No. 617,014. Patented Jan. 3, 1899.

F. A. HANNAH.

BEAM COMPASS.

(Application filed Apr. 11, 1898.)

(No Model.)

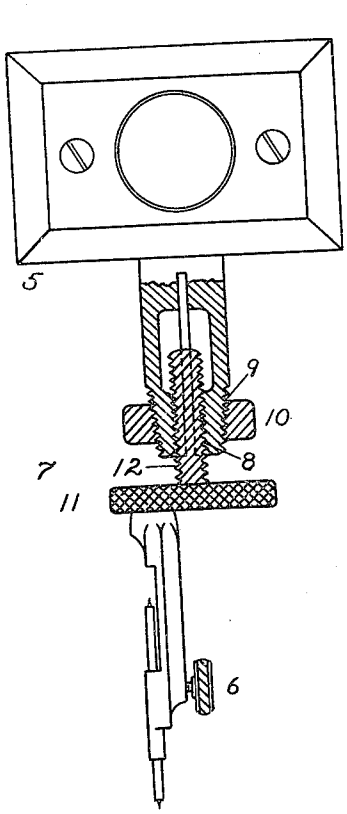


Fig. 2.

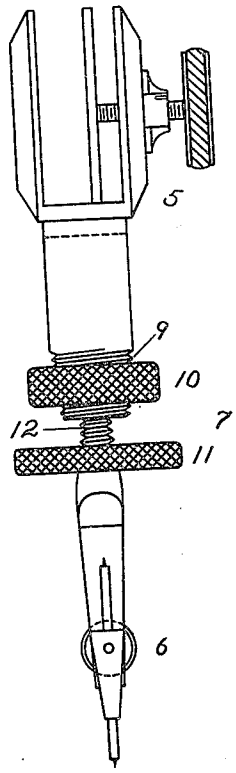


Fig. 3.

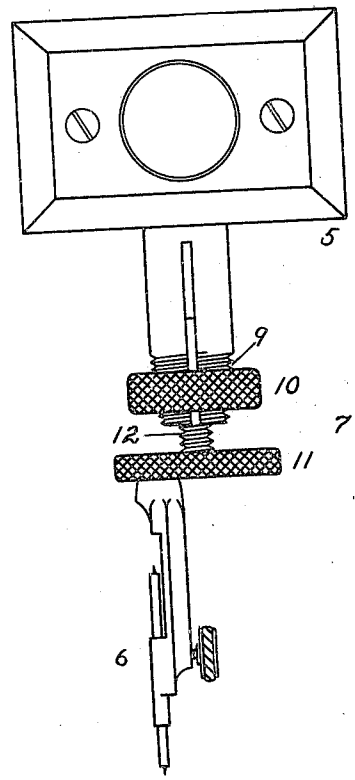


Fig. 1.

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FREDERICK A. HANNAH, OF BOSTON, MASSACHUSETTS.

BEAM-COMPASS.

SPECIFICATION forming part of Letters Patent No. 617,014, dated January 3, 1899.

Application filed April 11, 1898. Serial No. 677,233. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK A. HANNAH, a citizen of the United States of America, residing at Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Beam-Compasses, of which the following is a specification.

My invention relates to improvements in beam-compasses which are designed to be used, ordinarily, as a mathematical instrument for the drawing or describing of large circles and in which the eccentric leg centrally pivoted serves for micrometer adjustment.

The objects of my improvement are to provide a beam-compass in which simplicity, compactness, and cheapness of construction are combined with freedom from springs and delicate fits, which are expensive and do not wear satisfactorily, and in which the springing of parts is reduced to a minimum, the eccentric leg is always vertical, and accuracy, speed, and convenience in setting are obtained, as slow or rapid longitudinal motion or distance may be obtained, as desired, by using the eccentric leg respectively near the ends or center of its limit of motion.

Figure 1 is a side view of a beam-compass embodying my invention. Fig. 2 is a side view, same as Fig. 1, except that a portion of the compass is cut away, showing a part of the compass in section; and Fig. 3 is an end view of the compass.

The compass-head 5 and the needle-point 6 are of a common style such as are in ordinary use. The compass-head is provided with the leg 7. The split upper portion of the leg, which is an integral part of the head, is provided with the threaded portion 8, having a straight screw-thread adapted to receive the lower portion or pivot of the leg, and the threaded portion 9, having a tapering screw-thread adapted to receive the clamping-nut 10. The lower portion of the leg is provided with the knurled wheel 11, having the centrally-located screw-threaded pivot 12, which is adapted to fit into the upper portion of the leg and the eccentric needle-point leg.

In operation micrometer adjustment is secured without interfering with the free sliding of the compass-head along the beam, bar, or straight edge by turning the knurled wheel by reason of the eccentric movement of the needle-point. The upper portion of the leg being split, as shown in the drawings, by setting up the clamping-nut on the tapering tread the needle-point may be firmly held (if desired) in any set position. By the proper manipulation of the clamping-nut the knurled wheel and its attached parts may be held more or less firmly or stiffly, as the operator may desire.

In ordinary manipulation one compass-head is clamped to the bar in the usual manner, and it is provided with the common fixed socket designed to take or recive a pen, pencil, or needle-point. The other compass-head, made as shown in the drawings, is likewise clamped to the bar, and it is provided with the eccentric leg centrally pivoted, which serves for micrometer adjustment.

In order to adjust the compasses to a desired length or distance, the compass-heads are first clamped to the bar in their approximate desired positions. Then to use the micrometer adjustment the eccentric needle-point leg is placed on the paper or scale and rotated by means of the knurled wheel, the point, pen, or pencil of the other leg being held clear of the paper and allowed to move with the bar longitudinally. When the desired setting has been obtained, the eccentric leg is held in position by means of the clamping-nut. In ordinary use the clamping-nut need not be made up every time a new setting is made, as the necessary stiffness due to the frictional resistance of the threaded pivot in the threaded portion of the leg can be readily insured without loosening or tightening the clamping-nut in an alternate manner.

The essential feature of the device is the eccentric leg centrally pivoted, the pivot of which is preferably screw-threaded; but it is obvious that the pivoting of the leg may be accomplished in many well-known different ways.

What I claim as new, and desire to secure by Letters Patent, is—

1. A beam-compass having a compass-head provided with an eccentric leg centrally pivoted in the compass-head in combination with means whereby the revoluble pivot of said

eccentric leg is held by frictional contact in a fixed position, said leg being adapted to swing about the axis of said pivot.

2. A beam-compass having a compass-head provided with an eccentric leg having a pivot, and a clamp designed to hold by frictional contact in a fixed position the revoluble pivot of the eccentric leg, said leg being adapted to be revolved about the axis of said pivot.

3. A beam-compass comprising a compass-head and an eccentric leg centrally pivoted adapted to be revolved about the axis of the pivot and provided with a screw-threaded pivot and clamping-nut.

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

FREDERICK A. HANNAH.

Witnesses:
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