Nov. 20, 1945. O. DE CARDY 2,389,424

LOCKING DEVICE

Filed Jan. 8, 1941

Fig. 1.

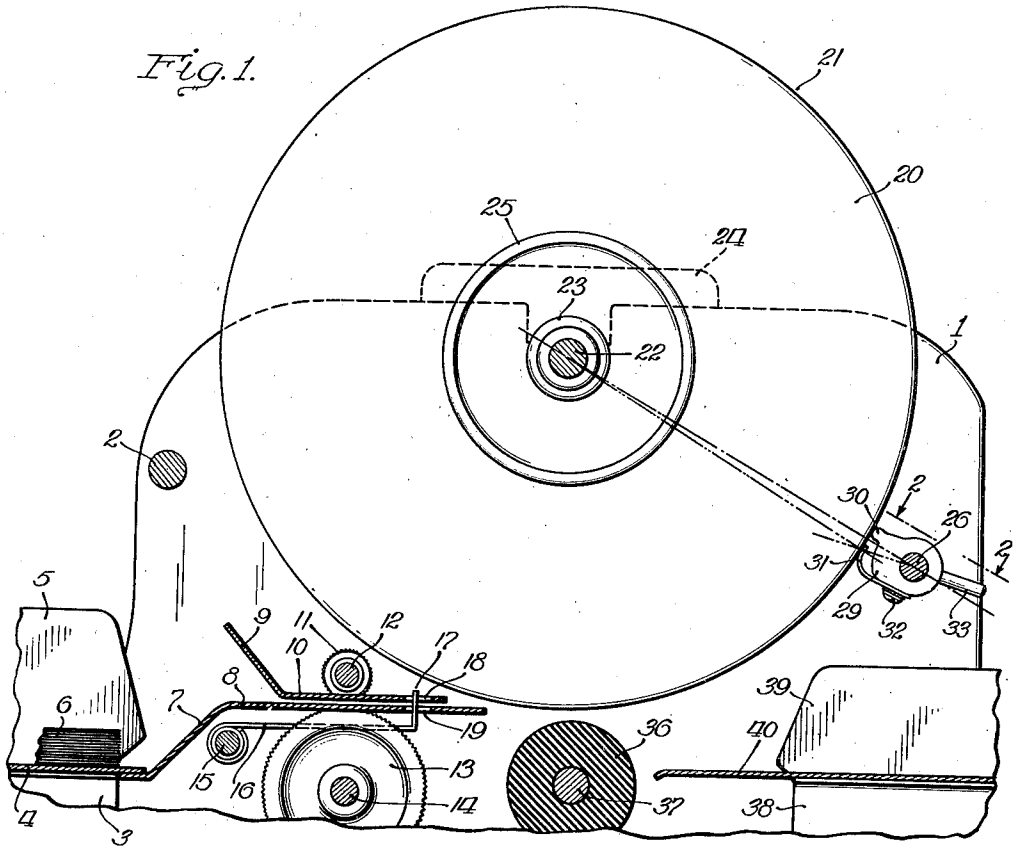


Fig. 2.

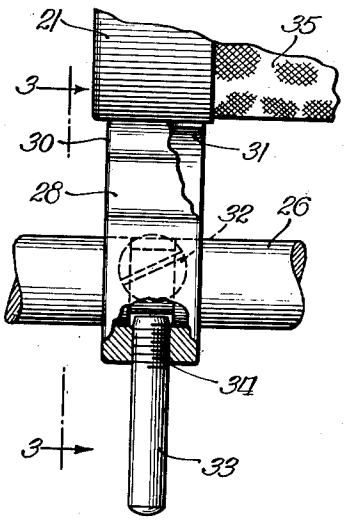
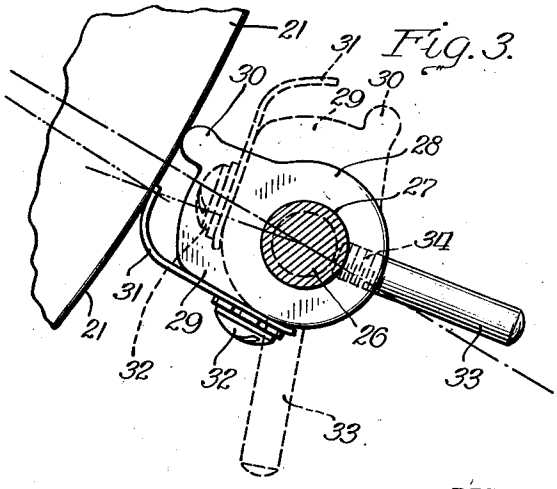


Fig. 3.



INVENTOR.
Otto DeCardy
BY Walter F. Boye
Atty.

Patented Nov. 20, 1945

2,389,424

UNITED STATES PATENT OFFICE

2,389,424

LOCKING DEVICE

Otto De Cardy, Chicago, Ill., assignor to The Heyer Corporation, a corporation of Illinois

Application January 8, 1941, Serial No. 373,594

6 Claims. (Cl. 188—74)

This invention relates to a mechanical locking device and is especially adapted for duplicating machines and the like.

Without a locking device the weight of the handle of a duplicator will tend to cause the cylinder drum to oscillate until the drum comes to rest with the handle in a direct downward position, and consequently the position of the paper to be imprinted is moved out of its proper position.

It is, therefore, an object of my invention to provide a locking device for a duplicating machine and the like, which will lock the machine at any desired position in the cycle of the cylinder.

It is a further object of my invention to provide such a locking device which will be automatic in operation and in which the locking device will be disengaged by no further manipulation than the revolution of the cylinder.

It is a further object of my invention to provide such an automatic locking device which is inexpensive in production and simple in operation.

These and other objects of my invention will appear from an inspection of the drawing, in which

Figure 1 represents an elevational view of a duplicating machine partly in cross-section, showing my invention in locked position;

Figure 2 is a front view of a portion of my device taken on the lines 2—2; and

Figure 3 is an enlarged view of the locking device in locked position taken on the lines 3—3 of Figure 2, showing the same in dotted lines in unlocked position and also showing a fragmentary portion of the duplicating cylinder.

Like reference characters are applied to the various views in the drawing, in which 1 represents the upper extending side portion of a duplicating machine, 2 cross-bars for connecting the two side elevational portions of the duplicator. 3 the table or support for holding the sheets to be imprinted, 4 the base of said support, 5 the upwardly extending portions thereof, 6 the sheets to be imprinted, 7 the upwardly diagonal portion of the feed plate, 8 the horizontal portion of the feed plate, 9 the diagonal upwardly extending portion of the guide plate, and 10 the horizontal portion of the guide plate. 11 is the knurled periphery of one of the feed rollers, 12 the rod on which the same is journaled, 13 is a second feed roller and 14 the rod on which the same is journaled, 15 is the rod on which the feed members 16 are journaled, having upwardly projecting fingers 17 extending through the apertures 18 and 19 of the feed and guide plates 10 and 8, respectively. 20 is the side portion of the cylinder of the drum, 21 the periphery thereof, 22 the rod on which the cylinder is journaled by means of the hub 23. 24 is the cross-bar for removably securing the cylinder to the sides 1 of the duplicator. 25 is an annular rim on the end of the cylinder. 26 is the rod extending transversely from the vertical side portions of a duplicator, 27 the opening for the insertion therethrough of the rod 26 in the locking device 28. 29 is the shortened body portion of the locking device having a projecting thumb or portion 30. 31 is a spring attached to the member 28 by means of the screw 32, 33 is a handle attached to the member 28 by means of threaded portion 34, and 35 is the portion of the periphery of the drum adapted to hold the master sheet. 36 is an impression roller mounted on the shaft 37, 38 is the receiving table for the imprinted sheets, 39 the upward side portions thereof, and 40 the base or receiving tray for the imprinted sheets.

When the duplicator is in operative position the locking device is disconnected, as shown in the dotted lines of Figure 3, and the cylinder drum is turned in counter-clockwise direction by means of a handle (not shown) attached to the journal 22. When it is desired to stop the revolution of the machine and to lock the same the handle 33 is grasped by hand and shoved upwardly so that it takes the position shown in the heavy lines in Figure 3, whereby the portion 30 of the member 28 makes contact with the periphery 21 and also the spring member 31 is likewise in contact with the periphery 21. Then as the cylinder is again moved in a counter-clockwise direction contact of the rounded portion 30 of the member 28, which is tangential to the periphery 21, is broken, and at the same time the pressure exerted by the periphery 21 against spring member 31 will force the locking member to become disengaged. By the continued rotation of the periphery 21 the same will continue to have contact with the curved portion of the spring 21 until the locking mechanism is out of all contact with the cylinder. Thus the operation of the cylinder will automatically disengage the locking device which will remain out of contact with the duplicator proper until such time as the locking mechanism is again manually connected with the cylinder as heretofore indicated.

The invention is not to be understood as restricted to the details set forth, since these may be modified within the scope of the appended

claims without departing from the spirit and scope of my invention.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In combination with a cylinder, a locking device movably mounted on a rod located exteriorly of the periphery of the cylinder and having a projecting thumb having frictional braking contact with the periphery of said cylinder, a spring located on said device having frictional contact with said cylinder, and adapted to be depressed by revolution of the drum whereby the frictional contact of said thumb with the periphery of the drum is broken.

2. A locking device for a duplicator and the like comprising a rod, a member journaled on said rod provided with a handle and with a rounded extended portion adapted to be moved into frictional contact with the cylinder of a duplicator, said member also provided with a portion yieldable when the cylinder is rotated.

3. A locking device pivotally journaled on a rod paralleling a transverse section of a cylinder having a rounded portion adapted to make frictional, tangential contact with the periphery of said cylinder, and also having yieldable means in contact with the said periphery of the cylinder for disengaging such frictional contact by the rotation of the cylinder.

4. A locking device pivotally journaled on a rod paralleling a transverse section of a cylinder provided with a rounded portion having frictional, tangential contact with the periphery of said cylinder, a spring secured to said locking device, said spring having a curved end portion adapted to have frictional contact with the periphery of the drum when the aforesaid rounded portion is also in contact with the cylinder, the curved end portion extending away from the first mentioned rounded portion of said locking device.

5. A locking device comprising an arm pivotally mounted on a rod located on a duplicator exteriorly of, and parallel with, the periphery of a revolvable cylinder, said arm adapted to have frictional, tangential contact with the periphery of the cylinder and provided with a spring member secured to the side of said arm and having a portion curved inwardly and making frictional contact with the periphery of the cylinder.

6. A locking device for a cylinder comprising a member located externally of said cylinder and located in such close proximity to the periphery of the cylinder so that in its extended position a non-yielding portion of said member will be in contact with the periphery, said member also provided with a second portion which is yieldable and which is in frictional braking contact with the periphery when the first mentioned portion is also in contact with the periphery, said member adapted to be moved on its axis so that both portions of said member are wholly out of contact with the periphery of the cylinder when the said member is moved on its axis.

OTTO DE CARDY.