Jan. 2, 1951 E. B. PECHSTEIN 2,536,766

LOCKING DEVICE FOR FLEXIBLE TAPES

Filed Dec. 28, 1945

Fig. 1.

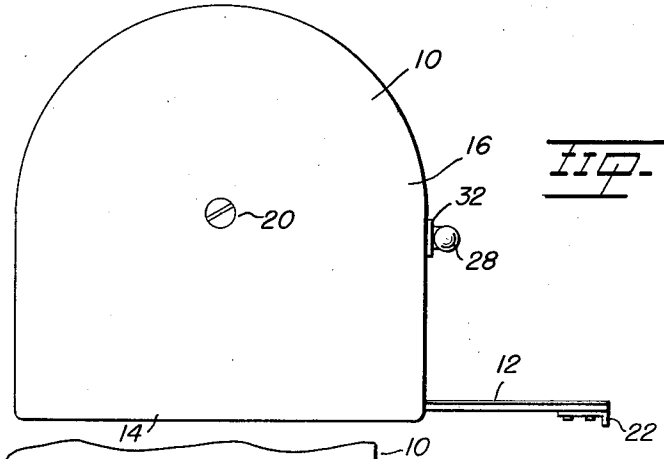


Fig. 2

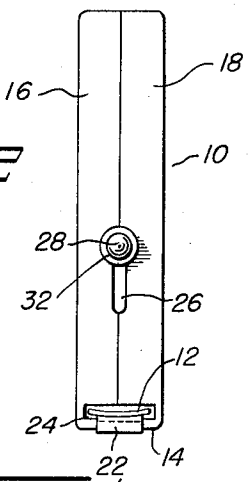


Fig. 3.

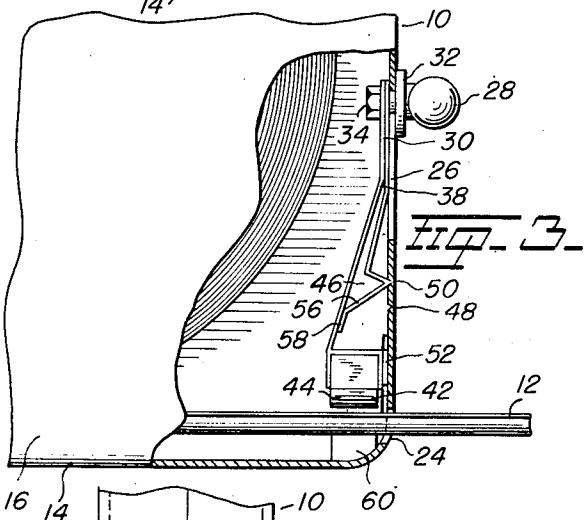


Fig. 4

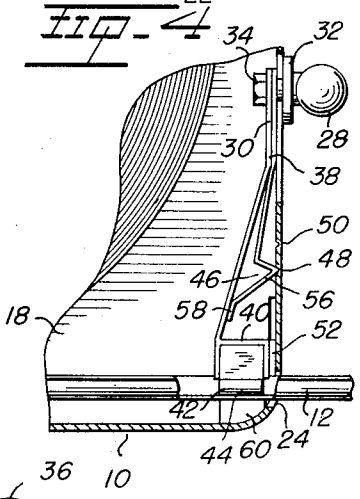


Fig. 5.

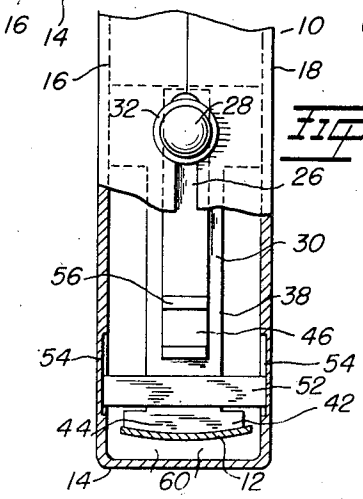
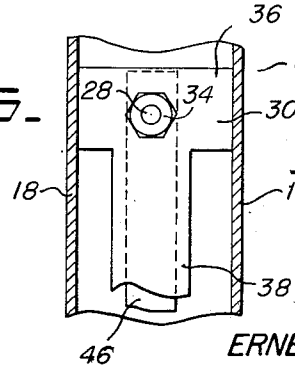


Fig. 6



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LOCKING DEVICE FOR FLEXIBLE TAPES

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1 Claim. (Cl. 242—84.8)

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This invention relates to a locking device for flexible tapes having a concave cross section, which is contained in a case from which it may be pulled or into which it may be pushed and the case, permitting inside measurements by adding to the tape reading the length of the case.

With this type of case for inside measurements it is necessary to get exact measurements by reading the tape while the measurement is being made, this is often difficult due to the operator's inability to get in a position from which he can read it or the light condition may be poor.

An object of this invention therefore is to provide a locking device for the tape which will lock the tape when the tape is extended and the measurement is made thereby preventing any slippage of the tape when the tape is moved to a convenient position for reading and an accurate reading is assured.

Another object of this invention is to provide a locking device which is simple, compact and may be easily applied to the casing without undue expense.

With the above and other objects and advantages in view the invention consists of the novel details of construction arrangement and combination of parts more fully hereinafter described, claimed and illustrated in the accompanying drawing in which

Figure 1 is a side elevation of a tape measure to which the present invention is applied.

Figure 2 is a front view thereof.

Figure 3 is an enlarged detailed view of the device in unlocked position.

Figure 4 is the same in locked position.

Figure 5 is a detailed fragmentary view of the front of the device in locked position and

Figure 6 is a fragmentary rear view thereof.

Referring more in detail to the drawing, the reference numeral 10 designates the casing of the tape measure 12, which is of any known or approved construction formed of metal or plastic and having a flat base 14. The casing is usually comprised of two similar mating halves 16 and 18 respectively held together by a central shaft or fastener 20, which forms the support for the tape 12.

The tape 12 as shown is of the conventional type being concave in cross sections made of metal ribbon and graduated to indicate inches and fractions thereof in the well known manner. The tape at its free end is provided with a bracket 22 which constitutes a finger grip to facilitate the removal of the tape from the casing 10 and also, as a stop to contact the edge wall of the

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case to prevent the tape from being withdrawn into the casing 10 too far for easy manipulation thereof and the casing is provided with the opening 24 through which the tape travels.

Directly above the opening 24 and at right angles thereto is the vertical opening 26 formed in the edge wall of the casing to accommodate and guide the handle 28 of the T-shaped latch 30.

The handle 28 is provided with a circular flange 32 which rides on the front of the edge wall of the casing 10 and the handle 28 is secured to the latch 30 by the bolt 34.

The upper cross member 36 of the latch 30 acts as a guide interiorly of the casing to prevent sideway laterally of the latch during movement thereof.

The bar 38 of the latch 30 is inclined rearwardly as shown in Figures 3 and 4 and is provided on its lower end with the L-shaped clip 40 which grasps the T-shaped rubber block 42 between the clip 40 and the end of bar 38, the bottom 44 of the block 42 is formed convex in cross section to conform to the concave cross section of the tape 12.

The block 42 is therefore adapted to be moved into and out of engagement with the tape 12 by means of the handle 28, and a spring 46, mounted on the handle intermediate the latch 30 and the inner wall of the casing 10, will lock the block 42 in contact with the tape 12 by means of the notch 48 or retain it in unlocked position by means of notch 50. The latch 30 however, can be moved in either direction by pressure on the handle 28.

A transverse guide bar 52, formed on the clip 40 engages in the diametrically opposed slots 54 in the side walls of the casing and serves in unison with the cross member 36 to prevent lateral movement of the latch 30.

The spring 46 is formed with the substantial triangular detent 56 which engages the notches 48, and 50 and the free end 58 bears against the latch 30 as shown in Figures 3 and 4 and rearward pressure of the spring 46 is limited by the guide bar 52 engaging in the slots 54.

During operation of the device the measurement with the tape is made in the normal manner with the handle 28 in the upper position as shown in Figure 2 and the spring 46 in the position shown in Figure 3. The measurement being completed the handle 28 is moved down, forcing the convex bottom 44 of the rubber block 42, into engagement with the tape 12. The detent 56 of the spring 46 drops into notch 48 locking

the rubber block 42 against the tape 12, which is then locked between the block 42 and the inside bottom of the casing 10, which has the concave blocks 60 conforming to the cross section of the tape 12, secured thereto in diametrically opposed relation to the block 42. The casing 10 then may be moved and read at a convenient location. After reading the tape 12 the handle 28 is moved forcibly upwardly disengaging the spring 46 from the notch 48. When the handle 28 is at its uppermost point, the detent 56 of the spring 46 engages notch 50 locking the latch 30 in a position out of engagement with the tape 12.

Measurements are frequently readily made but are difficult to read because the operator cannot get into a position from which to accurately read the measurement or light condition may be poor.

It will be evident to those skilled in the art that a device has been provided that no matter how inaccessible to vision the distance to be measured is, it may be accurately measured and the tape locked in position and the casing brought to a convenient position for reading. Errors due to parallox will be avoided by being able to read the tape from the correct angle. The operator may make a rather long measurement where his arms are extended and the distance to the casing and the angle of vision is such that he cannot read the tape accurately, this is easily solved by the use of this device. The operator may desire to extend a long measurement, and normally he would have difficulty in watching both ends of the tape. However, by the use of this device he can extend the tape the desired distance and lock the tape in that position, thus making the measurement without having to watch to ascertain if the tape moved in or out of the case to produce an error in the measurement.

It is believed that the operation and advantage of the device will be apparent to those skilled in the art and it is to be understood that modifications and changes in the details of construction, arrangement and combination of parts may be resorted to without departing from the spirit of the invention or the scope of the appended claim.

Having thus described the invention what is claimed as new or desired to be secured by Letters Patent is:

A device of the character described in combination with a casing and a measuring tape within the casing, which is withdrawable from said casing, a latch mounted in the casing for functional engagement with the tape having a handle thereon for movement of said latch, a block on the lower end of said latch curved to conform to said tape, a spring on said latch having a substantially triangularly shaped detent formed thereon, spaced notches on the interior surface of said casing adapted to engage said detent to retain said latch in operative locked position or inoperative unlocked position, and means positioned beneath said block to lock said tape when said block is moved into engagement with the tape.

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