

Jan. 30, 1951

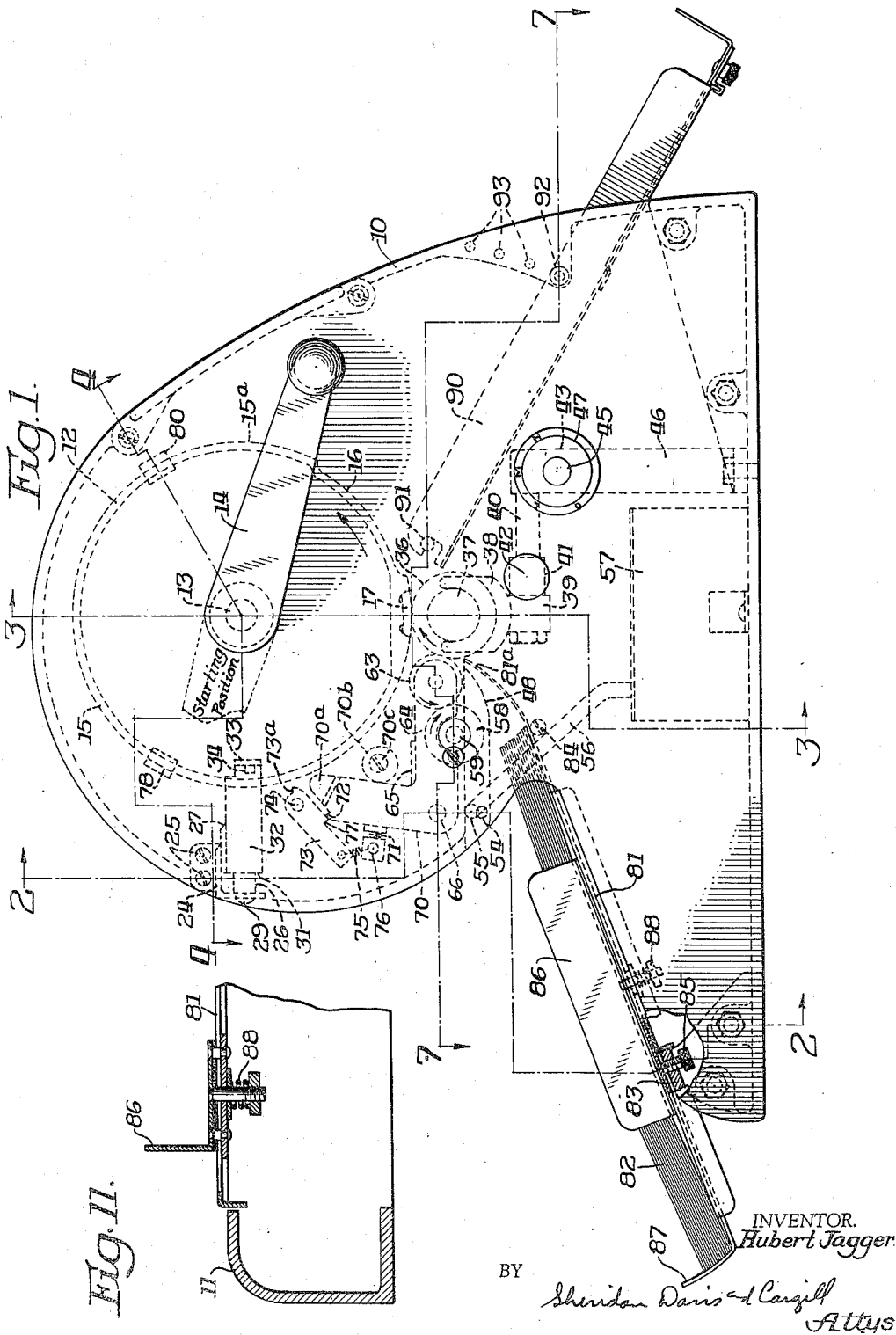
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2,539,839

MOISTENING CONTROL DEVICE FOR DUPLICATING MACHINES

Filed July 18, 1945

6 Sheets-Sheet 1



Jan. 30, 1951

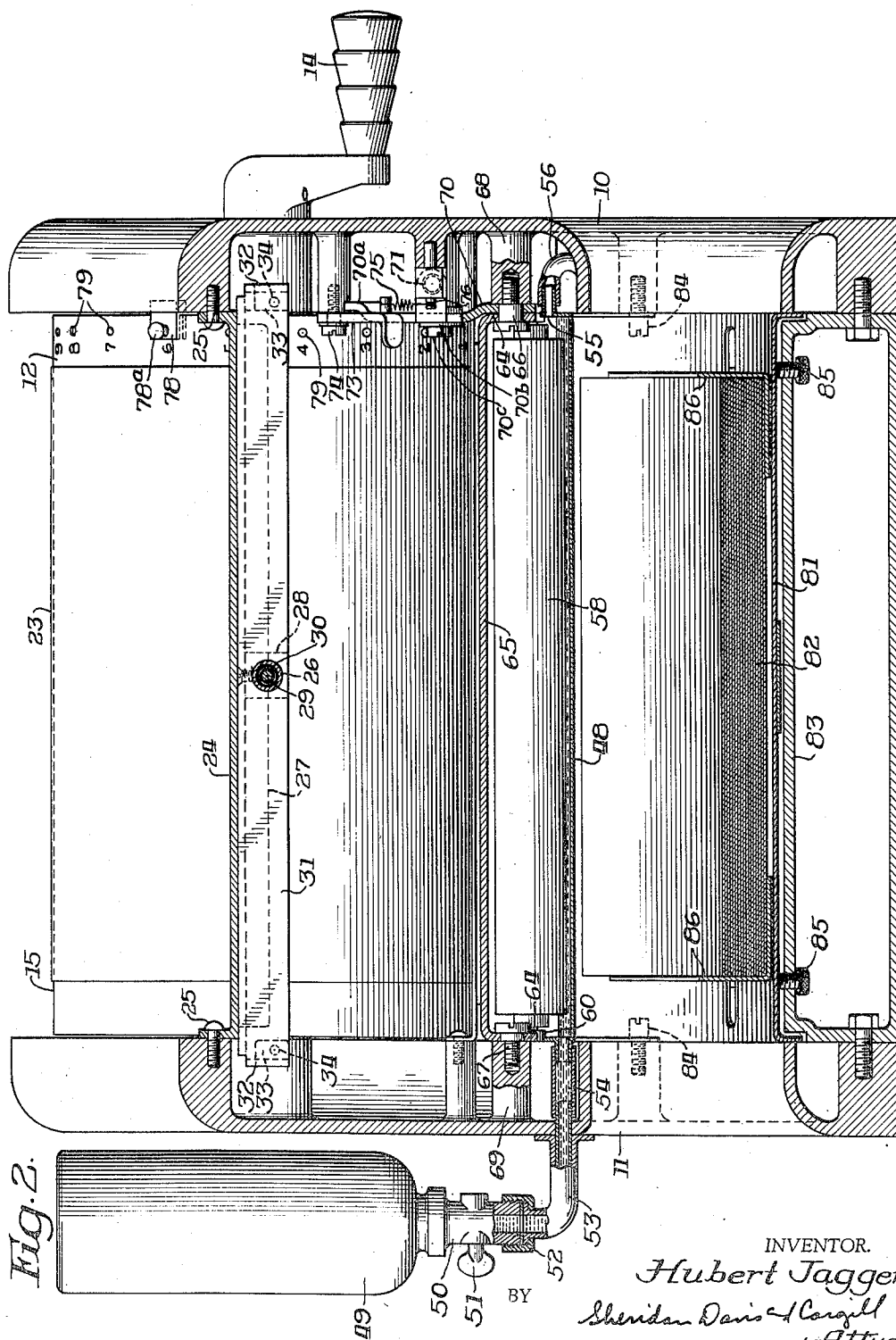
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MOISTENING CONTROL DEVICE FOR DUPLICATING MACHINES

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6 Sheets-Sheet 2



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MOISTENING CONTROL DEVICE FOR DUPLICATING MACHINES

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6 Sheets-Sheet 3

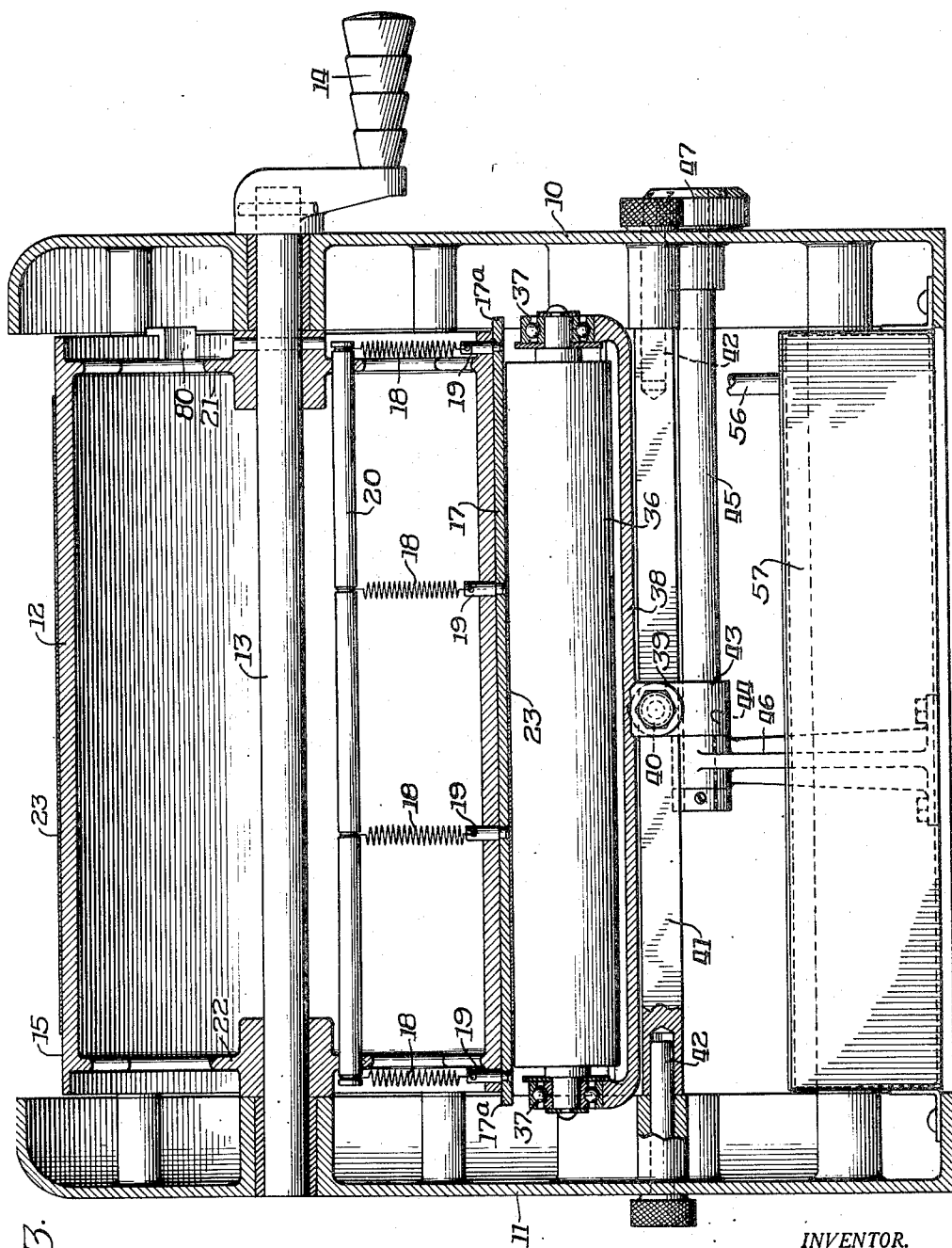


Fig. 3.

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6 Sheets-Sheet 4

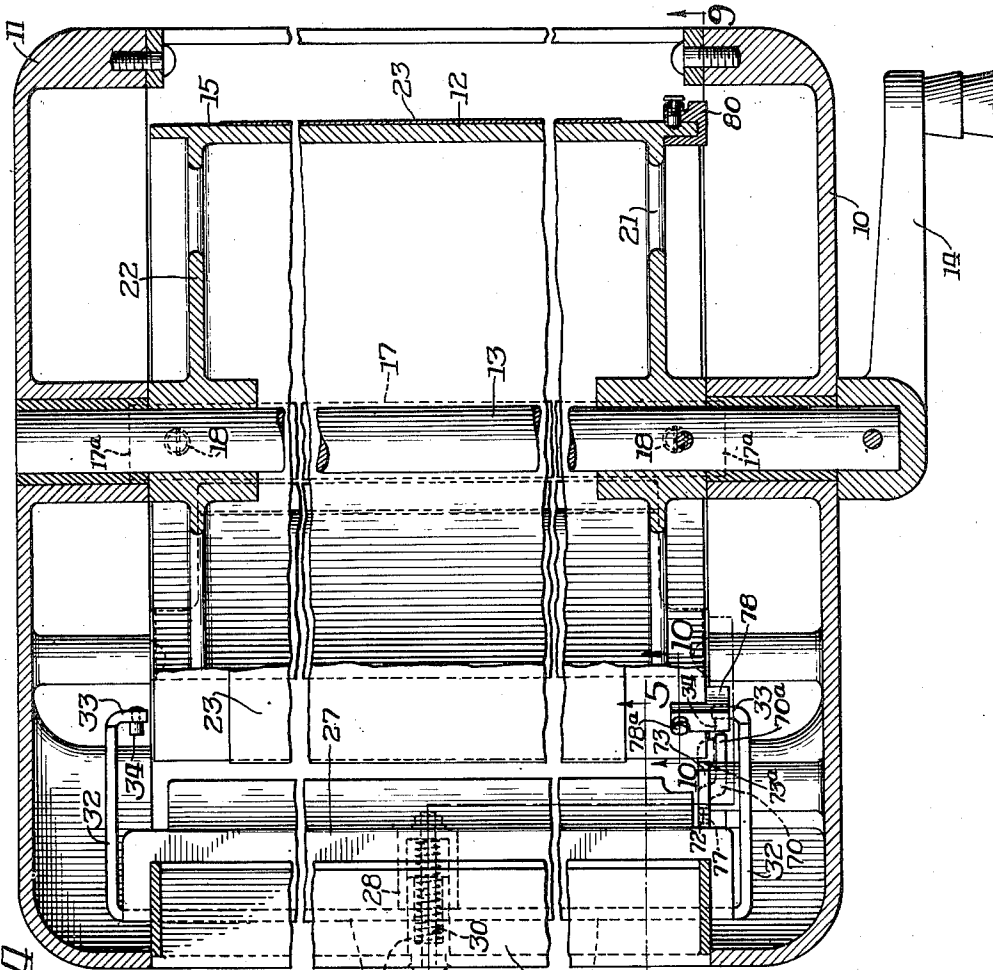


Fig. 4

Fig. 5.

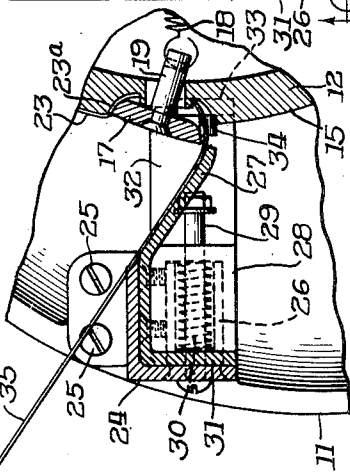
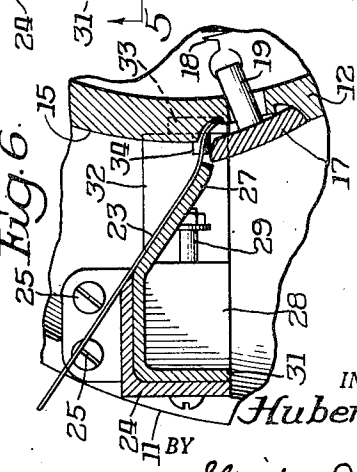


Fig. 6.



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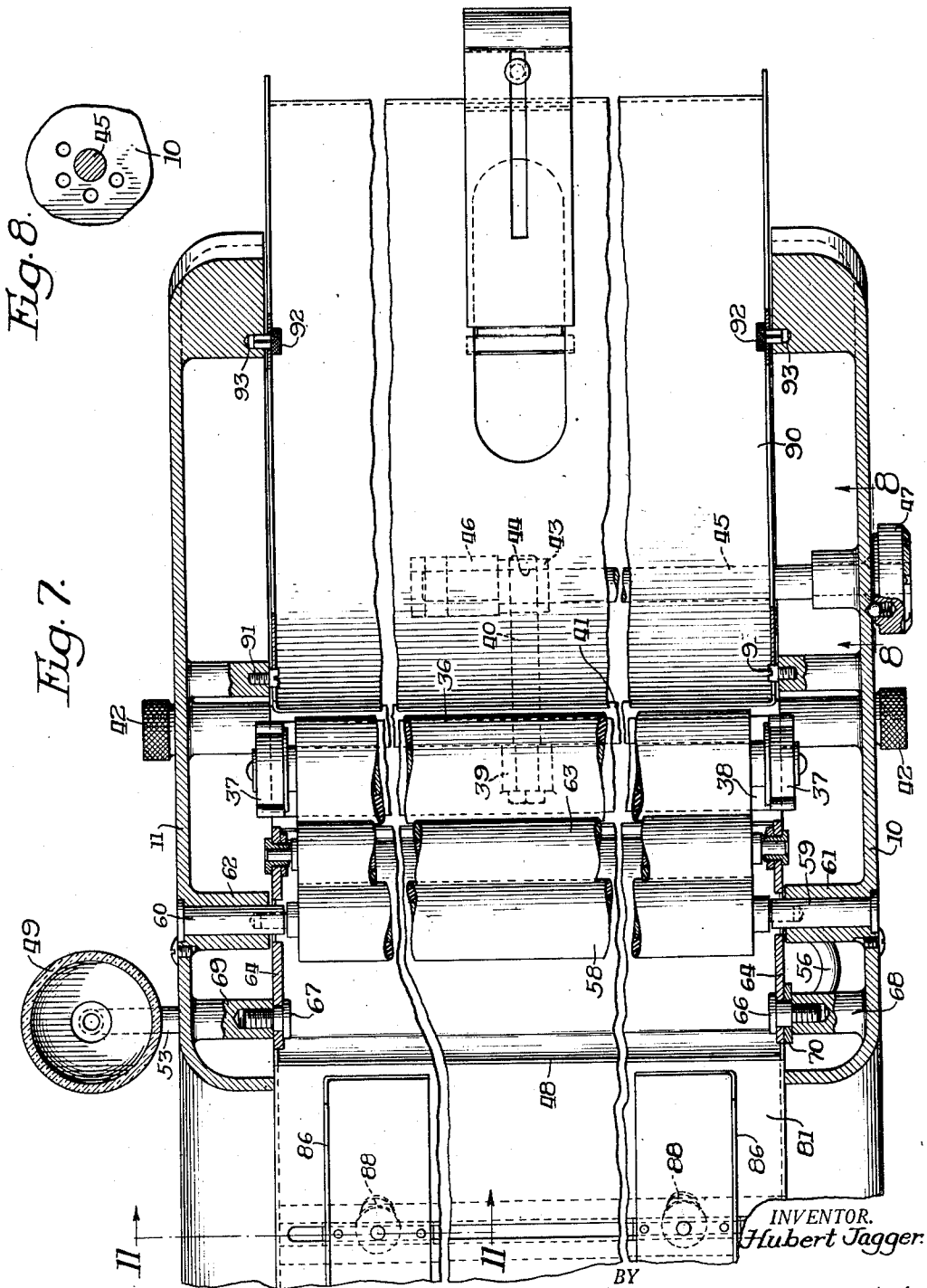
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MOISTENING CONTROL DEVICE FOR DUPLICATING MACHINES

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6 Sheets-Sheet 5



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MOISTENING CONTROL DEVICE FOR DUPLICATING MACHINES

Filed July 18, 1945

6 Sheets-Sheet 6

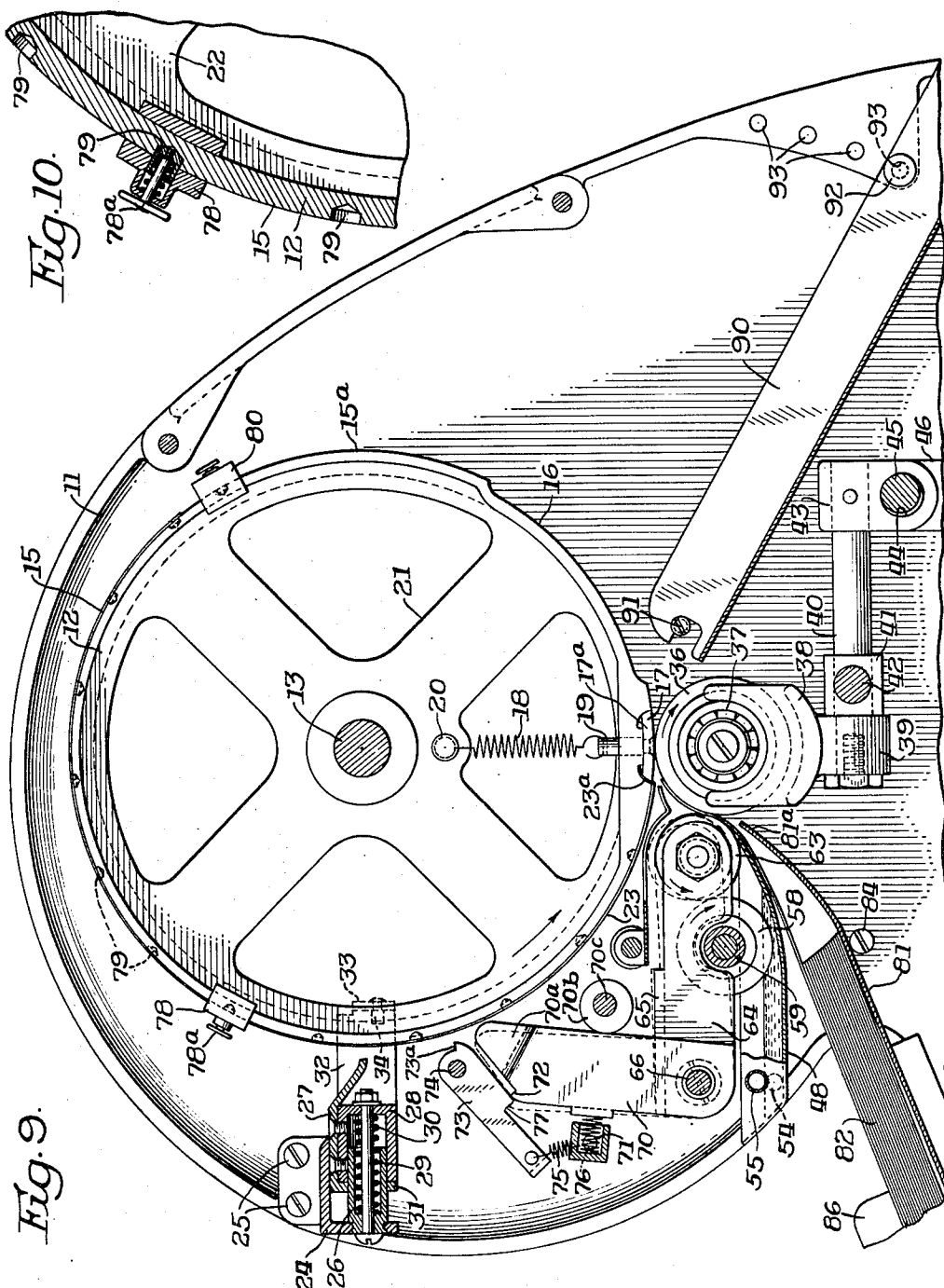


Fig. 9.

Fig. 10.

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UNITED STATES PATENT OFFICE

2,539,839

MOISTENING CONTROL DEVICE FOR
DUPLICATING MACHINES

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Application July 18, 1945, Serial No. 605,659

6 Claims. (Cl. 101—132.5)

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This invention relates to duplicating machines.

One object of the invention is to provide an improved duplicating machine of the liquid type, although certain features of the improvement may be employed in other forms of duplicators, such as the gelatin-band type for example.

Another object of the invention is to provide improved copy-sheet moistening means whereby liquid can be applied only to the surface of the copy sheets whether they be of the same length as, or of less length than, the master sheet, thereby avoiding the disadvantages resulting from the repeated addition of transfer liquid needlessly to parts or portions of the master sheet which might be transferred to the pressure or platen roller and to the drum or other moving parts of the machine, and also economizing in the use of the liquid.

Another object of the invention is to provide a duplicating machine comprising a rotary drum and a cooperating pressure roller that is mounted to insure uniform contact throughout its length with the drum, thereby avoiding non-uniform impressions on the copies such as result from variations in pressure between the members mentioned.

Another object of the invention is to provide conveniently operable means for varying the pressure exerted by the pressure roller against the drum.

A further object of the invention is to provide an improved master clamp for attaching to the drum a master sheet (of which copies of matter thereon are to be reproduced) together with means whereby the changing of masters may be easily and expeditiously accomplished and whereby block-out sheets also may be attached to or released from the drum without releasing the master sheet.

Other objects of the invention relate to various features of construction and arrangement of parts which will be apparent from a consideration of the following specification and accompanying drawings wherein:

Figure 1 is a side elevation of a duplicating machine which is illustrative of the present invention.

Figure 2 is a sectional view taken on line 2—2 of Figure 1.

Figure 3 is a sectional view taken on line 3—3 of Figure 1.

Figure 4 is a sectional view taken on line 4—4 of Figure 1.

Figure 5 is an enlarged broken sectional view taken on line 5—5 of Figure 4, illustrating the

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master clamp held in a retracted position for receiving a block-out sheet.

Figure 6 is a similar view showing the clamp in retracted position for receiving a master sheet.

Figure 7 is a sectional view taken on line 7—7 of Figure 1.

Figure 8 is a broken sectional view taken on line 8—8 of Figure 7.

Figure 9 is a vertical sectional view taken on line 9—9 of Figure 4.

Figure 10 is an enlarged broken sectional view taken on line 10—10 of Figure 4.

Figure 11 is an enlarged broken sectional view taken on line 11—11 of Figure 7.

The machine shown in the drawings is provided with two side frame members 10 and 11 between which is disposed a rotary drum 12. As shown in Figure 4, the drum is secured to a shaft 13 journaled at its ends in the side frame members 10 and 11 and having at one end, in the embodiment illustrated, an operating handle 14. The machine shown for illustrative purposes thus is the hand operable type but it will be understood that the same may be power driven if desired.

The periphery of the drum is shown as consisting of a cylindrical portion 15 and an inwardly offset or reentrant portion 16, the purpose of the latter of which will be hereinafter pointed out. The cylindrical portion 15 of the drum is provided with a longitudinal recess in which a clamp member or bar 17 is adjustably seated. The outer surface of the clamp bar is of a curvature conforming to the cylindrical surface portion of the drum. The clamp is retained normally on its seat in the position shown in Fig. 9 for example, by means of spring 18 (see Fig. 3) each secured to an inwardly directed stud 19 secured to the clamp bar 17 and each attached at the opposite end to a rod 20 carried by the end walls 21 and 22 of the drum. The clamp thus normally is retained in the position shown in Fig. 9 but may be withdrawn outwardly from its seat by reason of the mounting described. The clamp bar 17 is designed to clamp an end of a master sheet to the drum, the "master" sheet as used in this specification designating a sheet carrying copy that is written, typed or printed in reproducible or hectograph ink.

In the drawings, numeral 23 designates a master sheet attached to the drum by having its upper end 23a disposed under one of the longitudinal edges of the clamp bar 17 as illustrated, for example, in Fig. 9. The recess in the drum within which the clamp bar 17 normally is seated

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is shaped to enable the clamp bar to be tilted outwardly, against the tension of the springs 18, at either longitudinal edge of the bar, the other longitudinal edge remaining seated in the recess and thus retaining in position a second sheet, should such be in clamped relation when the first mentioned edge is retracted as stated. Thus the clamp bar may be utilized for retaining on the drum two sheets, one sheet such as a master sheet 23 and a second sheet such as a block-out sheet not shown in Fig. 1.

In the event a block-out sheet is used, it may be clamped at one edge thereof beneath the forward or advancing longitudinal edge of the clamp as viewed in Fig. 9, the trailing edge of the clamp in said figure being shown in clamping relation with the master 23. A block-out sheet is any sheet of paper or the like which overlies a portion or all of the master sheet and has cut outs therein which permit reproduction only of a portion or portions of the master, the sheet blocking out the portions of the master which are not to be duplicated upon copy sheets which are passed through the machine.

As shown in Figure 3, the ends of the clamp bar 17 project slightly beyond the ends of the cylindrical portion of the drum, such projecting ends being designated as 17a. Means are provided for the convenient withdrawal of one edge or the other of the clamp bars from the position shown in Fig. 9 for inserting a master sheet or a block-out sheet in clamping position. A suitable clamp releasing means is shown in Figs. 4, 5, 6, and 9. The means illustrated comprises a transverse frame member 24 secured at its ends to the respective frame members 10 and 11 by screws 25 (see Fig. 5). A spring guide 26 is secured to member 24, as shown in Fig. 9, which guides a slidable structure comprising a sheet guide 27 which is secured to a bored block member 28 through which extends a bolt 29. The bolt 29 carries a spring 30 under compression and hence presses the slidable structure normally to the right as viewed in Fig. 9. By grasping the forward or right hand edge of member 28, the slidable structure can be retracted manually against the action of the spring to the position shown in Figs. 5 and 6 for example. The slidable structure carries a transverse member 31 of a length somewhat greater than the axial length of the drum and at its ends is provided with arms 32 each having an end portion 33 turned inwardly toward the drum. Each portion 32 is shown provided with a stud or like member 34 which when the slidable structure is retracted, is designed to engage the rear of the bar adjacent one longitudinal edge or the other of the clamp bar 17. When the drum has been adjusted to a proper position wherein one edge of the bar or the other engages the stop studs 34, manual movement of member 28 against the spring 30 will by engagement of the inturned ends 33 of arms 32, retract the selected edge of the bar from its seat sufficiently to enable the insertion beneath such edge of a master sheet 23, as shown in Fig. 6, or a block-out sheet 35 as shown in Fig. 5 in the event the other edge of the bar is unseated. Hence it will be seen that by adjusting the drum to a position wherein one edge portion or the other is aligned with the studs 34 such edge of the clamp may be withdrawn to sheet receiving or releasing relation by the manual retraction of the member 28. Upon release of the member 28 after the insertion of such a sheet, the springs 18 restore the

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clamp bar to the position shown in Fig. 9 for clamping such inserted sheet in position. It will be seen that either longitudinal edge of the bar may be withdrawn without releasing the other edge from clamping relation with the corresponding sheet. Hence after a master has been inserted in position as shown in Fig. 9, a block-out sheet may be placed in position wherein it overlies one or more portions of the master sheet, which block-out sheet may later be removed without necessitating the removal or readjustment of the master.

Associated with the drum 12 and arranged to be driven by contact with the cylindrical surface 15 thereof is a pressure or platen roller 36. The platen roller, which usually is a rubber or rubber-coated roller, is mounted at its ends in bearings 37 for free rotation therein. The bearings 37 are carried in a rockable support 38 which at its central portion, as viewed in Figs. 3 and 9, is provided with an upright member 39 extending through which is a shaft 40. By this arrangement the roller supporting member 38 is pivotally mounted on a horizontal axis as viewed in Fig. 3. The shaft 40 extends through a bar 41 journalled on pins 42 carried by the end frame members 10 and 11. The bar 41 thus is rockable on a horizontal axis defined by the pins 42. To the other end of the rod 40, as viewed in Fig. 9, is secured a member 43 having a cylindrical horizontal opening 44 therethrough. Extending through the opening is an adjusting shaft 45 the inner end of which is journalled in a support 46 while the outer end is journalled in the wall 19 of the casing. The shaft 45 is provided with an eccentric portion within member 43 whereby rotation of the shaft 45 will rock the rod 40 about the axis defined by pins 42 thereby moving the platen 36 toward or away from the drum. The extent of movement of the roller is not great and the purpose thereof is to vary the degree of pressure of the platen against the cylindrical surface of the drum.

The outer end of the shaft 45 is provided with an operating knob 47 which as viewed in Fig. 1 may carry indicia for the guidance of the operator in selecting the degree of pressure to be exerted by the platen against the drum for controlling the intensity of the copies. The knob 47 for example may be provided with the letters L, M and H as shown in Fig. 1 indicating light, medium and heavy pressure of the platen against the drum. Since the platen is supported wholly by pivotal means at its center, it tends to exert uniform pressure throughout its length with the cylindrical portion of the drum. Thus a copy sheet or master, for example, that varies in thickness is compensated for by the structure defined. In the event of the wearing or slight misalignment of parts which tend to throw the axis of the drum out of parallelism with the axis of the platen, the latter automatically adjusts itself to provide uniform pressure against the surface of the drum.

The platen 36 as will be seen, is driven clockwise, as viewed in Fig. 9, by the rotation of the drum in a counter-clockwise direction and is adapted to cooperate with the drum for engaging the end of a sheet moved into the bight between the platen and drum to carry the copy sheet forwardly between the drum and platen and to press such copy sheet into reproducing contact with a master on the drum.

Since the machine shown in the drawings is of the liquid type means are provided for mois-

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tening the surfaces of the copy sheets as they are moved into reproducing relation with a master on the drum. The moistening means disclosed in the drawings comprises a liquid tank 43 which may be of sheet metal and is arranged transversely of the machine. Liquid, generally a mixture of alcohol and water, is supplied to the tank 43 from a receptacle 49 shown in Fig. 2 which may be a bottle or the like. The receptacle is mounted upon an adaptor 50 preferably having a stop cock 51 which in turn is carried by a threaded end portion 52 of a conduit 53 which may be secured to the end wall 11 of the casing. When the stop cock 51 is open, liquid flows through the conduit to a tube 54 into the tank 43 and when the liquid has risen to a level to close the tank inlet, flow from the receptacle 49 stops. The arrangement, as is well known, will maintain the liquid in the tank at a constant level. However, should air leak into the receptacle 49 or for any other reason excess liquid should flow into tank 43 tending to raise the level above that desired, surplus liquid will flow through a tank outlet 55 and through duct 56 into an over-flow tank 57 shown in Fig. 3.

A wallower roll 58 is mounted so that a portion thereof is below the level of the liquid in the tank as viewed in Fig. 9, the roller being shown as rotatively mounted in bearings 59 and 60 which are carried in inwardly directing bosses 61 and 62 formed integrally with the end walls 10 and 11 of the casing.

A moistening roll 63 is disposed generally between the platen 36 and the roll 58, and when in the position shown in Fig. 9, it translates rotary motion from the platen to the roll 58 whereby as platen 36 is driven clockwise by the drum as viewed in said figure, moistening roll 63 will be rotated counter-clockwise and will in turn rotate roll 58 in a clockwise direction thereby wetting the surface of the roll 58 and transferring moisture to the surface of the moistening roll 63. Roll 63 applies moisture to the upper surface of copy sheets, as will be hereinafter described, as the same are fed into the machine.

The roll 63 at its ends is journaled in a roller supporting member comprising a pair of parallel arms 64, which arms are rigidly connected together for operation in unison by means of a transverse connecting member or bar 65. Bar 65 and arms 64 may be integrally formed. The left hand ends of the arms 64 as shown in Fig. 2 are pivotally mounted on studs 66 and 67 to inwardly directed posts or bosses 68 and 69 provided on the side walls 10 and 11 respectively of the casing. It will be seen that the arms 64, being connected by the transverse member 65, will swing in unison about the pivotal axis defined by studs 66 and 67 and thus swing the moistening roll 63 therewith. The arm 64 on the right hand side of the machine as shown in Fig. 2 is provided with an operating lever 70 which may be welded or otherwise fixed to the arm whereby swinging of the lever 70 will rock the two arms 64 about the pivotal axis thereof.

A spring 71 is shown in Fig. 9 for biasing the arm 70 for movement in a clockwise direction thereby tending to swing the roll 63 into contact with platen 36 and to establish also, contact with the roll 58. The clockwise swinging movement of the lever 70 can be arrested in a position to avoid excessive pressure of the roll 63 against platen 36 by the provision of a suitable stop, such as the adjustable cam shaped or eccentric stop

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70^a shown in Fig. 9. The stop is secured in any adjusted position by a screw 70^c extending into the side wall 10 as shown in Fig. 2. The upper end of the lever 70, as shown in Fig. 9, is provided with a shoulder or catch 72 which is adapted for cooperation with a latch member 73 pivotally mounted as at 74 to side wall 10. The latch 73 carries a spring 75 at its lower end which is also attached to a stud 76 whereby the latch 73 as viewed in Fig. 9 is biased in a counter-clockwise direction. The latch 73 is provided with a latching shoulder 77 for cooperation with the catch 72 whereby when the lever 70 is swung in a counter-clockwise direction as viewed in Fig. 9, the catch 72 will engage the latch element 77 and retain the lever 70 in the retracted position until released. Such counter-clockwise swinging movement of lever 70 swings the roll 63 out of contact with platen 36.

The upper end of the lever 70 has a laterally offset portion 70^a which is adapted to be engaged by a latch actuating member 78 which is adjustably secured to the right hand margin of the drum as viewed in Fig. 2. The member 78 constitutes means for retracting lever 70 into a position for temporary retention by the latch 73. The member 78 as shown in Fig. 9 extends radially outwardly beyond the surface of the drum a distance less than the space between said surface and the projecting finger member 73^a of the latch. Hence the operating member 78 will move past the finger 73^a without releasing the latch, but the member 78 extends laterally from the right hand end of the drum a distance sufficient to engage the laterally offset portion 70^a of the lever 70 for contact therewith for swinging the lever 70 to the left or counter-clockwise and thus moving the catch 72 into a position for engagement by the latch portion 77.

The member 78 is adapted to be adjusted to various positions along the edge of the drum and in the form shown comprises a spring pressed pin 78^a adapted to seat in any one of several positioning recesses 79 provided in the outer surface of the right hand edge of the drum as viewed in Fig. 2. As shown in said last mentioned figure these recesses carry indicia or numbers which conveniently may correspond in inches to lengths of copy sheets. Thus if copy sheets eight inches in length are to be run through the machine, the member 78 may be adjusted for engagement of the recess 79 indicated by the numeral 8 in Fig. 2. The purpose for this arrangement is to insure the application of moisture to the copy sheets as the same pass into the machine without applying moisture to the surface of the platen 36 as will be explained further. Hence the member 78 normally is seated in a position along the edge of the drum according to the length of the copy sheet or corresponding to the lower portion of the writing on the original or master that is to be duplicated notwithstanding that the copy sheets may be somewhat longer. Thus where the material being duplicated extends only six inches down a copy sheet for example, the member 78 can be set so that the liquid will be applied to the copy sheets over the portions of the surface thereof only that are to receive the matter from the master.

Also attached to the periphery of the drum is a second actuating member 80 which is relatively fixed to the drum since there is little need for adjusting it once it is fixed in proper position. The member 80 as shown in Fig. 9 is thicker radially than the member 78 but extends laterally from

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the edge of the drum a distance less than member 78. Hence as member 80 rotates counter-clockwise from the position of Fig. 9, it will strike the finger 73^a of latch 70 and swing the latch in a clockwise direction. If the lever 70 is in the dotted line position shown in Fig. 9, the clockwise swinging of the latch 73 effected by the engagement of actuating member 80 with the finger 73, will release the lever 70 for movement by its spring 71 in a clockwise direction thereby moving the moistening roll 63 into contact with wallower roll 58 and likewise into contact with platen 36. The member 80 extending laterally a less distance from the edge of the drum than the member 78 will not engage the offset portion 70^a of the lever 70, the latter member being actuated only by member 78 as described above. Hence it will be seen that the member 78 swings the lever 70 into latching position wherein the moistening roll 63 is moved to elevated position as shown in dotted lines in Fig. 9 or out of contact with the platen 36, while the actuating member 80 releases the lever 70 from latched position for effecting restoration of the roll 63 into contact with the platen.

Where the machine illustrated is not to be used for a period of time, the handle 14 preferably is stopped in a position wherein the actuator member 78 will have moved the lever 70 into latching position, thus moving the moistening roll 63 out of contact with the platen 36. When the machine is next used, the handle is rotated counter-clockwise but such movement does not add moisture to the platen due to the fact that the roll 63 is not in driven relation with the platen. However, when actuator 80 moves into engaging position with finger 73^a of the latch 73, the lever 70 will be released and the roll 63 will move into contact with the platen. In the event of further movement of the handle, the platen will drive roll 63 and the latter will drive the wallower roll 58 whereby liquid will be transferred from roll 58 to the surface of roll 63 and, if such action is continued sufficiently, liquid will likewise be applied to the surface of the platen. Application of liquid to the platen is to be avoided since liquid on the copy sheet which is of no advantage in making copies and constitutes a waste of the liquid. Hence the actuator 80 is positioned peripherally a distance from the forward or advancing edge of the reentrant portion 16 that corresponds to the degree of rotation of rolls 58 and 63 that is required in moving liquid from the surface of the liquid in the tank 48 substantially up to the line of contact between the roll 63 and platen 36. When the forward edge of the reentrant portion 16, moving counter-clockwise as viewed in Fig. 9, reaches the platen 36, the latter is no longer driven and due to the distance from the actuator 80 to said forward edge of the depressed or reentrant portion 16, the lower half of the roll 63 will be moistened. In other words the liquid on the roll will extend up closely into the bight between roll 63 and platen 36 preferably without, however, moistening roll 36. Hence the section 15^a of the roll periphery initially drives the platen and rolls 58 and 63 to effect premoistening of roll 63 whereby the first copy sheet of a batch of sheets to be run through the machine will be moistened from adjacent the upper end to the lower end or to a lower portion corresponding to the seating of actuator 78. By this arrangement the initial copy of a batch of copy sheets will be clear and useful notwithstanding that the ma-

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chine may have been idle for a substantial period.

As illustrated in Fig. 9 a feed table 81 is shown for holding a supply of copy sheets 82. The feed table 81 is shown as supported at its lower end upon a transverse brace 83 (see Fig. 2) at the front of the frame members 10 and 11 and is secured to the latter as part of the frame work for rendering the frame rigid. The forward portion of the table 81 is supported by screws 84 that extend inwardly from the respective frame members 10 and 11. The brace 83 is provided with a pair of adjusting screws 85 shown in Fig. 2 whereby the table can be tilted slightly about the supporting pins 84 as a pivotal axis for aligning the upper edge 81^a of the table properly with respect to the bight of the roll 63 and platen 36 for insuring proper entrance of a copy sheet into a position of engagement between the contacting moistener roll and platen. The feed table is shown provided with laterally adjustable side guides 86 whereby the table is adapted to accommodate sheets varying in width and is provided also with a lower adjustable stop 87 for accommodating copy sheets 82 of different lengths. The guides 86 are frictionally retained in adjustable position by means of spring tensioning means 88 as shown in Fig. 11.

With a stack of copy sheets 82 upon the table 81 as shown in Figs. 1 and 9, for example, the top sheet may be slid forwardly until the upper edge is in the bight of platen 36 and roller 63, it being assumed that the roller 63 was premoistened as above described. The roll 63 applies liquid to the copy sheet and cooperates with the platen in engaging the copy sheet, as shown in Fig. 9, for advancing it into position for engagement between the platen 36 and cylindrical surface of the drum. The copy sheet is thus advanced by engagement between the platen and the drum which cooperate also to press the moistened copy sheet as it moves through the machine into copying contact with the master 23 carried by the drum. The sheet is discharged as it passes between the drum and platen into a receiving tray indicated by the numeral 90. The tray is shown as supported at its upper end by a pair of studs 91 and at its lower end by studs 92, the latter studs being positioned in any one of a series of openings 93 provided in adjacent portions of the side walls 10 and 11 whereby the angle of the tray may be adjusted should such be desired.

As described above upon the moistening of the copy sheet by the roll 63 or upon the moistening of some predetermined portion thereof as determined by the setting of the actuator 78, the latter will, during the rotation of the drum, engage the lever 70 and move it into retracted position shown in dotted lines in Fig. 9, thus moving the roll 63 out of contact with the platen and thus avoiding the application of moisture to the platen during the intervals following the advancement of a copy sheet through the machine. A second sheet is then advanced into feeding position while the reentrant portion 16 is above the roll 63, the handle is further operated to bring the actuator 80 into contact with the releasing finger 73^a of the latch whereupon the roll 63 is returned to driven contact with the platen and such second sheet is fed forwardly and concurrently moistened by the roll 63 as described above. It will be understood that an experienced operator can feed the copy sheets in synchronism with the rotary movement of the drum and hence a relatively large number of copy sheets can be run through the machine while the latter is being operated

substantially continuously. As pointed out above, the machine may be motor-operated if desired and an automatic feed may be employed for feeding the copy sheets 82 into the machine.

While I have shown and described a preferred embodiment of the invention various details of structure may be varied without departing from the scope and spirit of the invention exemplified by the following claims.

I claim:

1. A duplicating machine comprising a rotary drum, means for attaching a master sheet to said drum, a platen roller arranged for driven contact with said drum and for cooperating therewith for engaging a copy sheet therebetween and advancing the same into and through copying relation with respect to a master sheet on said drum, a moistening roll cooperating with said platen for initially feeding a copy sheet into said copying relation and for applying liquid to the copy sheet during said cooperation of said roll and platen, means supporting said roll for movement out of said cooperating relation with the platen, and means comprising a manually adjustable member on the drum adapted to be adjusted to different angular positions thereon for effecting the movement of said moistening roll out of said cooperative relation with the platen upon application of liquid to a predetermined portion of a copy sheet as the sheet is being advanced in copying relation by the coaction of said drum and platen.

2. A duplicating machine comprising a rotary drum, means for attaching a master sheet to the drum for rotation therewith, a rotatable platen arranged in driven contact with said drum and cooperating therewith for engaging a copy sheet and pressing the same into and advancing the same through copying relation with respect to the master, a moistening roll, an operable support for said roll, biasing means for operation of said support in a direction for effecting driven contact of said roll with said platen whereby said platen and roll cooperate to feed initially a copy sheet into a position for engagement between said platen and drum, means for supplying liquid to said roll for application thereby to the copy sheet as the same passes between said roll and platen, a member carried by said drum at a position thereon for engaging and moving said support in the opposite direction to a position wherein said roll is out of contact with said platen for interrupting the application of liquid to sheets passing between said roll and platen, latching means for retaining said support in said last mentioned position, and a second member on the drum circumferentially spaced from said first member for releasing said latching means to enable said biasing means to effect return of said support in said first mentioned direction.

3. A duplicating machine comprising a rotary drum, means for attaching a master sheet to the drum for rotation therewith, a rotatable platen arranged in driven contact with said drum and cooperating therewith for engaging a copy sheet and pressing the same into and advancing the same through copying relation with respect to the master, a moistening roll, an operable support for said roll, biasing means for operating said support in a direction for effecting driven contact of said roll with said platen whereby said platen and roll cooperate to feed initially a copy sheet into a position for engagement between said platen and drum, means for supplying liquid to

said roll for application thereby to the copy sheet as the same passes between said roll and platen, means located on the drum at a position for engaging and moving said support in the opposite direction to a position wherein said roller is out of driven contact with said platen for interrupting the application of liquid to a sheet passing between said roll and platen, means for releasably latching said support in said position, and means actuated by said drum for automatically releasing said latching means for actuation of said support by said biasing means for moving the moistening roll into contact with the platen.

4. In a duplicating machine comprising a rotary drum, means carried by said drum for attaching thereto a master copy, a rotatable platen positioned in driven contact with the drum and adapted to cooperate therewith in engaging a copy sheet and pressing the same into copying relation against said master and advancing the same between the drum and platen, a moistening roll, a movable support for said roll, means for moving said support in a direction to position said roll in driven contact with said platen for initially feeding a copy sheet into a position for engagement by said platen and drum, means for supplying liquid to said roll for application thereby to the copy sheet as the same passes between said roll and platen, biasing means acting on said support in a direction to move said roll into said driven contact with said platen, a catch on said support, an operable latch member, a member on said drum adapted to engage said support for moving said roll out of contact with said platen and to effect engagement of said catch with said latch for restraining movement of said support by said biasing means, and a second member on said drum for operating said latch to catch-releasing position to enable said biasing means to effect actuation of said support in a direction to restore said roll in driven contact with said platen.

5. In a liquid type duplicating machine comprising a rotary drum, means for attaching a master copy to the drum, a rotary platen adapted to press successive copy sheets into copying relation with the master, means movable from an inoperative position to an operative position for applying liquid to the surface of said copy sheets as the same move into said copying relation, an adjustable member on said drum adapted to be adjusted circumferentially thereof to positions correlated to selected linear distances that liquid is to be applied to said copy sheets by said applying means, supporting means for said applying means actuatable by said adjustable member during rotation of the drum for effecting movement of said applying means from said operative to said inoperative position for interrupting the application of liquid to a copy sheet following application of liquid through a said distance, means for latching said supporting means in said inoperative position, and a member on the drum for engaging and releasing said latching means.

6. In a liquid type duplicating machine comprising a rotary drum, means for attaching a master copy to the drum, a rotary platen adapted to press successive copy sheets into copying relation with the master, means movable from an inoperative position to an operative position for applying liquid to the surface of said copy sheets as the same move into said copying relation, an adjustable member on said drum adapted to be adjusted to circumferentially thereof to positions correlated to selected linear distances that liquid

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is to be applied to said copy sheets by said applying means, means engageable by said adjustable member during rotation of the drum for effecting movement of said applying means from said operative to said inoperative position, and means comprising a second member on said drum for effecting the restoration of said liquid applying means to said operative position.

HUBERT JAGGER.

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10

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Number	Name	Date
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2,161,795	Bennello -----	June 13, 1939
2,165,972	Kokay -----	July 11, 1939
2,220,265	Morrison -----	Nov. 5, 1940
2,220,282	Ritzerfeld -----	Nov. 5, 1940
2,349,634	Neal -----	May 23, 1944
2,364,942	Bradt -----	Dec. 12, 1944

FOREIGN PATENTS

Number
367,775

Country	Date
Italy -----	Feb. 2, 1939