

Sept. 14, 1965

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3,205,997

RIBBON TAKE-UP ATTACHMENT FOR TYPEWRITERS

Filed Sept. 27, 1962

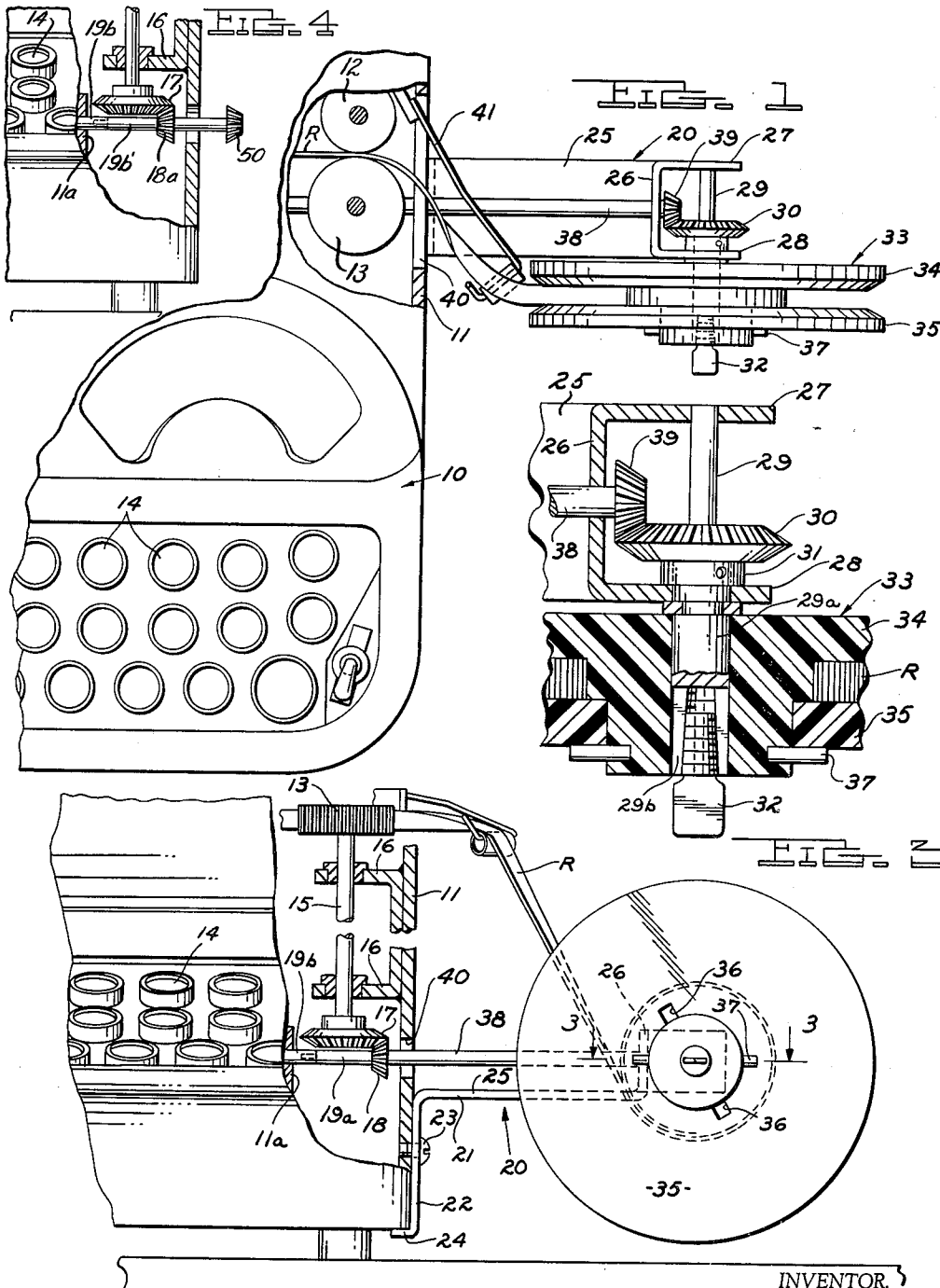


FIG. 5

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RIBBON TAKE-UP ATTACHMENT FOR TYPEWRITERS

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Filed Sept. 27, 1962, Ser. No. 226,672

1 Claim. (Cl. 197—151)

This invention relates to ribbon take-up attachments for typewriters and particularly such an attachment for typewriters which use a disposable ribbon.

In certain typewriters of the electric type and particularly the type known as "Vari-Typer," such as shown in the patent to Coxhead 2,161,856, friction rolls are adapted to engage the disposable ribbon made of paper or plastic and pull the ribbon through the machine intermittently as the keys are depressed. The ribbon is normally caused to flow freely out of the typewriter. This poses a serious problem because of the possibility of the used ribbon soiling the work area around the typewriter. In addition, this poses the problem of disposing of the used ribbon.

It is an object of this invention to provide a relatively simple, inexpensive ribbon take-up attachment which can be readily mounted on the exterior housing of such a typewriter to collect the ribbon.

It is a further object of the invention to provide such an attachment which is relatively fool proof in operation and construction.

It is a further object of the invention to provide such an attachment which incorporates a novel spool and arbor construction.

In the drawings:

FIG. 1 is a fragmentary part sectional plan view of a typewriter embodying the invention.

FIG. 2 is a fragmentary part sectional elevational view of the typewriter embodying the invention.

FIG. 3 is a fragmentary sectional view on an enlarged scale taken along the line 3—3 in FIG. 2.

FIG. 4 is a fragmentary part sectional elevational view similar to FIG. 2 of the prior art construction.

Referring to FIG. 2, the typewriter 10 is of the type known as a "Vari-Typer" such as shown in the patent to Coxhead 2,161,856. As shown, the typewriter 10 includes a housing 11 in which friction rolls 12, 13 are rotatably mounted in gripping relation to the disposable ribbon R to pull the ribbon as the rolls are intermittently rotated in response to actuation of the keys 14. In such typewriters, the rotation of the friction roll 13 is achieved by a shaft 15 journaled in brackets 16 on the inner surface of the vertical wall of the housing 11. A bevel gear 17 is fixed on the lower end of shaft 15 and meshes with a bevel gear 18 on a horizontal shaft 19a. The shaft 19a is threaded into a drive shaft 19b journaled in the frame 11a and driven intermittently as the typewriter keys 14 are operated to cause the roll 13 to turn and pull the ribbon R through the typewriter over a guide 41. Shaft 19a replaces a shorter shaft that is conventionally used to provide a manual rotation of friction roll 13. Referring specifically to FIG. 4, a shorter shaft 19b' normally extends through the wall of the typewriter and has a bevel gear 18a thereon meshing with the bevel gear 17 and a knob 50 for manual manipulation.

In accordance with the invention, an attachment 20 is provided on the exterior wall of the housing 11 and com-

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prises a sheet metal bracket 21 which is generally L-shaped and includes a vertical leg 22 lying against the outer surface of the wall of the housing 11 and fastened thereto by a screw 23. An inwardly turned flange 24 on the lower end of the leg 22 serves as a positioning means engaging the lower edge of the vertical wall of the housing 11. The bracket 21 also includes a horizontal leg 25 which extends outwardly from the housing. A projection 26 extends upwardly from the end of leg 25 on the end thereof and vertically extending parallel ears 27, 28 extend outwardly at right angles to projection 26.

A stub shaft 29 has one end thereof journaled in ear 27. A bevel gear 30 is fixed to the shaft 29 and the hub 31 of bevel gear 30 is journaled in the other ear 28. The shaft 29 extends through the ear 28 and an arbor 29a is provided thereon. The arbor 29a is longitudinally split as at 29b to receive a tapered thumb screw 32 so that when the thumb screw is threaded inwardly into the arbor, the arbor is expanded. This forms a frictional driving connection to take up spool 33 mounted on arbor 29a. The frictional driving connection is such as to permit some slippage as the ribbon passes over guide 41 and builds up on the spool 33.

Spool 33 comprises a first section 34 which includes a hub and a radial flange and a second section 35 which comprises a radial flange mounted on the hubs of first section 34. The second section 35 includes radial slots 36 which can be rotated into alignment with radial pins 37 on the hub of first section 34 to permit removal of the section 35 so that the disposable ribbon can be readily removed from the spool.

As further shown in the drawings, a driving connection is provided between the bevel gear 30 and the bevel gear 17 within the housing 11 by shaft 19a which is journaled at one end on the flange 26. A portion of shaft 19a has a bevel gear 39 on one end thereof meshing with the bevel gear 30. Portion 38 extends through an opening 40 in the side wall of the housing 11.

It can thus be seen that there has been provided a simple, inexpensive attachment which can be readily attached to the side wall of the housing of the typewriter for taking up disposable ribbon to thereby prevent soiling of the work area and eliminate the disposal problem.

I claim:

For use in a typewriter comprising a housing, friction rolls for pulling a disposable ribbon through the typewriter and means for rotating said friction rolls intermittently during operation of the typewriter, said means for rotating said friction rolls comprising a bevel gear and a drive shaft extending to one of said friction rolls, said bevel gear being positioned adjacent the interior vertical wall of said housing, said housing having an opening through the vertical wall thereof adjacent said bevel gear and a manual operating shaft normally extending through said opening and operatively connected to said bevel gear, a ribbon take-up attachment for converting said typewriter comprising

a bracket,

a conversion shaft,

a bevel gear fixed on one end of said conversion shaft, means for journalling the other end of said conversion shaft on said bracket so that said one end of said conversion shaft will project through said opening in the wall of the machine when the bracket is mounted

on the vertical wall of the machine and with the bevel gear thereon meshing with said bevel gear in the machine,
 an arbor adapted to receive a spool,
 means for rotatably mounting said arbor on said 5 bracket,
 and means forming an operative driving connection between the other end of said conversion shaft and said arbor.

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