

April 22, 1924.

1,491,437

J. T. TAYLOR

TAPELINE CASE GUARD

Filed Nov. 12, 1921

Fig. 1.

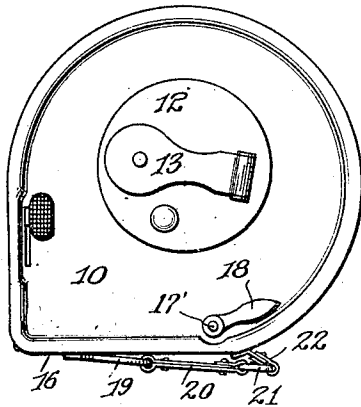


Fig. 6.

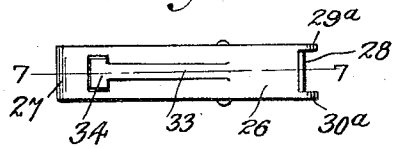


Fig. 7.

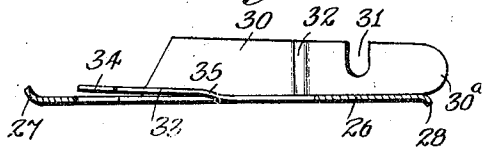


Fig. 2.

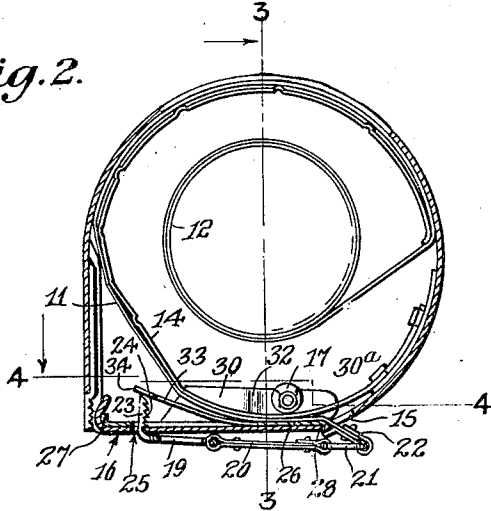


Fig. 3.

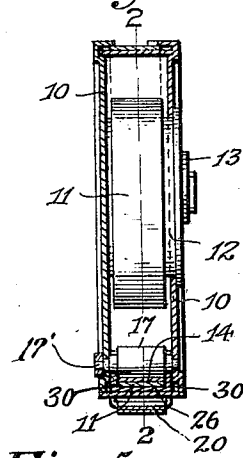


Fig. 5.

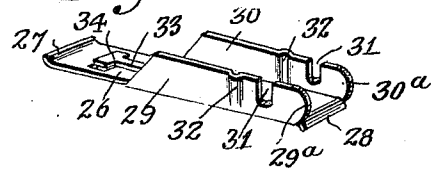
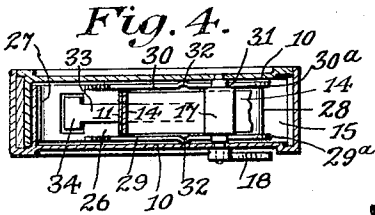


Fig. 4.



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TAPELINE-CASE GUARD.

Application filed November 12, 1921. Serial No. 514,659.

To all whom it may concern:

Be it known that I, JOSIAH T. TAYLOR, a citizen of the United States, residing at Bangor, in the county of Penobscot and State of Maine, have invented certain new and useful Improvements in Tapeline-Case Guards, of which the following is a specification.

This invention appertains to certain improvements in tape line cases generally, and more particularly to an attachment therefor.

The principal object of the invention is to provide for an attachment of the class mentioned, and one having the form of a guard adapted to be applied to the exit opening of a tape line case, whereby to protect the walls of the case around such exit opening from being cut or worn by the tape in its movements to and from the interior of the case.

Another object of the invention is to provide for a guard attachment as characterized, and one constructed of steel or other kind of tempered metal whereby to be readily and conveniently applied to the exit opening of a tape line case constructed of brass or other similar non-rustable metal, and thereby prevent the cutting or wearing action on the case as aforesaid.

A further object of the invention is to provide for an attachment of the type set forth, and one which, in addition to its particular adaptation to a tape line case for preventing the cutting or wearing of the walls thereof at the exit opening of the same, is provided with a means for effecting the quick release of the end terminal of the tape line from its normally retained or latched position exteriorly of the wall of the case to one side of the exit opening thereof.

With the foregoing and other objects in view, the invention resides in the certain novel and useful construction, arrangement and operation of parts as will be hereinafter more fully described, set forth in the appended claims, and illustrated in the accompanying drawings in which:—

Figure 1 is a side elevation of a form of tape line case to which the guard has been applied,

Figure 2 is a vertical section taken on the line 2—2 of Figure 3,

Figure 3 is a vertical transverse section taken on the line 3—3 of Figure 2,

Figure 4 is a horizontal section taken on the line 4—4 of Figure 2,

Figure 5 is a perspective view of the guard attachment per se,

Figure 6 is a bottom plan view thereof, and

Figure 7 is a longitudinal section taken on the line 7—7 of Figure 6.

Referring to the drawing, wherein similar characters of reference designate corresponding parts throughout the several views thereof, the numeral 10 indicates the case for housing a tape line 11, having its inner end portion attached to and wound upon a winding drum 12, which is operable for the winding movement of the tape line 11 by means of a handle 13. The outer end portion of the tape line 11 passes around the inner peripheral wall of the case 10 for a portion of its circumference and between the same and a section guide member 14, which guide member 14, in turn, passes the exit opening 15, leading outwardly at the inner end portion of a flat straight wall portion 16 of the case 10, and guides the tape line 11 in its passage to the exit opening 15. Cooperative with the guide 14, at a point to one side of the exit opening 15, is a cam roller 17, which is operable by means of a handle 18, located exteriorly of the case 10, for clamping the free end portion of the tape 11 against the opposed faces of the guide 14 and the straight wall 16, in a manner to prevent free movement of the tape line 11 outwardly of the case 10, when the same is not in use. The free end of the tape line 11 is provided with a combined terminal latch and releasing device, constituting in itself the subject matter of Letters Patent No. 1,424,085, granted July 25, 1922, which consists of a terminal member 19, in the form of an annulus or ring mounted for rotary movement in the plane of a carrier member 20 at the outer end thereof, which, in turn, is mounted for hinging movement on a closed loop connection 21 of a clip 22 engaged over and riveted or otherwise fastened to the free end of the tape line 11. The terminal member or ring 19 is provided with a latch hook 23 disposed in substantially right angular relation to the plane thereof and projects from

the outer peripheral edge of the same, the inner face of the latch hook 23 being transversely serrated as at 24 for latching engagement with the edge of an opening 25, formed in the flat straight wall portion 16 of the tape line case 10 at the end of the same opposite to that in which the exit opening 15 is formed.

In the foregoing construction and arrangement of the parts of a tape line measure device, and when the case 10 is made from a non-rustable metal, such as brass or the like, and the tape line 11 of a length of flexible steel, it has been found in the continued manipulation of the device that the latter, in its movements to and from the interior of the case 10, cuts into or otherwise quickly wears away the metal forming the walls of the exit opening 15 and to such an extent as to render it extremely annoying and inconvenient during the further use of the device. To protect the case 10 from such injury, a guard is provided for the purpose, and as shown in the drawing, the same comprises a metal plate disposed in abutting relation with respect to the inner face of the straight wall portion 16 of the case 10. The medial portion 26 of the guard is co-extensive with the interior length of the straight wall 16, and is bent on a curved line at one end, as at 27, for snugly secured engagement with the correspondingly curved corner portion of the case 10, and similarly bent as at 28, at its opposite end for engagement over that edge of the exit opening 15, of the case 10, which is subjected to the wearing action of the tape line 11 in its passage there-through. This medial portion 26 of the guard is provided at its opposite sides with flanged portions 29 and 30, between which the tape line 11 passes to the exit opening 15, and which are of a length to extend from points slightly beyond the plane of the bent end portion 28, as at 29^a and 30^a, at the forward end of the medial portion 26, to points in a common plane transversely of the latter and slightly forward of the latch opening 25 of the case 10. To admit of the use of the guard with a tape line device employing the cam locking device 17, the flanged portions 29 and 30 of the guard are provided with aligned recesses or outwardly opening slotways 31, which engage around the spindle 17' on which the cam 17 is mounted. As shown at 32, the flanges 29 and 30 are also transversely grooved at points intermediate their respective ends, for the purpose of lending rigidity thereto, and to the guard structure as a whole.

From the foregoing, and from reference to the several views in the drawing, it will be readily seen that the tape line 11 is confined within the channelway formed between the flanges 29 and 30 of the guard from

a point well within the case to the point of its exit from the latter at the exit opening 15 thereof, and that its contact with the adjacent wall portions of the case 10 is prevented by reason of the extended portions of the flanges 29 and 30 and the outwardly curving end 28 of the medial portion 26 of the guard, and, consequently, all wear and tear of the moving tape line 11 is borne directly by the latter.

To aid in the swinging of the latch hook 23 of the terminal annulus or ring 19, the medial portion 26 of the guard is formed to provide a rearwardly extending tongue member 33 disposed on the longitudinal center thereof, and which is formed to provide a transversely elongated head portion 34 at its free end, the latter portion 34 being arranged to oppose the latch opening 25 in the straight wall 16 of the case 10, when the guard is placed in its operative position within the latter.

In the normal latching operation of the tape line terminal as a whole and in position against the outer face of the straight wall 16, the forcing of the latch hook 23 into the latch receiving opening 25 of the case 10, causes the outer connected end portion of the steel tape line 11 to be placed under slight tension at its point of projection from the exit opening 15, whereby the serrations 24 of the latch hook 23 are caused to engage with the edge of the latch opening 25, substantially as is shown in Figure 2, and, in addition to this usual operation, the inward forcing movement of the latch hook 23 causes the hook to bear against the head portion 34 of the resilient tongue 33 of the medial portion 26 of the guard, and places the same under tension. Now, with the parts in this latched position, pressure of the thumb or finger of the operator against the clip 22 at the free end of the tape 11 forces the carrier 20 and the terminal 19 in a forward direction sufficiently to cause the serrations 24 of the latch hook 23 to disengage from the wall of the latch opening 25, when the tension of the spring tongue 33 will freely throw the latch hook 23 clear of the opening 25 and cause the carrier to swing outwardly on the hinged loop 21 to its position for the manipulation of the tape line 11. As shown in Figure 7, the spring tongue portion 33 of the guard may be slightly bent at its point of connection with the medial portion 26, as at 35, so as to be slightly offset above the plane of the adjacent or inner face of the latter, whereby its tensioning action on the latch hook 23 will be more effective for the accomplishment of the desired purposes of the same.

From the foregoing, it will be readily apparent that the invention provides for an extremely simple, cheap and effective means

for protecting the casing 10 against undue wear and damage from the steel tape line 11 in its movement to the exit opening 15 to and from the winding drum 12, and at the same time, is so constructed and arranged as to function as a guide for the tape line 11 in its passage between the inner guide member 14 and the straight wall portion 16 of the case. Also the provision of the spring tongue 33 on the guard body is a valuable adjunct to the structure as a whole, in that it assures of the instant release of the terminal end 19 of the tape line 11 for use in the desired measuring operations.

It is well understood that, while a preferred embodiment of the attachment has been described and illustrated herein in specific terms and details of construction, arrangement and operation, various changes in and modifications of the same may be resorted to without departing from the spirit of the invention or the scope of the claims appended hereto.

Having thus fully described the invention, what is claimed is:—

1. The combination with a tape line case having an exit opening therein and a tape line normally wound within the case and having its free end projecting through said opening, of a guard arranged within said case and having a part thereof extended into said opening for protecting the walls thereof against wear during the passage of the tape line through the opening, said guard including means for guiding the tape line to and from said opening, and a clamping element carried by said guard and cooperating with said means and guard for locking the tape line from movement.

2. The combination of a tape line case having an exit opening therein and a latch receiving opening to one side of the exit opening, a tape line normally wound within said case and having its free end projected through the exit opening, a terminal part carried at the free end of said tape line, a latch member carried by said terminal part and adapted for locking engagement in said latch opening, and means within said case for forcibly ejecting said latch member from said latch opening upon the manipulation of said terminal part for the release of said latch member.

3. The combination of a tape line case having an exit opening therein and a latch receiving opening to one side of the exit opening, a tape line normally wound within said case and having its free end projected through the exit opening, a terminal part carried at the free end of said tape line, a latch member carried by said terminal part and adapted for locking engagement in the said latch opening, and resilient means within said case for forcibly ejecting said latch

member from said latch opening upon the manipulation of said terminal part for the release of said latch member.

4. The combination of a tape line case having an exit opening therein and a latch receiving opening to one side of the exit opening, a tape line normally wound within said case and having its free end projected through the exit opening, a guard within said case and cooperative with the exit opening thereof for protecting the walls of the latter against wear and tear incident to the manipulation of the said tape line, a terminal part carried at the free end of said tape line, a latch member carried by said terminal part and adapted for locking engagement in said latch opening, and resilient means within said case for forcibly ejecting said latch member from said latch opening upon the manipulation of said terminal part for the release of said latch member.

5. The combination of a tape line case having an exit opening therein and a latch receiving opening to one side of the exit opening, a tape line normally wound within said case and having its free end projected through the exit opening, a guard within said case and cooperative with the exit opening thereof for protecting the walls of the case against wear and tear incident to the manipulation of the said tape line, a terminal part carried at the free end of said tape line, a latch member carried by said terminal part and adapted for locking engagement in the said latch opening, and resilient means carried by said guard within said case for forcibly ejecting said latch member from said latch opening upon the manipulation of said terminal part for the release of said latch member.

6. The combination of a tape line case having an exit opening therein and a latch receiving opening to one side of the exit opening, a tape line normally wound within said case and having its free end projected through the exit opening, a guard within said case and cooperative with the exit opening thereof for protecting the walls of the latter against wear and tear incident to the manipulation of the said tape line, a terminal part carried at the free end of said tape line, a latch member carried by said terminal part and adapted for locking engagement in the said latch opening, and resilient means formed with said guard and disposed inwardly of the said latch receiving opening for forcibly ejecting said latch member therefrom upon the manipulation of said terminal part for the release of said latch member.

7. The combination with a tape line case provided with an exit opening for the tape line, a latch receiving opening and a tape line normally wound within said case and

having its free end projecting through said exit opening, of a latch member connected with the free end of the tape line and extending through said latch receiving opening to prevent shifting of the outer end of the tape line, and a guard arranged within the case and extended into said exit opening to protect the walls of the latter during the travel of the tape line through the opening, and said guard provided with a resilient element for ejecting said latch member to release the free end of the tape line. 10

In testimony whereof, I affix my signature hereto.

JOSIAH T. TAYLOR.