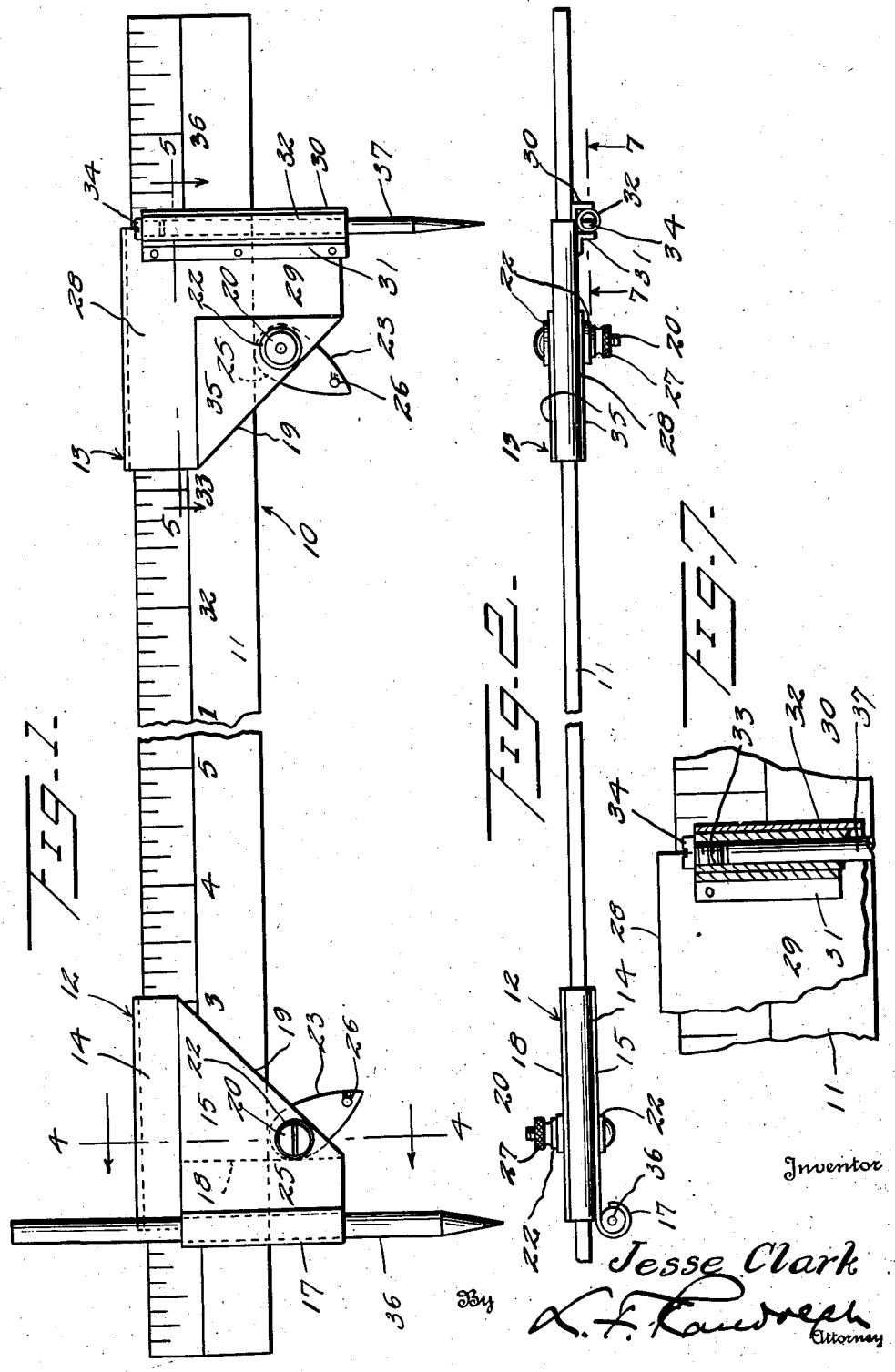
Nov. 24, 1942. J. CLARK 2,303,024

BEAM COMPASS

Filed Dec. 18, 1941 2 Sheets-Sheet 1



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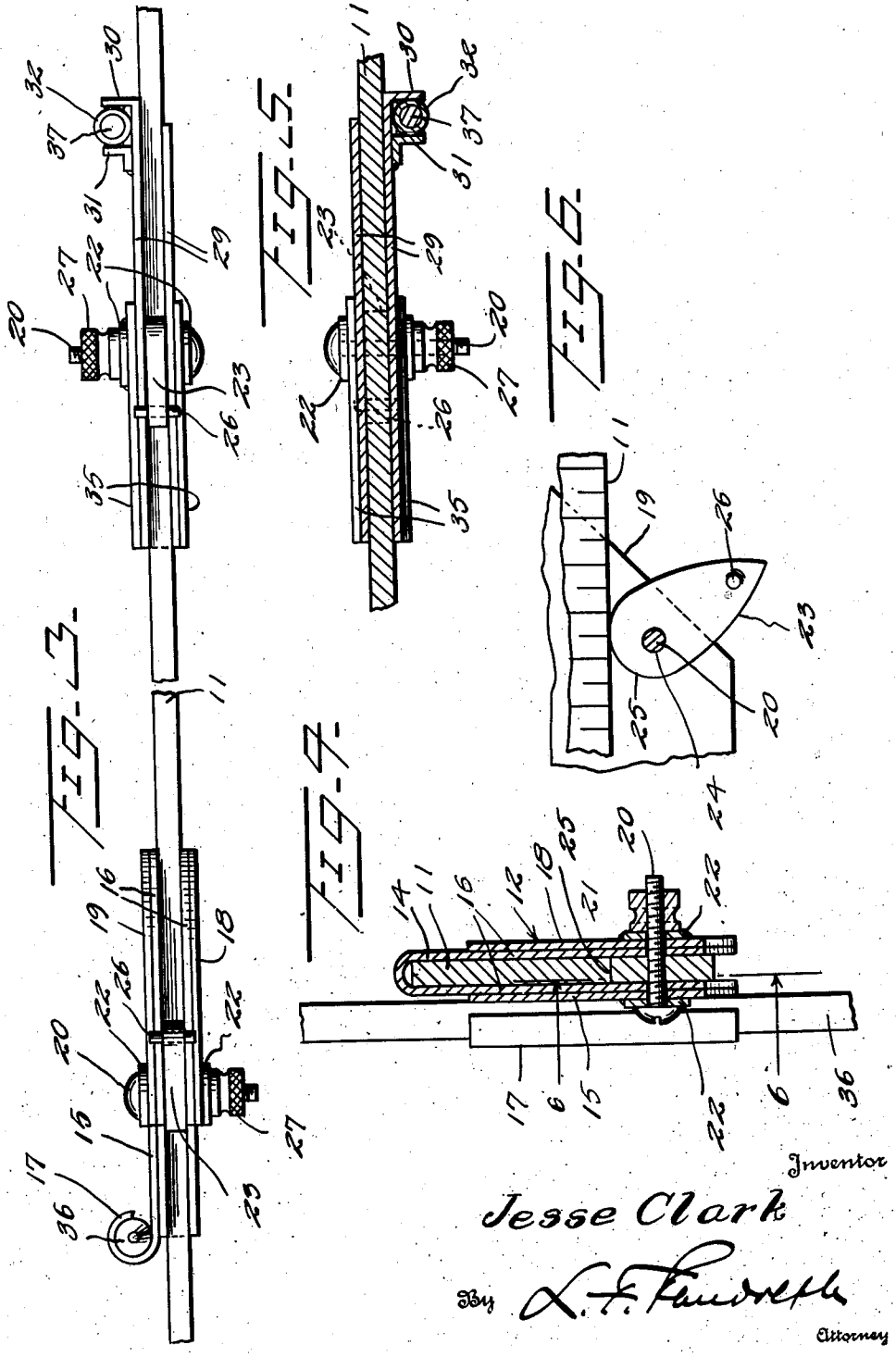
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BEAM COMPASS

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BEAM COMPASS

Jesse Clark, Los Angeles, Calif.

Application December 18, 1941, Serial No. 423,550

3 Claims. (Cl. 33—27)

This invention relates to a beam compass of very simple construction capable of being economically manufactured and which, though very light in weight, is very durable.

More particularly, it is an aim of the invention to provide a beam compass of which a beam can be formed by a yard stick, or a number of yard sticks connected in end to end relationship, so that the instrument can be extended to great lengths.

Still a further aim of the invention is to provide an instrument of the above described character wherein the ruling pen or pencil is supported at substantially a right angle to the surface on which the mark is made.

Other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawings, which illustrate a preferred embodiment thereof, and wherein:

Figure 1 is a fragmentary side elevational view of the instrument,

Figure 2 is a top plan view of the same,

Figure 3 is an enlarged fragmentary bottom plan view of the same,

Figure 4 is a transverse vertical sectional view taken substantially along the plane of the line 4—4 of Figure 1,

Figure 5 is a longitudinal horizontal sectional view taken substantially along the plane of the line 5—5 of Figure 1,

Figure 6 is a fragmentary sectional view of a portion of the instrument taken substantially along a plane as indicated by the line 6—6 of Figure 4, and

Figure 7 is a vertical sectional view taken substantially along the plane of the line 7—7 of Figure 2.

Referring more particularly to the drawings, wherein like reference characters designate like or corresponding parts throughout the different views, 10 designates generally the beam compass in its entirety and which includes a beam 11 and two supports 12 and 13 which are slidably mounted thereon. The beam 11 is preferably a conventional yard stick.

The slide support 12 includes an inverted U-shaped base 14 of metal which engages over the beam 11 and extends downwardly below the bottom edge thereof. A plate 15 is secured to one of the legs or sides 16 of the base 14 which has one end rolled outwardly to form a spring sleeve 17. A plate 18 is secured to the outer side of the other side of the legs 16. The plates 15 and 18 provide reinforcing means for the sides 16. The sleeve 17 exposes one end of the slide 12 and the opposite end thereof has its lower and intermediate portions bevelled as seen at 19. A bolt 20 extends through and is loosely disposed in alined openings 21 in the plates 15 and 18 and the sides 16. A washer 22 is suitably secured to the outer side of each of the plates 15 and 18 and is disposed so that its opening alines with the openings 21 and the bolt 20 likewise extends through the washers 22. As best seen in Figure 6, the lever 23 is provided with an enlarged rounded end or edge and is provided with an opening 24 which is eccentrically disposed relatively to said edge 25. The enlarged end of the lever 23 is disposed between the sides 16 and below the beam 11 and the bolt 20 extends loosely through the opening 24 for swingably mounting the lever. The opposite, free end of the lever 23 extends outwardly from the bottom edge or the tapered edge 19 of the slide 12 and has a stop pin 26 extending therethrough and beyond the sides thereof to prevent the free end of the lever 23 from swinging into a position between the sides 16. By swinging the free end of the lever 23 in a counter-clockwise direction, as seen in Figures 1 and 6, a portion of the edge 25 thereof will move into engagement with the bottom edge of the beam 11 and by a cam action will force the beam upwardly for clamping it between the edge 25 and the intermediate portion of the base 14 for clamping the slide support 12 to the beam 11. A thumb nut 27 is in threaded engagement with the shank end of the bolt 20 and is adapted to be tightened for clamping the lever 23 in either a released or an applied position.

The slide support 13 also includes an inverted U-shaped base 28 of metal which engages over the beam 11. One of the sides 29 of the base 28 is provided at its outer end with an extension having an outturned substantially perpendicular flange 30. An angle bar 31 is suitably secured to said side 29 and has one side projecting outwardly therefrom and disposed substantially parallel to the flange 30 to combine therewith to form a substantially perpendicular channel adapted to receive a tube 32 which is secured to the flange 30 and the bar 31 as by means of soldering, not shown. The tube 32 has an internally threaded upper end 33 for receiving a threaded plug 34, for a purpose that will hereinafter be described. In all other respects, the base 28 corresponds to the base 14 and is provided with a tapered inner edge 19 corresponding to the inner edge 19 of the base 14. The sides 29 are reinforced by triangular plates 35 which are secured to the outer

sides thereof. The plates 15, 18 and 35 are preferably attached by means of soldering. The slide support 13 is provided with a cam lever 23 mounted by means of the bolt 20 in the same manner and for the same purpose as the lever 23 of the slide 12, and a further description of these parts is therefore considered unnecessary.

The sleeve 17 and the tube 32 are disposed at the remote ends of the slides 12 and 13, respectively, and are disposed on the same side of the beam 11. The sleeve 17 is adapted to frictionally support an inscriber 36, such as a pencil, or a ruling pen, which can be wrapped with paper to enlarge it sufficiently so that it can be engaged and held by the sleeve 17. The tube 32 is adapted to frictionally engage a stylus 37, the pointed end thereof projecting below the lower end of the tube. The plug 34 is provided to prevent the stylus 37 from being forced upwardly through the tube. It will thus be readily apparent that the pointed lower end of the stylus 37 can be used as a pivot and the pointed lower end or marking end of the inscriber 36 can then function to inscribe an arc or circle when the beam compass 10 is revolved on its pivot. It will be obvious that the beam compass 10 can be extended to great lengths and a beam longer than a yard stick may be employed, if required, and such a beam is readily provided by connecting a number of yard sticks in end to end relationship. Furthermore, the beam compass 10 is more practical than the ordinary hand compass as the pivot and the inscriber are both at right angles to the work. For very close work, the supports 12 and 13 can be reversed so that the sleeve 17 and the tube 32 will be adjacently disposed.

As a modification of the beam compass 10, two of the slide supports 13 could be employed, each of which would carry a stylus 37 to provide a compass which would be lighter, better balanced and of a greater range than trammels now used by lay out men in sheet metal shops.

Various other modifications and changes are contemplated and may obviously be resorted to, provided they fall within the spirit and scope of the invention as hereinafter defined by the appended claims, as only a preferred embodiment of the invention has been disclosed.

I claim as my invention:

1. A beam compass comprising a supporting beam, a pair of slides mounted for sliding movement relatively to one another on the supporting beam, a cam member carried by each slide, said cam members being movable into positions for clamping the slides to the supporting beam, one of the slides having means adapted to mount an inscriber, and the other slide having means adapted to support a stylus, said cam members each including an eccentrically mounted lever, a bolt forming the pivot of the cam member, and a nut, carried by the bolt, for clamping the cam member in adjusted positions.

2. A beam compass comprising a supporting beam, a pair of slides mounted for sliding movement relatively to one another on the supporting beam, a cam member carried by each slide, said cam members being movable into positions for clamping the slides to the supporting beam, one of the slides having means adapted to mount an inscriber, and the other slide having means adapted to support a stylus, said last mentioned means comprising a tube, said tube being secured to the last mentioned slide, and a closure removably mounted in one end of the tube.

3. In a beam compass, a support adapted to slidably engage a beam, said support having an inverted U-shaped base portion, said portion being slidably mounted on the beam having sides, formed of a plurality of plies, extending below the lower edge of the beam, clamping means carried by the lower ends of said sides for clamping the base portion to the beam, and the outer ply of one side of the base portion having a portion rolled to form a spring sleeve adapted to detachably mount an inscriber.

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