J. G. RIEGER.

TREATING DEVICE FOR TYPE WRITER RIBBONS.

APPLICATION FILED SEPT. 4, 1915.

1,192,686. Patented July 25, 1916.

FIG. 1

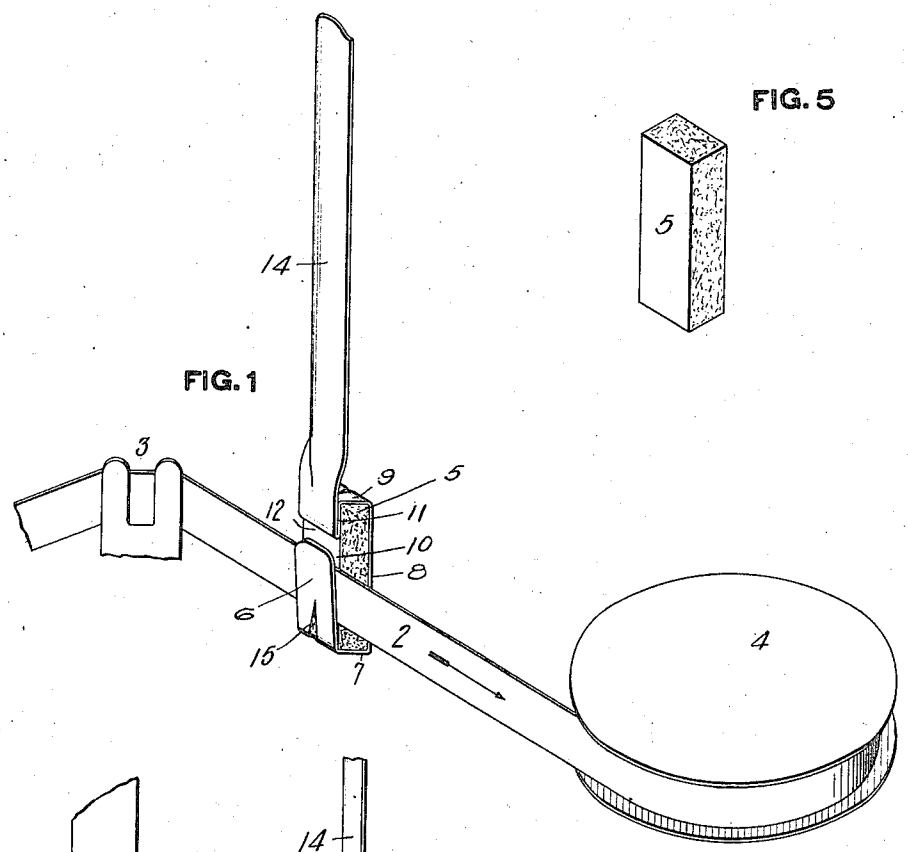


FIG. 5

FIG. 2

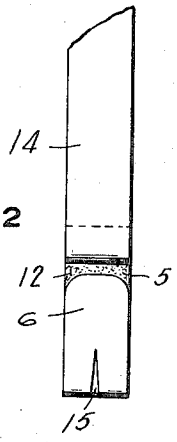


FIG. 3

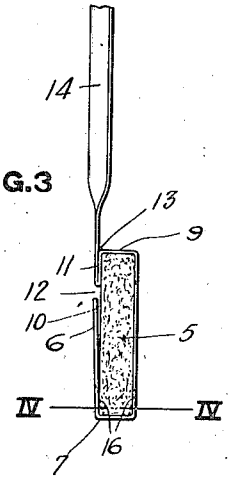
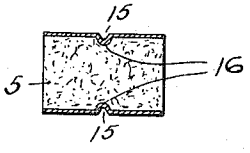


FIG. 4



WITNESSES

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TREATING DEVICE FOR TYPE-WRITER RIBBONS.

1,192,686. Specification of Letters Patent. Patented July 25, 1916.

Application filed September 4, 1915. Serial No. 49,014.

To all whom it may concern:

Be it known that I, JOHN G. RIEGER, a citizen of the United States, residing at 514 Ferguson Building, Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Treating Devices for Type-Writer Ribbons, of which the following is a specification.

My invention consists of means for treating typewriter ribbons and the like, and has for its object to provide a device for applying a solvent material or fluid to a used ribbon, whereby to effect a redistribution of the pigment, ink or coloring matter of the ribbon from the unused to the used portions thereof.

Ordinarily typewriter ribbons are subjected to wear and reduction of efficiency within certain prescribed longitudinal zones or divisions, under the action of the type of a typewriter machine, leaving certain portions of the ribbon, as at the middle or at each extreme edge, unused and practically new.

My invention has in view to treat the ribbon in such a manner as to effect a redistribution of the pigment over and throughout the used portions, thereby utilizing such unused pigment and increasing the life and efficiency of the ribbon.

The invention consists of a pad or block of suitable material, invested or soaked with a solvent or reactive element adapted to be placed in contact with the inked surface of the ribbon, and to apply to it, as the ribbon is drawn across the surface of the pad, the solvent material, the pad being mounted and held within the holding frame, constructed and adapted to operate in the manner more fully hereinafter described.

In the drawings, which illustrate one preferred embodiment of the invention, Figure 1 is a perspective view showing it as in combination with the ribbon of a typewriter machine, as used; Fig. 2 is a face view of the device, partly broken away; Fig. 3 is a similar edge view; Fig. 4 is a cross section indicated by the line IV—IV of Fig. 3; Fig. 5 is a perspective detail view of the pad detached.

In various standard typewriting machines the ribbon 2 is ordinarily drawn across the printing position 3, in front of the paper of the machine, by winding reels, one at each side, one of which is generally indicated by the numeral 4. These are well known constructions and need not be herein specifically described, except to state that the reel 4 is automatically actuated to feed the ribbon from one side to the other, in either direction.

As stated above only certain portions of the ribbon are utilized in actual service, leaving the pigment or coloring matter practically unimpaired as to the other portions.

By applying a suitable solvent, which may be of a fluid consistency and of proper quality and characteristics to combine with the pigment and cause it to flow evenly across the entire surface of the ribbon, the pigment will be redistributed thereon and the worn surfaces renewed. For the purpose of so applying the solvent, I utilize a pad or block 5 of felt or other suitable fibrous material preferably rectangular in form, of sufficient length and width to provide ample wiping surface, and of a depth or thickness to contain the necessary quantity of solvent.

The pad 5 is so mounted or held within its retaining holder or frame that the frame may be fixedly held by the hand, or otherwise mounted, whereby to locate the face of the pad in the path of the ribbon 2.

The frame as shown is made of thin sheet metal of the necessary strength and resiliency to fixedly hold the pad in position and to provide a front elastic tongue 6, between which and the face of the pad 5 the ribbon 2 is inserted as shown. The sheet metal strip which forms the holder, is bent to provide the rectangular receiving space corresponding to the shape and dimensions of the pad itself, being composed of a bottom 7, a back 8, and a top 9. The elastic tongue 6 extends upwardly across the major front portion of the pad 5 preferably flaring outwardly therefrom slightly whereby to provide the slight intervening space 10 at the upper portion of tongue 6, to facilitate introduction of the ribbon. The sheet metal strip is bent downwardly from top 9 for a short distance and then reversed upon itself, providing the doubled downwardly extending lip 11, having a rounded edge adjacent to the upper edge of tongue 6 and leaving an intervening space 12 for entrance of the edge of the ribbon downwardly into space 10, and into close intimate engagement against the front face of pad 5, between it

and the resilient tongue 6. The re-doubled thicknesses of the metal forming the lip 11 are brought tightly together, and are preferably soldered as at 13, whereby to insure their permanent relation. The strip extends upwardly from such point and may be bowed outwardly at the front as shown at 14, providing a suitable holding handle.

At the lower front and back middle portions and the upper back middle portion of the holder, the strip is crimped inwardly as indicated at 15, whereby to provide the inner ridges 16, which bind inwardly across the middle end portions of the pad, and thereby effectively retain it in position against any tendency of the ribbon itself to dislodge it from the frame, while the ridges greatly strengthen the holder itself. The holding effect of such ridges however may be easily overcome by applying sufficient pressure, in either removing or inserting the pad 5.

As thus constructed, the pad being thoroughly invested with the solvent material, and located in the path of the ribbon as shown in Fig. 1 and there fixedly held, when the ribbon is drawn across the face of the pad it is continuously held thereagainst with considerable pressure by the resilient tongue 6 and receives an ample application of the solvent, effecting the desired results. The ribbon may be thus passed across the pad one or more times to effect its renewal, whereupon the device may be removed and again used with another ribbon, either with the same or a newly-invested pad.

The advantages of the invention will be readily appreciated by those familiar with the use of typewriter or other ribbons. It enables the utilizable qualities of the ribbon to be used practically to exhaustion; it effects a more uniform application of the ink of the ribbon, in using the typewriter machine, by frequent applications of the solvent applying device, and thereby greatly lengthens the life and increases the efficiency of an ordinary commercial ribbon.

It will be understood that the device may be variously changed or modified in construction as to proportions, dimensions or other details by the skilled mechanic, but that all such changes are to be considered as within the scope of the following claims.

What I claim is:

1. A treating device for ink ribbons consisting of a solvent applying pad, and a holder therefor formed of thin sheet metal bent to conform to and inclose the back, ends, and a portion of the front of the pad and embodying a resilient tongue providing an entrance opening for a ribbon and adapted to press it directly against the face of the pad.

2. A treating device for ink ribbons consisting of a solvent applying pad, and a holder therefor formed of thin sheet metal bent to conform to and inclose the back, ends, and a portion of the front of the pad and embodying at one end an inwardly turned retaining lip and at the other end an oppositely disposed inwardly turned resilient tongue terminating adjacent the edge of said lip and providing an intervening entrance opening.

3. A treating device for ink ribbons consisting of a solvent applying pad, and a holder therefor formed of thin sheet metal bent to conform to and inclose the back, ends, and a portion of the front of the pad and embodying a resilient tongue forming an extension of the holder adapted to bear directly against the face of the pad but having its terminal disposed outwardly therefrom and providing for insertion of the ribbon between said tongue and the pad and for pressure of the ribbon by the tongue directly against the face of the pad.

4. In combination, a solvent applying pad and a holder therefor of thin sheet metal bent to conform to and inclose the back and end portions of the pad, and front wall portions, one of said portions being resilient and terminating adjacent the edge of the other with an intervening ribbon insertion opening.

5. In a device of the class described, a solvent applying pad, and a holding frame therefor formed of a strip of thin sheet metal bent to provide a retaining back, a top and a bottom wall at right angles to the back, an upper front wall formed by bending the metal at right angles to the top wall, and a lower front wall formed by bending the metal at right angles to the bottom wall and extending it upwardly to within a short distance of the edge of the upper front wall.

6. In a device of the class described, a solvent applying pad, and a holding frame therefor formed of a strip of thin sheet metal bent to provide a retaining back, a top and a bottom wall at right angles to the back, an upper front wall formed by bending the metal at right angles to the top wall, and a lower front wall formed by bending the metal at right angles to the bottom wall and extending it upwardly to within a short distance of the edge of the upper front wall, and deflecting it outwardly to provide a resilient lip.

7. In a device of the class described, a solvent applying pad, and a holding frame therefor formed of a strip of thin sheet metal bent to provide a retaining back, a top and a bottom wall at right angles to the back, an upper front wall formed by bending the metal at right angles to the top wall and then redoubling it to provide a reinforced closure, and a lower front wall formed by bending the metal at right angles to the bottom wall and extending it up-

wardly to within a short distance of the edge of the upper front wall.

8. In a device of the class described, a solvent applying pad, and a holding frame therefor formed of a strip of thin sheet metal bent to provide a retaining back, a top and a bottom wall at right angles to the back, an upper front wall formed by bending the metal at right angles to the top wall and then redoubling it to provide a reinforced closure and an extended handle, and a lower front wall formed by bending the metal at right angles to the bottom wall and extending it upwardly to within a short distance of the edge of the upper front wall.

9. In combination, a rectangular pad, and a correspondingly shaped holder therefor of thin sheet metal bent to conform to the back, top and bottom of the pad, having a downwardly turned double front wall and an extended handle, and an upwardly turned resilient front wall terminating adjacent to the edge of said front wall.

10. In combination, a rectangular pad, and a correspondingly shaped holder therefor of thin sheet metal bent to conform to the back, top and bottom of the pad, having a downwardly turned double front wall and an extended handle and an upwardly turned resilient front wall terminating adjacent to the edge of said front wall, said holder having inwardly crimped retaining projections for retaining the pad.

In testimony whereof I have hereunto affixed my signature in the presence of two witnesses.

JOHN G. RIEGER.

Witnesses:
M. E. CONNER,
C. M. CLARKE.