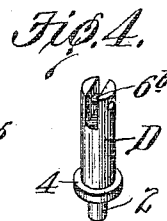
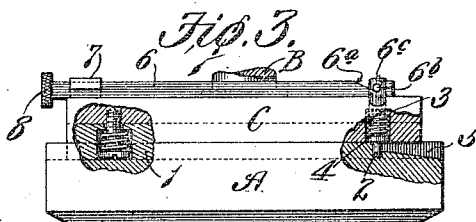
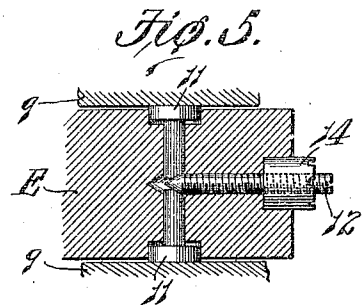
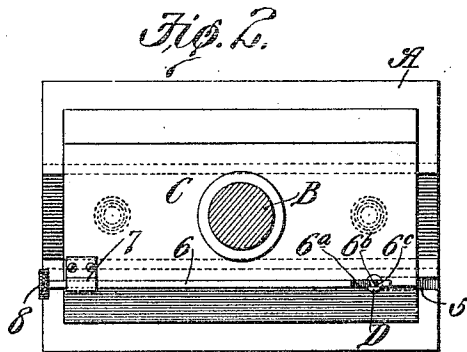
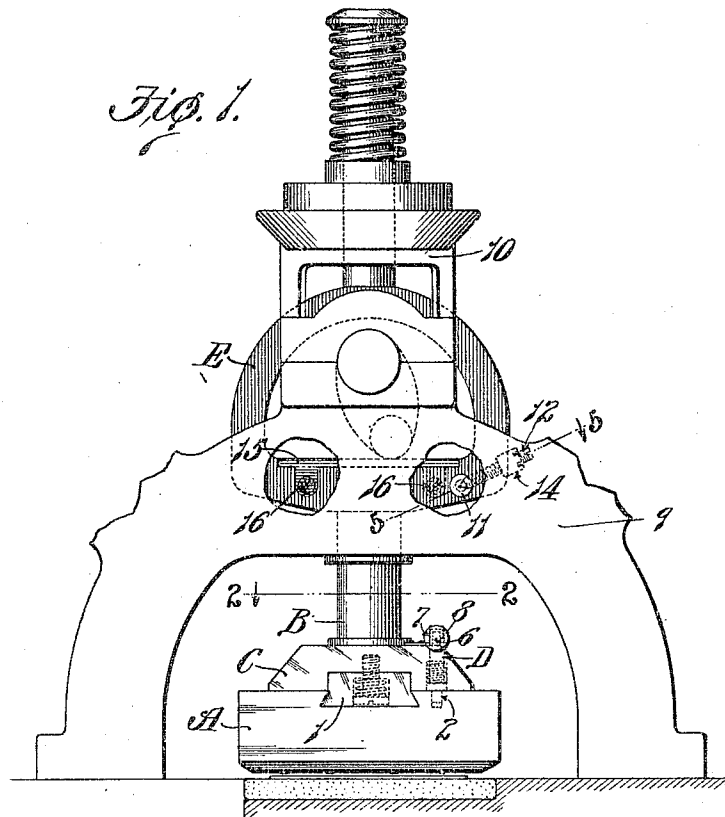


M. H. MANN.
PRINTING MACHINE.
APPLICATION FILED DEC. 27, 1909.

959,773.

Patented May 31, 1910.



Witnesses:
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Inventor:
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UNITED STATES PATENT OFFICE.

MILES H. MANN, OF LOUISIANA, MISSOURI, ASSIGNOR TO BUFFUM TOOL COMPANY, OF LOUISIANA, MISSOURI, A CORPORATION OF MISSOURI.

PRINTING-MACHINE.

959,773.

Specification of Letters Patent.

Patented May 31, 1910.

Application filed December 27, 1909. Serial No. 535,159.

To all whom it may concern:

Be it known that I, MILES H. MANN, a citizen of the United States, residing at Louisiana, Missouri, have invented a certain new and useful Improvement in Printing-Machines, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to printing machines, and particularly to printing machines of the type shown in my prior Patent No. 896,062, dated August 11, 1908.

The object of my present invention is to provide a type-carrier locking mechanism which is so designed that the type-carrier can be removed and arranged in operative position easily.

Figure 1 is a side elevational view of a portion of a printing machine constructed in accordance with my invention; Fig. 2 is a horizontal sectional view taken on the line 2—2 of Fig. 1; Fig. 3 is a front elevational view of the type-carrier and the head on the plunger to which said type-carrier is connected, a portion of said head and type-carrier being broken away to more clearly illustrate the construction of the locking mechanism; Fig. 4 is a perspective view of the locking pin that retains the type-carrier in operative position; Fig. 5 is a horizontal sectional view taken on approximately the line 5—5 of Fig. 1; and Fig. 6 is a perspective view of one of the adjustable wear-compensating devices on the actuating member for the type-carrier.

Referring to the drawings which illustrate the preferred form of my invention, A designates the type-carrier of the machine, and B designates a vertically reciprocating plunger or actuating member that is provided at its lower end with a head C to which the type-carrier is detachably connected. Said head is provided on its under side with a dove-tailed rib 1 that fits in a correspondingly-shaped recess in the top face of the type-carrier, and means of novel construction is provided for locking the type-carrier on said head or preventing it from being moved laterally relatively to the head to withdraw the rib 1 from the groove in the top face of the type-carrier. Said locking means consists of a movable pin D arranged in an opening in the head C and provided at its lower end with a reduced portion 2

that is adapted to project into a notch or recess in the top face of the type-carrier when said carrier is slid into operative position on the head. Said locking pin is preferably arranged in a vertical position in the head C, as shown in Fig. 3, and a coiled expansion spring 3 is mounted on said pin between a collar 4 thereon and a shoulder on the head C so as to yieldingly force the pin downwardly into engagement with the type-carrier. The notch or recess in the top face of the type-carrier that receives the reduced extension 2 of the locking pin, is located at one end of a slot 5 formed in the top face of the type-carrier at one end of same, said slot having an inclined bottom wall, as shown in Fig. 3, so that the locking pin will be gradually moved upwardly when the type-carrier is slid into operative position, the spring 3 operating to force the locking pin downwardly into the notch or recess at the end of the slot 5 when said recess comes into alinement with said pin.

The mechanism above described automatically locks the type-carrier when it reaches its operative position on the head C, and in order that said type-carrier may be removed easily, I have provided means for positively withdrawing the pin D from engagement with the type-carrier. Said means preferably consists of a slide 6 arranged on the upper side of the head C and provided with an inclined surface 6^a, as shown in Fig. 3, that is adapted to move under a projection or shoulder on the locking pin D and thus move it upwardly out of the co-operating notch or recess in the type-carrier.

I prefer to bifurcate the upper end of the locking pin D, as shown in Fig. 4, so as to form a slot or opening for receiving the slide 6, and also arrange a cross-piece or pin 6^b transversely in said opening so as to form a projection or shoulder that coöperates with the inclined face 6^a on the slide. By constructing said parts in this manner I obtain a direct upward pull on the locking pin as the slide 6 is arranged in alinement with said pin and passes through an opening in the upper end of same. The bifurcated portion of the locking pin constitutes a guide for one end of the slide 6, and a coöperating guide 7 for said slide is connected to the head adjacent the opposite end thereof. The slide is preferably provided at one end with a knurled finger-piece 8, and a shoulder

6^c is formed in the slide at one end of the inclined surface 6^a so as to engage the cross-piece 6^b on the locking pin and thus limit the movement of the slide in one direction. 5 Such a construction enables the type-carrier to be applied to the head or removed therefrom easily for the pin D automatically locks the type-carrier when it reaches its operative position, and the slide 6 with- 10 draws said pin from engagement with the type-carrier when said slide is moved inwardly.

The yoke E on the type-carrier plunger B is arranged between stationary side guides 15 9, as shown in Figs. 1 and 5, and the portions of said plunger which lie above and below said yoke, respectively, pass through a stationary guide 10 and a stationary guide that extends transversely between the two 20 side guides 9. The continuous sliding movement of the yoke on said side guides 9 tends to cause said parts to wear away quickly, and I have therefore provided one of said parts with a movable section or device that can be 25 adjusted so as to compensate for this wear and prevent said parts from working loose. In the construction herein shown, the yoke E is provided with two disk-shaped plugs or sections 11 that are arranged in recesses in 30 the side faces of the yoke E so that they will bear against the inside faces of the stationary guides 9, and an adjusting screw 12 is mounted in the yoke for moving said plugs 11 outwardly or into intimate engagement 35 with the guides 9 and thus prevent the yoke from working loose. Said adjusting screw is provided with a pointed end, as shown in Fig. 5, that coöperates with inclined surfaces 13 on the inner ends of shanks 11^a that 40 project inwardly from the movable sections or plugs 11, said adjusting screw 12 acting as a wedge that moves both of the plugs 11 outwardly when it is turned in one direction.

45 Any suitable means can be employed for locking the screw 12 in its adjusted position such, for example, as a lock nut 14, and if desired, the yoke E can be provided on its lower side with a removable wear plate 15 50 that is retained in position by means of a fastening device 16, as shown in Fig. 1. I have not herein claimed the means for taking up the wear on the reciprocating member to which the type-carrier is connected 55 as said invention forms the subject-matter of my divisional application Serial No. 557,060, filed April 22, 1910.

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

1. A printing machine provided with a

movable member, a type-carrying member arranged on the under side of same, a locking device on one of said members arranged within the marginal edges of same and 65 adapted to engage the other member and thus lock it in operative position, said locking device having a shank that projects into an opening in the member that carries same, a shoulder on said shank, and a slide carried 70 by one of said members and provided with an inclined surface that is adapted to engage said shoulder and move said locking device into an inoperative position.

2. A printing machine provided with a 75 movable member, a type-carrier arranged on the under side of same, a spring-actuated locking pin on said movable member arranged within the marginal edges of same and adapted to engage said type-carrier to 80 lock it in position, said pin projecting upwardly through said movable member, and a slide arranged on the top face of said movable member for engaging said locking pin to move it into an inoperative position. 85

3. A printing machine provided with a movable member having a dove-tailed rib on the under side of same, a type-carrier provided in its upper face with a groove that 90 receives said rib, a spring-actuated locking pin mounted in said movable member and projecting upwardly through same, said type-carrier being provided in its top face with a notch or recess for receiving said pin, a slide arranged on the upper side of said 95 movable member and provided with an inclined surface, and a shoulder on said pin that is adapted to be engaged by said inclined surface.

4. A printing machine provided with a 100 movable member having a dove-tailed rib on the under side of same, a type-carrier provided in its upper face with a groove for receiving said rib, a spring-actuated locking pin arranged in an opening in said movable 105 member and having its upper end bifurcated, a notch or recess in the top face of said type-carrier for receiving said pin, a manually-operated slide mounted on the upper side of said movable member and projecting into the bifurcated portion of said 110 locking pin, said slide having an inclined surface, and a cross-piece on said locking pin under which the inclined surface of said slide passes. 115

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 20th day of December 1909.

MILES H. MANN.

Witnesses:

J. W. KEMRY,

A. B. PRETTYMAN.