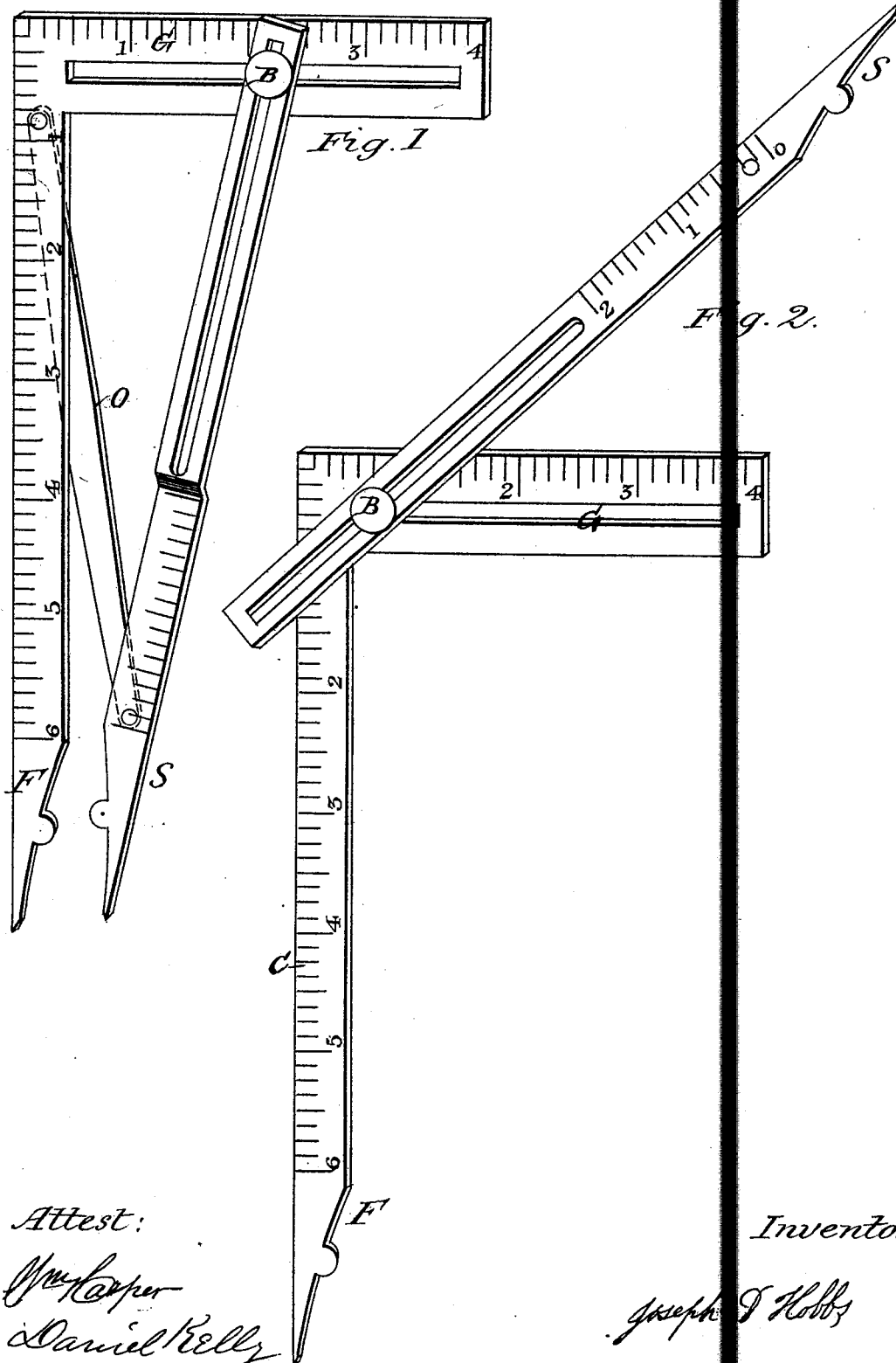


J. D. HOBBS.

Bevels.

No. 213,987.

Patented April 8 1879.



Attest:

Wm. Harper
Daniel Kelly

Inventor:

Joseph D. Hobbs

UNITED STATES PATENT OFFICE.

JOSEPH D. HOBBS, OF MEDIAPOLIS, IOWA.

IMPROVEMENT IN BEVELS.

Specification forming part of Letters Patent No. **213,987**, dated April 8, 1879; application filed May 18, 1878.

To all whom it may concern:

Be it known that I, JOSEPH D. HOBBS, of Mediapolis, in the county of Des Moines and State of Iowa, have invented a new and useful Improvement in Tools, of which the following is a specification:

The invention relates to a combination forming in its several arrangements and adjustments the bevel, calipers, compasses, square, try-square, and measurer of slants and angles.

The invention consists of a graduated square, Figure I, with a corresponding graduated bar, S, with the longer or main arm F, said corresponding bar S joined with the square by a simple coupling-bar, O.

Fig. I shows a graduated square-shaped tool, with the longer or main arm, F, scalloped within a short space of the end, and the shorter or lower arm, G, with a narrow slot extending nearly its entire length. In this slot is a thumb-screw bolt, B, capable of being moved along said slot, and tightened when desired. This bolt B also works in another slot extending nearly half the length of the lower end of a graduated bar, S, the counterpart of the longer or main arm, F, of the square, Fig. I. This separate bar S is connected with the main arm F near the elbow of the square by a simple coupling-bar, O, reaching from near the scalloped end of the bar S. This bar S is also connected with the short arm G by the thumb-screw bolt B, which works in a slot extending nearly the entire length of the arm G, and is capable of tightening when desired. This bar O works upon a loose bolt, where it is connected with the main arm F, permitting the separate bar S to move at any angle or slant with the other arms, F and G. This arrangement is capable by proper adjustment of registering any angle of any degree and the sides of any slant, and the main arm F, together with the bar S, may be used as compasses, calipers, bevel-square, try-square, and a measurer of angles and slants.

The operation in the use of said combination applied to a particular case is as follows:

In getting the size and slant of a mortise in a hub of a wheel, the arms F and S are inserted in the mortise. These are either closed or opened, as the case may require, till they properly fit. When the thumb-screw bolt B is tightened, which holds the arm S securely in its position as taken from the size and slant of the mortise, thereby registering on the graduated arms F and S the exact slant and depth of said mortise. The spoke is then made to correspond exactly with this registered slant and size, insuring a perfect and secure fit, doing away with the old block system which now obtains. By this means is secured a more rapid and perfect setting of spokes.

So, in setting rafters, the arm G is placed against the upright beam. The bar S is made to correspond with the rafter already set, which is the desired slant. The thumb-screw bolt B is then tightened, and the exact angle and slant are thereby secured. When the rafters to be set are made to correspond with this registered angle and slant, making every rafter correspond precisely both in slant and angle. This mode makes the setting more rapid, more secure, and more perfect.

By a similar process braces and stays may be set, and, in fact, any mechanical object where angle or slant is a part of the work.

What I claim is—

The combination-square with long or main arm scalloped at the end and graduated, with a narrow slot in lower arm and loose bar joined with the main arm near the elbow of the square by a simple coupling-bar, said coupling-bar reaching from near the elbow of the square to near the scalloped end of the loose bar, which corresponds with the main arm, said loose corresponding bar being traversed its lower half length by a narrow slot, in which works a thumb-screw bolt, at the same time said bolt working in the slots of the lower arm, as described.

JOSEPH D. HOBBS.

Witnesses:

WM. HARPER,
DANIEL KELLY.