

(No Model.)

W. H. HATTEL.
BEAM COMPASSES.

No. 455,461.

Patented July 7, 1891.

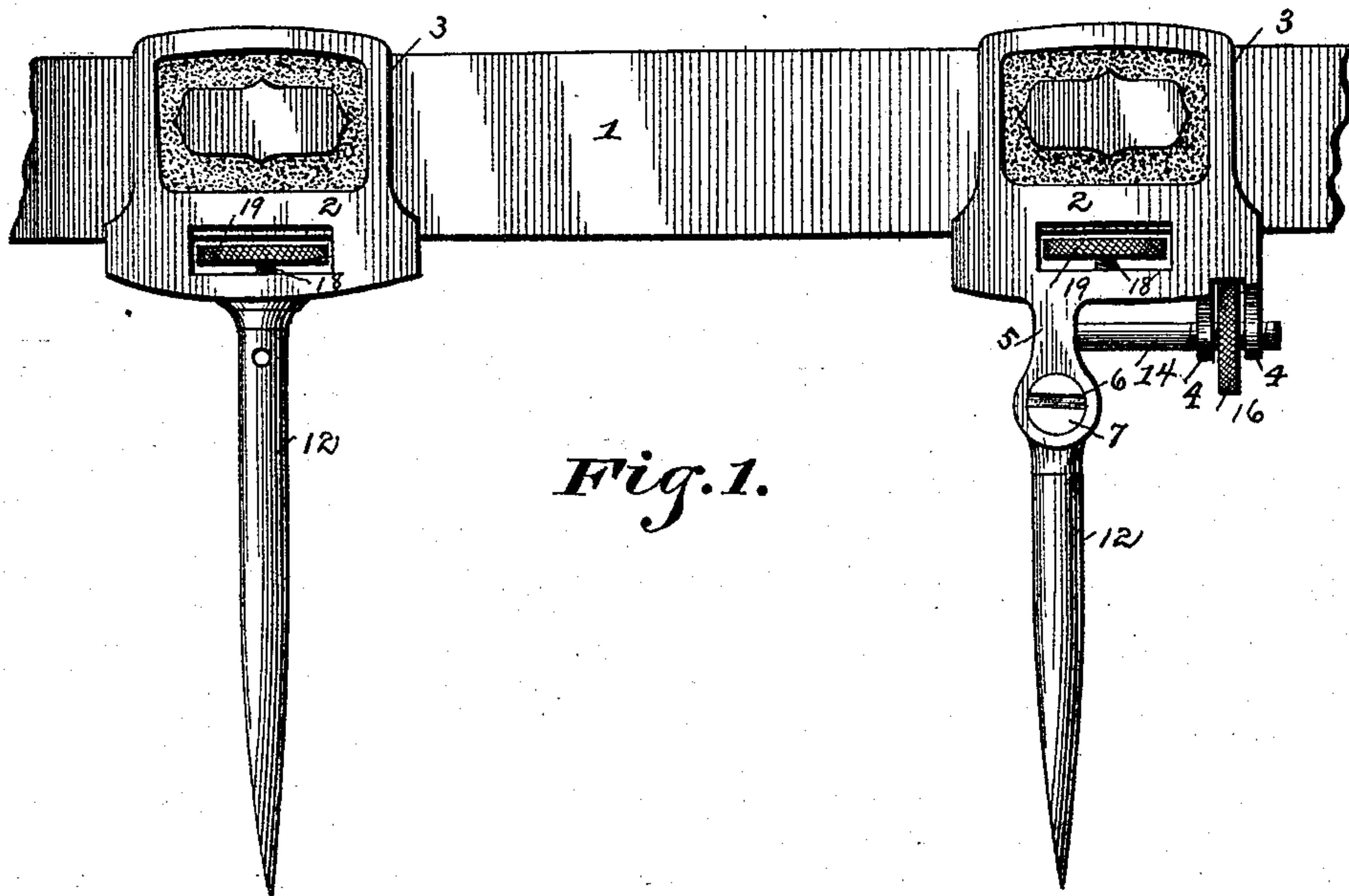
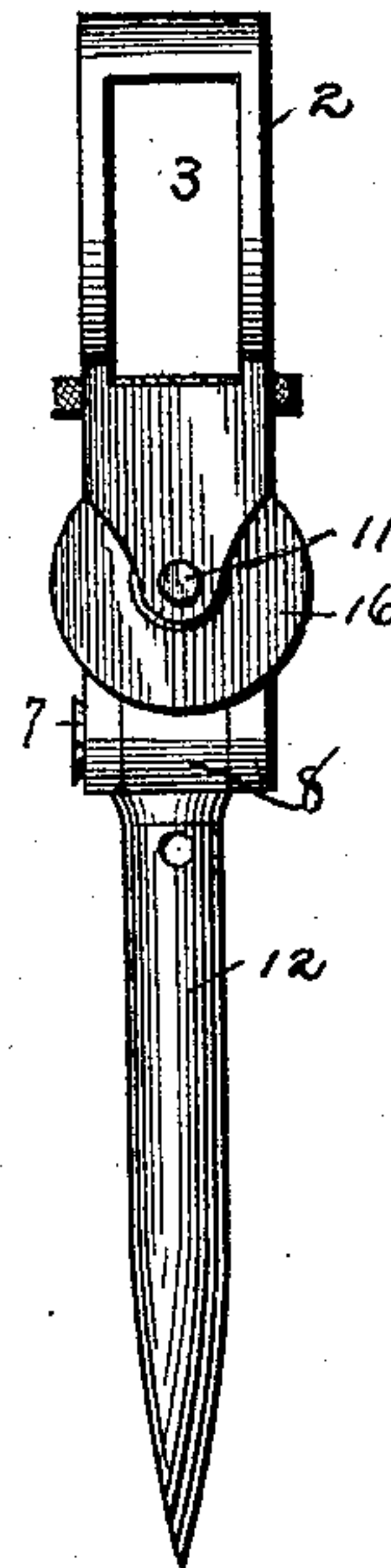
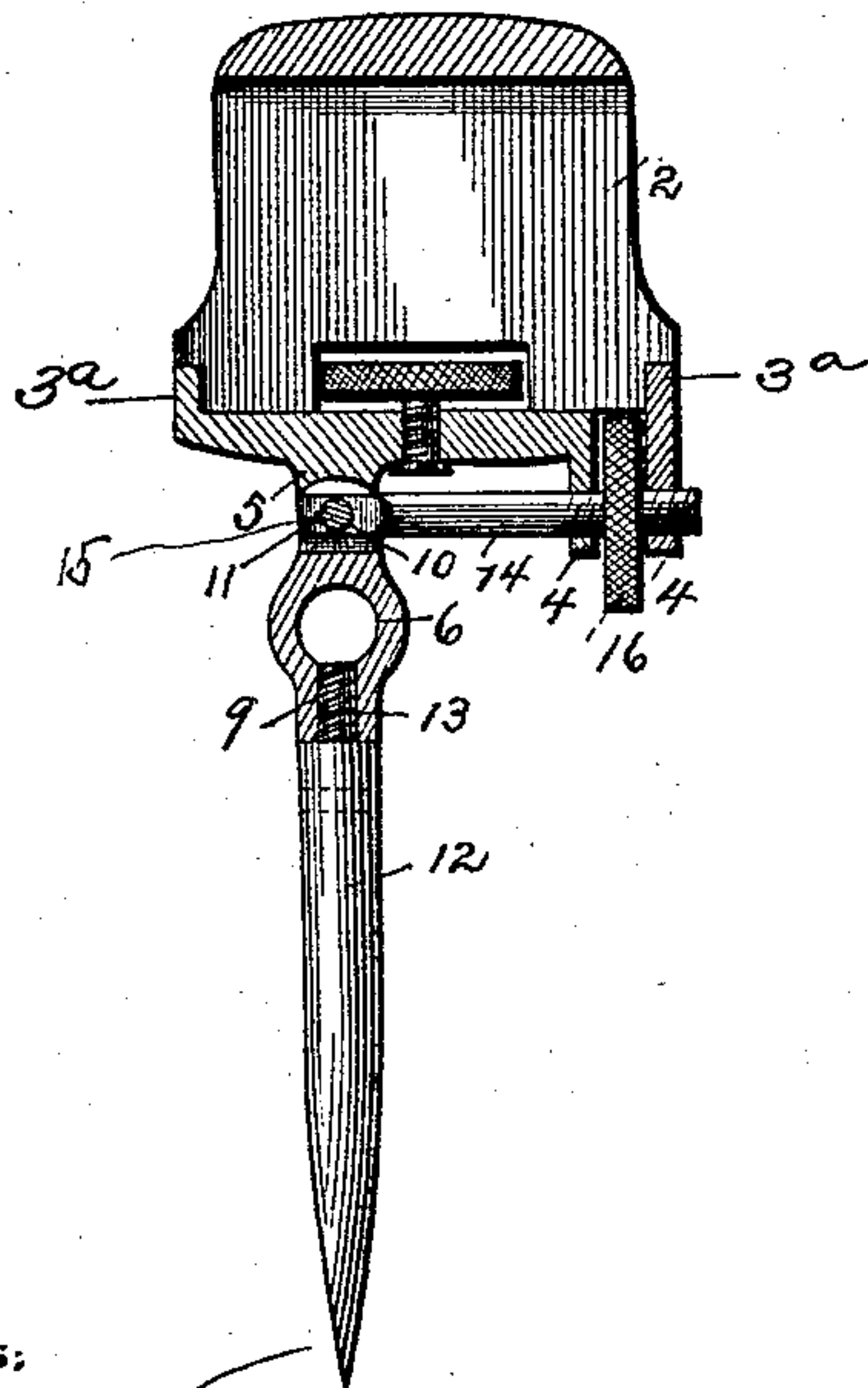


Fig. 1.



Witnesses:

Witnesses:
G. S. Ober.
W. S. Duwall.

By *Trust* Attorneys,

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UNITED STATES PATENT OFFICE.

WILLIAM H. HATTEL, OF DAYTON, OHIO.

BEAM-COMPASSES.

SPECIFICATION forming part of Letters Patent No. 455,461, dated July 7, 1891.

Application filed January 20, 1891. Serial No. 378,394. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. HATTEL, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented new and useful Compasses, of which the following is a specification.

This invention relates to improvements in beam-compasses; and the objects in view are to provide a cheap and simple arrangement for adapting the compasses for finer adjustment.

With the above objects in view the invention consists in certain features of construction hereinafter specified, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a side elevation of beam-compasses constructed in accordance with my invention. Fig. 2 is a vertical longitudinal section of the movable leg and connection. Fig. 3 is an end elevation thereof.

Like numerals indicate like parts in all the figures of the drawings.

1 designates the beam of the compasses, rectangular, as is usual, and upon the beam are mounted the two movable boxes of the leg.

As my invention relates wholly to improvements upon that leg of the compasses usually adjusted, all reference hereinafter made to the leg and box relates thereto. The box 2 is provided with the usual longitudinal opening 3 for the reception of the beam 1, and at its rear end is provided with a pair of depending transversely-disposed and centrally-perforated bearing-ears 4. Near the opposite end of the box there is formed a pair of depending bearing-lugs 5, disposed at a right angle to the ears 4 and provided with registering openings 6, through which is passed a bolt or screw 7. Upon the bolt or screw there is pivotally mounted a knuckle 8, the same being provided at its lower end with a threaded socket 9 and at its upper end with a bifurcation or slot 10, the opposite walls of which are perforated for the reception of a transversely-disposed rivet 11.

12 designates the point or leg, terminating at its upper end in the threaded reduced tenon 13, removably inserted in the threaded socket 9 of the knuckle.

A rod 14 is mounted for movement in the

bearing-perforations in the ears 4 and has its outer end terminating in a perforated eye 15, which takes between the bifurcations 10 of the knuckle and is pivoted therein between by means of the rivet 11. The free end of the rod is threaded and passed through the perforations of the ears 4, and also through a milled thumb-nut 16, located between the ears 4 and having a central threaded opening for the reception of the rod. The bottom of the box is provided at opposite ends of its bore with upwardly-disposed lugs 3^a, between which to the bottom is secured the threaded stud 18, upon which is threaded the milled clamping-nut 19, the periphery of which extends through opposite openings formed in the side walls of the box.

In operation, in order to set the leg 12, the nut 19 is operated so as to approximately set the leg, after which it is tightened by means of the nut 19 clamping against the under side of the beam 1. It now simply remains to operate the nut 16, and thus through the medium of the rod 14 swing the leg in either direction and in accordance with the direction of rotation of the nut, and in this manner exceedingly fine adjustments may be obtained with facility.

Having described my invention, what I claim is—

1. In beam-compasses, the combination, with the beam, of a box adjustably mounted thereupon and provided at one end with a pair of transversely-disposed bearing-ears and at its opposite end with a pair of longitudinally-disposed depending and perforated bearing-lugs, a knuckle mounted between the lugs, having its upper end bifurcated and its lower end provided with a threaded socket, a pivot-bolt passed through the knuckle and the lugs, a rod having an outer threaded end mounted in the perforations of the bearing-ears and having its inner end terminating in a perforated eye pivoted between the bifurcations of the knuckle, and a thumb-nut mounted on the rod between the ears, substantially as specified.

2. In beam-compasses, the box 2, adapted to be mounted on the beam and provided with a leg 12, pivoted between its ends, the rod 14, pivotally connected with the upper end of the leg, the thumb-nut mounted there-

on, and bearings for the screw at each side of the nut, as set forth.

3. In beam-compasses, the box having a leg
5 ends and at its bottom in shoulders 3^a, combined with the beam, the rigid threaded stud rising from the bottom of the bore between the shoulders, and the milled nut mounted on the stud and adapted to bear upon the un-

der side of the beam, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

WILLIAM H. HATTEL.

Witnesses:

GEORGE TRIMBACH,
JACOB STEPHANS.