(No Model.)

F. F. SMITH.

COMBINED SQUARE, PLUMB, AND LEVEL.

No. 423,090. Patented Mar. 11, 1890.

Fig. 1.

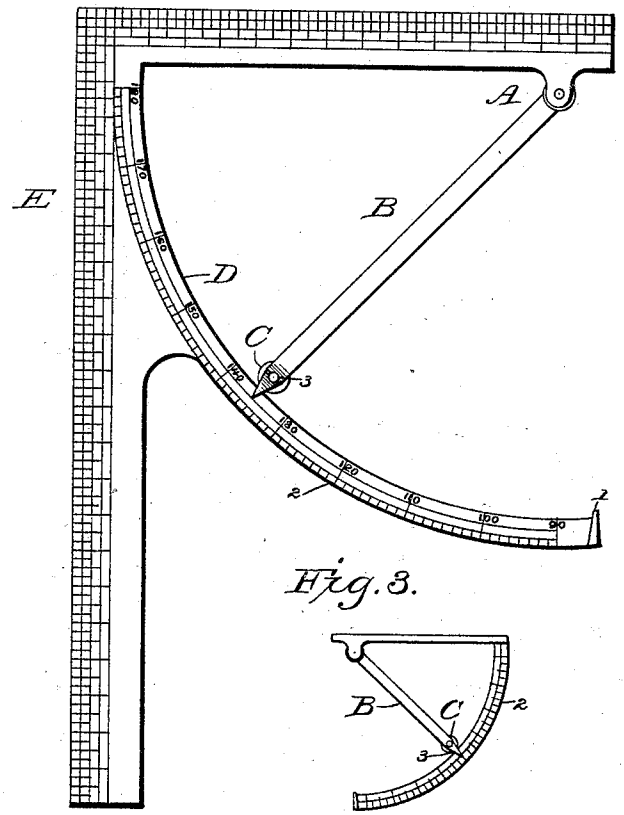
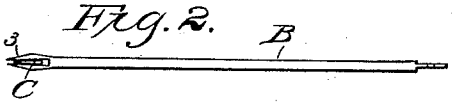


Fig. 3.

Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

FREDERICK F. SMITH, OF VANDALIA, ILLINOIS, ASSIGNOR OF ONE-HALF TO ROBERT W. ROSS AND CHARLES W. HIGINBOTOM, OF SAME PLACE.

COMBINED SQUARE, PLUMB, AND LEVEL.

SPECIFICATION forming part of Letters Patent No. 423,090, dated March 11, 1890.

Application filed August 5, 1889. Serial No. 319,850. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK F. SMITH, a citizen of the United States of America, residing at Vandalia, in the county of Fayette and State of Illinois, have invented certain new and useful Improvements in a Combined Square, Level, and Plumb Implement, of which the following is a specification.

My invention relates to improvements in a combined square, level, and plumb implement, and the object is to improve and simplify existing instruments of the kind.

I have fully illustrated my invention in the accompanying drawings, wherein—

Figure 1 is a view of the complete instrument. Fig. 2 is a view of the swinging arm detached from the square. Fig. 3 is a view of the swinging arm and the quadrant detached from the square.

E designates the square, having the usual graduations of measurements marked thereon, substantially as shown in the drawings. From the intersection of the arms of the square is projected a curved arm D, constituting the quarter of the circle, and terminating in a lug or projection 1, which serves to prevent the swinging arm from escaping from the quadrant. The quadrant or arm D is provided with graduations 2, intended to denote the division into degrees of the circle and serve to indicate angles by the medium of the swinging arm. On the inner outer edge of the short arm of the square is formed a bearing-lug A, to which is pivotally connected the swinging arm B, which is of such length as to sweep with its free end over the graduations of the quadrant, as indicated in Fig. 1 of the drawings. The free end of the swinging arm is pointed and bifurcated and formed into spring-jaws, as at 3, the points of which grip the faces of the curved arm, and between the jaws is pivoted a cam-wheel C, by means of which the jaws may be opened to slide easily along the curved arm, and then the wheel being turned to close the jaws the arm becomes set at the point, and so set it can be used as a miter.

By my improved instrument the work may be squared, the level determined, and the verticality accurately determined. The swinging arm may be moved down to lie parallel with the edge of the short arm of the square, and being secured in that position by the force of the spring-jaws the implement can be used as a common square, and when horizontals are to be laid, the swinging arm being fixed to swing, the correctness of the plane may be determined, as can angles be measured when desired in the work to which the implement is adapted.

Having thus described my invention, what I claim is—

The improved combined implement herein described, consisting of a square E, formed with a bearing-lug A on the end of the short arm, a curved arm D, projected inward from the angle at the intersection of the arms of the square, the swinging arm B, pivoted to the bearing-lug of the short arm of the square and formed at its lower end with spring-jaws to grip the faces of the curved arm, and means, substantially as described, for opening the spring-jaws, all as specified.

FREDERICK F. SMITH.

Witnesses:
ROBERT W. ROSS,
C. W. HIGINBOTOM.