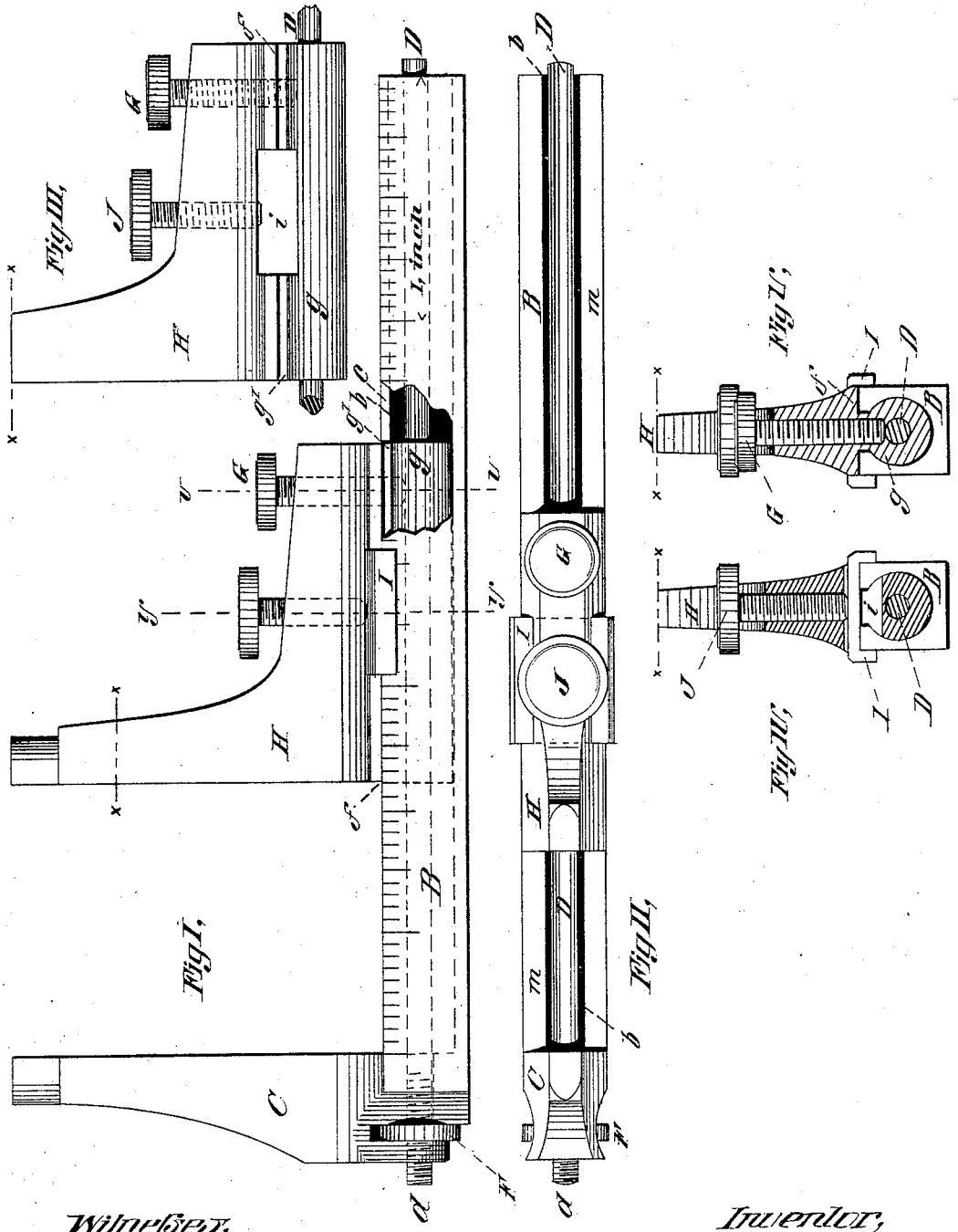
(Model.)

J. A. REECE.

BEAM CALIPERS.

No. 264,339. Patented Sept. 12, 1882.



Witnesses:
R. F. Hyde
Wm. H. Chapin

Inventor:
Joseph A. Reece
By Henry A. Chapin
Atty

UNITED STATES PATENT OFFICE.

JOSEPH A. REECE, OF SPRINGFIELD, MASSACHUSETTS.

BEAM-CALIPERS.

SPECIFICATION forming part of Letters Patent No. 264,339, dated September 12, 1882.

Application filed May 2, 1882. (Model.)

To all whom it may concern:

Be it known that I, JOSEPH A. REECE, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Beam-Calipers, of which the following is a specification.

This invention consists of improvements in beam-calipers, and relates, as hereinafter fully set forth, to the construction of the movable jaw thereof and mechanism for operating the same.

In the drawings, Figure I is a side elevation, in partial section, of my improved caliper. Fig. II is a top view. Fig. III is a partial detail view. Fig. IV is a partial sectional elevation on the line *y y* of Fig. I, and Fig. V is a partial sectional elevation on the line *v v* of Fig. I.

B is the beam, having on one end the fixed jaw C. The beam from the fixed jaw C throughout its length is formed as shown in the end views, Figs. IV and V, with a bore, *b*, connecting with its surface through the opening *c*, of smaller diameter. The beam B is of the usual form of construction in having its outside bearing-surfaces, upon which one jaw moves, parallel to its bore, and in having the fixed jaw C at right angles thereto. Through the fixed jaw C the bore *b* is prolonged to the outside, though of reduced size, to receive one end of rod D. The rod D, passing loosely through the base of the fixed jaw, is from thence prolonged axially through the bore *b* of the beam, as shown in Figs. I and II. One end of rod D is threaded, as at *d*, and in passing through the fixed jaw is received through the nut F, recessed in said jaw.

The movable jaw H, formed as shown in Figs. I and III, has a base or shank, *g*, connected by a neck, *g'*, to a flange or bearing-surface, *f*. The base *g* and neck *g'* conform loosely in cross-section to the bore *b* and opening *c* therefrom, and the surface *f* conforms to the top surface, *m*, of the beam B. Both surfaces *g* and *f* of jaw H have an extended longitudinal bearing upon the beam, to maintain the measuring-surface of the jaw always at right angles to the beam. The base *g* is bored lengthwise to receive loosely through it the rod D.

The jaw H is provided with a screw, G, arranged to extend vertically from its top to have one end intersect the bore through which passes rod D, as shown in detail, Fig. V. When the jaw H is connected with the beam, as shown in Figs. I and II, and the end of the screw G removed from contact with rod D, the jaw H may be quickly moved to any point for a rough adjustment. When the screw G is moved to clamp jaw H and rod D together the revolution of nut F slowly slides jaw H upon the beam to obtain the finest adjustment, the exactness of measurement which the instrument is capable of making and indicating being only limited by the fineness of the scale with which it may be provided.

Combined with jaw H and beam B is a plate, I, which conforms to and rests upon surface *m* of the beam, and extends transversely through jaw H in the opening *i*. The vertical walls of the opening *i* correspond with the sides of the plate I, and the opening *i* is deep enough in vertical section to permit the jaw H a vertical movement relative to plate I. From the top of jaw H a set-screw, J, communicates, through opening *i*, with the top of plate I. The plate I is provided with side flanges, as shown, to retain it to the face of the beam B. When the required adjustment has been obtained to the jaws, and it is desired to retain them in that position, the screw J is run upon the plate I to effectually clamp the jaw H and beam together.

The slight inferiority of size of base *g* of jaw H to the bore of the beam permits the jaw to slide freely in the beam and take the plate I with it when released by screw J; but when the screw J is moved against plate I the jaw H, guided vertically by the sides of plate I, has its base *g* brought to bear against the upper surface of the bore *b*.

In the drawings (made to a scale of twice the natural size) the caliper is represented with jaw H clamped to both the beam B and rod D. The slight play required by rod D to follow the vertical movement of jaw H in the beam is furnished at its nut end without interfering with the efficiency of the co-operating screw, nut, and nut-bearing.

Now, having described my invention, what I claim is—

1. In a beam-caliper, the combination and

arrangement of the rod D, having the threaded end *d* and nut F, recessed in the fixed jaw C, with the movable jaw H, having the clamp-screw G, substantially as shown and described.

2. In a beam-caliper, the combination, with a hollow beam, B, having a bearing-surface beneath its top face, of the movable jaw H, having the base *g* inclosed within the beam, the set-screw J, and the intermediate bearing-surface, I, all arranged to operate as and for the purpose shown and described.

3. In a beam-caliper, the combination and arrangement of the rod D, having threaded end *d* and recessed nut F, with the hollow beam B, and with the movable jaw H, having on it mechanism, substantially as shown and described, for successively clamping the rod D and beam B, as and for the purpose set forth.

JOSEPH A. REECE.

Witnesses:
H. A. CHAPIN,
R. F. HYDE.