to hold the drum rigidly against movement in either direction. When it is desired again to start the drum into rotation, this effect is brought about by the downward movement of the lever 80, serving through the action of the pin 79 to raise the pawl and the latch lever out of engagement with the cooperating parts of the drum, the pin 79 being normally positioned directly underneath the forward end of the pivotally mounted block 93, as is clearly shown in Fig. 7. When the knob 99 is rotated in the proper direction, the slide block 96 is moved toward the right in Figs. 7 and 8 for carrying the bearing plate 101 of the pawl and the operative head portion 109 of the latch member correspondingly toward the right so as to

cause such parts to be effective earlier for stopping the drum than is the case in the adjustment of the parts as shown in said Fig. 7, the leading edge of the master sheet 31 being stopped thus at a slightly higher point. When the knob 99 and the pin 97 are rotated in the opposite direction, however, the slide block 96 is moved toward the left in said Figs. 7 and 8 so as to cause the bearing plate 101 of the pawl and the operative head portion 109 of the latch member to be brought into operative engagement with the drum at a later point, with the result that the leading edge of the master sheet 31 is then stopped at a lowered point as compared with the showing of Fig. 7.

By the use of either of the constructions as above described, we are enabled very quickly and easily to adjust the margin to be left at the top of the copy sheet, such adjustment being capable of being made during the operation of the machine if desired. By either arrangement, the operative end portions of the pawl and the latch member are movable horizontally with respect to the drum for varying correspondingly the position of the drum when stopped thereby.

While we prefer to employ the form and arrangement of parts as shown in our drawings and as above described, it is to be understood that our invention is not limited to this form and arrangement except so far as the claims may be so limited, since changes might well be made in the means by which our results are attained without departing from our invention.

We claim:

1. In a duplicating machine, the combination of a frame, a drum rotatably mounted on said frame, means comprising a releasable clutch mechanism for driving said drum, means comprising a pawl pivotally supported on said frame adapted by engagement with a movable part of said clutch mechanism carried by the drum to open said clutch so as to stop the drum in predetermined established position with respect to the operative head portion of said pawl, a manually operable member rotatably mounted on said drum at its rear face, and means operated by said rotatably mounted member for adjusting the position of said operative head portion of the pawl circumferentially of the drum.

2. In a duplicating machine, the combination of a frame, a drum rotatably mounted on said frame, means comprising a releasable clutch mechanism for driving said drum, means comprising a pawl pivotally supported on said frame adapted by engagement with a movable part of said clutch mechanism to open said clutch, stop means on said drum in position for engagement with said pawl for stopping said drum when said clutch is opened, latch means pivotally mounted on said frame adapted by engagement with the drum to hold it against reverse rotation when it is stopped by said pawl, a pin rotatably mounted on said frame in horizontal position thereon, a knob on said pin for rotating the pin, and means operated by rotary movement of said pin for adjusting the position of the operative head portions of said pawl and said latch in conformity with each other circumferentially of the drum and for holding such adjusted parts effectively in alignment for smooth easy operation.

3. In a duplicating machine, the combination of a frame, a drum rotatably mounted on said frame, means comprising a releasable clutch mechanism for driving said drum, a block slidably mounted on said frame, a bolt adjustably connected with said block by means of screw-threads and extending rearwardly therefrom, means for holding said bolt against movement longitudinally thereof with respect to the frame, means on said bolt at the rear face of the frame for rotating the bolt so as to give said block a sliding movement, and means comprising a pawl pivotally mounted on said slide block adapted by engagement with a movable part of said clutch mechanism to open said clutch so as to stop the drum in predetermined established position with respect to said pawl.

4. In a duplicating machine, the combination of a frame, a drum rotatably mounted on said frame, means comprising a releasable clutch mechanism for driving said drum, a block slidably mounted on said frame, adjustable means for controlling the sliding movement of said block, means serving to hold said block against angular movement on the frame, means comprising a pawl pivotally mounted on said slide block adapted by engagement with a movable part of said clutch mechanism to open said clutch so as to stop the drum in predetermined established position with respect to said pawl, and latch means also pivotally mounted on said slide block adapted by engagement with the drum to hold it against reverse rotation when it is stopped by said pawl.

5. In a duplicating machine, the combination of a frame, a drum rotatably mounted on said frame, means comprising a releasable clutch mechanism for driving said drum, a block slidably mounted on said frame, adjustable means for controlling the sliding movement of said block, means for applying a frictional grip on said slide block for assisting in holding the block in operative position, and means comprising a pawl pivotally mounted on said slide block adapted by engagement with a movable part of said clutch mechanism to open said clutch so as to stop the drum in predetermined established position with respect to said pawl.

6. In a duplicating machine, the combination of a frame, a drum rotatably mounted on said frame, means comprising a releasable clutch mechanism for driving said drum, a block slidably mounted on said frame, adjustable means for controlling the sliding movement of said block, means for applying a light frictional grip on said adjusting means for holding them in their set positions, and means comprising a pawl pivotally mounted on said slide block adapted by engagement with a movable part of said clutch mechanism to open said clutch so as to stop the drum in predetermined established position with respect to said pawl.

7. In a duplicating machine, the combination of a frame, a drum rotatably mounted on said frame, means comprising a releasable clutch mechanism for driving said drum, means comprising a pawl pivotally supported on said frame adapted by engagement with a movable part of said clutch mechanism carried by the drum to open said clutch so as to stop the drum in predetermined established position with respect to the operative head portion of said pawl, means for adjusting said pawl bodily on said frame so as to change the position of said operative head portion of the pawl circumferentially of the drum, means comprising a push lever pivotally mounted on a fixed horizontal axis on said frame adjacent to the movable axis of said pawl and having a part extending toward said pawl, and a cam plate secured to said pawl longitudinally

thereof in position to be engaged by said push lever and shaped so as to cause the push lever to have substantially uniform turning effect on said pawl in different adjusted positions of the pawl.

8. In a duplicating machine, the combination of a frame, a drum rotatably mounted on said frame, means comprising a releasable clutch mechanism for driving said drum, a pawl member pivotally mounted on said frame, an auxiliary pawl member adjustable longitudinally of said first-named pawl member circumferentially of the drum adapted by engagement with a movable part of said clutch mechanism on the drum to open said clutch so as to stop the drum in predetermined established position with respect to the operative head portion of said pawl and means comprising a rotatable knob at the rear face of the frame for adjusting said auxiliary pawl member with respect to said first-named pawl member for changing the position at which said drum is brought to a stop.

9. In a duplicating machine, the combination of a frame, a drum rotatably mounted on said frame, means comprising a releasable clutch mechanism for driving said drum, a pawl member pivotally mounted on said frame, an auxiliary pawl member adjustable longitudinally of said first-named pawl member circumferentially of the drum adapted by engagement with a movable part of said clutch mechanism on the drum to open said clutch so as to stop the drum in predetermined established position with respect to the operative head portion of said pawl, and latch means pivotally mounted on said second pawl member and adjustable therewith with respect to said first-named pawl member adapted by engagement with the drum to hold the drum against reverse rotation when it is brought to a stop.

10. In a duplicating machine, the combination of a frame, a drum rotatably mounted on said frame, means comprising a releasable clutch mechanism for driving said drum, a pawl member pivotally mounted on said frame having an elongated socket in its free end portion, an auxiliary pawl member slidably mounted in said socket so as to be adjustable circumferentially of the drum and held by said socket against rotary movement with respect thereto, and adjustable means for controlling the position of said auxiliary pawl member longitudinally of said first-named pawl member, said auxiliary pawl member being adapted by engagement with a movable part of said clutch mechanism on the drum to open said clutch for stopping the drive of the drum.

ALFRED MARCHEV.
ROBERT F. MORRISON.