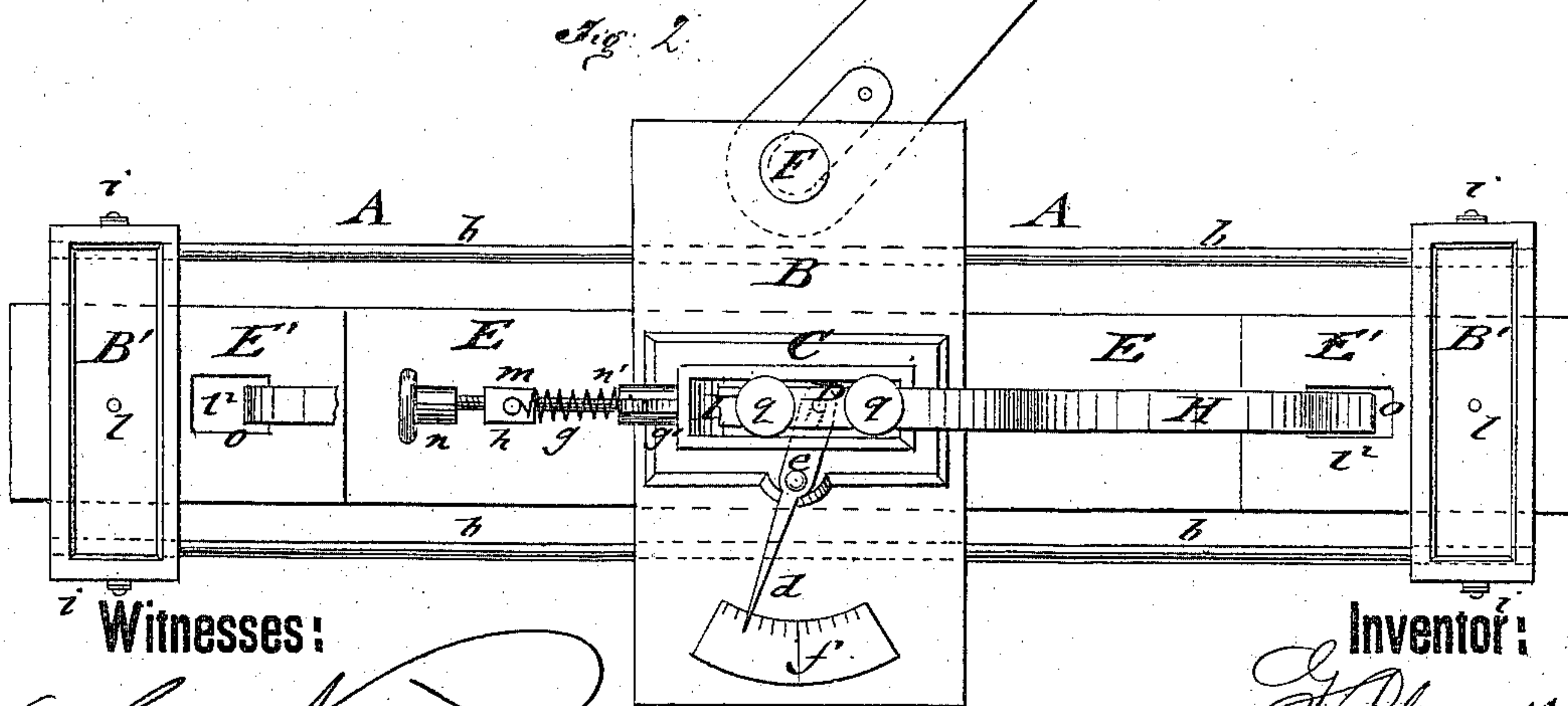
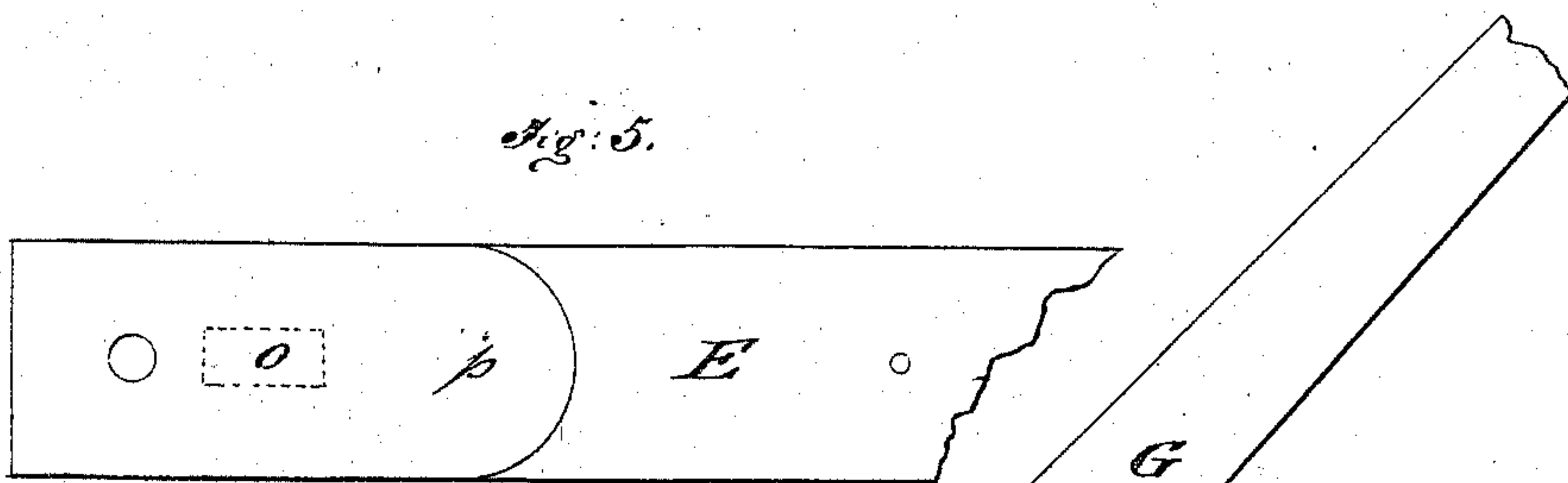
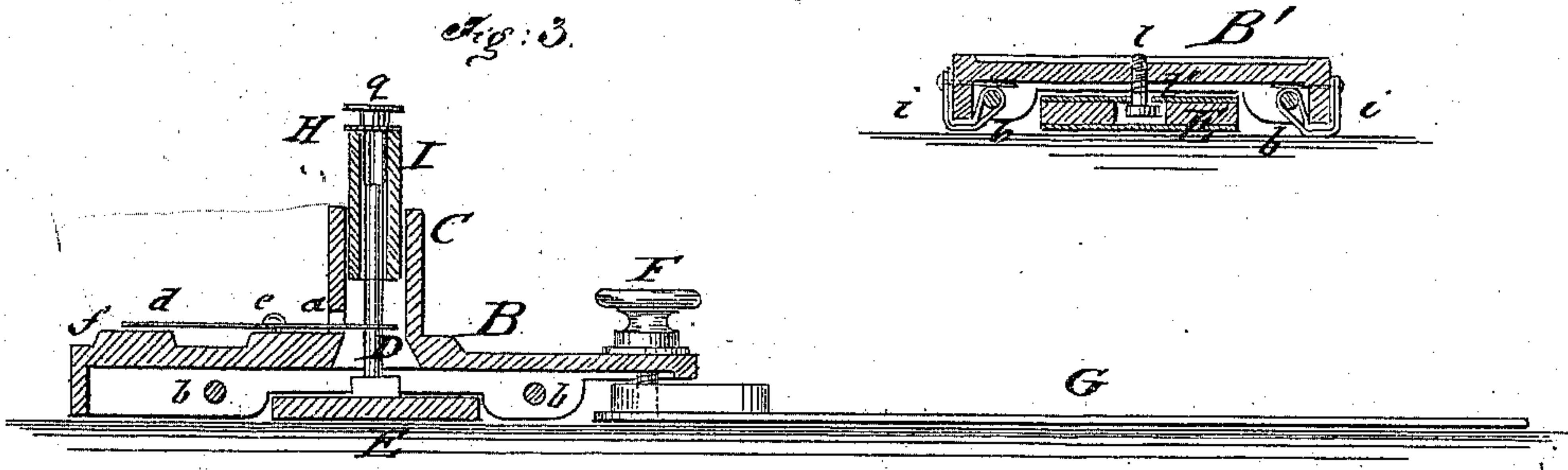
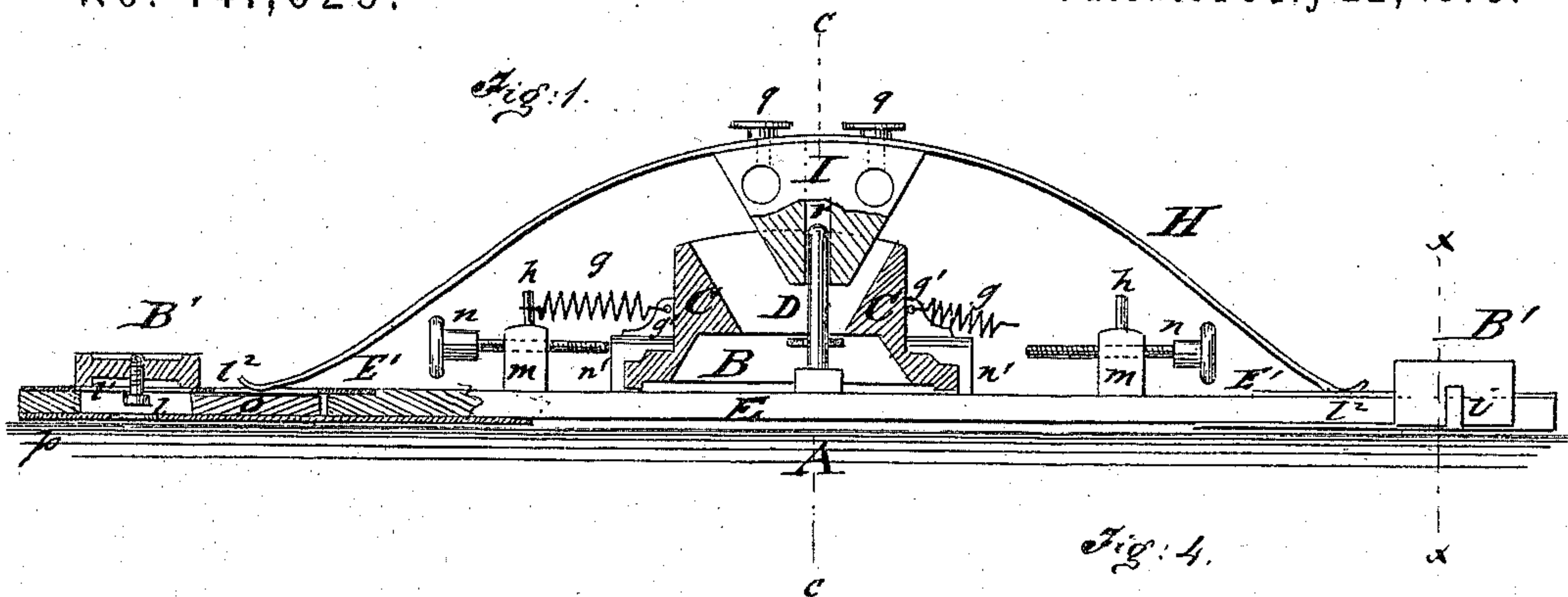


G. BLUNCK.  
Parallel Rulers.

No. 141,029.

Patented July 22, 1873.



Witnesses:

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# UNITED STATES PATENT OFFICE.

GUSTAV BLUNCK, OF NEW YORK, N. Y.

## IMPROVEMENT IN PARALLEL RULERS.

Specification forming part of Letters Patent No. **141,029**, dated July 22, 1873; application filed May 10, 1873.

*To all whom it may concern:*

Be it known that I, GUSTAV BLUNCK, of the city of New York, in the county and State of New York, have invented a new and Improved Parallel Ruler, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a longitudinal vertical section of my improved parallel ruler. Fig. 2 is a top view of the same with parts cut off; Fig. 3, a vertical transverse section through the central part on the line *c c*, Fig. 1; Fig. 4, a vertical transverse section through one end of the guide-frame on the line *x x*, Fig. 1; and Fig. 5, a bottom view of the end of the sliding piece.

Similar letters of reference indicate corresponding parts.

The object of my invention is to construct for draftsmen, lithographers, and others, an improved parallel ruler which is accurate in its operation, rapid in motion, and capable of various applications in drafting. My invention consists in a main slide-piece, with suitable set-screws, moving in a guide-frame carrying the adjustable ruler, and acted upon by a band-spring applied to a wedge-like thumb-piece, which produces alternately, by the pressing and releasing of the controlling finger, the required parallel motion of the ruler.

In the drawing, A represents the guide-frame, of suitable material and finish, consisting of the central part B and the end pieces B', of rectangular shape, and longitudinally connected by rods *b*. The central part B is larger than the side pieces B', and is cast in one piece with the vertically-projecting inclined bearing C, which is placed centrally to part B in the longitudinal axis of frame A. The shorter sides of bearing C are tapered downward, and part B recessed at the lower end thereof. A slot, *a*, is provided at one of the longest sides of bearing C to admit lever-hand *d*, which has its fulcrum at *e*, and moves with its pointed end on scale *f*, marked on part B. The end of lever *d*, inside of bearing C, is slotted to be placed on and move with vertical pin D of sliding ruler E. A set-screw, F, placed at the opposite side of part B symmetrically to scale *f*, acts on the ruler G, of suitable length and material, which can thereby be adjusted radial-

ly around screw F. Spiral springs *g* are applied to lugs *g'* at the shorter sides of bearing C, in the direction of the longitudinal axis of frame A, having eye-shaped ends, which can be placed over vertical pins *h* of sliding piece E. The side pieces B' of frame A are provided at the lower edges with narrow leather or India-rubber bands *i*, which are slipped over rods *a* and attached suitably to pieces B'. They serve as the resting-points of the frame A on the drawing-paper, and glide easily over the same, giving, also, a sufficient amount of friction to hold the frame stationary when not operated upon. A screw, *l*, is applied to the center of each piece B', with the head downward, which is placed in the longitudinal slot *l'* of the metallic top end plate E' of sliding piece E, suspending and guiding it exactly in the longitudinal axis of frame A. The sliding piece E, in the shape of a common ruler, is somewhat longer than frame A, of wood, India rubber, or other suitable material. It carries centrally the vertical pin or bolt D, projecting upward, through bearing C and equidistant from it, on both sides of B, the hard wood or rubber standards or projections *m* having vertical pins *h*, and horizontal set-screws *n* passing longitudinally through projections *m*. The ends of these set-screws *n* act on projections *n'* of part B, and may be set so as to work the ruler in either direction, and produce the required distance of the parallel lines.

The most frequently used distances may be laid off on scale *f*, and the set-screws *n* adjusted to correspond. The end top plates E' of sliding piece E have, besides slots *l'*, wider slots *l''*, also equidistant from central pin D, for the purpose of admitting therein the ends of the band-springs H of cone I. The sliding piece E is recessed below plates E', and rectangular pieces *o* are placed loosely therein below slots *l''*, and held in position by pieces *p* of chamois leather; or other suitable material, glued or otherwise applied to the lower side of sliding piece E. The steel band-spring H is riveted to the conical center piece I, which acts by the pressure on the rivets *q*, serving as finger-rests, against the conical sides of bearing C.

A vertical central perforation, *r*, admits the



pin D of sliding piece E. By pressing the wedge I down, the ends of the band-spring H bear on the loose rectangles *o*, so that by the friction of the leather pieces *p* the sliding piece E is held firmly on the drawing-paper. The side-thrust of the wedge I against the inclined bearing C causes the forward gliding of frame A in slots *l*<sup>1</sup>, so that the parallel lines can be drawn along the ruler G. The pressure of the finger is then removed, and the immediate forward motion of sliding piece E is produced by the spiral spring *g* being on the same side as the finger-rest *q*. The other spring is disconnected and applied, when the instrument is used in opposite direction.

By fastening firmly the ends of ruler G to some fixed point, radially-inclined lines for cones, &c., can be produced, as the instrument is compelled to move in a circle around the fixed center. The parallel ruling is accomplished by the use of this instrument in a quick and superior manner, as it works accurately and satisfactorily.

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

1. The frame A, provided with bearing C, pin D, slide E, ruler G, spring H, with taper-

ing key I, and rest *o*, as and for the purpose described.

2. The main frame A, composed of center part B and side parts B', connected by rods, *b*, and arranged to slide upon each other, substantially as set forth.

3. The central part B, having inclined bearings C with lugs *g'*, projections *n'*, springs *g*, slot *a*, lever *d*, scale *f*, set-screw F, and ruler G, substantially as described.

4. The side pieces B', having rests *i* and guide-screws *l*, as set forth.

5. The sliding piece E, having central pin D, standards *m*, with pins *h* and set-screws *n*, and top plates E', for the purpose described.

6. The top plate E', having the slots *l*<sup>1</sup> for guiding slide-piece E in the direction of the longitudinal axis, and slots *l*<sup>2</sup> for spring H, as set forth.

7. The sliding piece E, being recessed, in combination with rectangular pieces *o* below slots *l*<sup>2</sup> and leather bottom strips *p*, as set forth.

GUSTAV BLUNCK.

Witnesses:

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