

(Model.)

L. K. DERBY.
Beam Compasses.

No. 242,895.

Patented June 14, 1881.

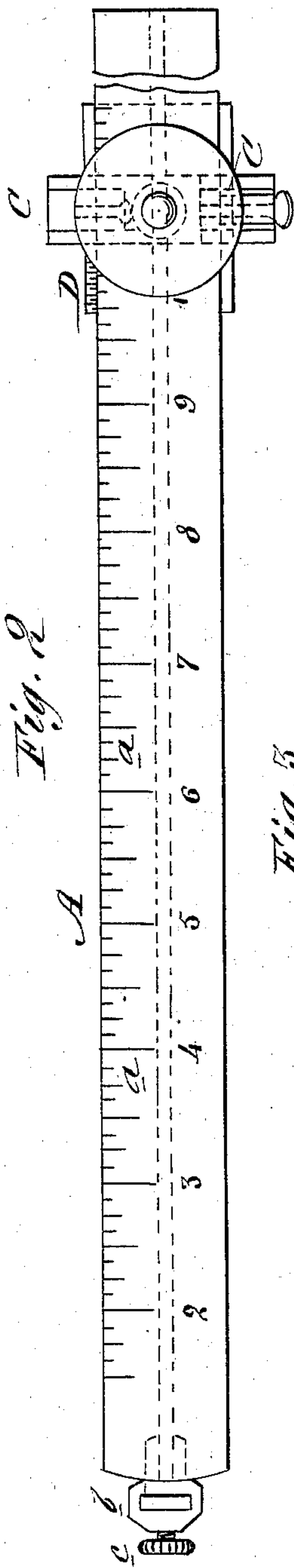


Fig. 2

Fig. 3

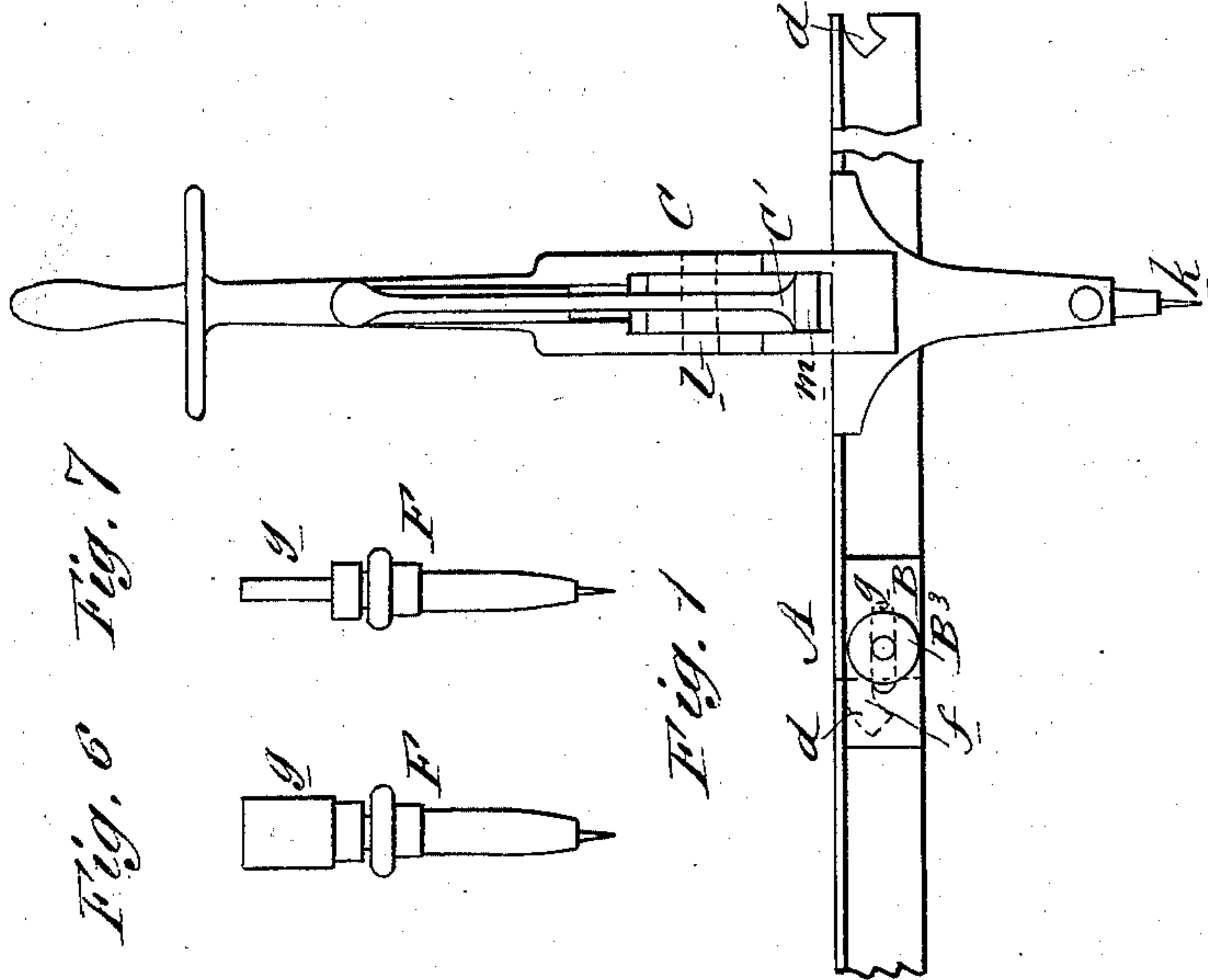


Fig. 1

Fig. 4

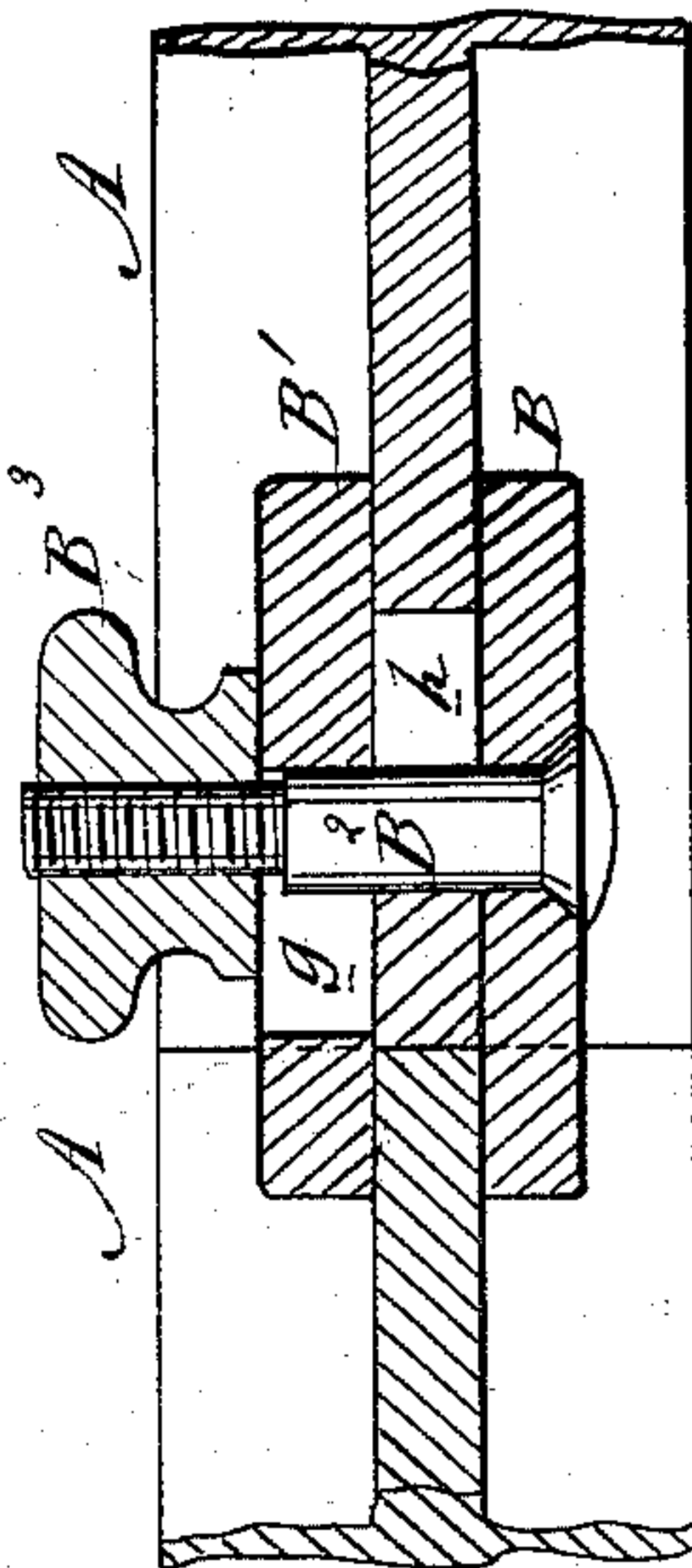
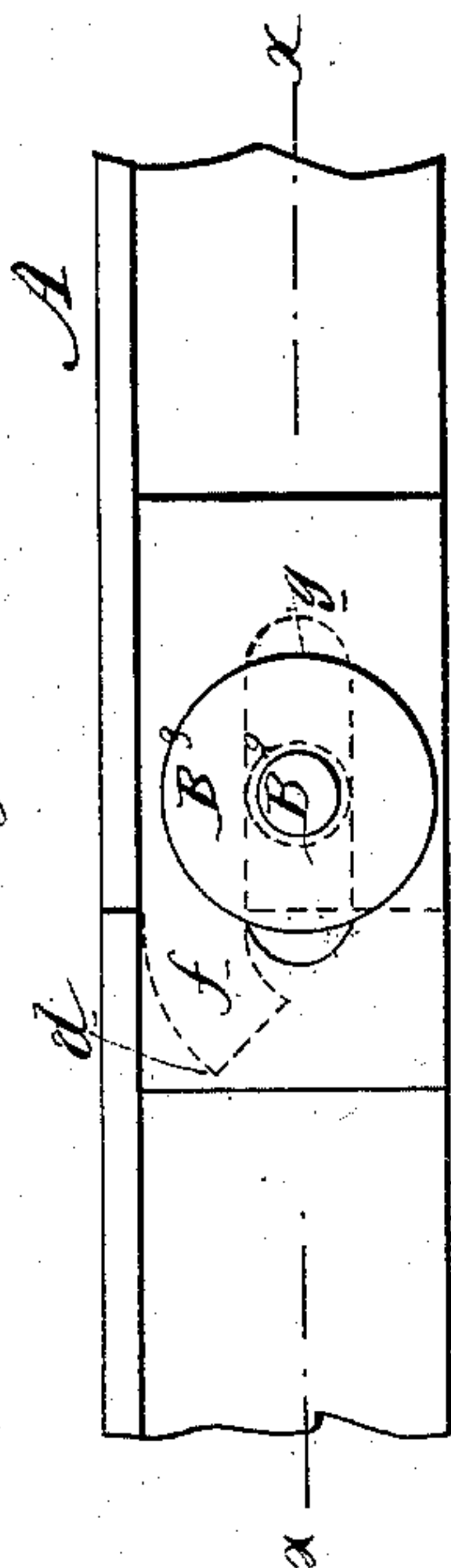
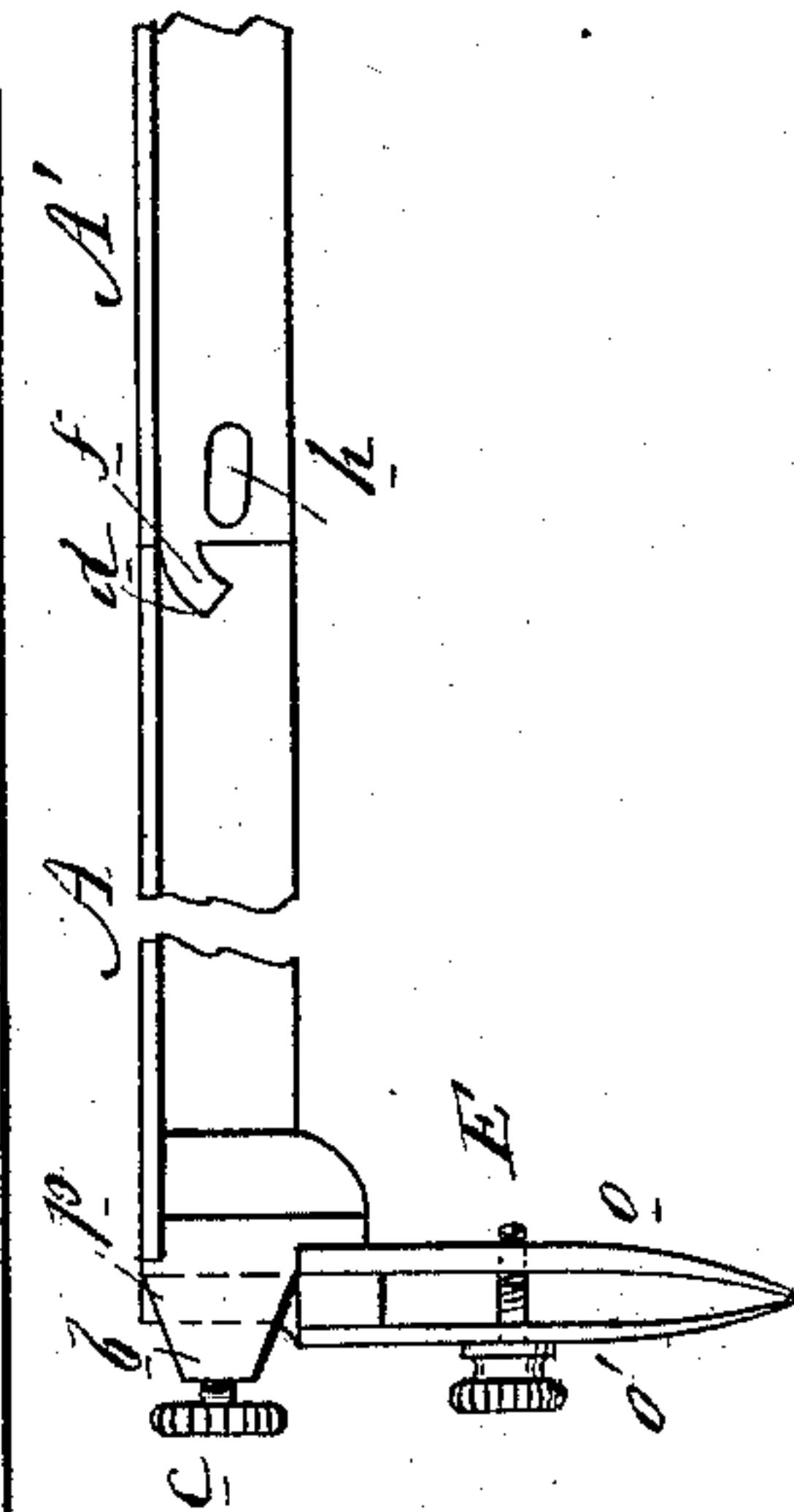


Fig. 5



WITNESSES:

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UNITED STATES PATENT OFFICE.

LOUIS K. DERBY, OF PHILADELPHIA, PENNSYLVANIA.

BEAM-COMPASSES.

SPECIFICATION forming part of Letters Patent No. 242,895, dated June 14, 1881.

Application filed November 13, 1880. (Model.)

To all whom it may concern:

Be it known that I, LOUIS K. DERBY, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Beam-Compasses, of which the following is a specification.

The object of this invention is to provide a stronger, more accurate, and readily-adjustable extension-compasses for drawing purposes.

The invention consists of a T-shaped beam made in sections that are jointed and clamped together in a novel manner, and whose upper face is graduated in fractions of an inch, and whose vernier, which is attached to the sliding leg, is also graduated; and it further consists of a pivoted eccentric-lever for adjusting and holding the sliding leg, all of which will be hereinafter set forth.

Figure 1 is a side elevation of the compasses. Fig. 2 is a plan of the same. Fig. 3 is a vertical elevation of the sliding leg in position. Fig. 4 is an enlarged side elevation of a joint and clamp of the compasses. Fig. 5 is an enlarged sectional plan view of a joint and clamp of the compasses on line *x x*, Fig. 4. Figs. 6 and 7 are front and side elevations of a pencil-socket to be secured on the end of the beam.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the beam, of T-shaped cross-section, having its upper face graduated, as shown at *a*, preferably to sixteenths of an inch, and provided on one end with a socket and set-screw, *b c*, for holding pen or pencil, and having in the web of its other end a curved mortise, *d*, to receive the hooked tenon *f* of a section, A', that may be used to lengthen said beam A. As many sections A' as may be desired may be used, all of them being counterparts of the beam A, and having in one end a mortise, *d*, and at the other a tenon, *f*. The sections A A' are held together not only by the engagement of a tenon, *f*, in a mortise, *d*, but also by flat clamping plates or couplings B B' and screw and nut B² B³. One clamping-plate, B, is placed on one side of the joint formed by the union of the two sections A A', and the other plate, B', provided with a slot, *g*, is placed on the opposite side, against the web of the device, and the screw B² is then passed through the plate B and a slot, *h*, formed

in the tenon end of a beam-section, and through the slot *g* formed in the plate B, and the nut B³ then screwed on it, as shown in Figs. 4 and 5, whereby the beam-sections are held firmly together. By forming the slots *g h* in the plate B' and beam-section A' the clamping-plates B B' may, on the loosening of the nut B, be moved back far enough to clear the joint and permit the disengagement of the beam-sections.

The sliding leg C is provided with the usual pin-point, *k*, and, straddling the beam A, is held in place by means of a U-shaped eccentric-lever, C', that is pivoted between its sides, as shown at *l*, with its legs extending upward and its eccentric convex crown bearing upon the upper face of the beam A. This lever C' is broadened at its point of contact with the beam A, as shown at *m*, for the purpose of giving it more bearing-surface, that it may hold the leg C more securely in place; and said lever C' is also provided with a spring, *n*, fastened to the extremity of one leg, as shown in Fig. 3, and having its other end pressing against the body of the sliding leg C, whereby said lever C' is held pressed on the beam A for keeping the leg C in place. On pressing back this spring *n* the pressure of the eccentric-lever C' upon the beam A is relaxed, and said beam A is then free to move. By removing the pressure on said spring *n* the lever C' will operate to hold the leg C in place, and said leg C can be clamped or held more tightly still by pressure in direction of the arrow, Fig. 3, upon the springless leg of the said lever C'.

The vernier D is part of or attached to the sliding leg C, as shown in Figs. 1 and 2.

The pen E has one rib or side, *o*, made stiffer than the opposite rib or side, *o'*, so that the pen-point will always accurately respond to the adjustment of the beam A and the spring of the pen be all on one side. The pen E and the pencil-socket F have flattened shanks *p q*, respectively, that are designed to be held in the socket *b* by the set-screw *c* at the free end of the beam A.

These compasses possess advantages over others of like character in being strengthened and stiffened by being made T-shaped, in being graduated and at the same time having a graduated vernier, and in having an improved device for adjusting the sliding leg, whereby

the adjustment can be made more quickly than by the turning of a nut or screw, as is commonly done in devices of this character.

Having thus described my invention, I claim
5 as new and desire to secure by Letters Patent—

1. In beam-compasses, a leg, C, carrying the point *k*, straddling the T-beam A, and having the U-shaped eccentric-lever C' pivoted in a socket thereof over the beam, as shown and
10 described.

2. In beam-compasses, the combination, with the T-shaped beam A, of the T-shaped section A' and couplings B B' B² B³, substantially as herein shown and described, whereby the said compasses are extended, as set forth.

LOUIS KOSSUTH DERBY.

Witnesses:

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