

Aug. 6, 1929.

A. LANGSNER

1,723,739

MEASURING TAPE

Filed Aug. 29, 1927

Fig. 1.

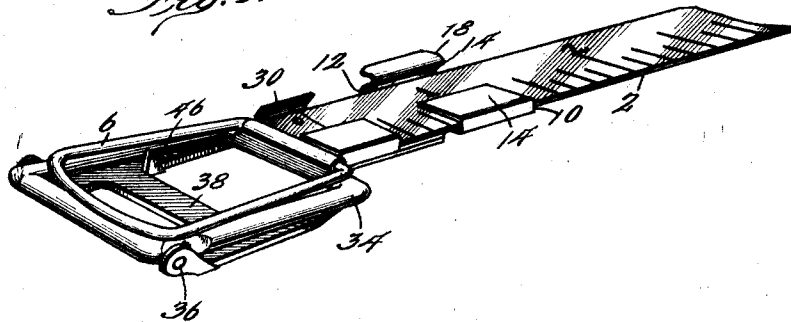


Fig. 2.

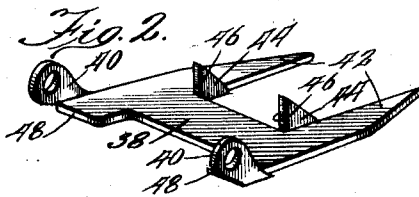


Fig. 3.

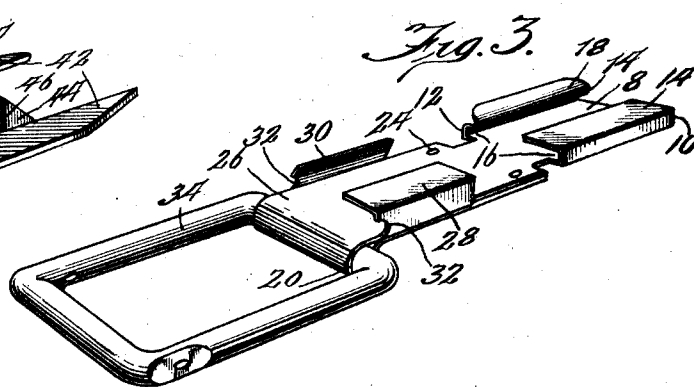
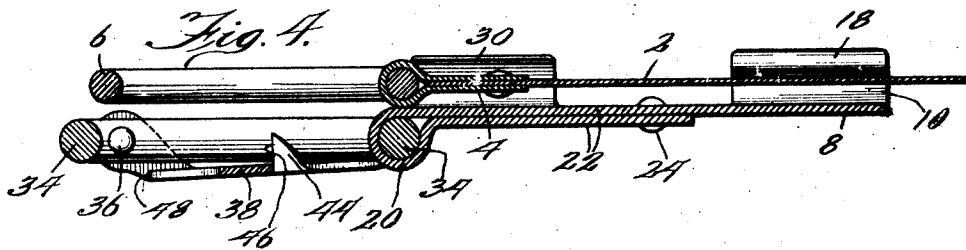


Fig. 4.



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UNITED STATES PATENT OFFICE.

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MEASURING TAPE.

Application filed August 29, 1927. Serial No. 216,304.

My invention relates to measuring tapes for the use of surveyors, mechanics, inspectors and others and is particularly concerned with an attachment for the terminal ring of the tape. When two persons cooperate in using a tape no difficulty is experienced in making measurements because one person can hold the end of the tape at the point where it should be while the other measures off the distance. But usually tapes are operated single-handed and then it becomes important to provide means for holding the free end of the tape in place while the operator measures out the distance or passes to the other end of the object to be measured.

One of the objects of my present invention is to provide an attachment which may be practically substantially attached to or detached from the terminal end of a measuring tape and which attachment carries an anchor for holding the end of the tape so that the measurement can be taken irrespective of the nature of the surface measured.

Another object of my invention resides in providing an attachment in the nature of a clip to which the anchor is pivotally mounted which clip is adapted to be readily attached to the terminal end of the measuring tape.

Still another object of my invention resides in providing an anchor carrying attachment constructed and arranged to be readily attached to the terminal end of the measuring tape as by means of members which engage the tape itself. An ancillary object being to provide the attachment with substantially resilient tongues which permit the tape to be snapped into gripping engagement, so that the tape and attachment are thereafter held in assembled operative position.

Still another object of my invention resides in providing an attachment with means for engaging the tape proper and for providing the attachment with a terminal ring pivotally carrying an anchor; the terminal ring of the attachment registering with the terminal ring of the standard tape and the two rings as thus assembled permitting the free operation of the anchor and permitting the anchor to be folded against the terminal ring of the attachment and to be held in such folded position. This feature of

the invention comprehends a construction wherein the terminal ring carried by the attachment is substantially rugged and provides a stop or abutment against which shoulders on the anchor abut when the anchor is in open position, whereby positively to hold the anchor in predetermined position when assembled to the tape.

These and other objects of my invention will be apparent from a perusal of the following specification when taken in connection with the accompanying drawings in which

Figure 1 is a perspective view of my improved attachment assembled on the terminal end of a measuring tape.

Figure 2 is a perspective view of the preferred form of anchor which I use in connection with my invention.

Figure 3 is a perspective view of the clip portion of my attachment with the clip ring attached thereto, but with the anchor unattached to the terminal ring.

Figure 4 is a sectional view taken longitudinally through Figure 1.

Referring now to the drawings in detail my invention takes the form of an attachment adapted to be quickly and easily attached to or detached from the terminal ring end of a measuring tape. In general the attachment comprises a preferably sheet metal clip having means for detachably fastening it to the tape proper of the measuring tape and carrying a terminal ring which terminal ring has pivotally mounted thereto the anchor member. The terminal ring of the tape itself and the terminal ring carried by the clip are both pivotally mounted on their respective members and are adapted to lie in superimposed registering relation, so that the terminal ring on the tape proper does not interfere with the operation of the terminal ring on the attachment which carries the anchor.

Referring now to the drawings in detail the measuring tape 2 which is preferably metallic has riveted thereto by means of the cheeks 4 the usual terminal ring 6 which is of slightly tapered formation, as is well known in the art. My invention comprises in providing an attachment for this standard measuring tape so that any such measuring tape now on the market may be pro-

vided with an anchor without modifying the tape. In the embodiment of my invention illustrated the attachment preferably comprises a clip formed of sheet metal, the outer end 8 is preferably of single thickness and is provided along its lateral sides with integral upstanding flanges 10 and 12. These flanges are bent as at 14 to overlie the single thickness 8 thereby providing a substantially grooved way 16 within which the flexible tape may lie. One of the flanges instead of having its overlying portion 14 terminating in a flat plane has such portion 14 curved upwardly as at 18 to provide a resilient clip having a somewhat curved surface, so that when one edge of the tape is slipped beneath the opposite flange or overlying portion 14 by pressing downwardly upon that side of the tape which lies upon the curved surface 18, the tape may snap under the overlying portion 14 immediately adjacent to the curved surface 18 and will ultimately snap under such portion 14 so as to be resiliently detained within the grooved portion 12 thereof.

The inner portion of the clip is preferably formed of two thicknesses made by looping or folding upon itself the single thickness so as to form a loop 20 and a loop basal portion 22 of double thickness. This double thickness is riveted together by suitable rivets 24. The upper fold 26 of the double thickness portion is provided with integral lateral flanges 28 and 30 to grip the tape. The flange 28 like one of the flanges 14 overlies the tape when in position, while the opposite flange 30 is formed more as a vertical wall with a slight inward inclination so as to grip and slightly overlie the adjacent edge of the tape thereat. This construction provides a very simple, economical and effective means for firmly gripping and holding the tape assembled to the clip. In addition the front edge of the clips 28 and 30 are provided with indents 32 for overlying and holding the forward end of the terminal ring 6, so that the terminal ring is not free to move forwardly through the clip and is held substantially flat against the clip by the over-hanging edge of the groove 32.

The loop 20 of the clip carries a pivotally mounted terminal ring 34 of somewhat sturdier construction, its diameter being greater than the diameter of the terminal ring 6 of the tape 2. This terminal ring 34 is also of substantially tapered construction, the lateral walls therefore tapering from the outer end toward the loop 20. This construction conforms to the standard practice of forming terminal rings of these tapes. The outer end of the terminal ring 34 is substantially flattened at opposed parts and has riveted thereto as by means of pins 36 an anchor 38 having two ears 40 perforated to receive pin 36. This anchor may be of any desired con-

struction for accomplishing the various functions demanded of an anchor for a terminal ring of a measuring tape, but I prefer to illustrate the anchor used in connection with my clip attachment as of the same construction shown in my prior application Serial No. 108,471, filed May 12, 1926. It is readily understood that the details of construction of such anchor are claimed in such prior application. It is also understood that it is herein shown merely as one type of anchor which may be used with my present attachment. The anchor herein shown is illustrated in Figure 2 of the drawings as formed of sheet metal and of substantially H-shaped design. It is provided with two pointed legs adapted to be stuck into the ground or into a wooden floor or the like. The inner portions of these legs are provided with correspondingly located and opposed lateral portions 44 having vertical front faces 46. In addition the portions 48 of the anchor adjacent to the ears 40 form stop shoulders adapted to abut the under portion of the ring 34 when the anchor is swung to open position. These shoulders 48 constitute stops. It will be understood that the anchor as thus formed, is constructed and arranged to take hold of the flat surface in the plane in which the measurement is to be taken, as for instance in the case of a floor, the anchor is held by means of the pointed legs which will stick into the floor so as to hold the tape and anchor at the point where it is placed or the legs may be driven into the wooden floor or the like; in addition the anchor is constructed so that it will securely hold the end of the tape continuous with the end of the object being measured, in which case the anchor is open to ninety degrees position and will engage the end of the board for holding the free end of the tape in place. In addition the anchor may be driven into the end of the board by means of the prong 44 or will take under the board or under a metal plate, the front surfaces 46 gripping the end of the board so that the ring will not ride up over the end; finally the anchor is constructed so that it may be folded or swung into the plane of the terminal ring 34 and when thus folded the resilient prongs 44 together with the slight resiliency of the terminal ring 34 will serve to hold the anchor in such folded position. As heretofore stated the present shown anchor is put but one form that may be used in cooperation with my improved attachment clip and terminal ring 34 and the invention is not to be construed as being limited to the type of anchor illustrated. From a perusal of the foregoing description it may be readily seen that when my attachment is assembled to the end of the tape the terminal rings 6 and 34 will be in substantial registration whereby they may be slipped

over the nail or other projection by which the end of the tape may be anchored for effecting the measurement. It will also be apparent that in the present construction that the clip which attaches to the tape carries pivotally and directly a sturdy terminal ring upon which is pivoted the anchor. The necessity for a sturdy and rigid construction at this point is of importance since considerable pull is brought to bear on the end of the tape during the measuring operation. The clip itself by being formed of sheet metal forms a very ready means for providing the resilient flanges to engage the flexible tape 2 and in addition provides a simple and economical means for forming the loop 20 to engage the auxiliary terminal ring 34. Furthermore, this upper loop portion 26 is readily provided with integral flange which not only assists in gripping the tape to hold it in position and attach to the clip but at the edge 32 thereof provides a substantially rigid interlocking groove for engaging the forward portion of the terminal ring 6 permanently attached to the tape, whereby any direct forward pull on the tape 2 is taken up directly by this rigid edge of the clip. It will be further noticed that the two terminal rings 6 and 36 lie in close superimposed position and do not interfere with each other; and that the prongs 44 on the anchor engage the sturdier terminal ring 34 and finally that the shoulders 48 swing up and abut the sturdier terminal ring 34 and not the terminal ring 6.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. An anchor carrying attachment for the terminal ring end of a measuring tape comprising a clip adapted detachably to engage the body of the tape, said clip having a terminal ring carried thereby and an anchor pivotally mounted on said terminal ring.

2. In a device of the class described the combination with a measuring tape having a terminal ring at its end, an attachment therefor comprising a clip, means on said clip for detachably engaging the tape proper adjacent its terminal ring, an auxiliary terminal ring carried by said clip, and an anchor pivotally mounted on said auxiliary terminal ring.

3. In a device of the class described the combination with a measuring tape having a terminal ring, an attachment comprising an auxiliary terminal ring adapted to be positioned substantially in registration with the terminal ring of the tape, an anchor pivotally mounted on said auxiliary terminal ring and means carried by said auxiliary ter-

minial ring for detachably connecting said auxiliary terminal ring to the body of the tape.

4. A device of the class described in combination with a tape having a terminal ring, an attachment therefor comprising an auxiliary terminal ring adapted to lie adjacent and in registry with the terminal ring of the tape, said attachment having an extension forming a clip, said clip having resilient members adapted detachably to engage the tape body proper and adapted to prevent the terminal ring of the tape from being pulled therethrough during the measuring operation.

5. An attachment for a measuring tape comprising a terminal ring having a sheet metal clip pivotally mounted on one end thereof, said sheet metal clip having integral flanges for detachably engaging a flexible tape and an anchor pivotally mounted on the opposite end of said terminal ring.

6. In a device of the class described in combination with the terminal ring of a measuring tape, a sheet metal clip having opposed lateral flanges, one of said flanges being folded to overlie the basal portion of said clip, the opposite flange having a curved wall adapted to provide a resilient tongue to overlie one edge of the tape, another portion of said clip being doubled upon itself to form a loop, the upper thickness of said doubled portion having lateral marginal flanges, one of which is wider than the other and is adapted to fold over and overlie the basal portion, the opposite flange being somewhat vertical and substantially resilient in having its upper edge inwardly inclined and overlying the basal portion whereby to provide a guide way with over hanging flanges to resiliently retain the tape assembled to the clip, and an anchor pivotally mounted to the opposite end of the clip.

7. An anchor carrying attachment for the terminal ring end of a measuring tape comprising a clip adapted detachably to engage the body of the tape, an auxiliary terminal ring secured at one extremity to said clip, and an anchor pivotally mounted at the opposite extremity of said auxiliary terminal ring.

8. An anchor carrying attachment for the terminal ring end of a measuring tape, comprising a clip having lateral flanges adapted detachably to engage the body of the tape, said clip having an auxiliary terminal ring carried thereby and an anchor pivotally mounted on said auxiliary terminal ring.

In witness whereof, I have hereunto subscribed my name.

ADOLPH LANGSNER.