

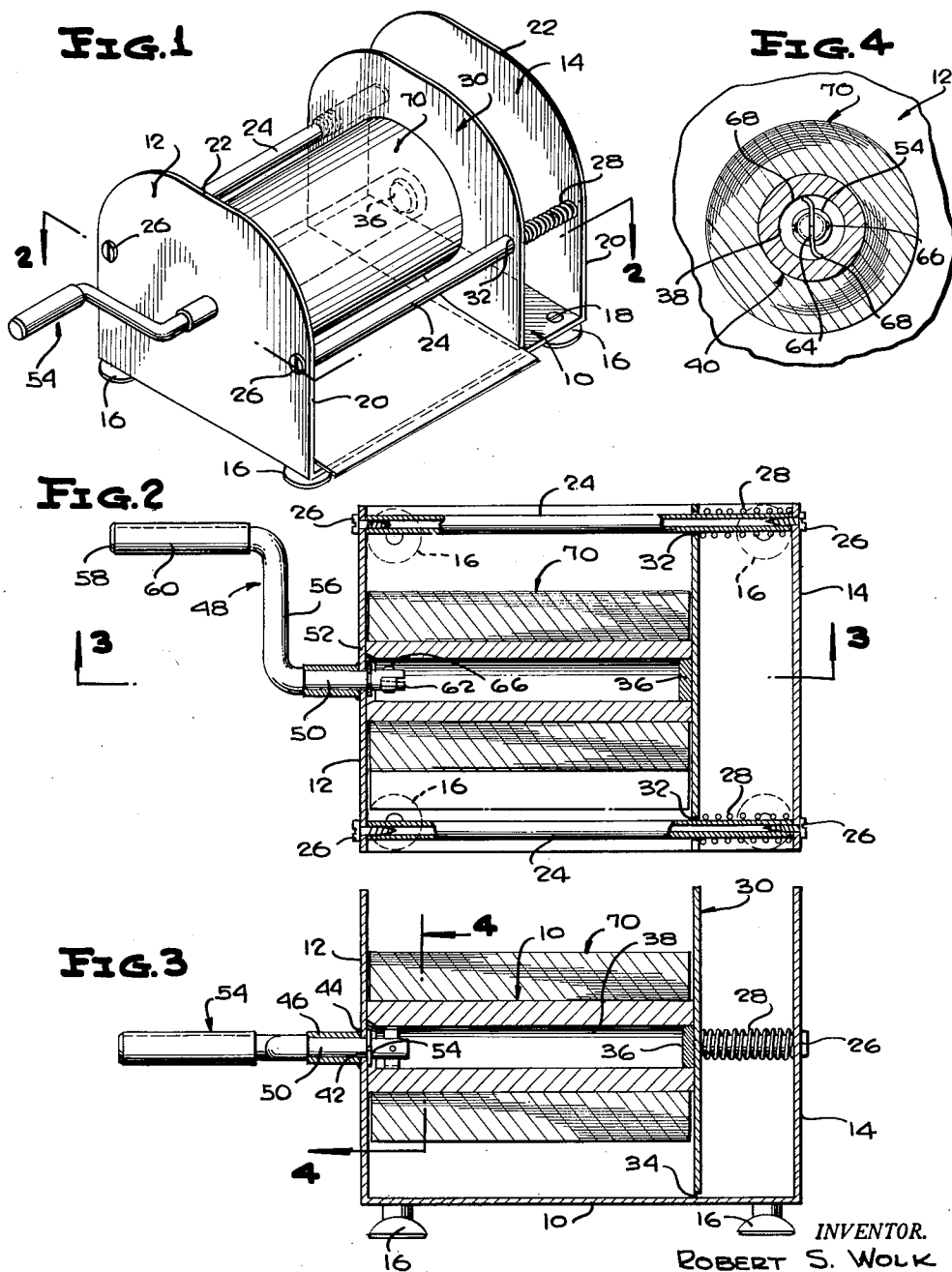
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PAPER TAPE RE-REELING DEVICE

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PAPER TAPE RE-REELING DEVICE

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4 Claims. (Cl. 242—67.1)

This invention relates to a novel re-reeling device for use in winding paper tape, such as is used in adding machines, calculators, and the like on cores similar to original cores, in order that the reverse sides of such tapes can be used in such machines, so that the practice of discarding such tapes, when used on one side only, can be eliminated and substantial savings obtained.

The primary object of the invention is the provision of an easily operated, inexpensive, efficient, and practical device of the kind indicated, which is devised to be temporarily or permanently mounted on a suitable support adjacent to a paper tape using machine, or on the machine itself, so that as it comes off the machine the tape can be reeled into the device.

Another object of the invention is the provision of a device of the character indicated which is self-adjustable to accommodate paper tape cores or spools of different lengths, and which can accommodate spools or cores of differing outside diameters, which have the same inside diameter.

A further object of the invention is the provision of a simple device of the character indicated above which is composed of a small number of uncomplicated and easily assembled parts, which are adapted to be made of a variety of readily available metal and non-metal materials.

Other important objects and advantageous features of the invention will be apparent from the following description and the accompanying drawings, wherein, for purposes of illustration only, a specific form of the invention is set forth in detail.

In the drawings:

FIGURE 1 is a perspective view of a device of the invention, showing a paper tape core or spool installed therein;

FIGURE 2 is an enlarged horizontal section taken on the line 2—2 of FIGURE 1;

FIGURE 3 is a longitudinal section taken on the line 3—3 of FIGURE 2; and,

FIGURE 4 is a fragmentary vertical transverse section taken on the line 4—4 of FIGURE 3.

Referring in detail to the drawings, wherein like numerals designate like parts throughout the several views, the illustrated device comprises a horizontally elongated rectangular base plate 10 having preferably integrally fixed or related ends thereof, upstanding front and rear walls 12 and 14, respectively. At the corners of the base plate 10, suction cups 16 are secured to the underside of the base plate, by suitable means, such as screws 18 extending therethrough. The walls 12 and 14 are similar, and preferably have straight vertical edge portions 20 and curved upper edge portions 22.

Guide rods preferably in the form of tubes 24, extend between the walls 12 and 14, at the upper ends of their vertical edge portions 20, and are supportably connected thereto by suitable means, such as screws 26 extending through the walls and threaded into the ends of the tubes. The tubes 24 serve as spacers and are braces for the walls 12 and 14, and as guides and supports for coil expanding springs 28 which are circumposed on the tubes and bear against the rear wall 14.

The springs 28 are substantially shorter than the distance between the walls 12 and 14, and at their ends remote from the rear wall 14, bear against a vertical follower plate 30 which is slidably mounted on the tubes 24.

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The follower plate 30 is preferably the same in shape as the walls 12 and 14 and is registered therewith, and has holes 32 adjacent its side edges which slidably and supportably receive the tubes. The follower plate 30 has a lower edge 34 which is slightly spaced above the upper surface of the base plate 10, as shown in FIGURE 3. At the center of the follower plate 30 and extending toward the front plate 12, is a cylindrical boss 36 whose outside diameter is only slightly less than the inside diameter of the bore 38 of a paper tape core or spool 40.

The front plate 12 is provided with a central opening 42 which is axially aligned with the boss 36. Suitably fixed, as indicated at 44 to the front or outer side of the front plate 12, around the opening 42, is a bearing sleeve 46.

A hand crank 48 has a shouldered shaft 50 which extends rotatably through the bearing sleeve 46 and through and beyond the opening 42, and has a peripheral groove 52 in which a C-ring 54 is seated, which bears against the inner or rear side of the front plate 12, around the opening 42. The crank 48 has a throw 56 which terminates in a handle 58 having thereon a rotatable or non-rotatable grip 60.

The inner or rear end of the shaft 50 is longitudinally slotted, as indicated at 62, and a transversely elongated leaf spring 64 is centrally secured in the slot, by suitable means, such as a pivot 66 which extends through the shaft and the spring. The spring 64 serves as means for gripping the sides of the bore 38 of a paper tape core or spool 40, and for this purpose, the spring 64 is longer than the diameter of the bore 38, so that when a core 40 is forced over the ends of the spring 64, the end portions of the spring are deflected and compressed, as shown in FIGURE 4, so that the spring ends 68 are in forcible, and preferably biting, engagement with diametrically opposed surfaces of the bore 38, and the hand crank 48 is rotatably connected to the core or spool 40.

In operation, a paper tape core 40, similar to that of a paper tape roll (not shown) from which tape is unreeled, in the operation of a tape-using machine, is placed with one end thereof on the boss 36 of the follower plate 30 and the follower plate pushed, against the resistance of the springs 28, away from the front plate 12, far enough to enable engaging the bore 38 of the core 40 over the ends of the gripping spring 64, whereat the follower plate 30 is released, so that the springs 28 force the follower plate toward the front plate 12 and complete the engagement of the core bore on the gripping spring 64. Alternately, the follower plate 30 can be moved rearwardly far enough to enable the forward end of the bore 38 of the core 40 to be fully engaged over the gripping spring 64, after which the core is aligned with the boss 36, and the rear end of the bore engaged on the boss 36.

With a core 40 installed as above described, the paper tape coming from the tape-using machine (not shown) is secured, at its end, at the core 40, in suitable manner, as by means of a piece of adhesive tape (not shown), so that the used side of the tape is "up" and the tape 70 is fed, along the upper surface of the base plate 10, to the underside of the core 40.

The crank 48 is then twined so that the tape is reeled onto the core 40 with its unused side "up" and in a position to be imprinted in a tape-using machine in the same manner as the original roll, when the wound core 40 is removed from the herein described device and installed in the machine.

The suction cups 16 enable the device to be mounted directly upon a paper tape using machine, if desired, in a position to receive the used tape directly from the machine as the machine is operated.

It will be obvious that, while the herein disclosed de-

vice is primarily designed for handling paper tape, the device is usable for handling other forms of tape.

Although there has been shown and described herein a preferred form of the invention, it is to be understood that the invention is not necessarily confined thereto, and that any change or changes in the structure of and in the relative arrangements of components thereof are contemplated as being within the scope of the invention as defined by the claims appended hereto.

What is claimed is:

1. A re-reeling device comprising a base, longitudinally spaced upstanding forward and rear walls fixed on said base, a forwardly spring-pressed follower plate positioned between said walls and mounted on the base for movement toward and away from said forward wall, a boss centered on said follower plate and extending toward said forward wall, a hand crank having a shaft journaled through said forward wall in line with said boss, and core gripping means on said shaft at the rear side of the front wall.

2. A tape re-reeling device comprising a base having longitudinally spaced fixed lateral forward and rear walls thereon, a follower plate supportably positioned between and in line with said forward and rear walls, said follower plate having a paper tape core engaging boss extending toward said forward wall, spring means compressed between said follower plate and said rear wall and urging said follower plate toward said forward wall, and a hand crank having a shaft fixedly journaled through said forward wall in line with said boss, and core gripping means on said shaft at the rear side of said forward wall.

3. A tape-re-reeling device comprising a base having longitudinally spaced fixed lateral forward and rear walls

thereon, a follower plate supportably positioned between and in line with said forward and rear walls, said follower plate having a paper tape core engaging boss extending toward said forward wall, spring means compressed between said follower plate and said rear wall and urging said follower plate toward said forward wall, and a hand crank having a shaft fixedly journaled through said forward wall in line with said boss, and core gripping means on said shaft at the rear side of said forward wall, follower plate supporting rod means extending between and fixed to said forward and rear walls, said follower plate having opening means slidably receiving said rod means.

4. A tape re-reeling device comprising a base having longitudinally spaced fixed lateral forward and rear walls thereon, a follower plate supportably positioned between and in line with said forward and rear walls, said follower plate having a paper tape core engaging boss extending toward said forward wall, spring means compressed between said follower plate and said rear wall and urging said follower plate toward said forward wall, and a hand crank having a shaft fixedly journaled through said forward wall in line with said boss, and core gripping means on said shaft at the rear side of said forward wall, follower plate supporting rod means extending between and fixed to said forward and rear walls, said follower plate having opening means slidably receiving said rod means, said rod means comprising a rod adjacent to the base and a rod located at the side of the boss and the hand crank shaft remote from the base, said spring means comprising coil springs circumsposed on the rods.

No references cited.