UNITED STATES PATENT OFFICE.

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RIBBON-OPERATING DEVICE FOR PRINTING-PRESSES.


To all whom it may concern:

Be it known that I, Hans C. Hansen, a citizen of the United States, residing at Newton, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Ribbon-Operating Devices for Printing-Presses, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention resides in a device for carrying and operating an ink ribbon and adapted to be placed and used in a printing press.

The object of the device is to enable the simulation of typewritten matter upon an ordinary printing press.

The device of this invention holds and operates an ink ribbon in a simple manner so that the printing can be done through the ribbon as in the case of the ordinary typewriter.

The device is designed to be locked into the printing frame or chase, and the feed of the ribbon is designed to be secured directly from the platen of the printing press.

The device of this invention comprises two parts, each preferably of similar construction, and each locked in position at opposite sides of the composition, thus enabling the ribbon to be fed from one to the other part over the composition back and forth. The nature of the invention will more fully appear from the accompanying description and drawings and will be particularly pointed out in the appended claims.

The drawings represent the preferred form of the invention in connection with so much of a printing press as is necessary to understand the operation.

In the drawings Figure 1 is a top plan view of a form or chase with the device shown locked in place; Fig. 2 is a side elevation with a portion of the frame of the chase cut away as indicated in Fig. 1; Fig. 3 is an enlarged detail plan view of one end of one part of the device; Fig. 4 is a perspective view of the winding handle; Fig. 5 is a side elevation partially in cross section of one end of one part of the device beneath the platen of a printing press.

The invention is shown in Fig. 1 of the drawings with the device locked in place in the form or chase of an ordinary printing press. In this view 1 represents the frame of the chase, 2 the composition or matter set up in type, 3 the usual quoins, while at the right and left sides of the composition are shown the two parts of the preferred form of the device of this invention.

The device comprises essentially two different parts and both are preferably of substantially similar construction, although as shown it will be more convenient to make one member complementary to the other or one right handed and the other left handed. A description of one part will, therefore, suffice for both. Each part comprises a base member having a main portion 4, the ends of the base member being shown as blocks 5 rigidly secured to the main portion by screws 6. The base member is made rectangular in shape so that it can readily fit in and be locked in the chase.

A ribbon roll 7 is journaled in the base member longitudinally thereof and provided with a groove and feather 8 by means of which the end of the ribbon may be held in place. One end 9 of the roll is made of polygonal form so that the roll may be turned by winding handle 10 such as shown in Fig. 4.

A ribbon guide 11 shown as a bar extends longitudinally of the base member and is shown as mounted in and carried by a pair of posts 12 and 13, constituting what may be termed "a ribbon-guiding frame". These posts are yieldingly mounted to move vertically in the base member and are normally held elevated by coiled springs 14.

Suitable connections are provided for giving an intermittent rotation to the ribbon roll 7 from the ribbon-guiding frame or one of the posts 12. These connections are shown as a ratchet wheel 15 mounted on the ribbon roll, a detent pawl 16 mounted on the base member and engaging the ratchet wheel and provided with an upwardly projecting spring tail 17, an actuating pawl 18 pivotally mounted on the post 13 engaging the ratchet wheel and provided with an upwardly projecting spring tail 19.

The cotter pins 20 and 21 are mounted longitudinally in the end blocks 5 of the base member in such a position that when pushed in as shown in Fig. 3 they come respectively behind the spring tails 19 and 17 of the pawls and maintain the pawls in position for intermittently actuating the ribbon roll.

When the cotter pins are pulled out or when they are pulled out and pressed on the
other side of the spring tails 19 and 17 the pawls fail to actuate or are prevented from actuating the ratchet wheel.

The base member is made of such thickness and it is so positioned in the chase that its upper surface or face is well below the printing surface of the type, while the yieldingly mounted posts 12 and 13 project well above the level of the printing surface.

The operation of the device will now be apparent. With the two parts of the device locked in place as shown in Fig. 1 on opposite sides of the composition one end of the inking roll is attached to one roll 7 by the feather 8 and then by means of the winding handle 10 the ribbon is wound up upon the roll. The ribbon is then drawn across the printing surface as shown in Fig. 1 and attached to the opposite ribbon roll 7. The cotter pins 20 and 21 are drawn out and replaced in front of the pawl tails 19 and 17 of that part of the device containing the wound-up ribbon so as to prevent the actuation of the ribbon roll, while in the other base member containing the roll upon which the ribbon is to be wound the cotter pins are arranged as illustrated in Figs. 3 and 5.

When the platen 22 of the printing press descends it contacts with the posts 12 and 13 depressing the ribbon onto the type and causing the impression of the type through the ribbon onto the paper and upon its retreat effecting the actuation of the ratchet wheel and ribbon roll in that part of the device where the ribbon is to be wound up. At each printing operation in a similar manner the posts are depressed thus intermittently rotating the roll and winding up the ribbon. When the ribbon has been entirely wound up onto the opposite roll the cotter pins are changed in the two devices and the same operation of the printing press winds the ribbon back again.

It will thus be seen that an extremely simple and efficient device is provided for securing the operation of an inking ribbon in a printing press.

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

1. A ribbon operating device for printing presses comprising a pair of base members, a ribbon roll journaled in each base member longitudinally thereof, the said base members with the said rolls being adapted to be locked in the chase of the press at opposite sides of the composition with the faces of the base members and with the rolls below the level of the printing surface, a post vertically mounted in each base member and normally projecting above the level of the printing surface, connections between the post and the ribbon roll for giving an intermittent rotation to the latter resulting from the depression of the former as by the platen of the press.

2. A ribbon operating device for printing presses comprising a pair of base members adapted to be locked in the chase of the press at opposite sides of the composition with their faces below the level of the printing surface, a ribbon roll journaled in each base member longitudinally thereof, a ribbon-guiding frame yieldingly mounted in each base member and normally projecting above the level of the printing surface, connections between said frame and the ribbon roll for giving an intermittent rotation to the latter from the movement of the former resulting from its depression as by the platen of the press.

3. A ribbon operating device for printing presses comprising a pair of base members adapted to be locked in the chase of the press at opposite sides of the composition with their faces below the level of the printing surface, a ribbon roll journaled in each base member longitudinally thereof, yieldingly mounted posts at each end of each base member, a ribbon guide connecting the said posts and extending longitudinally of the base member, a ratchet wheel on said ribbon roll, an actuating pawl carried by one of said posts and cooperating with said ratchet wheel to cause the intermittent operation of the ribbon roll upon the upward movement of the post after its depression by the platen.

4. A ribbon operating device for printing presses comprising a pair of base members adapted to be locked in the chase of the press at opposite sides of the composition with their faces below the level of the printing surface, a ribbon roll journaled in each base member longitudinally thereof, yieldingly mounted posts, one at each end of each base member, a ribbon guide connecting the said posts and extending longitudinally of the base member, a ratchet wheel on said ribbon roll, an actuating pawl carried by one of said posts and cooperating with said ratchet wheel to cause the intermittent operation of the ribbon roll upon the movement of the post, a detent pawl for said ratchet wheel, and means for effecting or preventing the cooperation of the actuating pawl, detent pawl and ratchet.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

HANS C. HANSEN.

Witnesses:

LEONA CHANDLER,
FREDERICK S. GREENLEAF.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."