E. KIRKBRIDE.

ATTACHMENT FOR PRINTED IMITATION TYPE WRITTEN LETTERS.

APPLICATION FILED MAY 9, 1917.

1,288,616. Patented Dec. 24, 1918.

FIG. 1.

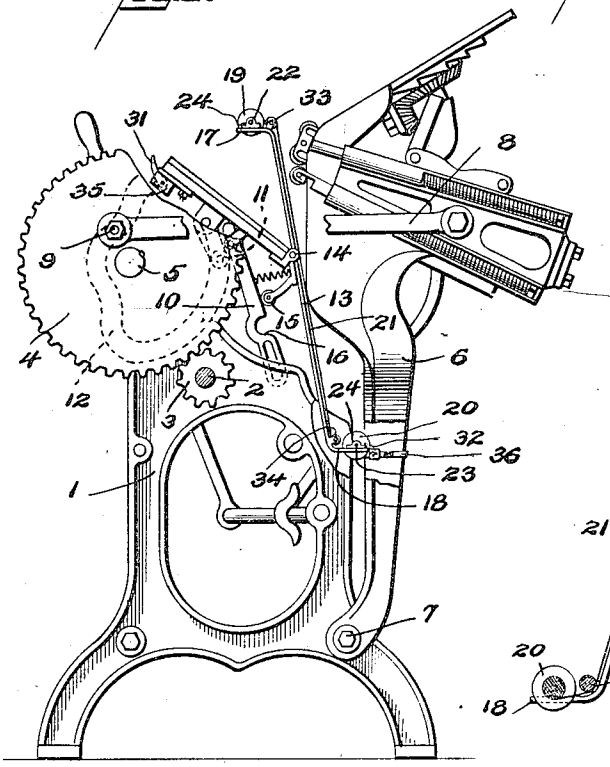
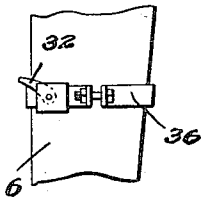


FIG. 4.



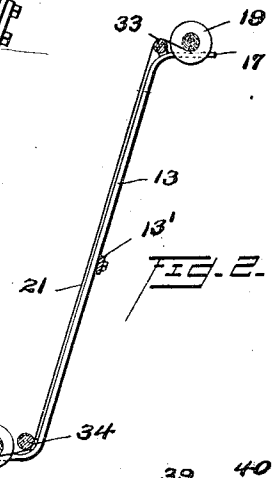


FIG. 2.

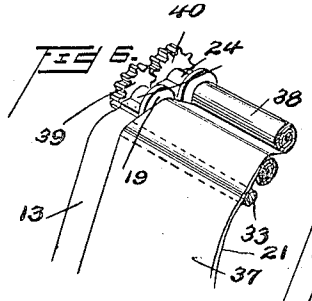


FIG. 6.

FIG. 3.

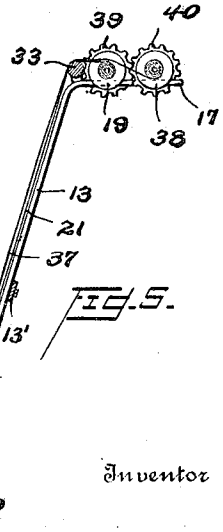


FIG. 5.

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UNITED STATES PATENT OFFICE.

EDMUND KIRKBRIDE, OF CAMDEN, NEW JERSEY, ASSIGNOR OF ONE-HALF TO HIMSELF AND ONE-HALF TO CHARLES P. HALYBURTON, OF CAMDEN, NEW JERSEY.

ATTACHMENT FOR PRINTED IMITATION-TYPE-WRITTEN LETTERS.

1,288,616. Specification of Letters Patent. Patented Dec. 24, 1918.

Application filed May 9, 1917. Serial No. 167,539.

To all whom it may concern:

Be it known that I, EDMUND KIRKBRIDE, a citizen of the United States, residing at 104 N. Sixth street, Camden, in the county of Camden and State of New Jersey, have invented a certain new and useful Attachment for Printed Imitation-Type-Written Letters, of which the following is a specification.

The purpose of my invention is to simplify and perfect the mechanism by which ink ribbons are supported and are fed across the type of printing machines for the purpose of imitating typewritten letters.

A further purpose is to reduce the time, expense and trouble of applying ribbon attachments to printing machines.

A further purpose is to apply longitudinally movable ribbons as distinguished from ribbons movable transversely, to job press gripper bars, obtaining all the advantages of the transversely movable ribbons along with a more adequate ribbon supply.

Further purposes will appear in the specification and claims thereof.

I have preferred to illustrate my invention by but one general form among the various forms in which it may be applied, selecting one which use has proved to be practicable, efficient and inexpensive and which at the same time well illustrates the principles of my invention.

Figure 1, is a side elevation of a printing press embodying the preferred form of my invention.

Fig. 2 is a section of the gripper construction in Fig. 1, taken parallel to the plane of the paper and looking toward the observer.

Fig. 3 is a perspective view of the grippers, ribbon and ribbon holding construction carried thereby shown in Fig. 1.

Fig. 4 is a fragmentary enlarged side elevation of the construction shown in Fig. 1.

Fig. 5 is a section similar to Fig. 2, showing mounting for an additional ribbon.

Fig. 6 is a fragmentary perspective of the construction shown in Fig. 5.

The same numerals are applied to corresponding parts in this specification.

Where there has been attempt to use ribbons movable in a general upward and downward direction across the type of job printing presses, the mechanism involved has been very much in the way, has involved considerable delay and trouble in application and has required and exposed to the dust a ribbon of excessive length, because of the long distances between the rollers utilized, and has been expensive. In the only form attaining any commercial success, the application of the mechanism has rendered the press unsuitable for use as an ordinary job press.

My invention disclosed in Patent 943,423 of March 29th, 1910, mounted the ribbon rollers parallel with the grippers for the purpose of overcoming this objection but was itself subject to a new objection. The rollers could not be accommodated outside of the frame holding the printing form and it was necessary to reduce their size sufficiently to permit them to lie within recesses provided in the form itself. This limitation in the size of the ribbon-wound roller restricted to so short a length of ribbon as to seriously interfere with the success of the invention shown in that patent.

My present invention obtains the advantage of my patent, in that the ribbon rolls are mounted upon strips corresponding in position and other characteristics with the grippers while securing all the advantage of vertical movement of the ribbon possessed by previous vertically movable ribbon constructions.

Compositions intended for reproduction in imitation of typewriting are much more nearly uniform in their width across the page than in the direction of the page length. There is therefore an advantage in having a vertically movable ribbon in that the full width of the ribbon is utilized in the printing operation for a large proportion of the jobs thereon; and as a result very little difference appears in the freshness of the ribbon at the center and at the ends of the lines.

1 designates the frame of the printing mechanism, of which the drive shaft is shown at 2 operating through gear 3 upon a gear 4 mounted on shaft 5. The usual bed 6, pivoted at 7, is oscillated by arm 8 from crank pin 9. The platen 10 is operatively connected with a roller 11 which fits into and follows a cam groove 12 within the inner face of gear 4 to operate the platen. Grippers 13 upon gripper bars 13′ are swung about pivot 14 by engagement of roller 15 with gripper cam 16.

All of this mechanism is old and well

known except that the grippers shown are extended at both ends beyond the usual gripper length for the purpose of carrying the rolls and guides for the ribbon.

The grippers shown are forwardly turned at the top at 17 and rearwardly turned at the bottom at 18 to conveniently support spools 19 and 20 upon which the ribbon 21 is wound. The spools are mounted upon shafts 22, 23 which turn in suitable bearings 24. One end of each shaft is extended to carry ratchet wheels 25 and 26, respectively, and these wheels are held, against reverse movement, one at a time, by latches 27, 28, which may be turned out of engagement when desired. Drags 29, 30 prevent too free unwinding of the spools when the latches are out of engagement. It is not ordinarily necessary to use these drags.

At opposite ends of oscillating movement of grippers 13 the respective ratchet wheels 25 and 26 are brought in position to engage one or the other of pawls 31 and 32. One only of these pawls is intended to be in position for engagement at a time, and the direction of movement of the ribbon is controlled by the pawl which is then operating. Whichever pawl is operating, the corresponding latch is in engagement with its ratchet wheel and the opposite latch is disengaged to permit its ratchet wheel and spool to be turned by the strain upon the ribbon.

Whatever the preferred positions of the spools with respect to the plane of the grippers, I prefer to pass the ribbon over or under, as the case may be, rollers 33, 34, defining a plane for the ribbon between the rollers which is suitable for the work and is not affected by the fullness of the ribbon upon the rollers, avoiding the angular shifting of the ribbon plane which would take place if the ribbon ran directly from tangent position on the one roll to tangent position on the other.

It will be obvious that the spools could be mounted across from one gripper bar to the other and that the location of or use of pawls, latches and drags are details not affecting the broader aspects of my invention.

I have shown the pawl 31 as mounted upon a bracket 35 upon the back of the platen and the pawl 32 as mounted upon a strap 36 on the bed frame 6, selecting merely convenient positions for the parts. I have not considered it necessary to illustrate the mechanism by which the pawls and latches are so mounted is to be swung from operative to inoperative positions, as such constructions are well known in the art.

This application concerns primarily the mounting of the ink ribbon. It is my intention to apply for patent upon a process and apparatus for giving a press-copied appearance to printed imitations of typewriting in which a dampening ribbon is introduced between the ink ribbon and the type. It is also of value in more closely duplicating the work of a particular typewriter upon which the letters are to be "filled in" and which may not be sharp in its impressions, as additional ribbon thickness can be given for this purpose. Because of these, and in order to show that my present invention is capable of operation with either single or double ribbon, as preferred, I have shown in Figs. 5 and 6 a construction in which two ribbons are mounted in the same general manner and for the same general purpose as in the form illustrated in Figs. 1 to 4.

The second ribbon, 37 follows the line of the first, over one guiding roller and under the other, keeping the two ribbons in contact throughout their exposed lengths. I prefer to wind it upon its spool 38 in the opposite direction to the winding of the first ribbon, so that the shafts carrying the two spools at each end can be geared together simply, by pairs of gears 39, 40 and 41, 42, to feed the ribbons together. This is best seen in Figs. 5 and 6. The two ribbons are thus fed in the same direction and at equal speed by the same pawl and ratchet mechanism as is used to feed a single ribbon. The second ribbon may be used to thicken the ribbon merely or to moisten the ink ribbon to produce the appearance of press-copied work.

It will be evident that reversal of the positions of the two spools, without changing their shafts, will permit feeding in the same direction all the time, always upwardly or always downwardly, avoiding the use of the second feeding mechanism.

It will be evident that my mechanism is simple and complete and that when attached it does not interfere with the normal use of the ink rolls of the press.

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

1. In a device of the character stated, a printing platen, a type bed, a printing ribbon between the bed and platen, a moistening ribbon between the printing ribbon and the bed and means for moving one of the ribbons over the face of the bed.

2. In a device of the character stated, a press having a bed and platen, mechanism for moving a printing ribbon through the space between them, a moistener for said printing ribbon and mechanism for moving the moistener substantially parallel to the ribbon.

3. In a device of the character stated, a press provided with a bed and a platen in combination with roller ribbon holding mechanism, a moistened ribbon as distinguished from a printing ribbon and means for progressing it through the space between the bed and platen.

4. In a device of the character stated, a press provided with a bed and a platen in combination with a printing ribbon and a moistening ribbon extending within the space between them and means for progressing the two ribbons.

5. In a device of the character stated, a press having a bed and a platen, grippers therefor, a pair of rollers at each end of the grippers, gearing connecting the rollers in each pair, means for turning one of the rollers in one of the pairs, two ribbons, each extending from one roll of the one pair to one roll of the other pair and a common guide for the ribbons at each end adjoining the pairs of rolls.

6. In a device of the character stated, a press having a bed and a platen, grippers therefor, a pair of ribbons adapted to be moved across the space between the bed and platen, mounts for the ribbons, and means for moving the ribbons in the same direction and at approximately the same speed.

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