M. G. MURUFAS.

CHROMO ROLLERS FOR PRINTING PRESSES.

APPLICATION FILED DEC. 11, 1919.

1,353,662. Patented Sept. 21, 1920.

FIG. 1.

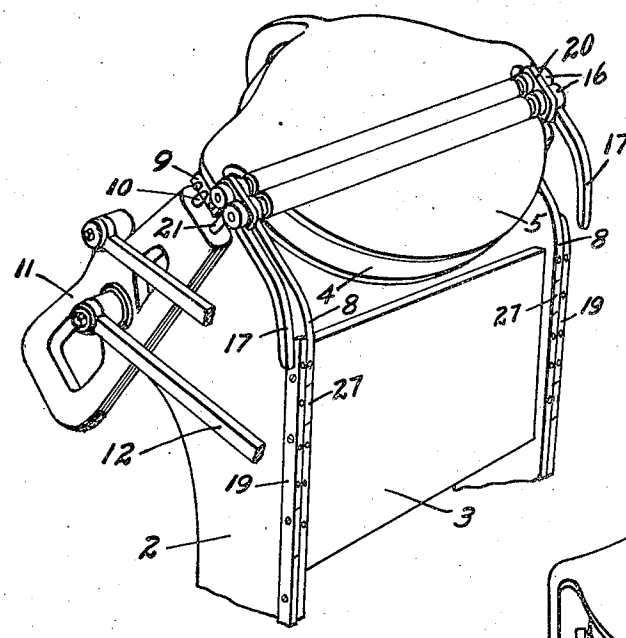


FIG. 5.

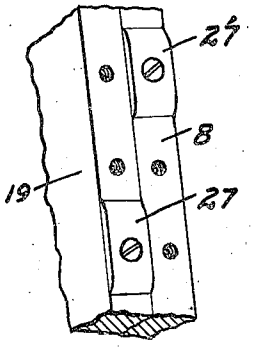


FIG. 2.

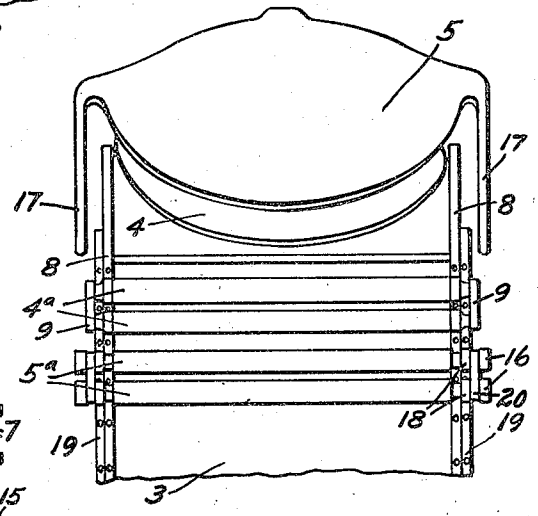


FIG. 3.

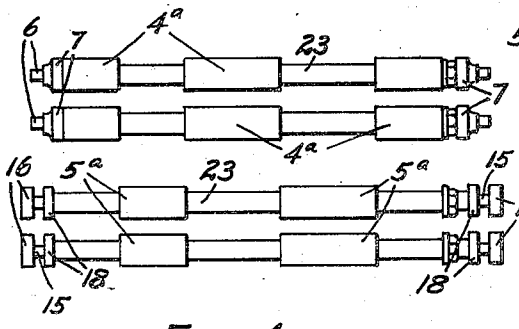


FIG. 4.

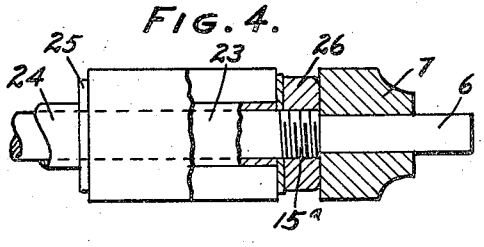
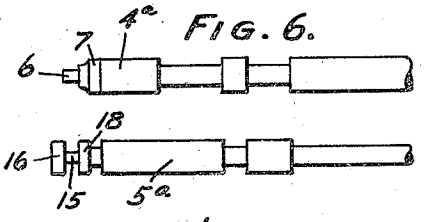


FIG. 6.



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CHROMO-ROLLERS FOR PRINTING-PRESSES.

1,353,662. Specification of Letters Patent. Patented Sept. 21, 1920.

Application filed December 11, 1919. Serial No. 344,162.

To all whom it may concern:

Be it known that I, MENELAUS G. MURUFAS, a citizen of Greece, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Chromo-Rollers for Printing-Presses, of which the following is a specification.

This invention relates to printing presses and particularly to improved multicolor printing presses, and has for its object to provide for the transfer of different colors of inks from supply means to a common form in a manner to permit the simultaneous impression of different colors of inks on a given form in the press, and to provide for the simultaneous use in one press of different colors of ink without having the inks become intermixed on the transfer rollers.

A further object is to provide for the ready application of inks of different colors to various parts of a given form by the ready readjustment of the ink applying or transferring rollers, and a further object of the invention is to provide improvements of a particular construction that may be readily incorporated in existent presses or organized in new constructions; that will be simple in construction and inexpensive, and that will operate with the usual efficiency of inking means of the type to which it pertains.

The invention consists of the construction and details embodiments of which are illustrated in the accompanying drawings and described and claimed herein.

Figure 1 is a perspective of the chase and framework of one type of press in which the invention is incorporated.

Fig. 2 is a front elevation of the improved inking apparatus.

Fig. 3 is a plan view of a set of multicolor transfer or inking rollers.

Fig. 4 is a sectional detail view of one end of one of the roller devices.

Fig. 5 is a perspective of the means for elevating the rollers from given portions of a form in the chase.

Fig. 6 is a plan view of a fragment of one modification of the inking rollers.

The invention in the illustrated embodiment is incorporated in a printing press of a platen type in which the frame 2 is provided with a chase support 3 in which a given form can be mounted in the usual manner to be inked by reciprocating inking rollers moving to and fro between ink supply devices and over the form, the platen not shown moving toward and from the form in the usual manner of this type of press.

It is especially desirable to provide a multicolor press of this character in which inks of different colors can be effectually applied to any desired portions of a given form in the chase without the liability and inconvenience of the inks becoming intermixed on a common roller and on a common inking plate, and to that end I have devised inking means comprising relatively independent or separate ink holding plates here shown as vertically spaced above each other as at 4 and 5, the lower plate 4 occupying the usual position of the ordinary inking plate or table of Gordon presses and over which sweep inking or transfer rollers 4^a that are mounted on spindles 6 having end rollers 7—7 tracking over the parallel side rails 8—8 at the front corners of the sides 2 of the chase, these rails being extended down along the sides of the chase and upwardly in an inclined position so as to carry the soft faces of the rollers 4^a over the inking plate 4.

The spindles 6 of the inking rollers 4^a are as usual provided in bearing trucks 9 that are pivotally mounted on the ends of yielding rods 10 mounted in side arms 11 designed to oscillate on pivots in the usual manner and being actuated by driving links 12 in synchronism with the action of the platen. The slide rods 10 are designed to slide inwardly and outwardly in the carrying arms 11 as the trucks roll around the curved corner connecting the planes of the tracks 8.

For the purpose of applying another color of ink to the form contrasting with the ink that is transferred and applied by the rollers 4^a I provide a further set of transfer and inking rollers indicated at 5^a

as mounted on respective spindles 15, these spindles having on their outermost ends tracking rollers 16 designed to run on to tracks 17 provided therefor on the upper inking plate 5 so as to lead rollers 5^a on to said upper inking plate 5. The spindles 15 are also provided with an inner set of tracking rollers 18 designed to run on a set of supplementary tracks 19 paralleling and close to the side tracks 8 along the edges of the chase 3, the upper end of said tracks 19 overlapping the lower end of tracks 17, so that when the rollers 16 leave the tracks 17 the rollers 18 engage the tracks 19, and so that when the rollers 18 leave the tracks 19 the rollers 16 engage the tracks 17.

The spindles 15 are mounted in bearing trucks 20 which are pivotally connected to the end of respective carrier rods 21 also slidably mounted in the side arms 11 of the press so that the sides of the rollers 4^a and 5^a will be moved to and fro from the inking plates to the form on the chase.

It is obvious that the two sets of rollers ordinarily will not traverse a given area of a form in the chase, and for the purpose of preventing this and for transferring ink to given areas of a form the ink applying portions of the rollers 4^a and 5^a are relatively offset to each other so that only given portions of the rollers 4^a will run on certain portions of the form while other portions of the form will be covered by the rollers 5^a carrying a different colored ink.

This offsetting of the different ink applying areas of the rollers is clearly shown in Fig. 3 in which the rollers 4^a are shown as having on each spindle sections of ink carrying cylinders that may be of desired or given length as determined by the width of the area of the form to be given one color of ink, and the rollers 5^a are similarly divided into cylindrical sections each of a given length as determined by the width of the portion of the form over which they are to apply ink.

In order to provide for a very large range of capacity of inking a form with multicolors, the roller sections may be provided or made up in any given lengths, each section being formed on a sleeve 23 to be passed on to the spindle 6 or 15, as the case may be, which has adjacent one end a threaded portion 15^a.

The longitudinal spacing of the roller sections on a given spindle is secured by means of spacing sleeves 24 mounted on the respective spindles and against which the ends of the sleeves 23 of the inking roller sections may directly abut, or spacing washers 25 may be interposed between adjacent spacing sleeves 24 and the sleeves 23 of the roller sections. Having assembled the spacing sleeves and the sections of inking rollers as desired on a given spindle the same can be locked against rotation on the spindle by a lock nut 26 passed on to the threaded portion of the spindle.

From the above it will be seen that I have provided a device in which it is impossible for the inks on the different inking plates 4—5 to become mixed, and also I have provided for independent rollers for each of the inking plates, these rollers running over separate areas of a form to be inked.

It may be desirable in some cases to apply ink only to certain portions of the form in the path of a given roller section, and in order to omit the application of ink at the desired zones the rollers are elevated while they are passing the said zones, and to secure this suitable removable elevating cam track sections or portions illustrated in Fig. 5 at 27 can be secured to the faces of the tracks 8—8 and 19—19 at transversely opposite points with the result that as the respective rollers of the spindles run down the tracks 8—8 and 19—19 the rollers will be lifted at certain portions to prevent inking as required.

There is shown in Fig. 6 a rearrangement of the inking rollers in which it is shown that the end roller section 5^a can be lowered to ink a portion of a form in the line of travel or path of an adjacent roller section 4^a carrying another color of ink. In this modification it is obvious that the roller stem bearing the roller section 4^a will be lowered by the cams 27 at a given part of its motion or path and then raised and the roller stem 15 of the roller section 5^a will be lowered to ink a given part of the form and lifted to skip parts of the form to be inked by the roller section 4^a.

Various changes may be made without departing from the spirit of my invention as claimed.

I claim:

1. In a printing press, an inking plate spaced above the usual inking plate, tracks on said upper plate, ink rollers arranged to travel over the usual inking plate and the chase of the press, other ink rollers arranged to travel over said upper inking plate and said chase, additional tracks secured to the frame of the press adjacent the usual ink roller tracks of the press, said additional tracks extending from the lower end of the tracks on said upper inking plate, and a pair of track rollers on each end of said other ink rollers, one roller of said pairs of track rollers traveling on the tracks on said upper inking plate, and the other roller of said pairs of rollers traveling on said additional tracks.

2. In a printing press the combination of inking plates disposed one above the other, ink rollers arranged to travel over the inking plates and the chase of the press, tracks on either side of the chase leading to the

lower inking plate, track rollers on one set of rollers to engage said tracks, secondary tracks parallel with said first mentioned tracks on either side of the chase, on which track rollers on the rollers engaging the upper inking plate ride, secondary tracks on the upper inking plate terminating below the upper ends of said secondary tracks for engaging secondary track rollers on the last mentioned inking rollers, and detachable cams on either side of the chase for raising the said rollers from contact with the type face.

In testimony whereof I have signed my name to this specification.

M. G. MURUFAS.