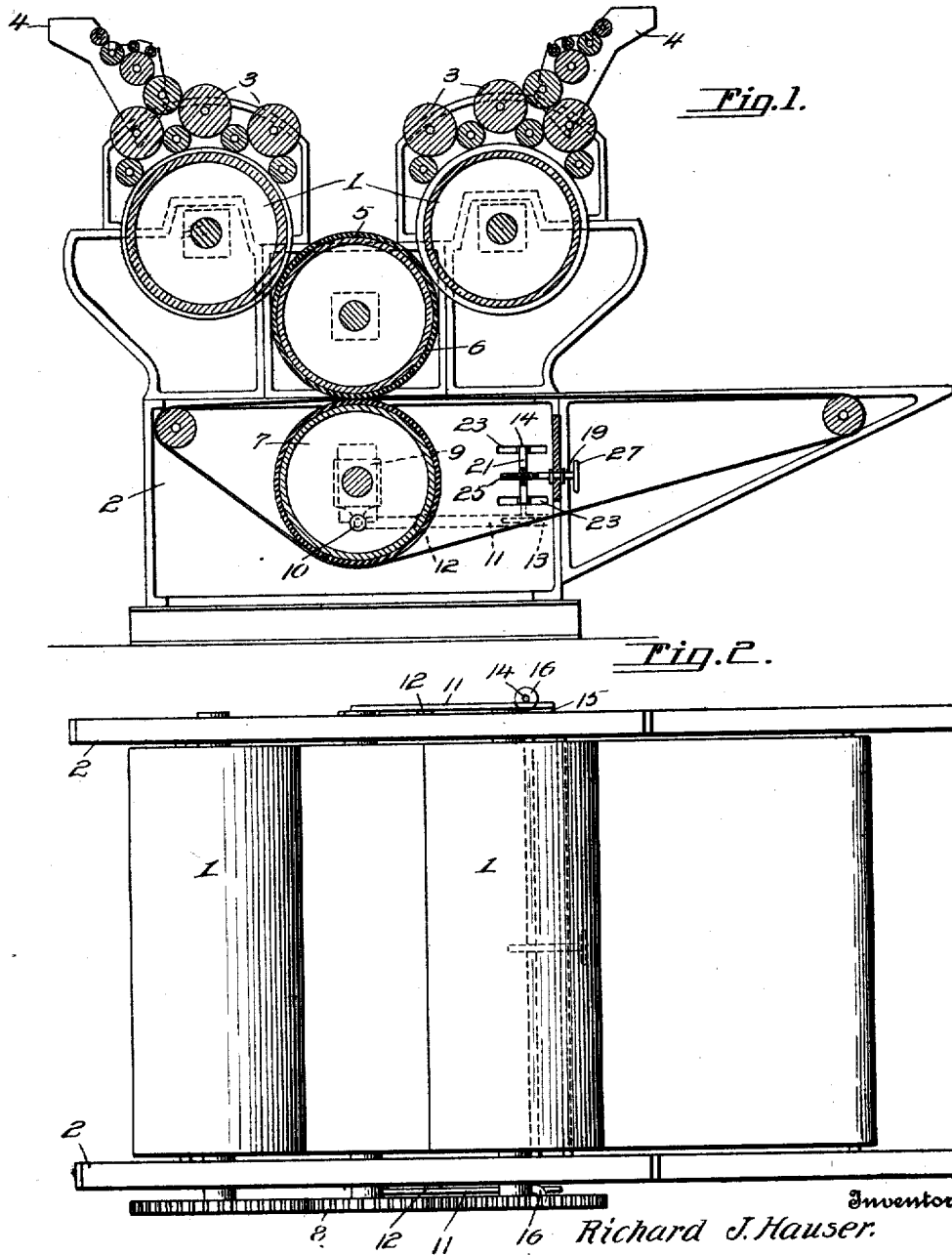


R. J. HAUSER.
MULTICOLOR PRINTING MACHINE.
APPLICATION FILED FEB. 1, 1918.

1,307,007.

Patented June 17, 1919.
2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 3.

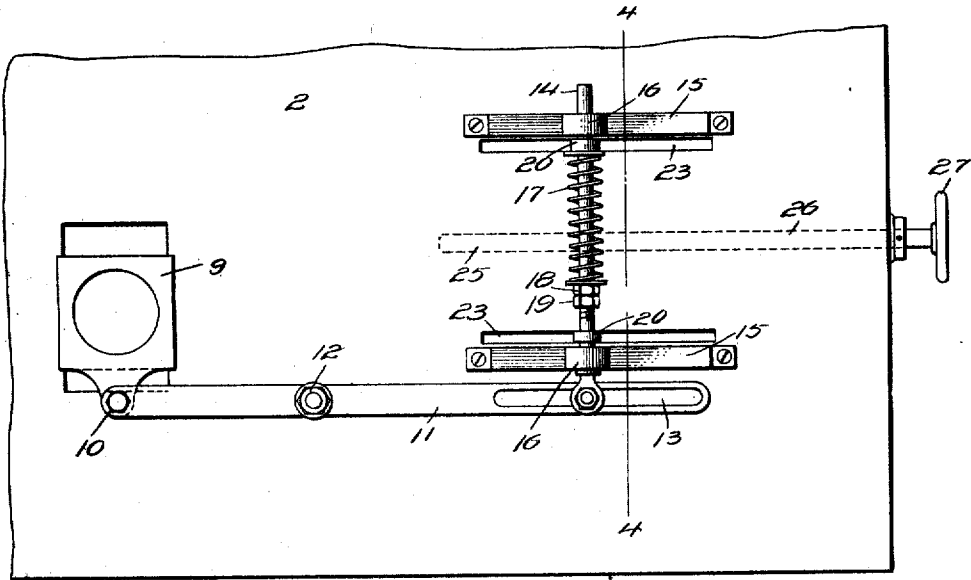
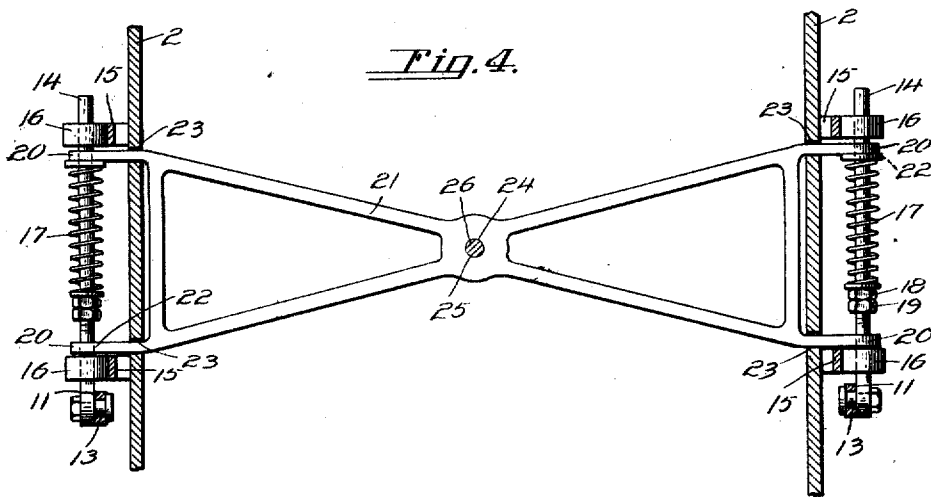


Fig. 4.



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MULTICOLOR-PRINTING MACHINE.

1,307,007.

Specification of Letters Patent. Patented June 17, 1919.

Application filed February 1, 1918. Serial No. 214,946.

To all whom it may concern:

Be it known that I, RICHARD J. HAUSER, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented new and useful Improvements in Multicolor-Printing Machines, of which the following is a specification.

This invention relates to printing machines. The object of the present invention is to print one or more colors by combining the designs from plate-carrying cylinders to a rubber blanketed collecting cylinder, so that two or more colors may be printed at one impression.

Another object is to provide means for controlling the pressure of the impression cylinder so that different thicknesses of semi-supported or corrugated board may be printed by the usual process plates now in use.

Various other objects and advantages will appear in the following specification to be taken in connection with the accompanying drawings.

In the drawings:—

Figure 1 is a side elevation of the printing press constructed in accordance with my invention.

Fig. 2 is a plan view with the inking fountain and rollers removed.

Fig. 3 is an enlarged detailed elevation of a pressure controlling device for the impression cylinders.

Fig. 4 is a section in line 4—4 of Fig. 3, taken transversely across the entire machine and illustrating the tension device connected with each end of the impression cylinder.

Referring more specifically to the drawing wherein similar reference characters designate corresponding parts, the numeral 1 indicates plate-carrying cylinders of a printing press mounted upon a frame 2. These cylinders are of an ordinary construction and are adapted to carry the ordinary plates from which designs or other printed matter is made. These plates receive their ink from the usual inking rollers 3 fed by ordinary fountains 4.

Preferably located on a plane a little below the plate carrying cylinders and interposed therebetween is a transfer cylinder 5. This last mentioned cylinder is provided with a rubber blanketed or cushioned impression surface 6 so as to provide flexible

means for receiving an impression from the plate cylinders 1.

Mounted below the cylinder 5 is an impression cylinder 7 adapted to hold the material to be printed against the impression surface of the cylinder 5.

From the foregoing it will be seen that the colors from the plate cylinders 1 will be transferred to the cylinder 5 and from there to the material passed between the cylinders 5 and 7 so that a plurality of colors may be printed at one impression.

In order that accurate register may be obtained between the various cylinders gears 8 are secured to each end of the journals carrying their respective cylinders.

It is sometimes necessary to print upon different thicknesses of material such as the semi-supported or corrugated board used in the manufacture of boxes or the like. In order to provide for these different thicknesses the cylinder 7 is provided with a yieldingly mounted bearing box 9. This bearing box may be constructed in the usual manner, there being one provided upon each side of the machine, and sliding in suitable guides provided for the purpose. Upon the lower end of each of the bearing boxes there is pivoted as at 10 one end of a lever 11, fulcrumed as at 12 upon the frame of the machine. These levers are provided at their opposite ends with slots 13 in which is adjustably mounted one end of a vertically disposed rod 14. Suitable brackets 15 are secured to each side of the frame of the machine to provide guides for the rod 14, rollers 16 being provided upon these rods for the purpose hereinafter apparent. The tension spring 17 is mounted upon each of the rods 14, the tension of this spring being regulated by the tension nut 18, and the locking nut 19, the said spring acting to force the end of the bar 11 downward to urge the cylinder 7 into engagement with the cylinder 5.

As above stated the tension of the spring and consequently the pressure of the cylinder 7 upon the cylinder 5, is regulated by the nuts 18 and 19. In order to secure more accurate adjustment, the rods 14 have mounted thereon extensions 20 provided upon an adjusting bracket 21. The extensions 20 are provided with apertures 22 for the passage of the rod 14, the said extensions projecting through slots 23 to each side of the frame of the machine. Located centrally

of the bracket 21 is a threaded opening 24, which receives a threaded end 25 of an adjusting screw 26, the said screw having a bearing at its opposite end in the rear end 5 of the machine frame, and being provided with a hand wheel 27 upon the outside of the said frame to provide means for adjusting. It will be seen that by turning the hand screw in the desired direction, the rods 14 10 may be moved toward or away from the fulcrum 12 of the lever 11, causing the spring 17 to offer more or less resistance to the operation of the said lever.

In the operation of my improved press I 15 am enabled to print more than one color by combining the designs from the plate-carrying cylinders on the intermediate or collecting cylinder so that it is only necessary to run the material through the press one time. 20 The pressure controlling device of the impression cylinder enables the machine to print material of varying thicknesses and at the same time exert just the right pressure upon a semi-supported board such as a cor- 25 rugated board placed between layers of smooth material and the like, without mashing or injury in any manner. The gearing of the various cylinders together enables the transfer to be made from the plate-carrying 30 cylinders to the collecting cylinder in an accurate manner.

As will be seen from the drawings the usual feed mechanism in the form of an endless chain which carries the feed bars is 35 employed, to feed the sheets or stock to be turned through the press in the regular manner.

Various changes in the form, proportion and details of construction may be made 40 without departing from the spirit of the invention.

Having described the invention what I desire to claim and to protect by Letters-Patent is:

45 1. A printing machine comprising plate-carrying cylinders, a collecting cylinder, an impression cylinder, a vertically movable bearing for said impression cylinder, a pivoted lever connected to said bearing and hav-

ing a slot in its free end, a rod having one 50 end movable in said slot, rollers mounted on said rod and an adjusting screw adapted to move said rod.

2. The combination with a printing machine including an impression cylinder, of a 55 vertically movable bearing at each end of said cylinder, pivotally mounted levers each having one end pivotally connected to one of said bearings, vertically movable spring controlled rods each having one end pivotally 60 secured within a slot in the end of one of said levers and means whereby the rods may be adjusted within the slots to regulate the pressure of the impression cylinder.

3. The combination with a printing machine including an impression cylinder, of 65 a vertically movable bearing at each end of said cylinder, pivotally mounted levers each having one end pivotally connected to one of said bearings, vertically movable spring 70 controlled rods each having one end pivotally secured within a slot in the ends of one of said levers, a horizontally movable frame disposed transversely of the printing machine and connected to each of the spring 75 controlled rods and means whereby the frame may be moved longitudinally of the pivoted levers to adjust the rods and regulate the pressure of the impression cylinder.

4. The combination with a printing machine including an impression cylinder, of a 80 vertically movable bearing at each end of said cylinder, pivotally mounted levers each having one end pivotally connected to one of said bearings, vertically movable spring 85 controlled rods each having one end pivotally secured within a slot in the ends of one of said levers, a horizontally movable frame disposed transversely of the printing machine and connected to each of the spring 90 controlled rods and a rod engaging the horizontally movable frame and having a bearing in the printing machine frame, whereby the said horizontally movable frame may be moved longitudinally of the impression cyl- 95 inders.

In testimony whereof I affix my signature.

RICHARD JOHN HAUSER.