No. 872,113. PATENTED NOV. 26, 1907.

W. F. ENDERS.

TYPE WRITER RIBBON ATTACHMENT.

APPLICATION FILED FEB. 28, 1907.

Fig. 1

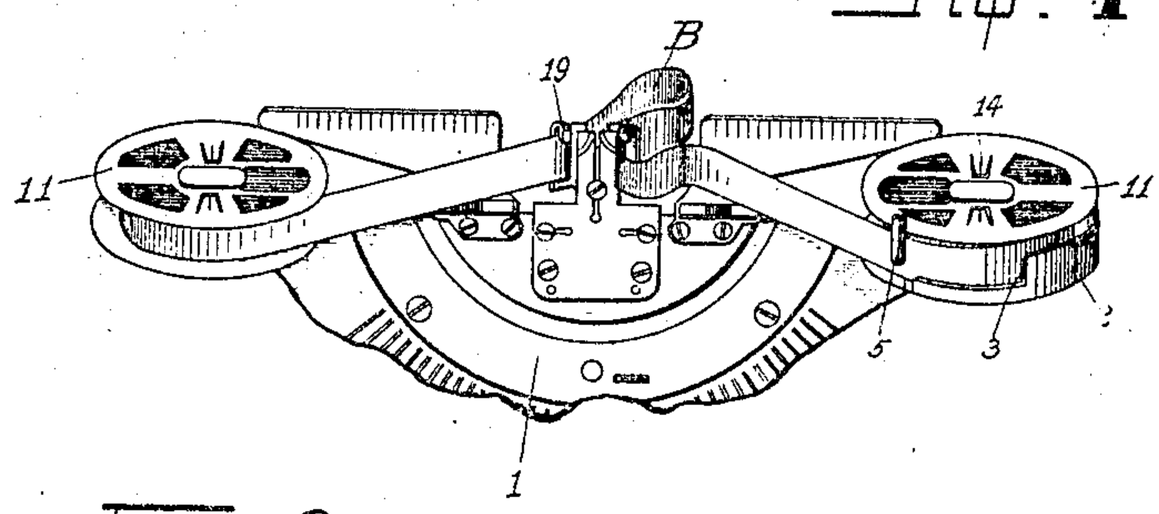


Fig. 2

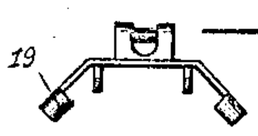


Fig. 3

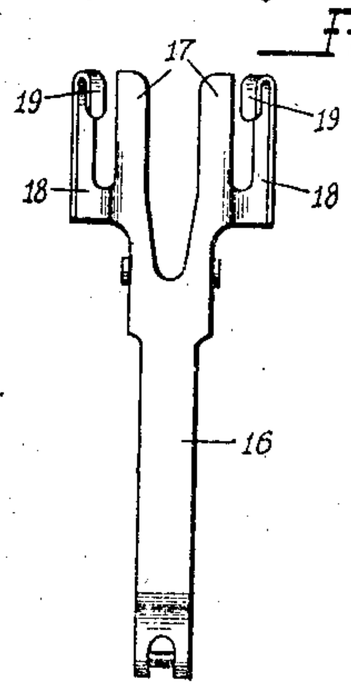


Fig. 4

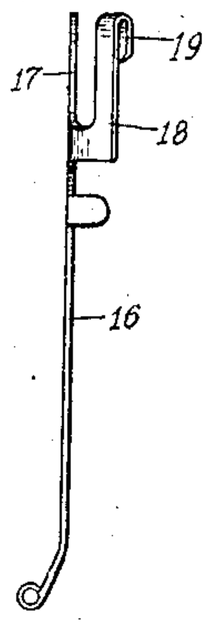


Fig. 5

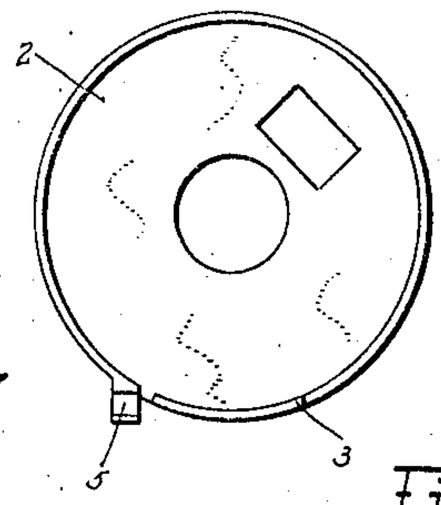


Fig. 7

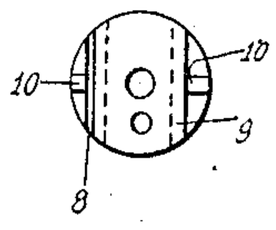


Fig. 6

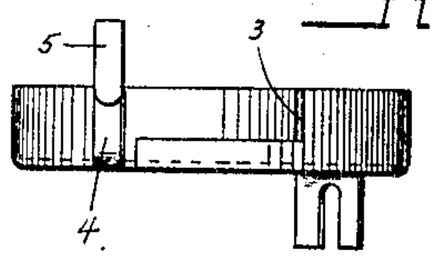


Fig. 9

Fig. 8

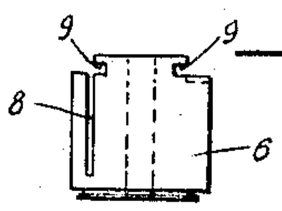
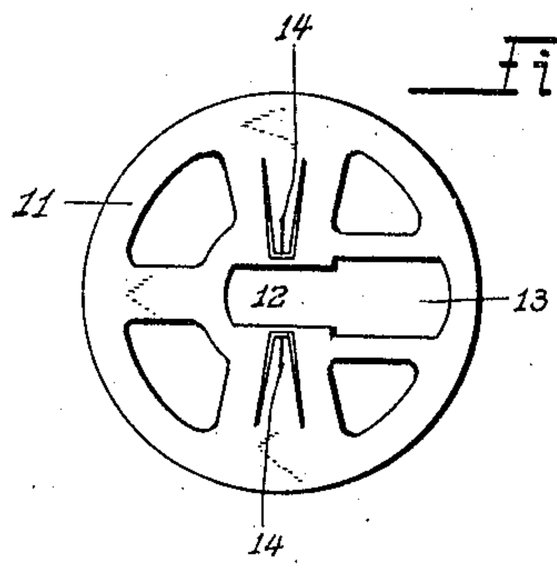


Fig. 11



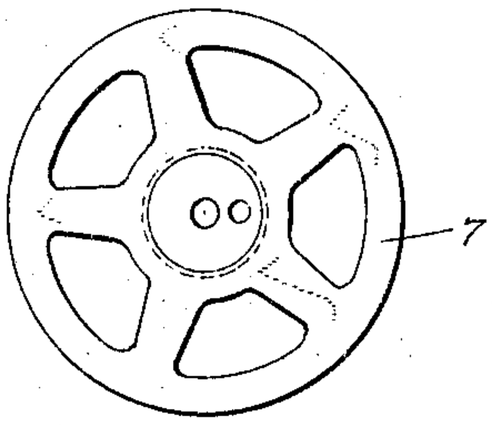


Fig. 10

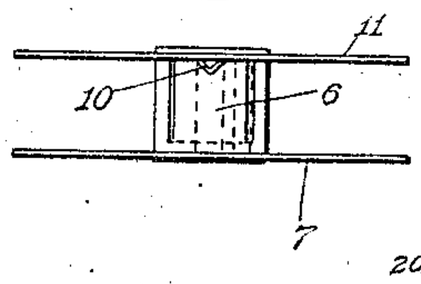
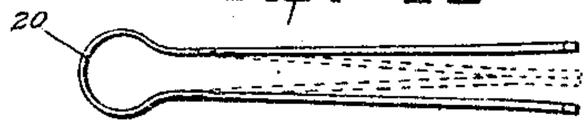


Fig. 12



Witnesses

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UNITED STATES PATENT OFFICE.

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TYPE-WRITER RIBBON ATTACHMENT.

No. 872,113. Specification of Letters Patent. Patented Nov. 26, 1907.

Application filed February 28, 1907. Serial No. 359,756.

To all whom it may concern:

Be it known that I, WILLIAM F. ENDERS, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Type-Writer Ribbon Attachments; and I do declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in typewriters and particularly to the ribbon attachments thereof.

My object is to produce a means for attaching and detaching ribbons to and from typewriters without annoyance or delay or soiling the operator's hands. Also to produce a reel attachment which will permit of cleanliness in changing old and worn out ribbons for new and for exchanging one color or style of ribbon for another, or for removing the ribbon as in mimeograph work. This object I accomplish by means of a removable flange on the reel and a slot split in the hub for receiving the ribbon; also by such other and further construction as will appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views.

Figure 1 designates the ribbon movement of a typewriter showing my improved device installed thereon. Fig. 2 is a top plan view of a ribbon guide. Fig. 3 is a front elevation of said guide, while Fig. 4 is a side elevation of the same. Fig. 5 is a top plan view of a ribbon reel cup. Fig. 6 is a side elevation of said cup. Fig. 7 is a top plan view of a ribbon reel spindle or hub. Fig. 8 is a side elevation of the same. Fig. 9 is a top plan view of a fixed reel flange. Fig. 10 is an end elevation of a reel. Fig. 11 is a top plan view of a removable reel flange. Fig. 12 is a side elevation of a pair of tweezers.

Referring to the numerals on the drawing 1 designates a fragmentary portion of a type-writer showing the ribbon attachment thereon.

2 designates the reel cup formed with a passage way 3 for the passage of the ribbon out of said cup, a guide member being formed at the inner end of said passage, said guide member being composed of a strip of steel 4 secured to side of cup and extending upward and having a bent over portion 5 leaving a space therebetween for the insertion of the ribbon, said guide being so arranged as to lead the ribbon out from the cup at an angle of thirty degrees outward from a right line drawn from extremity of radius, from center of cup to point of lead from cup. Arranged in said cups are my improved reels constructed as follows:—6 designates the hub or spindle having a lower fixed flange 7 attached thereto. Said hub is provided with a slot 8 cut in one side thereof the upper end of said slot being open for the purpose as will appear. Said hub also has a flange 9 held upward from the top thereof for the purpose of receiving a reel flange as will appear. In the top of said hub 6 are struck in V-shaped grooves 10 the same extending radially in respect to the center of said hub. 11 designates a removable flange provided with a slot 12 adapted to permit the said flange to slip under the flange 9, said slot 12 enlarging into a slot 13 for the purpose of permitting the insertion of the flange over the flange 9 to permit the same to be slipped thereunder as described. Outward from the slot 12 are struck out V-shaped spring clips 14 adapted to engage with the grooves 10 thus holding the flange on the said hub 6. I also provide a ribbon guide for guiding the ribbon in front of the type at the point of contact, consisting of a main standard 16, the same having a bifurcated end 17, the bifurcations thereof being provided with arms 18 having bent over ends 19 forming guides for the ribbon. The construction permits of an easy adjustment of the ribbon in the shortest possible time.

In using the device when it is desired to exchange an old ribbon for a new one the flange 11 is removed by means of the slots 12 and 13. The ribbon is then provided with a slit near the end thereof, one part of said slitted portion is inserted in the slot 8, the other remaining outside, thus forming a lock for said ribbon, B., or a small piece of metal may be attached to the end of the ribbon having a bent portion to facilitate inserting the ribbon in the slot 8 and prevent its slipping through the slot 8. The flange 11 is then inserted under the flange 9 as described, the spring clips 14 fitting into the grooves 10 and thus locking said flange on the hub. To insert the ribbon in the ribbon guide, Fig. 3,

it is only necessary to place a fold of the ribbon over the bifurcated end 17, with a pencil, etc., when upon turning one of the reels the ribbon will slip into its proper place under the bent over ends 19.

The ribbon guides described impart an even and free motion to the ribbon. Tweezers 20 may be used in handling the ribbon. Thus it will be seen that I have produced a ribbon attachment for typewriters which substantially fulfils the objects of the invention as set forth herein.

While I have described the invention as used in connection with a typewriter ribbon attachment it may of course be used wherever a ribbon movement is used.

This description sets forth in detail the present and preferred detail of construction of the device. In practice however many small deviations from such detail may be resorted to without departing from the spirit of the invention.

Having thus described my invention what I claim as new and useful and desire to secure by Letters Patent is:—

1. In a device of the kind described a ribbon reel arranged in a cup, a ribbon on said reel, a passage way in the side of said cup permitting the passage of the ribbon therefrom and a guide member at the inner end of said passage way consisting of an upright member having an upper bent portion forming a slot therebetween, said ribbon running in said slot, as set forth.

2. In a device of the kind described a ribbon reel having a hub provided with a transverse vertical slot in one side thereof, the upper end of said slot being open, and one fixed and one removable flange on said hub, as specified.

3. In a device of the character described a ribbon reel having a hub, a fixed flange on one end of said hub, said hub being provided at its other end with V-shaped grooves extending radially with respect to the center of said hub, and a removable flange secured to said hub and provided with V-shaped spring clips adapted to engage with said grooves, as set forth.

4. In a device of the kind described a ribbon reel having a hub, a fixed flange at one end thereof, a flange held upward from the other end of said hub, a removable flange having a slot adapted to fit over said last named flange, said slot narrowing into a smaller slot, as set forth.

5. In a device of the character described a ribbon reel having a hub, said hub having a transverse vertical slot extending from side to side thereof and being open at its upper end and a removable flange on said hub adapted to form a cover for the top of said slot, when set on said hub, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM F. ENDERS.

Witnesses:
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W. S. HARLOW.