No. 887,472. PATENTED MAY 12, 1908.

H. C. GAMMETER.

RIBBON ATTACHMENT.

APPLICATION FILED OCT. 22, 1907.

FIG. 1

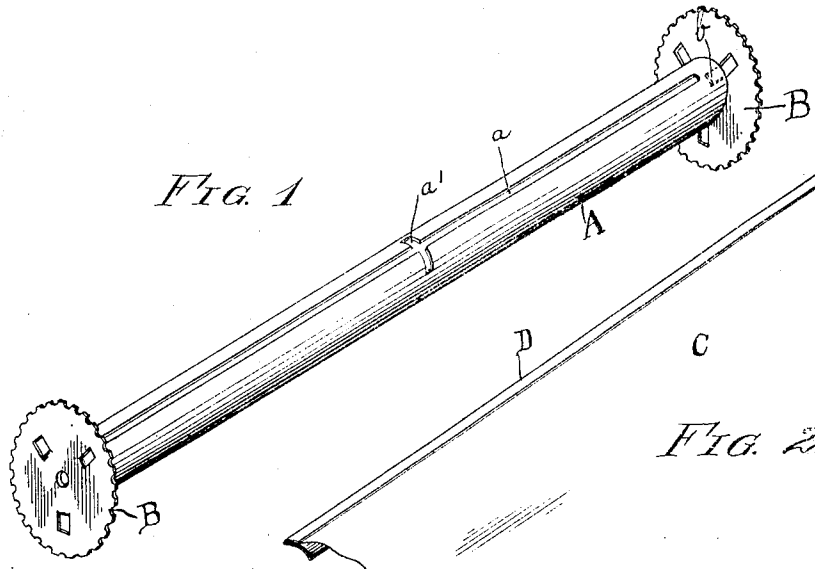
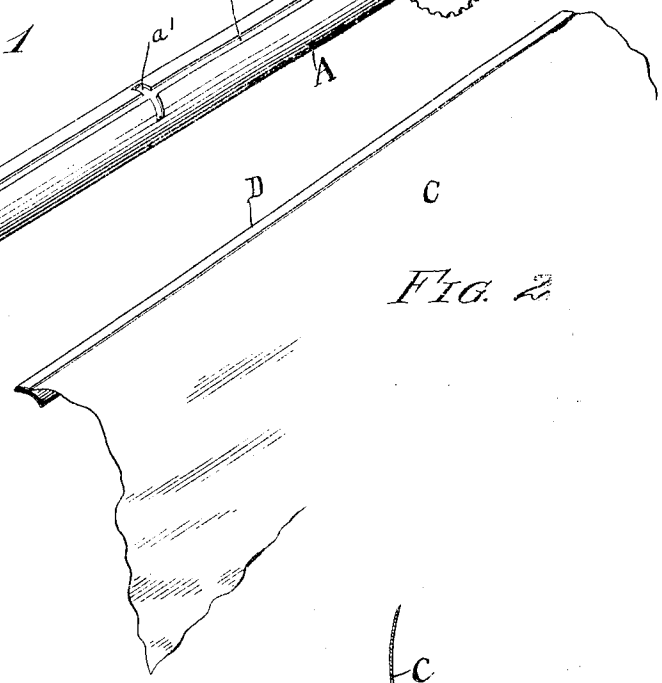


FIG. 2



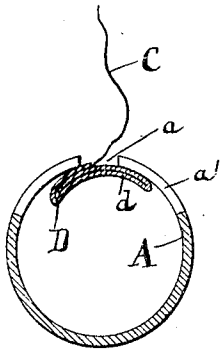


FIG. 3

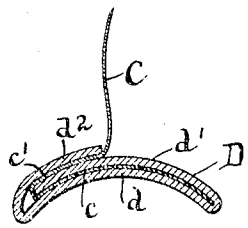


FIG. 4

WITNESSES:

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ATTYS.

UNITED STATES PATENT OFFICE.

HARRY C. GAMMETER, OF COLLINWOOD, OHIO, ASSIGNOR TO THE AMERICAN MULTIGRAPH COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

RIBBON ATTACHMENT.

No. 887,472. Specification of Letters Patent. Patented May 12, 1908.

Application filed October 22, 1907. Serial No. 398,540.

To all whom it may concern:

Be it known that I, HARRY C. GAMMETER, a citizen of the United States, residing at Collinwood, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Ribbon Attachments, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

The object of this invention is to provide simple and effective mechanism for holding the end of a ribbon to a spool.

The invention is particularly well adapted for securing inking ribbons to the spools of printing or typewriting machines. It allows the ribbon to be secured to its spool in a way which does not necessitate the soiling of the operator's hands. The ribbon may also be disconnected from the spool, whenever desired, in an equally simple and cleanly manner.

The invention comprises broadly the combination of a spool having a longitudinal slot through which the end of the ribbon may pass, and means on the end of the ribbon adapted to extend across such slot and thus hold the ribbon to the spool.

The invention includes also the combination with a spool having an opening in its barrel of a ribbon having means adapted to be passed edgewise through such opening and thereafter turned to bridge the opening.

The invention also includes a ribbon provided with securing means extending along its end to hold the ribbon squarely to the spool.

Other aspects of the invention will appear from the following more specific description thereof.

In the drawings, Figure 1 is a perspective view of the ribbon spool; Fig. 2 is a perspective view of the ribbon end with my securing member thereon; Fig. 3 is a cross section on a larger scale through the ribbon spool with the securing member and ribbon in place; Fig. 4 is an enlarged cross section through the securing member and adjacent portion of the ribbon.

As shown in the drawings, A represents the barrel of a tubular spool. This spool may be made of sheet metal provided with heads B secured thereto in any suitable manner, as for example by turning inwardly integral lugs *b* cut out from the heads, such lugs passing into the interior of the barrel and being brazed to it. Extending longitudinally of the barrel is a narrow slot *a* through which the ribbon and its securing means may be passed.

C represents the ribbon and D the securing member fastened to the end thereof. This member is preferably made of metal and extends across the entire end of ribbon. It consists preferably of a sheet of metal bent into the arc-shaped form shown by bending over the edges toward the intermediate portion and curving the whole strip. Before such bending takes place, the end of the ribbon is inserted against the intermediate portion *d* of the strip and then one edge d' is bent over on top of the ribbon, the ribbon being turned back on to the top of this edge, after which the other edge d^2 is bent over onto the ribbon. This leaves the ribbon extending from substantially the mid point of the arc-shaped metal head.

As will be seen, the metal head is narrow in cross section at every point, which enables it to be very easily passed through the slot *a* in the spool barrel. When passed through this slot, this metal head assumes a position extending each way from the slot, the ribbon passing from it through the slot. It is accordingly only necessary in mounting the ribbon on the spool to tip the metal head on edge and drop it through the slot in the barrel It then assumes a position bridging the slot and securing the ribbon to the spool. This operation of assembling may thus be accomplished without the necessity of the operator soiling his fingers. He does not have to directly touch the ribbon at all, but can take hold of one of the projecting sides of the metal head.

When in place, the ribbon may be wrapped in either direction about the spool and there is no projection on the outside of the spool to interfere with the perfect winding of the ribbon. The metal head extending across the end of the ribbon insures it being held squarely and at all points on the spool. This latter point is of particular importance with wide ribbons such as are used on the multigraph.

It will be noticed that the metal strip is arc-shaped in cross section in an arc of approximately the radius of the spool barrel, so that the metal may lie snugly on the inner side of the tubular barrel.

To enable the easy removal of the ribbon

from the spool, I provide a transverse opening a' in the barrel, through which a proper tool may be passed to shift the metal head sufficiently to allow it to pass through the slot. I find a very small transverse slot is sufficient for this purpose. As shown, I preferably make two of these slots extending in opposite directions from the longitudinal slot a, so that the metal head may be conveniently released whichever direction the ribbon is extended.

I claim:

1. The combination of a spool having an opening and a fabric adapted to pass through such opening and behind an overhanging portion of the spool; and provided with means for holding the end of the fabric within the spool against the inner face of such portion.

2. The combination of a spool having a longitudinal slot and a recess within the spool wider than the slot; and a fabric adapted to pass through such slot and provided at its end with means occupying the recess for holding the end of the fabric within the spool.

3. The combination of a spool having an opening in its barrel and a ribbon provided with means adapted to be passed edgewise through the opening and after such passage turning to bridge the opening.

4. The combination of a spool having a longitudinal opening in its barrel and a ribbon provided at its end with a longitudinal head adapted to be passed edgewise through the slot and after such passage turning to bridge the slot.

5. The combination of a spool having a longitudinal slot and a ribbon having a head extending crosswise on its end, said head being formed to pass through such slot and thereafter bridge the slot on its inner side.

6. The combination of a spool having a longitudinal slot and a ribbon having a head extending crosswise of its end, and projecting in each direction from the face of the ribbon, said head being formed to pass through such slot and thereafter to bridge the slot on its inner side.

7. The combination of a spool having a slot along its barrel and an inking ribbon provided with a sheet metal strip extending along its end and clamped thereto by being bent thereon and projecting therefrom transversely in each direction whereby said head is adapted to bridge the slot on its inner side when the ribbon passes through the slot.

8. The combination, with a spool having a longitudinally slotted barrel, the walls defining the slot being relatively immovable and there being an enlarged hollow space behind them, of a ribbon having across its end a thin head formed of a piece of sheet metal bent onto the ribbon and adapted to extend in opposite directions from the ribbon so as to be passable edgewise through the slot and standable widthwise across the slot behind the bar.

9. The combination with a slotted barrel of a ribbon having secured to its end a transversely extending head, the ribbon extending from substantially the mid line of such head and the head being thin enough in one direction to pass through the slot and broad enough in another direction to bridge the slot.

10. The combination with a slotted barrel of a ribbon having secured to its end a transversely extending head, the ribbon extending from substantially the mid-line of such head, and the head being short enough and thin enough in one direction to pass through the slot, and broad enough in another direction to bridge the slot.

11. The combination, with a spool having a longitudinal slot, of a ribbon having a head adapted to be passed through such slot and turned transversely thereof, and an opening in the spool barrel to allow the head to be moved within the barrel.

12. The combination with a spool having a longitudinal slot of a ribbon having a sheet metal head bent thereon and thus clamped thereto and adapted to be passed through such slot and turned transversely thereof, and an opening in the spool barrel to allow the head to be moved within the barrel.

13. The combination of a hollow spool barrel having a longitudinal slot, a ribbon having a head across its end, thin enough in one direction to pass through the slot and wide enough in another direction to bridge the slot, and an opening providing access to the interior of the barrel whereby the head may be engaged while in the barrel to allow its convenient removal.

14. The combination of a hollow sheet metal spool having a longitudinal slot, and an inking ribbon provided with a metal strip extending crosswise of its end and clamped thereto by being folded on the end, said strip adapted to extend in opposite directions from the ribbon, said strip being narrow enough so that it may be passed edgewise through said slot but when assuming normal position within the barrel bridging the slot.

15. The combination of a slotted spool and an inking ribbon adapted to be wound upon the exterior of said spool and provided with means adapted to be passed edgewise through the slot in the spool, said means being adapted to bridge the slot when assuming normal position within the spool by the ribbon being pulled outwardly.

16. The combination with an inking ribbon of a securing head fastened thereto across its end and extending normally transversely of the end of the ribbon for a greater distance than the thickness of the head.

17. The combination with a ribbon of a head consisting of a sheet metal strip bent onto the end of the ribbon and extending crosswise thereof, to a greater distance than

the thickness of the head lengthwise of the ribbon, the ribbon extending from an intermediate line of the strip, so that the strip extends in opposite directions from the ribbon.

18. The combination with a ribbon of a transverse head consisting of a strip of sheet metal bent from each edge toward an intermediate portion of the strip, and onto the ribbon to clamp it and allow it to project from an intermediate portion of the strip.

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

HARRY C. GAMMETER.

Witnesses:
H. C. OBOW,
R. G. A. PHILLIPS.