C. FARNHAM & J. D. LEACH.

BEAM-SQUARE.

No. 171,927. Patented Jan. 11, 1876.

FIG 2.

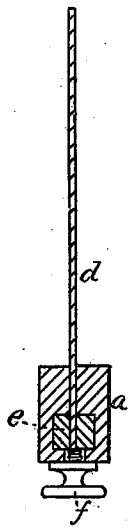


FIG 1

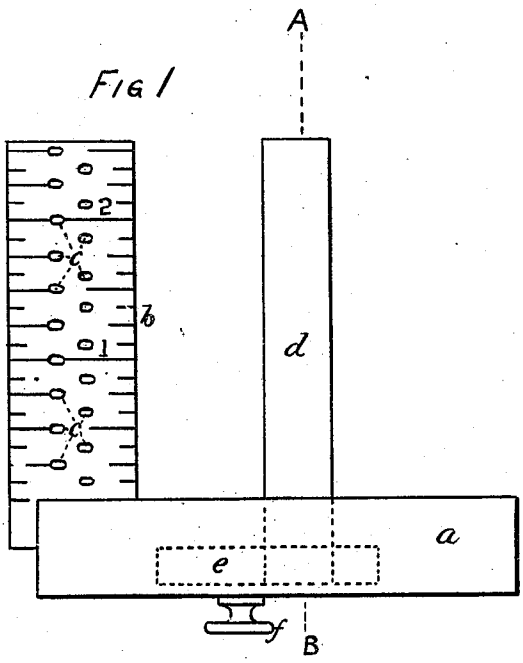


FIG 3

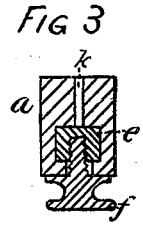


FIG 4

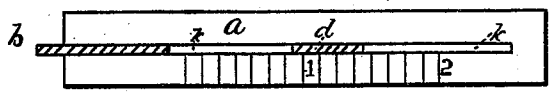
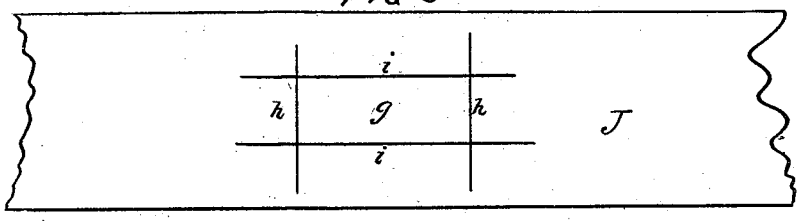


FIG 5



WITNESSES.
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UNITED STATES PATENT OFFICE.

CHARLES FARNHAM AND JOSEPH D. LEACH, OF PENOBSCOT, MAINE.

IMPROVEMENT IN BEAM-SQUARES.

Specification forming part of Letters Patent No. **171,927**, dated January 11, 1876; application filed October 15, 1875.

To all whom it may concern:

Be it known that we, CHARLES FARNHAM and JOSEPH D. LEACH, both of Penobscot, in the county of Hancock and State of Maine, have invented a new and useful or Improved Beam-Square, of which the following is a specification:

This invention relates to that class of squares known to artisans and mechanics as beam-squares, and it is more especially designed for use by those who "lay out" the work upon building-frames; and the invention consists in a square provided with two tongues, one or both of which are adjustable in the direction of the axis of the beam, so that the tongues may be adjusted at any desired distance apart, the beam, for convenience, being graduated and marked, in order that the tongues may be, without other measurement, so adjusted. One or both of the tongues being perforated with a series of holes at graduated distances from the beam, such distances being indicated by figures, the point of a pencil may be inserted, or other marker, in such holes, when, by drawing the square along the surface of any timber or other material, against the side or edge of which the square beam is guided, a line parallel with such edge will be drawn upon the surface against the pencil, and by repeating this process, with the pencil in holes at required distances apart, the side lines of a mortise are produced, and by projecting transverse lines along the edges of the tongues, as adjusted, both the head-lines of the mortise are produced.

Figure 1 of the accompanying drawings is a plan or side view of the square. Fig. 2 is a section transverse to the beam, and taken on line A B, Fig. 1, looking from the right of said figure. Fig. 3 is a similar section, taken through the locking-screw. Fig. 4 shows the guiding-edge of the beam in plan, and the tongues in section. Fig. 5 shows the lines of a mortise as projected by aid of this instrument.

In the drawings, *a* represents the beam. *b* is the fixed tongue; *c c*, the perforations therein, and *d* the adjustable tongue. *e* is the sliding block, and *f* the set-screw. *g* is the area of the mortise, surrounded by the lines *h h* and *i i* upon timber J. K is the tongue-slot in the beam of the square. Longitudinally through beam *a* is a passage, as shown in Figs. 2 and 3, in which the block *e* slides freely. The tongue *d* is rigidly secured in this block at right angles to its axial line. This tongue projects through slot *k*, and it is susceptible of movement against tongue *d*, or to the opposite end of the beam. Tongue *b* is rigidly secured in beam *a*. The locking-screw *f* is threaded in block *e*, and shouldered against the beam, and slides in a slot communicating with the passage in which block *e* moves; hence the tongue *d* may be adjusted at any desired distance from tongue *b*, and parallel therewith, for the purpose of indicating the relative positions of lines *h h*, and guiding the pencil for marking the same.

For the purpose of projecting the lines *i i*, the square is laid flat upon timber J, with the beam bearing against the face thereof, when the pencil is inserted in one of the holes *c*, at the proper distance from the edge of the timber; then, by moving the square lengthwise thereof, a mark will be produced parallel to the edge of the timber, and by repeating this process, with the proper change of position of the pencil, the other side line of the mortise is produced.

For the purpose of rapid adjustment of tongue *d* relatively to tongue *b*, for any given length of mortise, the beam is graduated with proper subdivisions, indicated by figures, commencing at tongue *b*, as shown in Fig. 4; and the perforations *c c* are arranged in two rows, in order that they may correspond with the desired subdivisions, also indicated by figures, and commencing at the beam, as shown in Fig. 1.

We do not claim, broadly, an implement having two tongues or heads adjustable relatively to each other, as we are aware that calipers and analogous tools have been so constructed; but our implement is distinguished therefrom by having not only the fixed and adjustable heads or tongues, but a beam of greater thickness than the tongues, and which

forms the guide by which the tongues are held at right angles with the timber which is being marked.

We claim as our invention—

In a beam-square, the combination of the channeled beam *a*, perforated tongue *b*, adjustable tongue *d*, sliding block *e*, and locking-screw *f*, substantially as described and shown.

CHARLES FARNHAM.
JOSEPH D. LEACH.

Witnesses:
SAMUEL FARNHAM,
CHARLES CLEMENT.