Aug. 19, 1952 E. J. WITCHGER 2,607,549

STOP FOR DETACHABLE MEASURING TAPES

Filed Dec. 15, 1949

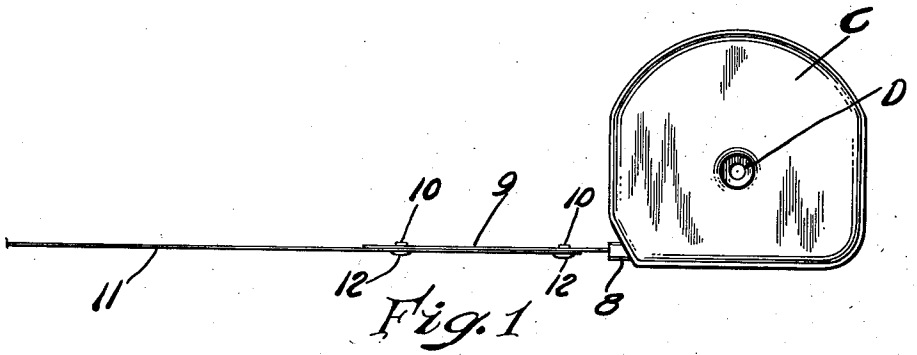

Fig. 1

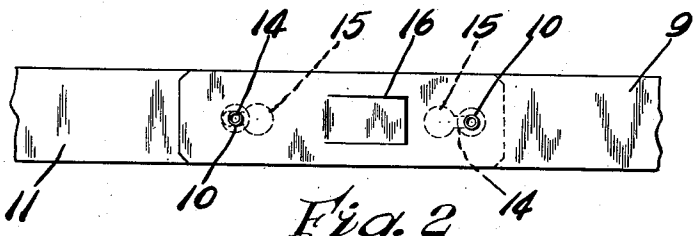

Fig. 2

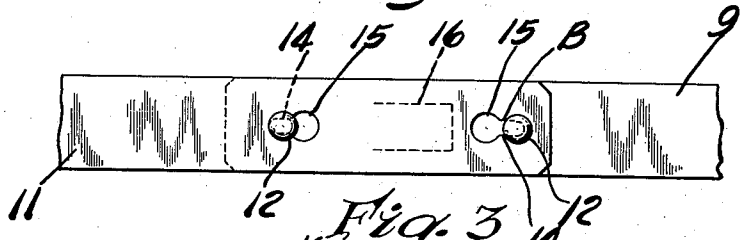

Fig. 3

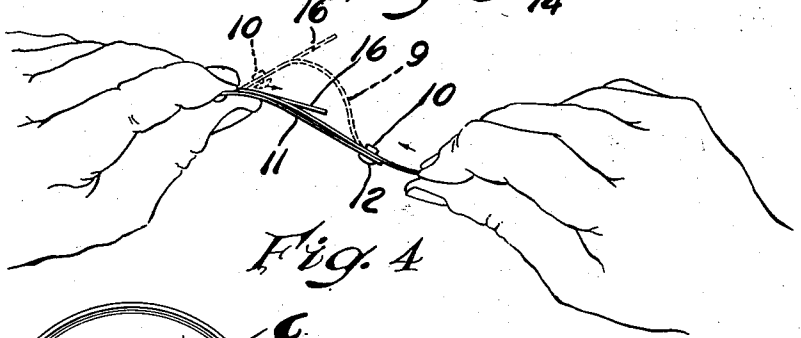

Fig. 4

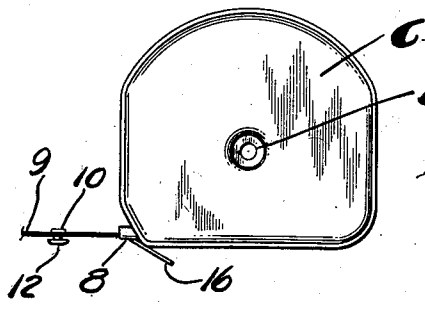

Fig. 5

INVENTOR.
Eugene J. Witchger.
BY
Frank C. Fearman.
ATTORNEY

Patented Aug. 19, 1952

2,607,549

UNITED STATES PATENT OFFICE

2,607,549

STOP FOR DETACHABLE MEASURING TAPES

Eugene J. Witchger, Saginaw, Mich., assignor to The Lufkin Rule Company, Saginaw, Mich.

Application December 15, 1949, Serial No. 133,137

4 Claims. (Cl. 242—84.8)

1

One of the prime objects of the invention is to design a measuring tape which can be readily removed and detached when damaged, worn, or defaced, and a new tape substituted therefor, or when it is desired to substitute a tape with special or different calibration, together with means for preventing the spring-tensioned strip from springing back into the casing should it be accidentally released or slip out of the user's grasp during the attaching or detaching operation.

Another object of my invention is to provide easy and quickly operable means for detaching one measuring tape and replacing with another, eliminating the necessity of purchasing a complete new casing and unit, with the savings incident thereto.

A further object of my invention is to provide a simple, practical and economical stop on the free end section of the winding spring or tape extension thereof, so that the extension end is prevented from springing into the case when the tape is being changed, thus eliminating the necessity of disassembly of the case to retrieve the end to permit attachment of another tape thereto.

A further object of my invention is to provide simple and durable locking means adjacent the ends of the spring extension strip and measuring tape respectively, so that the attachment and detachment can be quickly and easily accomplished by the average person without the use of tools and in a minimum length of time.

A still further object of my invention is to provide a readily bendable tab and stop of the type described which can be easily manipulated and economically manufactured, and which in no manner interferes with the normal winding of the strip and tape.

To the accomplishment of the foregoing and related ends, said invention then consists of the means hereinafter fully described and particularly pointed out in the claims, the annexed drawing and following description setting forth in detail, certain means and one mode of carrying out the invention, such disclosed means and mode illustrating, however, but one of the various ways in which the principle of the invention may be used.

In the drawing:

Fig. 1 is a fragmentary, edge-elevational view showing my detchable tape secured to and forming a part of a conventional tape measure.

Fig. 2 is a fragmentary, plan view showing the attachment of the measuring tape to the winding spring strip.

2

Fig. 3 is an inverted plan view.

Fig. 4 is an edge-elevational view of the tape and extended winding spring extension preparatory to disconnection, the broken lines indicating the manner in which the spring extension is bowed to facilitate detaching of the tape, the stop being shown bent outwardly from the spring extension strip.

Fig. 5 is an edge-elevational view showing the tape removed and the stop engaging the edge of the tape opening to prevent the extension strip from springing into the casing.

When it is desired to change tapes, it is necessary to pull the tape out of the casing until the one end of the spring winding strip is exposed, after which the person must take a firm grip on the winding strip for the disconnecting operation and then retain this firm grip to prevent its springing back into the casing prior to and during the tape connection operation. If the grip is released prior to the connection, the strip springs back into the casing, which must then be disassembled to retrieve the end of the strip so that a new tape can be connected. This is both irritating and time-consuming, and I have therefore provided stop means on the strip which can be bent into engagement with the casing to secure said strip in extended position so that both hands are free to make the connection.

Referring now more particularly to the accompanying drawing in which I have shown the preferred embodiment of my invention, the letter C designates the conventional measuring tape casing provided with an extending tape guide 8 anchored to a tape spring or spring and drum (not shown) and a button D may be provided centrally on the casing for actuating a tape drum or spindle as usual.

An inner spring strip or member 9 is coiled on said tape drum and one end of a measuring tape is detachably secured to the free end of said strip and in a manner to be presently described.

The outer end section of the spring extension 9 is provided with longitudinally spaced rivets 10 which serve as anchors for the attachment of the measuring tape 11, the heads 12 of the rivets being enlarged and projecting beyond the face of the strip a distance sufficient to accommodate the tape measure when the ends of the strip and tape measure are placed in superimposed, facial contact.

The measuring tape 11 can be of any conventional design, the inner end being provided with longitudinally spaced apertures B, preferably keyhole-shaped, with the restricted sections 14 of

the apertures of a size to slidably accommodate the shanks of the rivets 10 with the heads 12 overlapping the edges of the apertures, so that when the strip and tape are placed in superimposed relation as shown in Figs. 2 and 3 of the drawing, the members will be securely locked together and the tape measure can be utilized in any desired manner.

The restricted sections 14 of the apertures B open into an enlarged section 15 which is of sufficient area to permit the head of the rivets, when brought into register, to freely pass therethrough, and as is necessary when connecting or disconnecting the tape measure to or from the spring strip.

A tab 16 is stamped in the spring or strip 9 at a point intermediate the rivet members 10, and is for the purpose of preventing the strip swinging back into the casing should the strip be accidentally released when the tape is being detached or attached, the coiling of the strip as it enters the casing causing the free end of the tab to spring outwardly from the main body and into engagement with the wall of the casing, thus holding the end of the strip extended, all as clearly shown in Fig. 5 of the drawing.

When the tape measure becomes worn, damaged or defaced and it is desired to substitute a new tape for the old, it is merely necessary to withdraw the tape from the casing until the end section of the strip 9 is clear, and as shown in Fig. 1 of the drawing. The person then grasps the spring strip with one hand and the tape measure 11 with the other, forcing the members endwise with relation to each other so that the strip section will be bowed as clearly shown in broken lines in Fig. 4.

The bowing of the strip shortens the horizontal distance between the rivets so that one rivet head 12 may be brought into register with one of the enlarged areas 15 of the one aperture B, thus permitting easy disconnection from the one rivet, after which the tape is easily disconnected from the remaining rivet.

The end of the tab 16 automatically springs outwardly or it can be pressed into engagement with the casing as shown in Fig. 5 of the drawing, the user then pulls outwardly on the strip 9, unreeling a sufficient length so that a new tape can be attached, it being merely necessary to reverse the operation above-described, this attaching means being the subject matter of my companion application filed of even date herewith. It will, of course, be understood that the tab 16 can be used on other kinds of attachments and is not necessarily confined to the specific attaching means herein shown.

After the tape has been attached, it is merely necessary to pull outwardly on the spring strip 9 and the free end of the tab 16 springs back to original position in alignment with the spring strip, and the strip and tape can then be wound in the usual manner, said tape in no manner increasing the thickness of the strip or interfering with the winding operation.

While in the instant application I have shown the tab integral with the spring strip, it will be readily understood that it can be a separate piece riveted to the main body without departing from the spirit of the invention.

From the foregoing description, it will be obvious that I have perfected a very simple, practical and effective manner of connecting a coiled tape measure for holding the spring strip tape extended beyond the casing.

What I claim is:

1. A measuring device comprising a housing having an aperture, a flexible tape measure arranged for withdrawal from and retraction into said housing through said aperture, a tensioned strip coilable in the housing and to which one end of the tape measure is detachably secured, and a tab punched in said strip adjacent the outer end thereof for engagement with the housing to hold said strip in extended position.

2. The combination defined in claim 1 in which the housing-engaging tab is readily windable with the strip without increasing the thickness of the coil when the strip is wound.

3. A measuring device comprising a housing having an aperture, a flexible tape measure arranged for withdrawal from and retraction into said housing through said aperture, a tensioned strip windable in said housing and to which one end of the tape measure is detachably secured, and a tab punched in said strip adjacent the free end thereof and readily bendable outwardly therefrom for engagement with the wall of the housing to hold the strip in extended position.

4. A measuring device comprising a housing having an aperture, a graduated tape measure arranged to be withdrawn from or retracted into said housing, a strip of tensioned, resilient material windable in the housing and to which one end of the graduated tape measure is detachably connected, and means integral with said strip adjacent its outer free end and bendable outwardly from the face of the strip for engagement with the wall of the housing to hold said strip in extended position.

EUGENE J. WITCHGER.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
421,133	Grierson	Feb. 11, 1890
559,022	Barnes	Apr. 28, 1896
905,171	Gilcrest	Dec. 1, 1908
2,503,440	Johanningmeier	Apr. 11, 1950
2,510,939	Carlson	June 6, 1950

FOREIGN PATENTS

Number	Country	Date
24,640	Great Britain	1902