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2,016,205

TYPEWRITER RIBBON SPOOL

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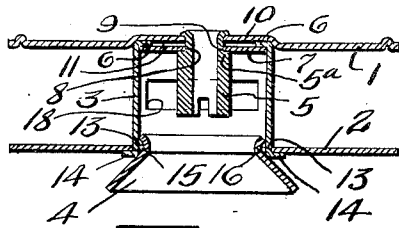


Fig-1-

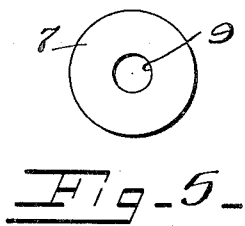


Fig-5-

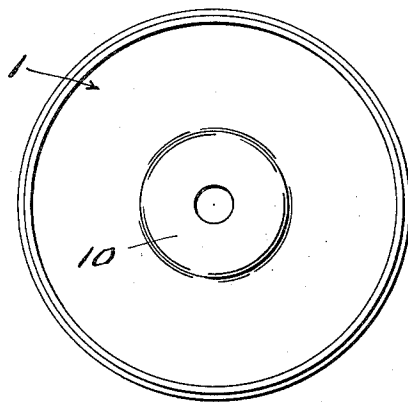


Fig-2-

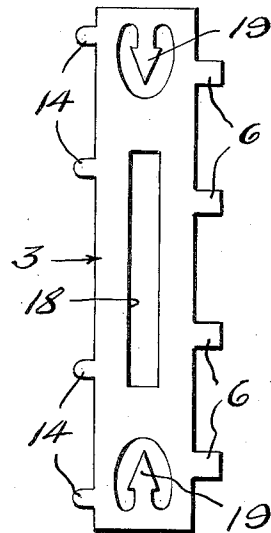


Fig-4-

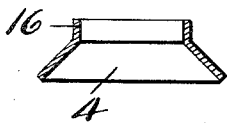


Fig-6-

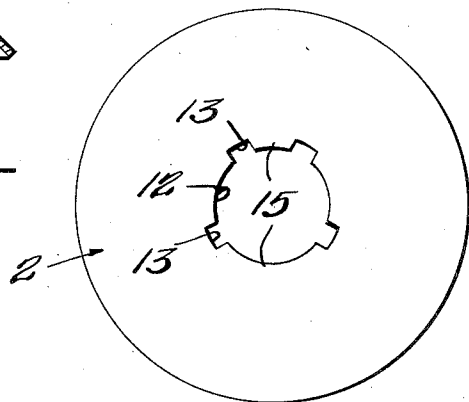


Fig-3-

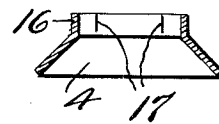


Fig-7-

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2,016,205

TYPEWRITER RIBBON SPOOL

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Application September 12, 1934, Serial No. 743,724

5 Claims. (Cl. 197—175)

This invention relates to typewriter ribbon spools, and particularly to spools of the type disclosed in Patent No. 929,933 issued August 3, 1909 for coating with the general type of reversing ribbon feeding mechanism shown therein, and has for its object a spool of this type which is especially simple and economical in construction and highly efficient in use.

It further and more specifically has for its object a particularly simple and efficient means for securing the hub on which the ribbon is wound to one of the heads, as the upper head, and more specifically securing the hub in a depression in the upper head by means of a washer and a coupling member within the hub which coupling member is utilized to couple the spool to the spool shaft of the ribbon mechanism.

It further has for its object the securing of the other or lower end of the hub and also of securing a funnel-shaped member or skirt to the lower head, this skirt serving as a guide to guide a part of the ribbon mechanism into the hub wherein it can coact with the ribbon on the hub, when the spool is being placed on the spool shaft.

The general type of ribbon mechanism for which this spool is adapted is shown in Patent No. 929,933 and many others, as for instance, Patent No. 1,474,111 issued November 13, 1923.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawing in which like characters designate corresponding parts in all the views.

Figure 1 is an enlarged sectional view taken diametrically through the spool.

Figures 2 and 3 are, respectively, a plan and an inverted plan of the upper and lower heads of the spool.

Figure 4 is a view of the blank of the hub.

Figure 5 is a plan view of the washer.

Figure 6 is a transverse sectional view through the detached skirt before being expanded into interlocking engagement with the lower head of the spool.

Figure 7 is a view similar to Figure 6 of a slightly modified form of the skirt.

This spool comprises generally opposing heads or disks, a tubular hub between the heads or disks and secured therein, a central coupling member for coupling the spool shaft of the ribbon mechanism to the spool, and a funnel-shaped skirt secured to the other head. For convenience, one

of the heads will be hereinafter called the upper head or disk and the other head, the lower head or disk, as in most cases, the spools are mounted to rotate about an upright axis.

1 and 2 designate, respectively, the upper and lower heads or disks, these being formed of sheet metal. 3 designates the tubular hub on which the ribbon is wound, this being secured to the heads 1 and 2 in a manner or by means forming subject matter of this invention.

4 designates the funnel-shaped skirt and the manner in which it is attached to the lower disk 2 constitutes subject matter of this invention.

5 designates the central member or sleeve which secures the hub 3 to the upper head 1, this member being for coupling the spool to the spool shaft of the typewriting machine.

The hub 3 is formed with inwardly extending bottom portions 6, these being in the form of spaced apart tangs, and a disk or washer 7 is inserted in the hub against the bottom portions or tangs 6, thrusting or clamping them against the central portion of the head 1. The coupling member or sleeve 5 is formed with a reduced end or axial stem portion 8 extending through a central opening 9 in the washer and through a central opening in the head 1 and secured to the disk or head 1 in any suitable manner, as by a spreading or riveting operation. The reduced or stem portion 8 provides a shoulder 5^a on the member or sleeve 5, which shoulder thrusts or clamps against the washer 7. Preferably, the disk or head 1 is formed with a central outward offset 10 providing a depression 11 on the inner side of the upper head 1, in which depression the tubular hub 3 seats at its upper end and in which depression the tangs 6 lie against the bottom of the depression. The depression or the offset portion is about the same diameter as the over-all diameter of the hub, so that the hub fits therein.

The lower disk 2 is formed with a central opening 12 of slightly less diameter than the bore of the hub 3 and also with outwardly extending notches 13. The hub is formed with tangs 14 at its lower end extending through the notches 13 and being clinched over onto the lower side of the head or disk 2, these tangs being of less thickness than the depth of the notches and pressing against the outer ends or bottoms of the notches, so that a marginal portion of the wall around the opening 12 extends slightly into the bore of the sleeve forming a shelf or a shoulder 15.

The skirt member 4 is formed with a hub 16 which extends through the opening 12 and is expanded outwardly over the shelf or shoulder 15 55

and thus firmly secures the member 4 assembled in the head 2. The hub 16 may be split, as at 17 (Figure 7) to facilitate the spreading or expanding thereof. The hub 3 is rolled up from a blank, shown in Figure 4, having projections which constitute the tangs 6 on one side edge thereof and also the projections which constitute the tangs 14 on the other longitudinal edge thereof. It is also formed with a slot 18 for the arm of the ribbon reversing mechanism that extends into the hub 3 through the skirt 4 and coacts with the ribbon wound on the spool through the slot 18. The hub 3 is also formed with suitable hooks or barbs 19 to which the end of the ribbon may be secured.

This ribbon spool is extremely simple, economical and practical for commercial construction and use.

What I claim is:—

1. In a typewriter ribbon spool, opposing heads and a tubular hub on which the ribbon is wound between the heads, one of the heads having a central outward offset portion forming a depression on the inner side of the head and the hub seating at one end in the depression and having inwardly extending bottom portions overlying the bottom of the depression, a washer within the hub and pressing against the bottom portions, and a member for coupling the spool to the shaft of the ribbon mechanism of the typewriting machine, said member being mounted centrally within the hub and pressing against the washer and extending therethrough and secured to the adjacent head.
2. In a typewriter ribbon spool, opposing heads and a tubular hub between the heads, means for securing the hub at one end to one of the heads, the other head having a central opening and notches extending radially from said opening and the adjacent end of the hub being formed with tangs extending through said notches and clinched on the outer face of the latter head, the tangs being of less thickness than the depth of the notches whereby the marginal portion of the head around the central opening therein extends slightly into the bore of the hub providing a shoulder, and a skirt having a hub portion extending through said opening and coacting with said shoulder and extending outward from the shoulder within the hub, thereby securing the skirt to the adjacent head.
3. In a typewriter ribbon spool, opposing heads and a tubular hub between the heads, means for securing the hub at one end to one of the heads, the other head having a central opening and

notches extending radially from said openings and the adjacent end of the hub being formed with tangs extending through said notches and clinched on the outer face of the latter head, the tangs being of less thickness than the depth of the notches whereby the marginal portion of the head around the central opening therein extends slightly into the bore of the hub providing a shoulder, and a skirt having a hub portion extending through the opening in the adjacent head and expanded against and over said shoulder.

4. In a typewriter ribbon spool, opposing heads, a tubular hub between the heads, one of the heads being formed with a central offset portion forming a depression on the inner side of said head, the hub being seated in said depression and having inwardly extending tangs bottoming in the depression, a washer within the hub and thrusting against said tangs, a member for coupling the spool in the shaft of the ribbon mechanism of the typewriting machine located centrally of the hub, said member thrusting against the washer and extending therethrough and through the offset portion and being secured thereto, the other head having an opening nearly coextensive with the bore of the hub and notches extending radially therefrom and the hub having at its end adjacent the latter head formed with tongues extending through the notches and clinched on the outer face of the latter head, the tongues being of less thickness than the depth of the notches, whereby the margin of the latter disk around the central opening extends inwardly beyond the wall of the bore of the hub forming a shoulder, and an outwardly flaring skirt having a hub portion extending into the hub through the opening and being expanded outwardly against the shoulder and over the same.

5. In a typewriter ribbon spool, opposing heads, a tubular hub between the heads and secured thereto, on which the ribbon is wound, means within the hub for coupling to the spool shaft of a typewriting machine, one of the heads having an axial opening concentric with the hub, the margin of the head provided with the opening extending radially inward beyond the inner side of the hub, forming a shoulder, and a skirt having a hub fitting said opening against said shoulder and extending outward over the shoulder within the hub to secure the skirt to the adjacent head.

JOHN C. KUCKHOFF.