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DEVICE FOR RE-INKING TYPEWRITER RIBBONS

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Fig. 1.

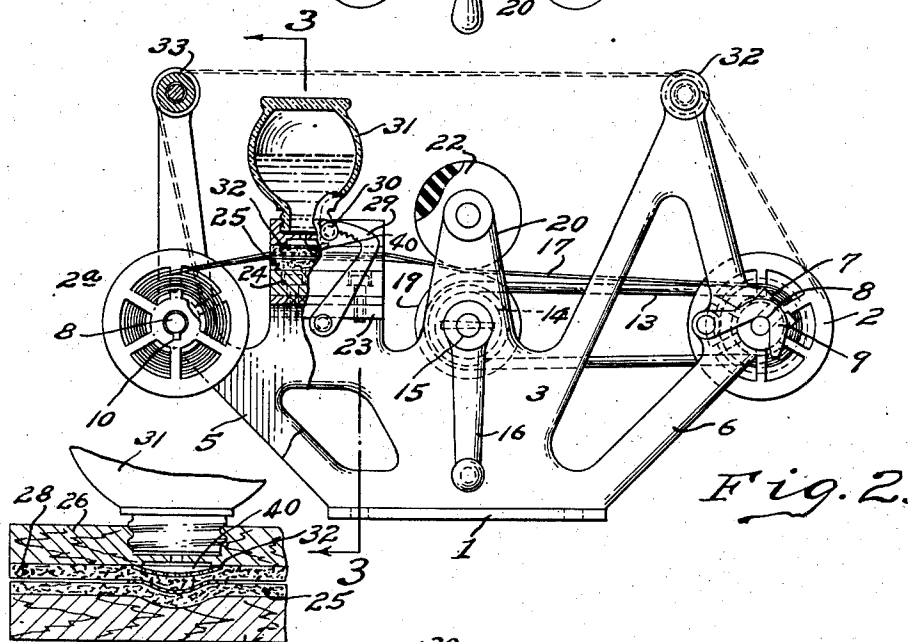
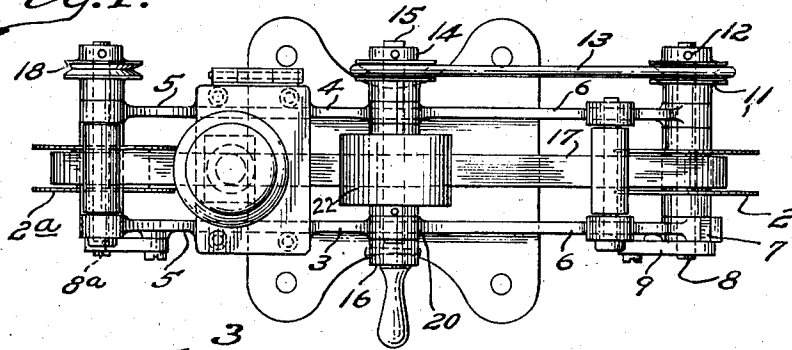


Fig. 2.

Fig. 5.

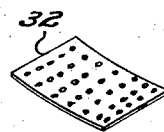
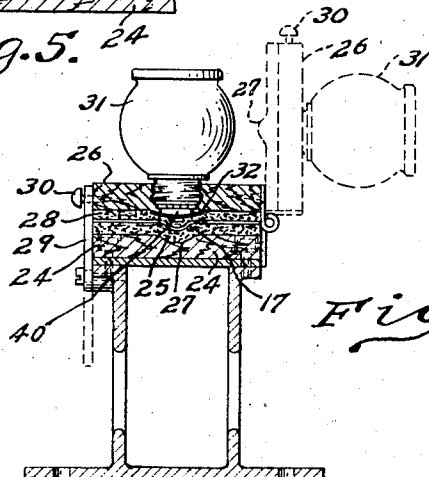


Fig. 4.

Fig. 3.

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DEVICE FOR REINKING TYPEWRITER RIBBONS

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6 Claims. (Cl. 91-27)

This invention relates to a device for re-inking typewriter ribbons the object being to provide a new and improved structure through which a ribbon may be passed from a spool to be re-wound on a reel.

The object of the invention is to provide a new and improved means for application of the ink to the ribbon and to uniformly distribute the ink on the ribbon and includes a means such as a pad having two parts between which the ribbon is passed in frictional contact and to one of which pads ink may be applied and from which it passes between rollers under pressure contact with opposite sides of the ribbon to thoroughly impregnate the fibers and interstices between the threads forming the ribbon.

The device further involves specific structural features all of which are hereinafter more fully described and claimed.

The preferred form of device embodying my invention is shown in the accompanying drawing in which—

Fig. 1 is a plan view of my improved device.

Fig. 2 is a side elevation thereof.

Fig. 3 is a section taken on line 3-3 of Fig. 2 showing the ink pad and inkwell structure.

Fig. 4 is a perspective view of an ink distributor.

Fig. 5 is an enlarged sectional elevation showing the ink distributor plate.

In its preferred form the device includes a base 1 and side frames 3 and 4 spaced horizontally as will be understood from Fig. 1. The said frames are practically of duplicate form and preferably integral with the base.

The two side frames have similar arms 5 and 6 extending outwardly from the base as indicated in Fig. 2 and as shown at the right hand side of Fig. 2 are provided with a notch 7 to receive a shaft 8 on which the reel 2 is rotatable. Upon introduction of the shaft and the reel in place, the shaft 8 extends outwardly of the arms 6 of the side frame 3 and a latch 9 engages thereover to support the reels in the position shown. As indicated in Fig. 2 the shaft 8a for the reel 2a has a lug 10 engaging a notch in the reel flange so that rotation of the shaft rotates the reel. For rotation of the shaft 8 I provide a pulley 11 having its hub pinned to the shaft as by means of the pin 12. The pulley 11 may be driven by a belt 13 which engages a pulley 14 on a drive shaft 15 and, on the opposite side of the machine, a crank 16 is pinned to the shaft and thus rotation of the shaft 15 by the crank may rotate the reel 2 and winds the ribbon 17 on the reel 2 from the reel 2a which is likewise mounted in the frame ele-

ments 5 at the opposite end of the frame. The reel 2a and the shaft 8a therefor are mounted in like manner to that described in respect to the reel 2 and shaft 8 and at 8a has a pulley 18 to which the belt 13 may be applied and thus either reel may be rotated by the crank 16.

On the drive shaft 15 and between the side frames is a roller 19 preferably formed of comparatively soft rubber and each side frame 3 and 4 has an upwardly extending arm 20 and 21 between which is mounted a second roller 22 normally in pressure engagement with the roller 19 and between which the ribbon 17 passes in the winding of the ribbon onto the reel or spool 2. Each of the side frames 3 and 4 have horizontal lug portions 23 on which is secured a block 24 in which an absorbent material 25 is secured and there is a similar block 26 hinged to the block 24 as shown in Fig. 3. The block 24 has a groove extending longitudinally of the device as indicated at 27 while the block 26 has an absorbent material 28 thereon which is provided with a longitudinal rib practically fitting the groove 27 of the absorbent material 25. The two blocks 24 and 26 may be releasably secured together as by a latch 29 pivoted to the frame and having an end portion fitting over a pin 30 in the block 25. The block 26 preferably has a threaded aperture to receive the threaded neck of an ink container 31, the lower end of which has an opening or openings through which ink flows by gravity into the upper pad 28 and may accumulate in the recess 40. An apertured distributor plate 32 is supported in the upper face of the pad 28 and forms the bottom of the recess 40. This distributor permits the ink to pass through a series of apertures into the absorbent pad 28 and thence on the ribbon as it passes beneath the plate thereby spreading the ink on the ribbon surface. Due to the surface contact of the pads excess ink is wiped from the ribbon as it passes from between the pads to the rollers.

The meeting line between the two pads is at a point horizontally above the periphery of the filled spool 2a and the reel 2 is horizontally aligned with the reel 2a. The meeting line between the rollers 19 and 22 is practically horizontally aligned with the periphery of the ribbon wound on the reel 2a. Thus the ribbon in passing between the inking pads is held taut and passes between the pads in transversely curved form as shown in Fig. 3. By rotation of the crank 16 the ribbon is passed between the pads in comparatively tight surface contact therewith and then passes between the rollers 19 and 22 which,

being in pressure contact, tend to not only force the ink into the interstices of the ribbon but also tend to spread the ink uniformly over the ribbon surface. When the ribbon has been fully wound onto the reel 2 the free end may be passed over a roller 32 and thence over the roller 33 and connected with the spool hub. The belt 13 may be taken from the pulley 11 and placed on the pulley 18 and by reversing the direction of rotation of the handle 16 the inked ribbon may be re-wound on the spool 2a and ready for use in a typewriter.

The filled spool may be taken from the typewriter and placed on the shaft 8a and passed through the device for the re-inking of the ribbon and wound on the spool 2 and when fully wound on the spool 2 it may then be re-wound on the original spool and returned to the machine for use, and thus continue use of ribbons that have usually been discarded heretofore.

It is believed obvious from the foregoing description that the various features and objects of the invention are attained by the structure described and it is further obvious that various changes and modifications may be made therein without departing from the spirit and scope of the invention as set forth in the appended claims.

Having thus fully described my invention, its utility and mode of operation, what I claim and desire to secure by Letters Patent of the United States is:

1. In a typewriter ribbon inking device in which a ribbon is unwound from a spool and wound up on a similar spool, a pair of rollers between which the ribbon passes from the first to the second named spool, an ink applying device between the first named spool and the rollers comprising a pad formed of a stationary part and a hinged part, the said stationary part having a groove arcuate in form in cross section and at a level horizontally above a line extending from the point of contact of the rollers and the upper surface of the ribbon on the filled spool whereby, as the ribbon is wound up on the second named spool, it is held under tension in contact with the groove of the stationary pad, the pad on said part having a projecting portion of the same general outline in cross section as the groove of the stationary pad, and means for supplying ink by gravity to the pad on said hinged part.

2. A typewriter ribbon inking device in which a ribbon is unwound from a filled spool and wound up on an unfilled spool, an ink applying device between the said spools comprising a pad formed of a stationary and a hinged part, said stationary part being positioned above the level of the tops of the spools to thereby cause the ribbon to move thereacross under tension as it is

wound up on the unfilled spool, and means for automatically supplying ink to one of said pad parts.

3. A typewriter ribbon inking device in which a ribbon is unwound from a filled spool and wound up on an unfilled spool, an ink applying device between the said spools comprising a pad formed of a lower stationary and an upper hinged part, said stationary part being positioned above the level of the tops of the spools to thereby cause the ribbon to move thereacross under tension as it is wound up on the unfilled spool, said upper hinged part including a supporting element having a recess, an ink container carried by the supporting element and having an opening to permit flow of ink by gravity into the recess, and means for supplying ink to the recess.

4. A typewriter ribbon inking device comprising an upper and a lower ink absorbent pad between which the ribbon may be passed in surface contact therewith, the upper pad having a recess above the face thereof contacting the lower pad, means for supplying ink to the said recess an apertured distributor plate between the ink supplying means and the upper pad, and means for passing the ribbon between the pads whereby excess ink applied to the upper surface of the ribbon in passing between the pads beneath the recess and excess ink removed from the ribbon as it passes beyond the recess in surface contact with the pads.

5. In a typewriter ribbon inking device, a pair of ink absorbent pads between which a ribbon may be passed in surface contact therewith, one of the pads having a recess above the face thereof contacting the other pad, means for supplying ink to the recess an apertured distributor plate between the ink supplying means and the upper pad whereby ink is applied to the ribbon by seepage from the recess as it passes between the pads and excess ink removed from the ribbon as it passes beyond the recess in contact with the opposed pad surfaces.

6. In a typewriter ribbon inking device, a pair of superimposed ink absorbent pads between which the ribbon may be passed in surface contact therewith, the upper pad having a recess in the body above the lower surface and opening through the upper surface thereof, an apertured plate carried by the upper pad and covering the open side of the recess, and means for supplying ink to the recess, the arrangement providing that excess ink applied to the ribbon surface in passing beneath the recess is removed from the ribbon as it passes from the recess in contact with the opposed pad surfaces.

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