Sept. 2, 1952 J. W. THEIN 2,608,766

TRAMMEL

Filed Jan. 2, 1948

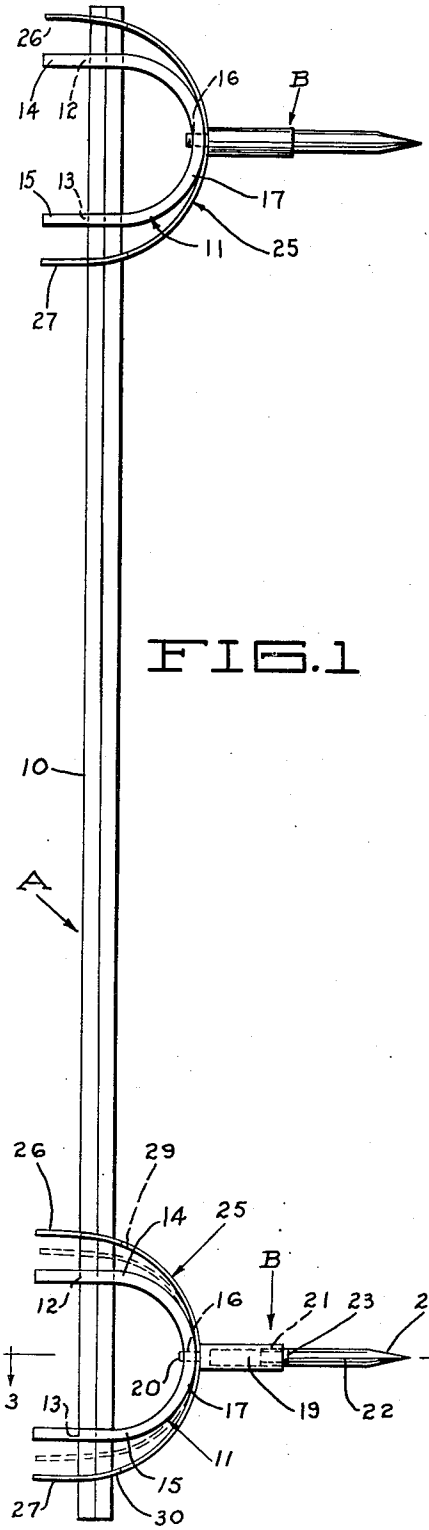


FIG. 1

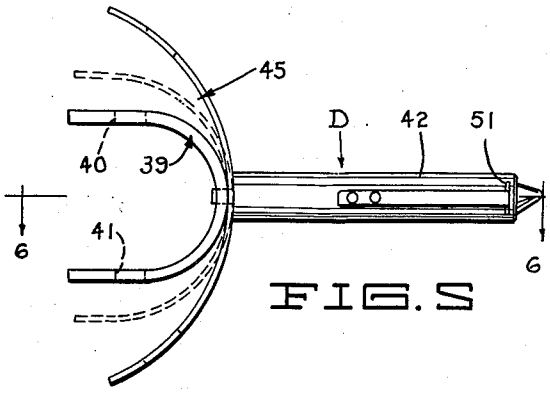


FIG. 5

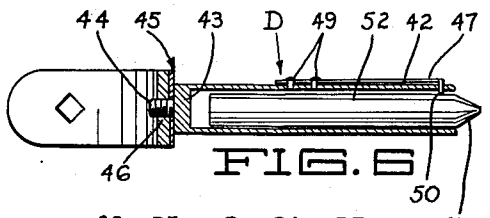


FIG. 6

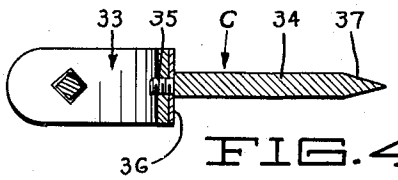


FIG. 4

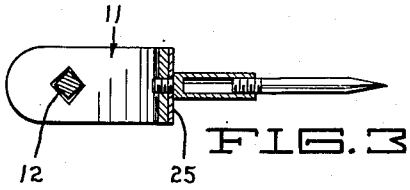


FIG. 3

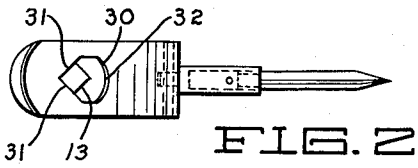


FIG. 2

INVENTOR.
JOHN W. THEIN

BY Robert M. Dunning

Patented Sept. 2, 1952

2,608,766

UNITED STATES PATENT OFFICE

2,608,766

TRAMMEL

John W. Thein, St. Paul, Minn.

Application January 2, 1948, Serial No. 325

1 Claim. (Cl. 33—158)

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My invention relates to an improvement in trammel wherein it is desired to provide a device for use as a beam compass, for marking purposes and the like.

The object of the present invention lies in the provision of an elongated beam having a pair of marking means adjustably mounted thereon. The invention lies more particularly in the manner of securing these marking devices to the beam so that they will be generally held in adjusted position and at the same time may be moved into another adjusted position.

A feature of the present invention lies in the provision of an elongated beam having a pair of marking devices longitudinally slidable thereon and having spring means which bind against the beam and hold each marking device from longitudinal movement thereon. The spring means is so arranged that the spring tension may be readily removed from the beam when desired to allow longitudinal movement of the marking device.

A feature of the present invention lies in the provision of an elongated beam which is not circular in cross section so that the marking devices may be held from rotation about the axis of the beam and so that the marking ends of the marking devices may be mounted in parallel relationship.

A feature of the present invention lies in the provision of a marking device mounted upon a U-shaped support designed to provide spaced bearings engageable on the beam. These bearings hold the marking devices in right angular relation to the axis of the beam.

An added feature of the present invention lies in the provision of a curved spring which is also preferably U-shaped in cross section and which tends to maintain a radius of curvature greater than that of the U-shaped support. The spring as well as the U-shaped support is provided with apertures through its opposed ends to accommodate the beam. When the ends of the spring are fixed together, the beam may slide freely through the U-shaped support. However, when the ends of the spring are allowed to spread apart, the spring engages against the beam in a manner to draw the beam against predetermined edges of the apertures in the U-shaped support and to hold the marking device from longitudinal movement on the beam.

An added feature of the present invention resides in the fact that the marking device may comprise a pointed instrument such as a pointed metallic pin, or may comprise a socket for containing chalk or other suitable marking means.

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These and other objects and novel features of my invention will be more clearly and fully set forth in the following specification and claims.

In the drawings forming a part of my specification:

Figure 1 is a side elevational view of my trammel showing the general construction thereof.

Figure 2 is an end elevational view of the trammel showing the construction thereof.

Figure 3 is a cross sectional view through the trammel the position of the section being indicated by the line 3—3 of Figure 1.

Figure 4 is a view similar to Figure 3 showing a modified form of trammel construction.

Figure 5 is a side elevational view of a modified form of marking device.

Figure 6 is a sectional view through the marking device of Figure 5, the position of the section being indicated by the line 6—6 of Figure 5.

The trammel A may serve as a beam compass or may be used for any other of a plurality of purposes. The structure in general includes an enlongated beam 10 and marking devices which are designated in general by the letter B. These marking devices may be of similar construction or may be of modified form as will be later described in detail.

The beam 10 is shown as being rectangular in cross section. This beam may be of any desired or preferred length to accomplish the purpose for which the trammel is particularly designed.

The marking device B includes a U-shaped support 11 having a pair of opposed rectangularly shaped apertures 12 and 13 extending therethrough for accommodation of the beam 10. In preferred form these apertures are rectangularly shaped or shaped to agreed with the cross sectional shape of the beam 10 and are of a size to permit free sliding of the beam therethrough. Also in preferred form the apertures are arranged so that a diagonal through the beam coincides with the longitudinal axis of the support. The apertures 12 and 13 are also preferably provided in the substantially parallel sides 14 and 15 of the U-shaped bracket 11 so that the apertures are at substantially right angles with a third threaded aperture 16 through the rounded connecting portion 17 of the bracket. In actual practice the axis of the beam 10 is at right angles to the pointed portion of the marking device when this pointed portion is mounted in the threaded aperture 16 in the manner which will be later described in detail.

The pointed portion of the marking instrument

includes a cylindrical shank 19 having a threaded end 20 of reduced diameter designed to be threaded into the aperture 16. An axial socket 21 is provided in the outer end of this shank. A second shank 22 is provided with a threaded end 23 of proper size to fit into the socket 21. The shank 22 is provided with a pointed outer end 24 which may be of hard metal to serve as a scratch point if it is so desired.

In place of the threaded shank end 20, this end of the shank may extend through the aperture 16 and be riveted in place if it is so desired. The threaded construction illustrated is advantageous as the shank may be removed from the U-shaped member 11 when desired to remove or replace the spring member. The formation of the pointed end of the marking device in two parts is advantageous as the pointed end portion 24 may be of extremely hard material if desired to serve as a marking point. Furthermore, this construction permits the point to be replaced without replacing the entire shank.

A U-shaped spring 25 is provided on the marking device B. This spring 25 is curved to a larger radius than the curved portion 17 of the U-shaped bracket 11. The central portion of the U-shaped spring 25 is apertured to fit the small diameter portion 16 of the shank 19 and the spring is clamped between the large diameter portion of the shank and the curved end 17 of the U-shaped bracket. The opposite ends 26 and 27 of the spring are provided with apertures 29 and 30 therein. Each aperture is provided with converging edges 31 directed toward the adjacent end of the spring and a rounded side 32 opposite these converging edges. The apertures 29 and 30 are of sufficient size to freely accommodate the beam 10 and to allow the spring to flex considerably while the beam extends through the apertures.

In inserting each marking device B onto the beam 10 the ends 26 and 27 of the spring 25 are flexed together under spring tension until the apertures 29 and 30 are aligned with the apertures 12 and 13 of the support 11. The beam 10 may then be inserted through these aligned apertures. While the marking device B is being moved along the beam 10, the ends of the spring are preferably flexed into the position illustrated in dotted outline in Figure 1 of the drawings, at which time all of the walls of the apertures 29 and 30 are free of the beam 10 so that the marking device may slide freely thereupon. When it is desired to lock the marking device in any adjusted position upon the beam, it is only necessary to release the pressure upon the spring ends 26 and 27, allowing these spring ends to flex outwardly and engage the beam 10 under spring tension. The spring 25 tends to straighten out or to assume a curve of substantially larger radius than is possible while the marking device is engaged on the beam so that the pointed ends or diverging walls 31 of the apertures 29 and 30 engage the beam under spring tension. As a result the beam is clamped against the inner walls of the apertures 12 and 13 through the support 11 and the marking device is firmly held from longitudinal movement.

In Figure 4 of the drawings I disclose a modified form of marking device indicated in general by the numeral C. This device C includes a U-shaped support 33 which is identical in construction to the support 11 previously described. The pointed end of the instrument includes an elongated shank 34 having a threaded end 35 of reduced diameters. The shank end 35 extends through an aperture in the closed end of the support 33.

The U-shaped spring 36, identical to the spring 27 previously described, is clamped between the larger diameter portion of the shank 34 and the rounded end of the support 33. The shank 34 is provided with a pointed end 37 which may be used for marking or measuring purposes.

In Figures 5 and 6 of the drawings I disclose a marking device D which is similar in some respects to the marking devices previously described. The marking device D includes a U-shaped support 39 which is identical to the support 11 and which is provided with aligned apertures 40 and 41 in opposite sides thereof. An elongated sleeve 42 having a closed end 43 is secured to the rounded end of the support 39. A threaded shank 44 projects axially from the closed end 43 of the sleeve 42 and a spring 45, identical to the spring 25 previously described is clamped between the closed sleeve end 43 and the rounded end of the U-shaped support 39, the threaded shank 44 extending through a suitable aperture 46 in the support.

A leaf spring 47 is secured to the sleeve 42 near the center thereof by rivets 49 or other suitable attaching means. This spring 47 is provided with an inturned end 50 which extends through a transverse slot 51 near the open end of the sleeve 42. This spring end 50 is designed to engage against a piece of chalk 52, a crayon, or some other suitable marking means preferably having a pointed outer end 53. This spring end 50 bears against or digs into the chalk or marking device to prevent accidental longitudinal movement thereof. By flexing the spring 47 outwardly the chalk or crayon may be moved outwardly of the sleeve.

This marking device D may be substituted for either or both of the marking means B illustrated in Figure 1 of the drawings. If the device is to be used as a beam compass, it is possible to substitute one marking device D for one of the marking devices B and to use the pointed metal marking device B as the center of the circle and the chalk or crayon as the marking means to define a circle.

In accordance with the patent statutes, I have described the principles of construction and operation of my trammel, and while I have endeavored to set forth the best embodiments thereof, I desire to have it understood that obvious changes may be made within the scope of the following claim without departing from the spirit of my invention.

I claim:

A trammel comprising an elongated beam, a relatively rigid U-shaped bracket slidably supported on said beam, said bracket having spaced sides and a connecting base, said sides being provided with apertures spaced sufficiently from the free ends thereof to provide finger gripping portions on said sides, said apertures in the sides of said bracket fitting about said beam with a sliding fit, a relatively flexible U-shaped spring slidably supported on said beam, said spring having spaced sides and a connecting base which is fixedly anchored to the connecting base of said bracket, said spring sides being provided with apertures spaced sufficiently from the free ends thereof to provide finger gripping portions commensurate in length with the finger gripping portions on said bracket sides, said apertures in the sides of said spring being relatively large to per-

mit movement of the beam therethrough when said spring is flexed, said spring normally being biased against said beam on opposite sides of said bracket to hold said bracket from movement on said beam, whereby the person using the trammel is provided with a choice of gripping the finger portions of either bracket side and the finger portion of the next adjacent spring side or gripping the finger portions of both spring sides.

JOHN W. THEIN.

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