

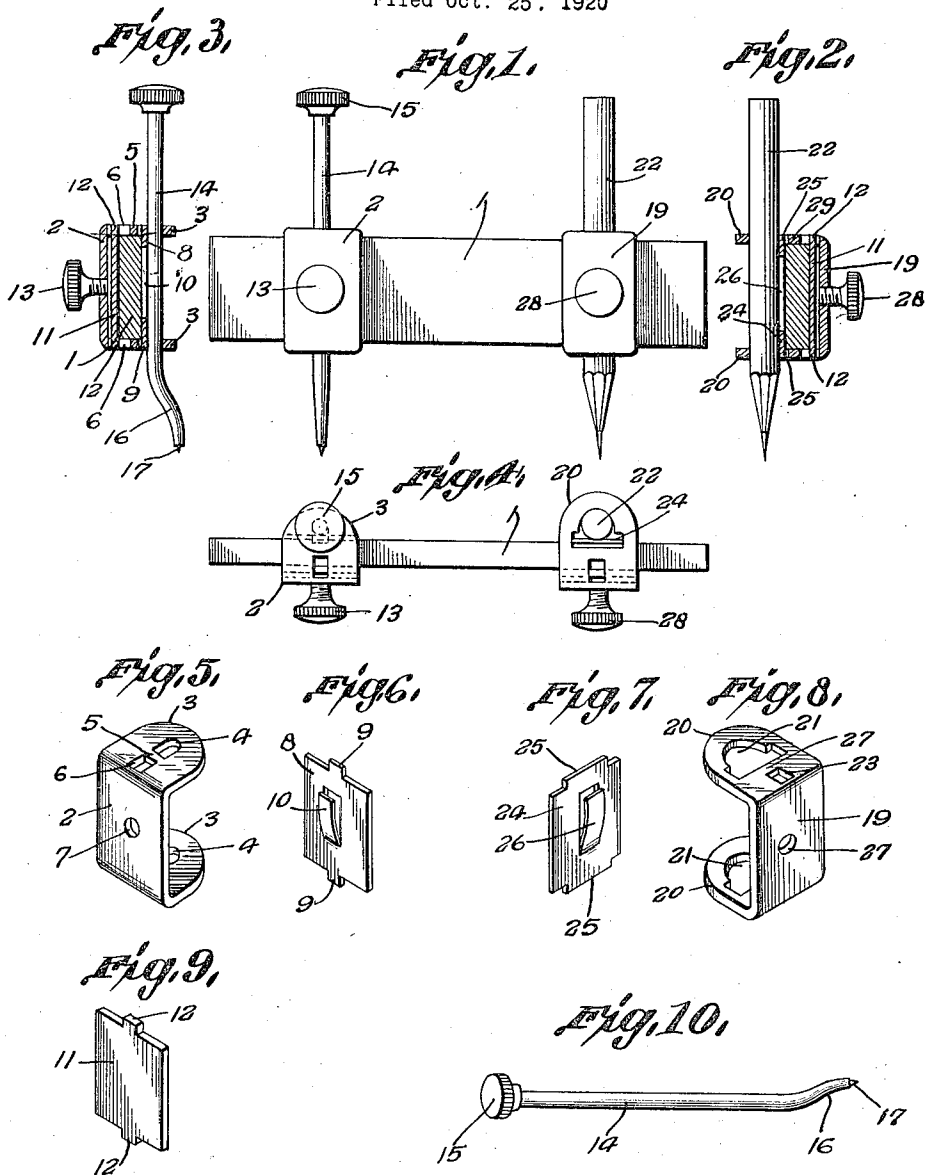
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BEAM COMPASS

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BEAM COMPASS.

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To all whom it may concern:

Be it known that I, HOBERT J. HURD, a citizen of the United States, and a resident of Plainfield, county of Union, State of New Jersey, have invented an Improvement in Beam Compasses, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to beam compasses, and has for its object to provide a compass of this character that is very simple and inexpensive in construction, effective in its operation and one that may be quickly and accurately adjusted.

A further object of the invention is to provide the pivot spindle with an offset pivot point so that by rotating the same in its bearings a fine adjustment may be obtained without the aid of a screw whereby the distance between the pivot spindle and the marking point may be quickly varied, and further to quickly adjust the pivot spindle through its bearings so that the pivot point can be placed the same distance as the marker point from the beam.

Still a further object of the invention is to provide means whereby any ordinary scriber or pencil or ruling pen may be readily inserted and held with a spring until secured by a single screw in such a manner as to not indent a wooden beam, as may be used. The screw which binds the beam also further compressing the said spring and rigidly binding the marker, the head, and the beam together.

With these objects in view, the invention consists of certain novel features of construction, as will be more fully described and pointed out in the appended claims.

In the accompanying drawings: Figure 1 shows a short beam with both the pivot head and the marking head in position thereon in elevation. Fig. 2 is an end view, partly in section, showing the marking head with a pencil in position therein. Fig. 3 is an end view partly in section showing the pivot spindle offset at its pointed end. Fig. 4 is a top view showing the two heads mounted on a short beam. Fig. 5 is a detail in perspective showing the yoke in which the pivot spindle, backing plate, and gib are supported. Fig. 6 is a detail in perspective showing the backing plate with a spring tongue which supports the pivot spindle in

the yoke when not assembled on the beam. Fig. 7 is a detail in perspective showing the backing plate with a spring tongue which supports the marker in its yoke when not assembled on the beam. Fig. 8 is a detail in perspective showing the yoke in which the marker, backing plate and the gib are supported. Fig. 9 is a detail in perspective of the gib, which is alike in both yokes. Fig. 10 represents the pivot spindle in detail showing the offset point.

Referring to the drawings at 1 is the beam which may be of any desired length, the same being preferably constructed in a rectangular form. The pivot head, which is adapted to be moved longitudinally on said beam, is constructed of a yoke portion 2 adapted to engage the front of the beam, the ears 3—3 extending forward at right angles to said back over the edge of the beam said ears being slotted at 4—4 for the reception of the spindle and the tongues 9—9 of the backing plate 8. From the back of the yoke 2 and extending to the bridge 5 are the rectangular slots 6—6 in the ears 3—3 of said yoke to receive the tongues 12—12 of the gib 11. The small hole 7 is threaded in the said yoke for the reception of the set screw 13.

The gib 11 located between the ears 3—3 of the yoke tongues 12—12 passing through the rectangular slots 6—6 of said yoke receives the end of the screw 13 on its front face and the beam 1 on the opposite face, the said slots being of such length that the said gib will not fall out when said beam is withdrawn. The backing plate 8 also located between the ears 3—3 of yoke 2 with its spring tongue 10 projecting toward the rear ends of the said yoke, its tongues 9—9 passing through the elongated slots 4—4 of said yoke, the said slots being of such a length that the said backing plate will not fall out if the pivot spindle 14 should be removed from the said slots in the ears of said yoke.

The pivot spindle 14 is a small shaft having knurled head 15 on one end and the opposite end is slightly offset at 16 and is provided on its end with a sharp or shouldered needle-like point. The spindle is adapted to be passed through the rear portion of slots 4—4 in the yoke and in pushing it through the yoke, it compresses the spring tongue 10 in the backing plate, and the spindle can be pushed through the yoke

to a predetermined distance from the needle point. By setting up on the set screw 13 it is shown that as the end of the screw engages the gib 11, pressing the same against the front of the beam, that the spindle is gripped and bound in its bearings by the backing plate acting in one direction, while yoke plate acts in the opposite direction thereon, the whole head at the same time being firmly held in position against longitudinal movement on the beam.

The marker head, as illustrated in Fig. 2, is secured to the beam in a manner similar to that of the pivot head, the same being provided with a yoke 19 having rearwardly extending ears 20—20 the ears being cut away at 21—21 sufficiently to receive pen or pencil 22 and the backing plate tongues 25—25 therein.

This yoke also is cut away at 23—23 to receive the tongues of a gib which receives the thrust of the point of the binding screw 28, which is threaded through said yoke. To attach a pen or pencil to the beam it is only necessary to place this yoke 19 on the beam, pass the pen or pencil through the recess in the ears and in the rear of the backing plate and then set up on the set screw 28 whereby both pencil and the yoke are firmly secured to the beam.

The important features of my improved beam compass are, first, that the pivot point may be so readily and accurately adjusted in two directions, namely, vertically or through the ears of the yoke so that ruling pens with long or short blades may be used and the beam can then be in a plane parallel to the surface to be marked, horizontally by using an offset pivot point and that said point is held by spring tension until adjustments are made, and then set up rigidly by the action of one binding screw. The marker head being of similar construction allows of the marker being held by spring tension in its head until adjusted, when it is then secured rigidly by the single binding screw.

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

1. A beam compass comprising a beam, a marker mounted thereon, a yoke straddling said beam and having slots near its ends, a

pivot pin mounted in said slots, and a spring bearing plate interposed between said beam and said pivot pin and having tongues slidable in said slots.

2. A beam compass comprising a beam, a marker mounted thereon, a yoke straddling said beam and having elongated slots near its ends, a pivot pin mounted in said slots and a spring bearing plate having a spring tongue integral therewith interposed between said beam and said pivot pin and having tongues slidable in said slots, said spring tongue exerting a pressure upon said pivot pin.

3. A beam compass comprising a beam, a marker mounted thereon, a yoke straddling said beam and slidable thereon, the ends of said yoke being provided with two pairs of slots, a backing plate interposed between the beam and the body of said yoke and having tongues slidable in one of said pairs of slots, a clamping screw threaded through the body of said yoke and engaging said plate; a pivot pin mounted in the other pair of slots, a spring bearing plate interposed between said beam and said pivot pin and having tongues slidable in last named pair of slots.

4. A beam compass comprising a beam, a marker mounted thereon, a yoke straddling said beam and slidable thereon, the ends of said yoke being provided with two pairs of slots, a backing plate interposed between the beam and the body of said yoke and having tongues slidable in one of said pairs of slots, a clamping screw threaded through the body of said yoke and engaging said plate, a pivot pin slidably mounted in the other pair of slots, a spring bearing plate having a tongue integral therewith interposed between said beam and said pivot pin and having tongues slidable in last named pair of slots, said spring tongue exerting a pressure upon said pivot pin, thus holding it in position.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

HOBERT J. HURD.

Witnesses:

R. W. SMITH,
C. WILSON.