March 31, 1931. A. LANGSNER 1,798,476

ANCHOR FOR TERMINAL RINGS OF MEASURING TAPES

Filed Aug. 29, 1927

Fig. 1.

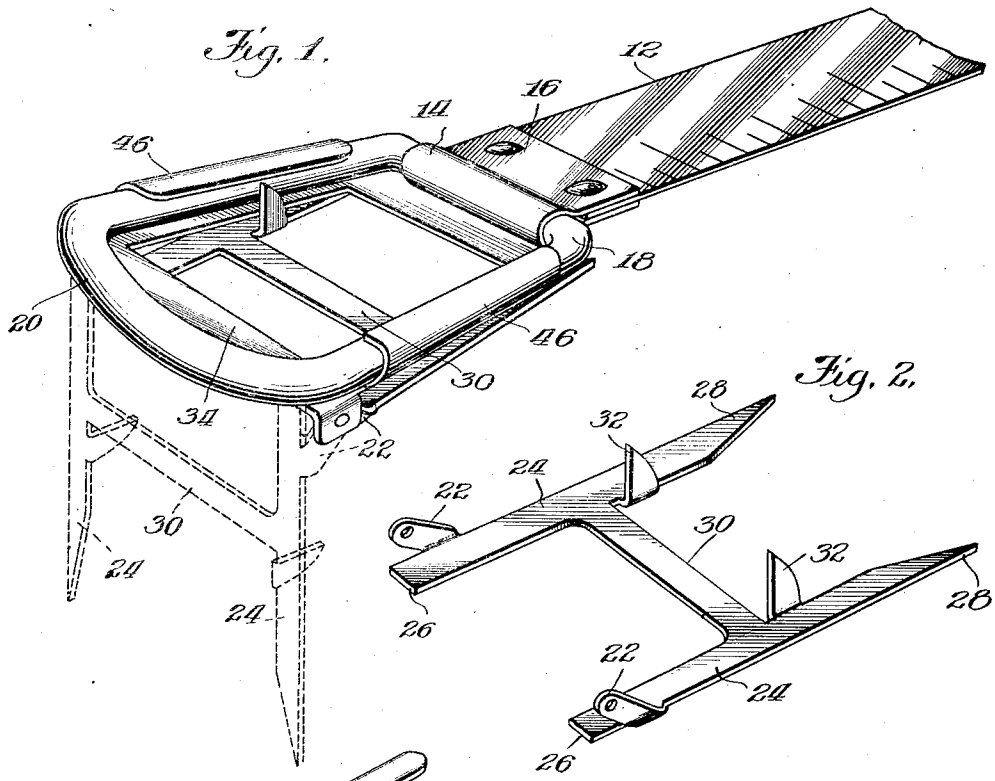


Fig. 2.

Fig. 3.

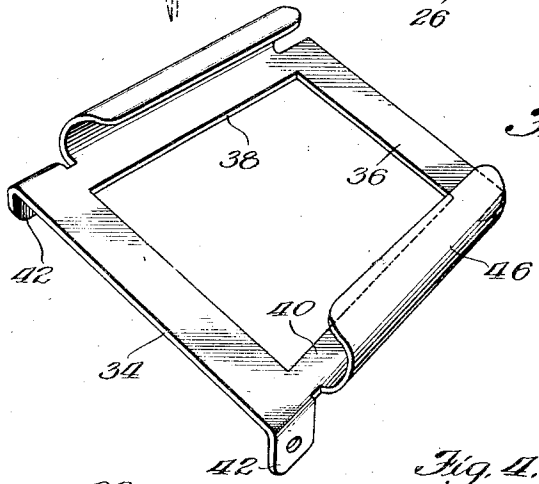
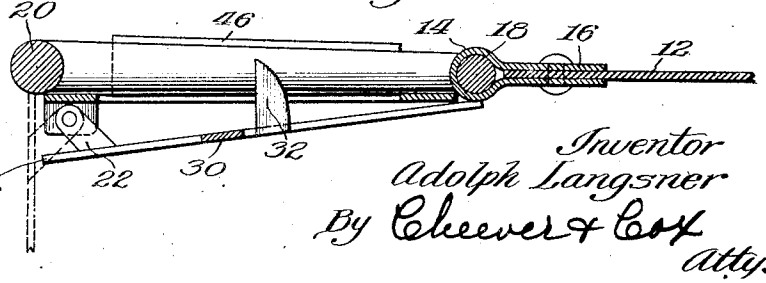


Fig. 4.



Witnesses:
Jas. B. Perry
H. A. Hitzman

Inventor
Adolph Langsner
By Cleveer & Cox
Attys.

Patented Mar. 31, 1931

1,798,476

UNITED STATES PATENT OFFICE

ADOLPH LANGSNER, OF CHICAGO, ILLINOIS, ASSIGNOR TO EUGENE DIETZGEN COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF DELAWARE

ANCHOR FOR TERMINAL RINGS OF MEASURING TAPES

Application filed August 29, 1927. Serial No. 216,302.

My invention relates to tapes for the use of surveyors, mechanics, inspectors, and others, and is concerned more particularly with the terminal element usually referred to as the "ring". When two persons cooperate in using a tape no difficulty is experienced because one person can hold the end at the point where it should be while the other measures off the distance. But usually tapes are operated single-handed, and it then 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 invention is to provide a terminal ring with means for holding the free end of the tape in place, commonly called an anchor, which anchor is so constructed and arranged that it may be readily attached to and detached from the ring of the measuring tape.

Another object of my invention is to provide the anchor with an attached clip or fastening means whereby the anchor may be detachably and quickly fastened in place on the terminal ring.

Still another object of my invention resides in forming this fastening means or clip of sheet metal and constructing it so that it will resiliently and firmly grip the ring and in fact will grip the ring with a force substantially proportional to the pull of the tape on the anchor.

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

Figure 1 is a perspective view of my improved anchor and attaching clip,

Figure 2 is a perspective view of the anchor portion of the attachment,

Figure 3 is a perspective view of the clip portion and

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

In general my device comprises an anchor carrying means for detachably fastening it on the ring of the measuring tape. The anchor is constructed and arranged to take hold of a 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 provided with a prong or prongs which will stick into the floor so as to hold the tape end anchored at the point where it is placed or so that the prongs may be driven into a wooden floor or the like; in addition the anchor is constructed so that it will securely hold the end of the tape conterminous with the end of an object being measured, in which case the anchor is provided with means for engaging the end of the board for holding the free end of the tape in place; the anchor is also constructed so that it may be either driven into the end of the board or will take under the board or under a metal plate and will grip it so that the ring will not ride up and over the end; finally, the anchor is constructed so that it may be folded or swung into the plane of the ring and when thus folded will hold itself in place and will not interfere with the ordinary use of the tape.

The clip or means for detachably connecting the anchor to the ring, is preferably permanently attached to the anchor, and is constructed and arranged so that it can be quickly and easily attached to or detached from the ring of the measuring tape and particularly in a manner so that the ring may be of standard or usual construction and need not be altered.

While my anchor may be of any desirable character, I preferably show it in the present application as of the same type that is disclosed and claimed in U. S. Patent No. 1,646,826, filed May 12th, 1926. The present invention is directed to and the claims thereof cover means whereby an anchor, and particularly the anchor shown in the aforementioned application, may be detachably connected to the ring of a measuring tape and in a manner hereinafter set forth.

Referring now to the drawings in detail the tape 12 which may be of steel or any other suitable metal, is provided with the usual casing not shown in which it may be stored when not in use. At the end of the tape is a sleeve 14 having cheek plates 16 by which it is rivet-

ed or otherwise fastened to the end of the tape. This sleeve 14 forms a pivotal bearing for the ends 18 of the terminal element 20 hereinafter referred to as a ring but which according to the shape illustrated is approximately rectangular in outline, being preferably formed with a pronounced taper inwardly from its outer end toward the ends 18 of the ring. The purpose of this taper will hereinafter be made evident.

The anchor or holding member has a pair of ears 22 by which it may be pivotally attached to the clip hereinafter described. The anchor is substantially H shaped in form, the upper portion of the two legs 24 of the clip provide shoulders 26 for abutting the underside of the ring as hereinafter made evident. The anchor also has a pair of prongs 28 which are sharpened at the end and connected by a cross bar 30. This cross bar holds the prongs in spaced relation and is located approximately midway between said prongs. Extending inwardly from the prongs 28 are supplemental prongs 32 capable of engaging the end of board or object along which the tape is to be laid. Except for the ears 22 and the prongs 32, the anchor lies chiefly in a common plane so that when in folded or closed position as shown in Figures 1 and 4 it will lie substantially flat against the sides of the ring. This anchor is preferably formed of sheet metal and the supplemental prongs 32 are substantially resilient in the form shown, the sides of the ring 20 are approximately round in cross section, and the supplemental prongs 32 are spaced slightly farther apart than the normal inside measurements of the ring, so that when the anchor is being folded, the prongs 32 as they come into contact with the round surface of the ring, are wedged together slightly so as to frictionally grip the ring to enable the anchor to maintain its closed or folded position when not in use. The ring is also of slightly resilient metal so that the sides can yield outwardly slightly as the prongs come into engagement with the sides of the ring. Thus the anchor may be readily folded and unfolded. When in folded position it is capable of maintaining itself in such position, out of the way, and does not interfere with the ordinary use of the ring. The prongs 32 are not long enough to project above the top of the ring and hence there is no danger of their becoming caught in anything when the anchor is folded.

In the embodiment of the means for detachably connecting the anchor to the ring, shown in my present drawings, this attaching means or clip is preferably formed of sheet metal and is formed somewhat as a hollow square. It comprises two substantially parallel sides 34 and 36 and two other sides 38 and 40. The sides 38 and 40 taper inwardly somewhat from the side 34 toward the side 36. This taper corresponds in inclination to that of the ring 20. The side 34 is provided with two downwardly or laterally extending ears 42 which are perforated to receive a pin which passes through registering perforations in the ears 22 of the anchor. In this manner the anchor is pivotly and permanently connected to the clip. The sides 38 and 40 of the clip are provided with integral, laterally bent flanges 46 which are curved and which are resilient and sufficiently rigid so as to grip firmly the tapered sides of the ring 20. These curved flanges 46 are open at both ends and open at their inner sides. By means of this construction the clip may be slid on to the ring 20 from the smaller end thereof and as the clip shifts along the tapered sides of the ring 20 it will wedge itself firmly onto the sides of the ring and will be held in place thereon. It is to be particularly noted that by means of this construction, with the anchor in depending position as shown in dotted line in Figure 1 and when sticking in the ground or gripping any object, when a pull is put on the tape 12 the force of this pull will be directly applied to the clip and the tendency of the pull will be to more firmly wedge the clip on to the tapered sides of the ring 20. The clip with the anchor attached may quickly be removed from the ring by a sharp blow in the direction of the tape 12.

It will be further manifest by reason of the construction of my improved clip and the manner in which it engages the ring, the operation of the anchor is not interfered with and the anchor can fold into contact with and resiliently grip the ring so as to be held in folded position thereon. It will also be apparent that with the present construction of the clip and the manner of pivotally connecting it to the anchor, as by means of the ears 22 and 42, when the anchor swings to a 90 degree position with respect to the ring, as shown clearly in dotted lines in Figure 4, the ends 26 of the anchor constitute shoulders which engage the larger or outer end of the ring and thus limit the outward movement or 90 degree position of the anchor with respect to the ring.

It will be apparent that various arrangements of my improved clip are contemplated and that it is not restricted in its use in connection with a tapered ring since the clip may be constructed and arranged to resiliently grip and detachably connect to any type of ring. The present construction wherein the clip is tapered so as to slide upon and grip the tapered ring with a grip which automatically increases as the pull on the tape increases is a preferred form of my invention since most rings are slightly tapered in shape. It is also to be understood that I am not limited in the use of my clip and attached anchor, to the specific construction of anchor herein shown.

By further reference to Figure 4 of the drawing it will also be seen that the outer

end of the side 36, when the clip is wedged in position on the ring 20, will lie substantially under the inner edge of the fold 14 of the cheek plates 16. The resiliency of this sheet metal clip and particularly of the side 36 will tend to hold this side snugly against this fold 14 and thus the clip will be held substantially from inadvertent movement in a direction towards the tape.

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

1. In combination with the terminal ring of a measuring tape, a clip having detachable wedging connection with said ring, an anchor, said clip and said anchor having portions suitably formed to receive a pivot pin, and a pivot pin pivotally securing said portions together.

2. In combination with the terminal ring of a measuring tape a clip mounted on said ring and having lateral ears, an anchor having corresponding ears pivotally connected to the ears of the clip, said anchor having means forming an abutment adapted to engage the ring when the anchor swings to a 90 degree position.

3. In combination with the terminal ring of a measuring tape a clip mounted on said ring and having lateral ears, an anchor having corresponding ears pivotally connected to the ears of the clip, said anchor having means forming an abutment adapted to engage the ring when the anchor swings to a 90 degree position, and said anchor having means for holding it in folded position substantially flat with the ring.

4. In combination with the tapered terminal ring of a measuring tape, a sheet metal clip having curved flanges adapted wedgingly to fit over the tapered sides of the ring and resiliently to grip said sides, an anchor, said clip and said anchor having projecting portions, and a pin pivotally securing said portions together.

5. In combination with the terminal ring of a measuring tape, said ring being of substantially rectangular form with its sides tapering in one direction, a sheet metal clip having correspondingly tapered sides, said sides being provided with laterally extended curved flanges adapted to wedgingly embrace the tapering sides of the ring whereby said clip may be slid upon and wedged upon said ring, and an anchor pivotally connected to said clip.

6. An attachment for a terminal ring of a measuring tape comprising a sheet metal clip having tapering sides formed with laterally extending resilient integral and curved flanges adapted to wedgingly embrace the tapering sides of the ring, one end of said sides having laterally bent ears, and an anchor of sheet metal construction having correspondingly bent ears pivotally connected to the ears of said clip.

7. In combination with the tapered terminal ring of a measuring tape, anchor support means detachably and wedgingly mounted on the terminal ring, and an anchor member adapted to fold flat against the terminal ring and to open at right angles thereto, said support means and said anchor being formed with lugs and a pin pivotally connecting said lugs.

In witness whereof, I have hereunto subscribed my name.

ADOLPH LANGSNER.