This invention relates to a hand-operated device for reinking typewriter ribbons or ink rollers of other office equipment.

It is common practice to reink stamp pads and other ink carrying mediums. This procedure, however, has apparently never been applied to ribbons such as typewriter ribbons. The latter are completely discarded and replaced whenever the residual ink supply is not sufficient to produce a satisfactory impression. In most cases, the ribbons except for loss of ink are otherwise perfect and satisfactory. This constant discard and replacement of ribbons creates an economic loss of both money and time which could be substantially eliminated if practical means were provided for simply reinking the depleted ribbons.

The principal object of this invention is to provide an economical, easily used, hand-operated desk device by means of which the ink supply on used typewriter ribbons can be quickly, easily and repeatedly renewed so as to give clear typing impressions until the ribbons are completely worn through thus removing the necessity for constant replacement of ribbons whose only fault is a depleted ink supply.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention, reference is made to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawings:

FIG. 1 is a perspective view of the ribbon reinking device illustrating it ready for use;

FIG. 2 is a similar perspective view illustrating a top spool element as used with the device of FIG. 1;

FIG. 3 is a similar perspective view of a spool winding key employed with the device;

FIGS. 4, 5 and 6 are top view designs of the device illustrating successive steps in the process of reinking a ribbon, to be later described; and

FIG. 7 is an enlarged, longitudinal section thereof taken on the line 7-7 of FIG. 5.

The improved reinking device is mounted upon a relatively small, flat base plate 12 provided with suitable, resilient, supporting pads 13 to maintain it securely in place upon a desk or other supporting surface without damage to the latter.

A vertical carrying post 14 is fixedly mounted, and arises from the midpoint of the base plate 12. A ribbon spool post 15 is similarly fixedly mounted on the center line of the base plate at one side and in spaced relation to the carrying post. The posts may be mounted in any desired manner such as through the medium of clamp nuts 16 on the bottom of the base plate. It is preferred to mount a suitable finger knob 17 upon the carrying post 14 to be gripped in the fingers for lifting and carrying the base plate 12.

A vertical, cylindrical, ribbon winding hub 18, having a height slightly in excess of the width of the ribbon to be reinked, is rotatably mounted on the center line of the base plate at the opposite side of and in spaced relation to the carrying post 14. The winding hub 18 is provided with a concentric bottom disc 19 affixed thereto in any suitable manner so as to rotate therewith. As illustrated, the bottom disc 19 is clamped to and against the winding hub by means of a shouldered pivot screw 20 threaded into the lower extremity of an axially positioned threaded passage 21 in the hub. The pivot screw 20 extends rotatably through the base plate to provide a freely rotatable mounting for the hub 18. The winding hub is provided with a ribbon pin extending therethrough, midway of its length, the extremities of which are turned and pointed to provide two ribbon attachment points 22 thereon.

The top of the hub is designed to removable receive the top spool element illustrated in FIG. 2. The latter element comprises a vertical spindle 23, the upper extremity of which is preferably knurled as shown at 24 to provide a firm finger grip. The lower extremity of the spindle is reduced in diameter and threaded to form a threaded stud 25 which extends through a clamping washer 26, a top spool disc 27 and a threaded clamp nut 28. The latter nut is fixedly clamps the spool disc 27 to the shoulder on the spindle 23. The spool element is applied to the hub 18 by simply threading the threaded stud 25 of the spindle 23 into the upper extremity of the axial threaded passage 21 in the hub. The top of the latter is suitably countersunk to receive the clamp nut 28.

The device is used by simply dropping a conventional ribbon spool 29, containing a used ribbon 30, over the spool post 15 and passing the ribbon forwardly past the carrying post 14 whence rearwardly against the hub 18 where it is secured over one of the attachment points 22, as shown in FIG. 4.

The stud 25 of the top spool element of FIG. 2 is now threaded into the threaded passage 21 of the hub and rotated to tightly clamp the top spool disc 27 to the hub, as shown in FIG. 5, so as to form a complete winding spool. The entire ribbon is now wound upon the hub 18 by finger rotation of the vertical spindle 23 in a clockwise direction.

When the entire ribbon has been wound upon the hub the bottom disc 19 is held and the spindle 23 is rotated counter-clockwise to unscrew the stud 25 and remove the top spool disc 27 to expose the completely wound ribbon as shown in FIG. 6.

Ink is now applied to the wound ribbon in any suitable manner such as by means of a bottle brush as conventionally supplied with bottles of stamp pad ink. The ink is gradually absorbed by the ribbon fabric and, if allowed to set for a time interval, will become uniformly distributed throughout the ribbon.

After the ink application is completed, the ribbon is rewound upon its original spool 29. The rewinding is accomplished through the medium of the spool rewinding key shown in FIG. 3. The rewinding key comprises a tubular stem 31 upon the bottom extremity of which an annular cupped flange 32 is formed or attached. At one point the flange 32 is cut and turned downwardly to form a downwardly projecting tenon 33.

The winding key is applied by dropping it downwardly over the ribbon spool post 15 until the flange 32 rests upon the ribbon spool 29 with the tenon 33 engaging a hub hole 34, with which conventional ribbon spools are provided. Rotation of the winding key stem in a clockwise direction in the fingers will now rotate the spool 29 to rewind the ribbon thereon for reuse in the typewriter or other equipment. The stem 34 is preferably closed at the top and is provided with knurling 35 to facilitate gripping in the fingers.

If desired, the ribbon spool can now be removed, inverted and then rewound on the hub 18 so that ink can be applied to the opposite side of the rolled ribbon to obtain a relatively heavy uniform application of ink if found necessary.

The knurled spindle 23 and the tubular stem 31 not only serve for winding purposes but also serve as braking
elements. Thus, the stem 31 or the spindle 23 may be rotated with the fingers of one hand while the spindle 23 or the stem 31 is frictionally gripped by the fingers of the other hand to apply tension to the ribbon in either desired direction.

While a specific form of the invention has been described and illustrated herein, it is to be understood that the same may be varied within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention what is claimed and desired to be secured by Letters Patent is:

1. A device for reinking typewriter ribbons comprising: a base plate; a vertical ribbon spool post fixedly mounted in and arising from said base plate and adapted to rotatably receive a conventional ribbon spool; a vertical hub member rotatably mounted on said base plate in spaced relation to said spool post; a bottom disc concentrically affixed to the lower extremity of said hub member so as to rotate therewith; means for attaching the extremity of a ribbon from said ribbon spool to said hub member; a top spool disc; a vertical, threaded, axial passage in said hub member; an axially positioned threaded stud projecting downwardly from said top spool disc into threaded engagement with said passage; a vertical spindle fixedly mounted on said stud and arising therefrom to be manually engaged for rotating said hub member to wind a ribbon from said spool onto said hub; and a tubular winding key, removably and rotatably fitted downwardly over said ribbon spool post into engagement with a spool therewith so that manual rotation of said key will impart rotation to said spool.

2. A device for reinking typewriter ribbons as described in claim 1 having a tenon extending downwardly from said winding key into engagement with said spool and preventing relative rotation therebetween.

3. A device for reinking typewriter ribbons as described in claim 2 having a carrying post affixed in and arising vertically from said base plate intermediate said ribbon spool post and said hub member about which said ribbon may be trained to maintain the latter in place on said spool and said hub.

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