No. 821,117. PATENTED MAY 22, 1906.

A. H. OLMSTED.

SPOOL OR REEL.

APPLICATION FILED APR. 3, 1905.

Fig. 1.

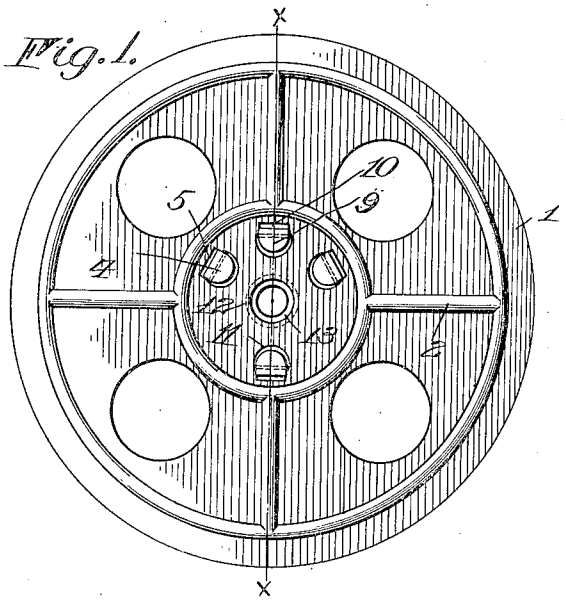


Fig. 4.

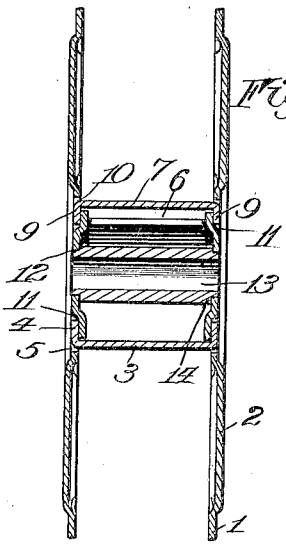


Fig. 3.

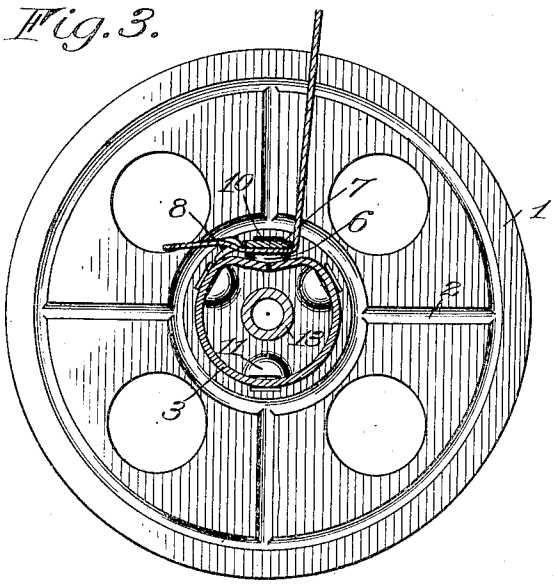
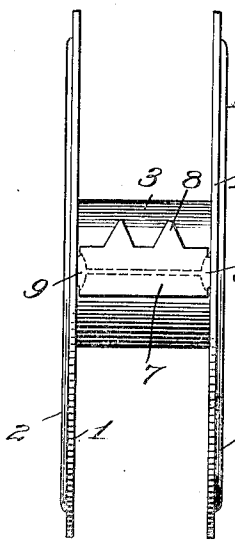


Fig. 2.



Witnesses

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SPOOL OR REEL.

No. 821,117. Specification of Letters Patent. Patented May 22, 1906.

Application filed April 3, 1905. Serial No. 253,675.

To all whom it may concern:

Be it known that I, ALBERT H. OLMSTED, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Spools or Reels; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention relates to spools or reels for winding purposes generally, but particularly applicable for use in type-writing and analogous machines wherein a carbon tape or ribbon is fed from one spool to another and then wound in the opposite direction; and it has for its object to provide a simple attaching means for securing the ends of such tape or ribbon to the drum so disposed as not to disturb the cylindrical regularity of the coil; and a further object of my invention is to fasten the ribbon in such a manner that when totally unwound the end cannot become accidentally loosened by a force acting in the direction of the feed, yet may be easily detached and replaced by a new one after having served its period of usefulness.

To these and other ends the invention consists in such improvements and combinations of parts as will be further more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings, Figure 1 is a side elevation of a spool embodying my invention. Fig. 2 is a top plan view thereof. Fig. 3 is a section taken transversely of the axis, and Fig. 4 is a section taken longitudinally of the axis, on the line *x x* of Fig. 1, showing a portion of the ribbon as attached.

Similar reference-numerals in the several figures indicate similar parts.

Referring to the drawings, 1 indicates the flanges or guiding portions of the spool, having the usual reinforcing-ribs 2 stamped from their surfaces to afford greater rigidity to the thin material from which they are usually made and provided with central apertures 12, through which project the reduced ends of a tubular core 13, having the shoulders 14 abutting the inner surfaces, and said ends being upset or riveted against the outer surfaces. This forms a firm and adequate bearing for the rotation of the reel, especially when it is of greater length than the spindle upon which it is mounted, as is frequently the case, and where the opposite registering apertures generally depended upon for this function would be of little avail. The drum or barrel 3 is provided at its ends with laterally-projecting ears 4, which enter correspondingly-shaped apertures or slots 5 in the side flanges and are clenched closely against the outer surface. It is preferably formed of a single strip of sheet material rolled to a hollow cylindrical form and the meeting ends bent inwardly to form a depression 6, wherein the attaching means may be located without disturbing the continuity of the cylindrical surface. This latter embodies a transverse plate 7, having a series of teeth 8 upon one edge thereof and extensions 9 upon its ends corresponding to the ears 4 upon the drum and used in like manner, excepting that the slots 10, through which they project, are of sufficient width to allow a slight rocking motion and also movement in a radial direction. The extensions 9 and the ears 4 as well are seated in depressions 11 stamped from the outer faces of the side portions to lie flush therewith for the purpose of rendering such faces plane surfaces without projections of any kind to offer obstruction when the reel is rotatably mounted on its holder by means of the aperture 12.

To attach a ribbon, any suitable threading device may be used, such as a thin metal strip of approximately the same width, over which the end of the ribbon is folded and then thrust beneath the plate 7 from the side opposite to that carrying the teeth 8 and then withdrawn. The said teeth are curved slightly, and only their points rest in contact with the periphery of the drum, so that they readily pierce the fabric, and their tendency is then to bind downwardly and lock against disengagement when the ribbon is drawn taut for further winding by reason of the fact that the point of engagement is below the pivotal or rocking center, as will be understood. It is intended to wind the ribbon in the direction of the teeth, as it thereby encircles the plate, and the greater part of the tensile strain is applied upon the blank edge rather than upon the teeth, in which latter case there would be a tendency to rip or tear, and this advantage is also exhibited when in winding from one reel to another, as is frequently the case, the feeding-coil becomes exhausted

and the strain falls directly upon the attached end, as shown in Fig. 3.

I claim as my invention—

1. In a reel, the combination with the end flanges and the drum, of a central bearing member comprising an integral tubular core lying within the drum and forming a rigid connection between the end flanges.

2. In a reel, the combination with the end flanges having the central apertures and the hollow drum, of a bearing member comprising an integral tubular core lying within the drum and supported in the apertures in the end flanges and a positive connection between the latter and the core.

3. In a reel, the combination with the end flanges having central apertures and the hollow drum, of a bearing member comprising a tubular core with its ends mounted in the apertures in the end flanges and having shoulders abutting the inner surfaces of the latter.

4. In a reel for tape or ribbon, the combination with the drum and the end flanges, of a plate having pivotal connections with the end flanges at points substantially in the plane of the plate and lying contiguous to said drum and means on the plate for attaching a ribbon.

5. In a reel for tape or ribbon, the combination with the drum and end flanges, of an attaching means located contiguous to the drum and having its outer surface a substantial continuation of its periphery.

6. In a reel for tape or ribbon, the combination with the drum and end flanges, of a plate lying contiguous to said drum and secured to the flanges and teeth on said plate adapted to pierce the end of a ribbon in attaching it thereto.

7. In a reel for tape or ribbon, the combination with end flanges and a cylindrical drum having a depression therein, of a plate arranged opposite the depression, its outer surface forming substantially a continuation of the periphery of the drum, pivotal projections upon the ends of the plate lying in the plane thereof, and bearing in the end flanges and teeth upon the plate for engaging a ribbon.

8. In a reel for tape or ribbon, the combination with the drum and flanges of a plate lying contiguous to said drum and having pivotal projections at its ends supported in bearings in said flanges said bearings being located in substantial proximity to the drum, and means on said plate for attaching a ribbon thereto.

9. In a reel for tape or ribbon, the combination with the cylindrical drum having a depression therein and the flanges, of a plate arranged opposite the depression but wholly within the radius of the cylinder, pivot projections on said plate having bearings in the flanges, and means thereon for attaching a ribbon thereto.

10. In a reel for tape or ribbon, the combination with the drum and flanges, of a flat plate lying contiguous to said drum and having pivotal projections at its ends mounted in bearings in said flanges, said bearings being located in substantial proximity to the drum, and teeth on said plate adapted to pierce the end of a ribbon in attaching it thereto.

11. In a reel for tape or ribbon, the combination with the drum having a depression therein, and the flanges, of a plate opposite the depression and so arranged that its outer surface forms a continuation of the surface of the drum, pivot projections on said plate bearing in the flanges and ribbon-engaging portions on the plate for engaging a ribbon in attaching it thereto.

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Witnesses:

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