

Dec. 8, 1942.

H. J. HART

2,304,498

TYPEWRITING MACHINE

Filed May 6, 1942

Fig. 1.

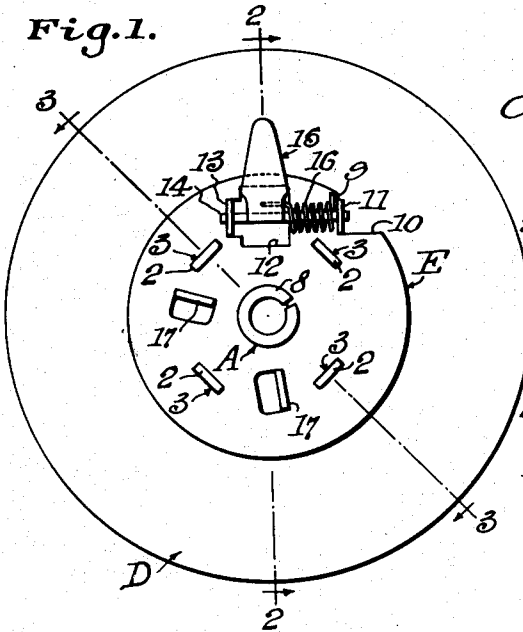


Fig. 2.

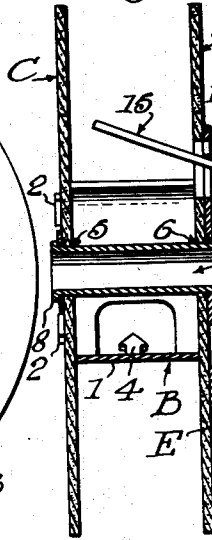


Fig. 3.

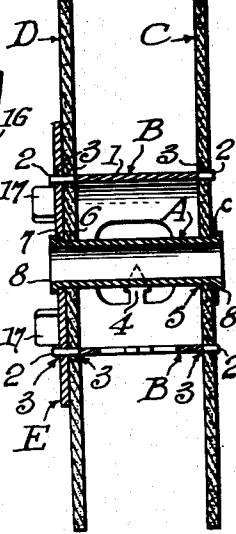


Fig. 4.

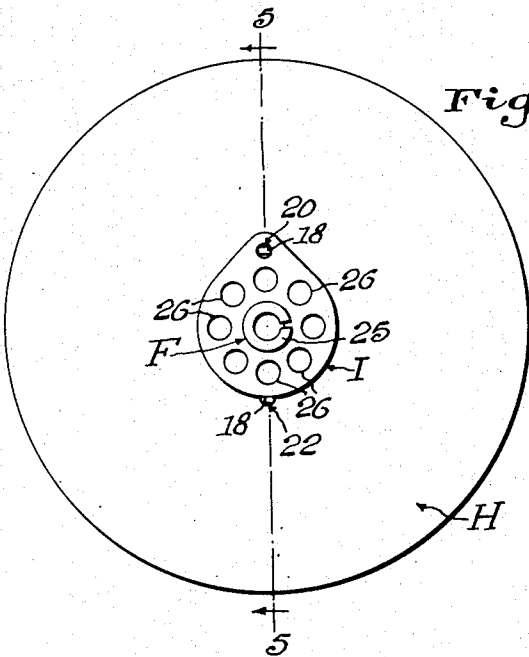
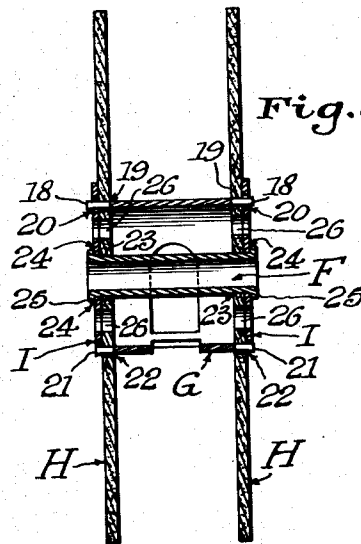


Fig. 5.



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UNITED STATES PATENT OFFICE

2,304,498

TYPEWRITING MACHINE

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Application May 6, 1942, Serial No. 441,953

1 Claim. (Cl. 197—175)

This invention relates to typewriting machines and more particularly to ribbon spools for such machines. Spools embodying the invention are adapted for use with typewriting machines of various classes, such as conventional or office type typewriters or other machines in which an inked or carbon paper ribbon is moved past a printing point. Examples of other such machines are adding or computing machines, and cash registers.

Heretofore, insofar as I am aware, ribbon spools customarily have been made entirely of metal, supplies of which often, and particularly at the present time, are limited. An object of the invention is to provide a ribbon spool of strong yet simple construction and in which a very considerable portion of the metal previously used is eliminated. In accordance with the invention the spool flanges or discs are made of plastic material, fibreboard or the like. A preferred material is the laminated fabric and phenol plastic material known as "Textolite."

Another object of the invention is to provide a spool assembly including fibre, plastic, or laminated plastic flanges or discs and a metal plate for mounting a ribbon reversing device, the plate being cut and bent in a novel manner to provide a mounting for the ribbon reversing device.

Other objects will become apparent from a reading of the following description, the appended claim, and the accompanying drawing, in which:

Figure 1 is a top plan view of a ribbon spool embodying the invention;

Figure 2 is a section on the line 2—2 of Figure 1;

Figure 3 is a section on the line 3—3 of Figure 1;

Figure 4 is a plan view of a modified or different form of ribbon spool embodying the invention; and

Figure 5 is a section on the line 5—5 of Figure 4.

Figures 1, 2, and 3 show the invention as being embodied in a ribbon spool particularly adapted for use in connection with the Royal standard typewriter, which is of well known construction. In this embodiment the spool comprises a hub A adapted to be fitted over a driving spindle (not shown), a core B on which the ribbon is adapted to be wound, end plates or discs C and D and a ribbon reversing lever mounting plate E. The hub A, core B and plate E may all conveniently be formed of metal, but in accordance with the invention, the end plates or

discs C and D preferably are formed of laminated plastic such as "Textolite," a phenol laminated plastic, although plastic or fibre materials other than the specific product "Textolite" may be used.

The core B is in the form of a hollow body 1 formed with prongs or ears 2 which extend through locating openings 3 formed respectively in the discs C and D, and the lever mounting plate E. Barbs 4 may be provided for securing the ribbon end to the core.

The hub A may be formed from sheet metal rolled into a tube and is arranged to extend through openings 5, 6 and 7 respectively in the discs C and D and the plate E, the protruding ends of the core being swedged outwardly at 8—8 over the plate E and a washer c on the disc C.

The mounting plate E is cut inwardly from its periphery along a first chordal line 9 and the metal included between the line 9, a second chordal line 10 perpendicular to the line 9 and the peripheral arc between the lines 9 and 10 is turned upwardly to form an ear 11. Metal cut and turned up to provide an opening 12 forms an ear 13 which cooperates with the ear 11 for mounting a shaft 14 on which is supported an L-shaped lever 15 urged to the position shown in Figure 2 by a coil spring 16. The lever 15 is provided for cooperation with typewriter parts (not shown) for effecting reversal of the ribbon driving mechanism in a known manner as explained more fully, for example, in the patent to L. C. Myers 1,084,656 granted January 20, 1914.

The modified form of ribbon spool shown in Figures 4 and 5 is more particularly adapted for use with Royal portable typewriters. This spool comprises a hub F, a core G, discs H—H and holding plates I—I. The parts F, G, and I—I may conveniently be formed of metal, but in accordance with the present invention, the discs H—H preferably are formed of a laminated plastic material such as "Textolite" or the similar materials referred to above.

The core G is provided with two oppositely disposed ears 18—18 which extend through openings 19 in the discs H and openings 20 in the plates I. Other oppositely disposed ears 21 on the hub G extend through openings 22 in the disc H and lie against the periphery of the plates I, the arrangement being such that the ears 18 and 21 hold the core G and discs H against movement transversely to the axis of the hub F.

The hub F may be formed of sheet metal rolled to form a tube which extends through

holes 23 in the discs H and holes 24 in the plates I. The protruding ends of the hub are swedged outwardly as at 25 for holding the parts against separation axially of the hub. Holes 26 may be formed to extend through the plates I and discs H for receiving a driving pin or the like forming part of ribbon feeding mechanism (not shown).

The discs C, D and H although sufficiently stiff are just springy enough and have just enough "give" or compressibility to cooperate with the metal holding parts to provide an assembly which does not work loose so as to rattle and become noisy after long use. Consequently the spools may be used over and over again without becoming unserviceable. The constructions shown for the purposes of illustration embody the invention in practical and preferred forms, but some changes may be made within the scope of the claim.

I claim:

A typewriter or the like ribbon spool comprising a ribbon-winding core; non-metallic flanges at the ends of the core respectively; a circular mounting plate on the outside face of one of said flanges, said plate having a cut extending inwardly from its periphery along a first chordal line, a portion of said plate being included between said first chordal line, a second chordal line perpendicular to said first chordal line, and the peripheral arc between said first and second chordal lines, said plate portion being bent upwardly about said second chordal line to form a first ear; a second ear on said mounting plate; and a device mounted on said first and second ears and adapted to cooperate with ribbon reversing mechanism on a typewriter or the like on which the spool is adapted to be mounted.

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