

UNITED STATES PATENT OFFICE.

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TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 793,672, dated July 4, 1905.

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To all whom it may concern:

Be it known that I, WALTER J. LYTER, a citizen of the United States, and a resident of Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to ribbon-spools of type-writing and other machines, and has for its object the provision of means for securely attaching the ribbon to the spool and releasing it therefrom without liability of soiling the fingers during either operation.

In the accompanying drawings, Figure 1 is a plan view of a ribbon-spool embodying my improvements. Fig. 2 is a vertical section on the line *x x* of Fig. 1, and Fig. 3 is a vertical section on the line *y y* of Fig. 1. Fig. 4 is a front elevation of the spool shown in the foregoing figures. Fig. 5 is a plan view, Fig. 6 a longitudinal section, and Fig. 7 a front elevation, of a ribbon-spool, showing a modified form of my invention. Fig. 8 is a section longitudinal of the core, and Fig. 9 a front elevation of a further modification of my invention.

Like parts are designated by like numerals of reference throughout the drawings.

Referring now to Figs. 1 to 4, inclusive, the forward flange of the ribbon-spool is designated as 1, the rear flange as 2, and the core as 3. The core is here shown as a hollow tube of metal surrounding the spool-axle, (not shown,) which passes through the holes 4 and 5 in the flanges 1 and 2; but I do not desire to limit myself to this particular construction. The core is recessed or grooved longitudinally, as at 6, and the rear flange punched out or cut away, so as to provide an opening 7 in register therewith to afford passage for the ribbon-reverse-actuating arm common to the No. 6 Remington machine, which arm and its associate mechanism, since they form no part of my invention, are not shown in the drawings. Opposite the recess 6 there is a smaller longitudinal recess or depression 8 in the surface of tube or core 3. In the bottom of recess 8 are holes 9, formed to receive the teeth or serrations 10 of a clamping-bar or latch 11, piv-

oted in the lugs 12, formed on the outer face 50 of the rear flange 2. Near the pivot of the bar 11 and preferably bearing in a notch or indentation therein is the end 13 of a wire spring 14, which is coiled about a pin or rivet 15 in the rear flange 2. The other end 55 16 of the spring 14 passes through a small hole in the rear flange of the spool, and the constant tendency of the spring is to force the clamping-bar 11 outwardly and laterally about its pivot, viewed as in Fig. 2. When 60 the end of the ribbon 17 is placed upon the core 3, the toothed or serrated bar or clamp 11 is swung down against the tension of its spring 14 toward the core 3, the free end of the bar passing through a cut or opening 65 18 in the forward flange 1. The bar enters the recess 8 and finally after the teeth or serrations 10 have entered the holes 9, thus securely attaching the ribbon 17 to the spool-core, the bar is locked down by a spring-catch 18^a. This spring catch or lock 18^a is 70 shown as a piece of spring metal having a cut or opening 19 and riveted at 20 to the front flange 1, the rivets normally holding the catch in contact with the front or forward flange 1. 75 As the clamp 11 is pressed down through the opening 18 a nose 21, formed on the end of the clamp or latch, contacts with the spring catch or lock 18^a and forces it away from the flange 1 until the nose 21 has wholly entered 80 the opening 19, whereupon the catch 18 springs back against the flange 1. In this position the upper edge of the cut or opening 19 acts as a stop for the spring bar or clamp 11, and, as shown in Fig. 2, it is confined against 85 the action of spring 14 in a horizontal position in the recess 8 and wholly within the cylindrical surface of the core 3. When it is desired to free the ribbon 17 from the spool-core 3, the spring-catch 18 is grasped at its 90 top, which is preferably bent, as at 22, to afford a good hold, and pulled away from the flange 1, thus releasing the toothed clamping-bar 11, which moves about its pivot at 12 and away from the core 3 under the action of 95 spring 14. I preferably slit or cut the rear flange 2 in the plane of the clamping-bar 11, as shown at 23, so that the said clamping-bar

may be revolved longitudinally of the core about its pivot, as shown by the dotted lines in Fig. 2, sufficiently to enable the ribbon to be easily detached and removed. It will be
 5 apparent that while the bar is in the dotted-line position of Fig. 2 the free end of the ribbon to be attached may be laid across the recess 8, after which the clamp or bar 11 is pressed into the recess and locked by the catch
 10 18^a. This manipulation of the ribbon to attach or detach it from the ribbon-spool of the type-writer may be accomplished with despatch and cleanliness. The clamping-bar having been revolved about its pivot away
 15 from the core to the position shown by dotted lines in Fig. 2, the core is left entirely unobstructed and it is necessary merely to lay the ribbon upon the spool preliminary to clamping it. This movement of the ribbon
 20 is to be distinguished from the movement required in connection with other ribbon-attaching devices, wherein it is necessary to thread the ribbon longitudinally through the space between the attaching device and the
 25 spool-core. Another advantage of my invention is that in operative position no part of the clamp stands above the periphery of the spool drum or core. This conduces to a smooth, even, and close winding of the ribbon,
 30 a matter which becomes of importance when, as frequently happens, a copying-ribbon and a record-ribbon are pinned together and wound upon the spool, thus doubling the usual length of the ribbon.
 35 Passing now to Figs. 5, 6, and 7, I therein show my invention in connection with the ordinary wooden-cored spool of the No. 6 Remington type-writer. The wood core 24 is recessed at 25, and the metal plate 26 is secured
 40 to the bottom of recess 25 with ordinary wood-screws. Holes 27 in the plate 26 register with holes 28 in the wooden core, and into these holes pass the teeth of the clamp or latch 29, which is pivoted at 30 in the upturned end 31
 45 of the plate 26. Spring 32, whose ends are secured in holes in clamp 29 and plate 26, tends to revolve the clamp 29 in the direction of the arrow in Fig. 6, and spring-catch 33, formed by slitting the forward flange along lines 34
 50 and 35, Fig. 7, serves to retain bar 29 in engagement with holes 27 and 28.

Figs. 8 and 9 show a construction differing only from the immediately preceding in the form of the locking means for the ribbon-attaching clamp or bar. The lock is here
 55 shown in the form of a spring 36, attached to the front flange by a screw 37 and having a horizontal or laterally-bent portion 38, which passes over the ribbon-attaching clamp when
 60 it is in depressed position. The spring 36 when moved in the direction of the arrow in Fig. 9 to the opposite side of slot 39 in the flange, through which it passes, frees the ribbon-attaching clamp or bar, as in the other
 65 constructions.

Many other changes in details of construction and arrangement may of course be made within the scope of my invention. For example, while I have shown the ribbon-clamp in the form of a toothed bar other forms of
 70 clamp may be substituted therefor.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a ribbon-spool, the combination of ribbon-attaching means constantly spring-
 75 pressed away from the spool-core, and an independently-movable catch for said means.

2. In a ribbon-spool, the combination of a pivoted ribbon-clamp constantly tending to revolve about its pivot away from the spool-
 80 core, and independent spring-pressed means for controlling said clamp.

3. In a ribbon-spool, the combination of a pivoted ribbon-clamp, a spring constantly tending to revolve it, away from the spool-
 85 core, and an independently-movable spring-catch adapted to retain the clamp in operative position against the tension of its spring.

4. In a ribbon-spool, a ribbon-clamp pivoted at one side of the spool and retained in operative position by independently-movable
 90 means at the other side of the spool.

5. In a ribbon-spool, a ribbon-clamp pivoted outside one flange of the spool and locked in operative position by means connected with
 95 the other flange.

6. In a ribbon-spool, the combination of a ribbon-clamp pivoted at one side of the spool, a spring acting on said clamp, and an independent spring-catch at the other side of the
 100 spool adapted to lock the clamp against the action of its spring.

7. In a ribbon-spool, the combination of a pivoted clamp which in operative position is substantially within the cylindrical surface of
 105 the core between the flanges, and independent means operable outside the ends of the spool to hold the clamp in working position.

8. In a ribbon-spool, the combination of a pivoted clamp which in operative position is held within a recess in the spool-core so as to be wholly within the cylindrical surface of the
 110 core between the flanges, and independent means operable outside the ends of the spool to hold the clamp in working position.

9. In a ribbon-spool, the combination of a plate 26, a spring-mounted clamping-bar pivoted therein, a retaining-latch for the clamping-bar, and means for attaching the plate 26
 120 to the spool-core.

10. In a ribbon-spool, the combination of a plate 26, a spring-mounted clamping-bar pivoted therein, a retaining-latch formed in the spool-flange, and means for attaching the plate
 125 26 to a recess in the spool-core.

11. The combination, with a ribbon-spool comprising a core and end flanges, of a clamping-bar pivoted at one of said flanges and means at the other of said flanges for holding said
 130 clamping-bar in clamping position.

12. The combination with a ribbon-spool comprising a core and end flanges, of a clamping-bar pivoted at one of said flanges, means at the other of said flanges for holding said bar in clamping position and a spring for throwing said bar outwardly when released from clamping position.

13. In a ribbon-spool, having a core and end flanges, a pivoted toothed clamp, the teeth of which in operative position rest in holes or depressions in the bottom of a recess for the clamp in the spool-core, in which position the entire clamp is substantially within the cylindrical surface of the core between the flanges.

14. The combination with a ribbon-spool having a core and end flanges, of a toothed clamping-bar pivoted at one of said flanges and

means at the other of said flanges for retaining said clamping-bar with its teeth in holes or depressions in the bottom of a recess in the spool-core.

15. The combination with a ribbon-spool, of a pivoted clamping-bar arranged to swing lengthwise of the spool, and an independently-movable catch for holding the bar in clamping position, said catch being operable outside the ends of the spool.

Signed at Louisville, in the county of Jefferson and State of Kentucky, this 27th day of February, A. D. 1904.

WALTER J. LYTER.

Witnesses:

FLOYDE I. JEFFERSON,
P. E. ALLISON.