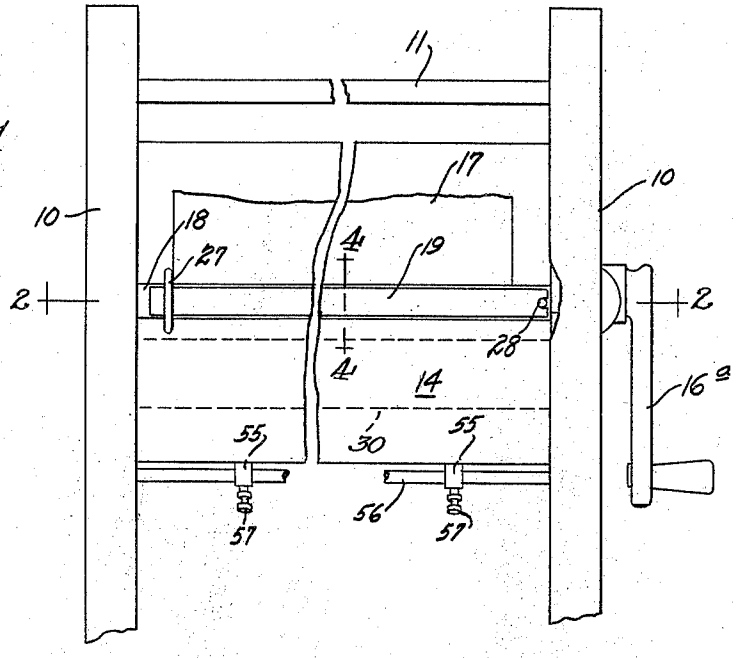
Jan. 21, 1941. A. V. DITTY ET AL 2,229,059

SHEET ATTACHING MEANS FOR DUPLICATORS

Filed June 20, 1938

Fig. 1



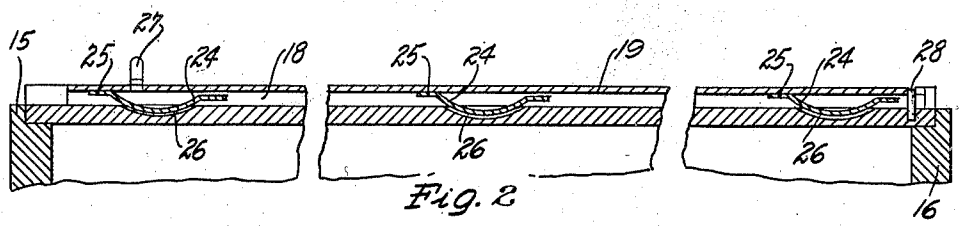


Fig. 2

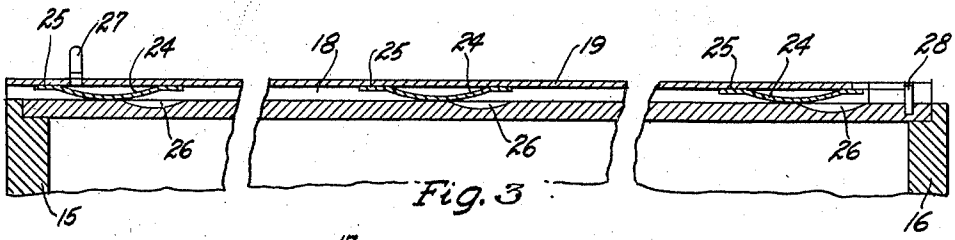
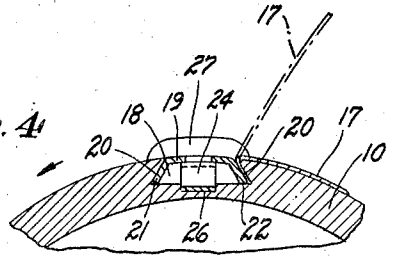


Fig. 3

Fig. 4



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SHEET ATTACHING MEANS FOR DUPLICATORS

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Application June 20, 1938, Serial No. 214,656

8 Claims. (Cl. 101—415.1)

This invention relates to improvements in sheet attaching means for duplicating machines of the type by which a plurality of copy sheets may be made from a master sheet.

In duplicating machines, suitable dissoluble copying ink is employed in writing or typing the characters or data on the master sheet and prior to contact with the master sheet, the blank copy sheets are moistened with a volatile quickly diffusing fluid, such as alcohol or other activating agent which will dissolve a minute but sufficient amount of the ink from the master characters to form clear legible duplicate characters on the copy sheets when they engage the master sheet under pressure.

It is an object of the present invention to provide a new and improved means of attaching the master sheet to a rotatable drum platen of the machine in a manner such that the master sheet can be easily and quickly attached to and/or detached from the drum platen.

Other objects of the invention will appear from the following description taken in connection with the accompanying drawing in which

Fig. 1 is a top plan view of the machine;

Fig. 2 is a detail sectional view of a drum platen and master sheet attaching means, taken along the line 2—2 of Fig. 1;

Fig. 3 is a view similar to Fig. 2 showing the parts in the position they will assume to hold the master sheet to the drum platen;

Fig. 4 is an enlarged detail sectional view taken along the line 4—4 of Fig. 1.

Referring to the drawing by characters of reference, the present machine includes two spaced apart, substantially parallel upright side or frame members 10, rigidly secured together by cross rods 11 and at one or the rear end of the machine the uprights are provided with upwardly extended portions 12 having aligned apertures to receive stub shafts 13 which rotatably support a drum platen 14. In the present instance, the drum 14 comprises an open ended tubular member and end members 15 and 16 secured in and to the opposite ends thereof, the end members 15 and 16 being provided with apertures or bearings to receive the stub shafts 13. A manually operable crank 16a may be provided to rotate the drum or the drum may be power driven, as desired.

In order to provide for quickly and easily attaching the master sheet, as at 17, to the platen drum 14, the drum is provided in its outer periphery with an elongated recess slot, or slideway 18 in which a slidable bar or clip 19 is adapted to hold the master sheet 17 secured to the drum by a border portion of the sheet along one edge thereof. The slideway 18 extends entirely across the drum substantially parallel to the axis of rotation of the drum and has opposed longitudinally extending side surfaces 20 which are relatively angularly disposed converging outwardly to the outer periphery of the drum 14, Fig. 4. In the slideway 18, the outer surface of the clip 19 is substantially flush with the outer surface of the drum 40 and is provided along its opposite longitudinal edges with spaced side members or flanges 21 and 22 which position closely adjacent the outwardly diverging sides 20 of the slideway and also diverge outwardly so that the outer surface of the flanges 21 will abut the diverging side surfaces 20 when the clip is urged outwardly. The clip 19 is urged outwardly into tight abutment with the covering sides 20 of the slideway 18 by friction means, preferably a plurality of spaced arcuate shaped or bowed leaf springs 24 which are carried by and secured to the underside of the clip, the springs 24 engaging the bottom wall of the slideway and being placed under tension to urge the clip outward on sliding movement of the clip in one direction, or on sliding of the clip to the left, as seen in Figs. 1 and 2. Each of the leaf springs 24 is secured only at one end thereof, as at 25, to the slide clip 19, the other ends of the springs being free to move so as to permit flexing of the springs. In the bottom wall of the slideway 18, a plurality of arcuate sockets or recesses 26 are provided to receive the bowed springs 24 which engage or seat therein on movement of the clip to the right, Figs. 1 and 3 releasing the tension of the springs which permits the clip to move inwardly toward the bottom wall of the slideway 18 to the position shown in Fig. 2. In this released position of the clip 19 there is a slight space between the outer surface of the side member 22 and the opposed surface of the adjacent side 20 of the slideway 18 in which may be inserted a border portion of the master sheet 17 adjacent one edge thereof which is tightly clamped and held to the drum 14 when the clip 19 is slid to the position shown in Fig. 3 in which the springs are tensioned to urge the clip outwardly. A manual finger grip or knob 27 may be provided and rigidly secured to the clip adjacent one end thereof for conveniently sliding the clip in its slideway and the grip 27 also serves an alignment stop for engagement by one edge of the master sheet 17 to thus provide for easily and quickly attaching the master sheet to the drum in proper position thereon. The other end of the clip 19 is preferably provided with a recess to receive a pin

28 which is secured to the drum in the slideway 18 and engaging in the recess of the clip serves as a stop to limit sliding movement of the clip on releasing the master sheet so that the clip will not go beyond the position in which the bowed springs 24 engage in their respective recesses 26. By providing the drum with a slide clip of the above described character it will be seen that the master sheet can be held or attached tightly to the drum and that such attachment and/or detachment of the master sheet is easily and quickly accomplished. After the master sheet is clipped to the drum it is folded to wrap around the drum as shown in full lines in Fig. 4 with the soluble ink characters of the master sheet facing outwardly. Beneath the drum 14 in rolling contact therewith, a pressure roll 30 is provided for pressing copy sheets against the master sheet, the copy sheets first being moistened in any suitable manner with a suitable, quickly diffusing, fluid, such as alcohol.

What we claim is:

1. In a duplicating machine for making a plurality of copies from a master sheet, a rotatable drum platen having an elongated slideway in the outer surface thereof to receive a border portion of the master sheet along one edge thereof, said slideway extending substantially parallel with the axis of rotation of said drum, and a manually operated elongated member slidable longitudinally in said slideway and having an outer surface substantially flush with the outer periphery of said drum, said member on movement in one direction in said slideway attaching the master sheet to the drum and on movement in the opposite direction releasing the master sheet from said drum.

2. In a duplicating machine for making a plurality of copies from a master sheet, a rotatable drum platen having an elongated recess in its outer surface extending substantially parallel with the axis of rotation of the drum, an elongated member longitudinally slidable in said recess adjacent the outer periphery of said drum, one longitudinal side of said member and the adjacent side of said recess cooperating to hold therebetween a border portion of the master sheet along one edge thereof, said adjacent side of said recess overhanging said member, and means operable on sliding of said member in one direction to urge said member outwardly toward said overhanging side of said recess.

3. In a duplicating machine for making a plurality of copies from a master sheet, a rotatable drum platen having a slot in its outer periphery extending substantially parallel with the axis of rotation of the drum to receive a border portion of the master sheet, a single slide clip in said slot to hold the master sheet to the drum, and means operable on sliding of said clip in said slot in one direction to urge yieldingly said clip into engagement with said drum.

4. In a duplicating machine for making a plurality of copies from a master sheet, a rotatable drum platen having a slot in its outer periphery extending substantially parallel with the axis of rotation of the drum to receive a border portion of the master sheet, said slot having opposite side walls converging outwardly toward the periphery of said drum a slide clip in said slot to hold the master sheet to the drum, said clip having opposite sides converging outwardly complementary to the opposed sides of said slot, and spring means tensioned on sliding of said clip in one direction and urging said clip outwardly into frictional holding relation with the converging side walls of the slot.

5. In a duplicating machine for making a plurality of copies from a master sheet, a rotatable drum platen having a slot in its outer periphery extending substantially parallel with the axis of rotation of the drum to receive a border portion of the master sheet, a slide clip in said slot to engage the border portion of the master sheet and hold the sheet to the drum, and spring means carried by said clip in said slot and tensioned to urge the clip in a direction to hold the master sheet tightly to the drum.

6. In a duplicating machine for making a plurality of copies from a master sheet, a rotatable drum platen having a slot in its outer periphery extending substantially parallel with the axis of rotation of the drum to receive a border portion of the master sheet, a slide clip in said slot to hold the master sheet to the drum and means carried by said clip and tensioned on movement of the clip in one direction relative to the drum to hold the master sheet tightly to the drum, said drum having recesses to receive said springs to release the tension thereon upon movement of said clip in the opposite direction.

7. In a device for holding a sheet of paper, a support having an elongated recess into which a border portion along one edge of the sheet is inserted, a clip slidable longitudinally in said recess between two positions, one edge of said recess overhanging said clip and means tensioned on sliding movement of said clip to one of said positions to urge said clip outwardly of said recess against said overhanging edge for releasably holding the sheet to said support.

8. In a device for holding a sheet of paper, a support having an elongated recess into which a border portion along one edge of the sheet is inserted, an elongated clip member slidable in said recess between two positions, said clip member on movement to one of said positions releasably clamping the sheet to said support, and spring means in said recess tensioned on movement of said clip member to said one position to urge said clip into clamping relation with the border position of the sheet, and yieldingly resisting movement of said clip member from said one position.

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