J. RICHARDS.

Trying Square.

No. 41,396. Patented Jan'y 26, 1864.

Fig. 1.

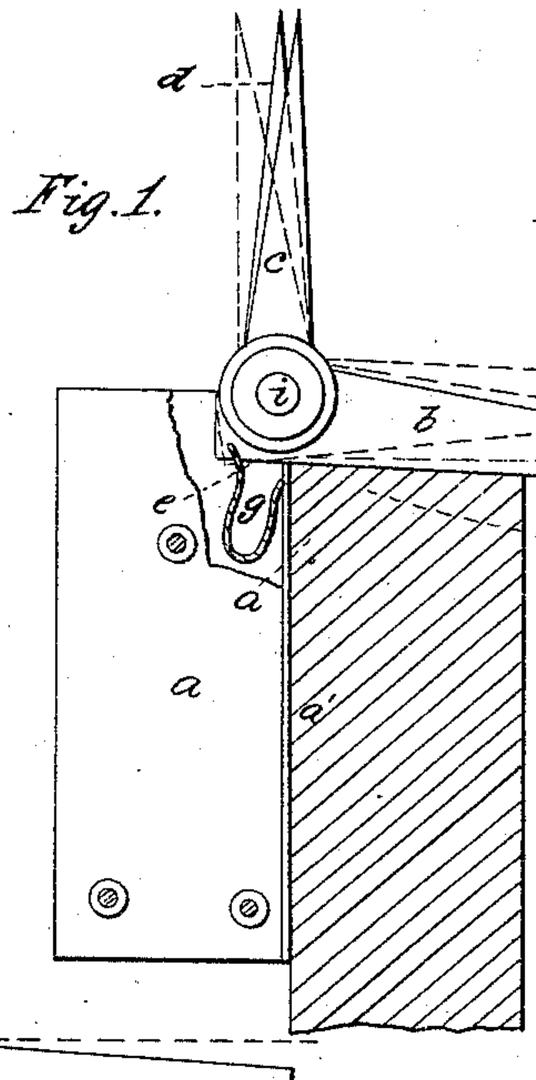


Fig. 2.

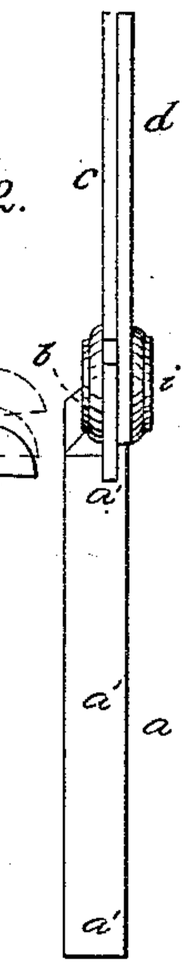


Fig. 3.

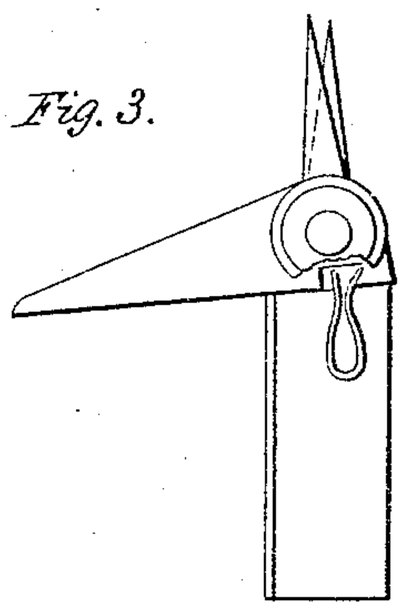


Fig. 4.

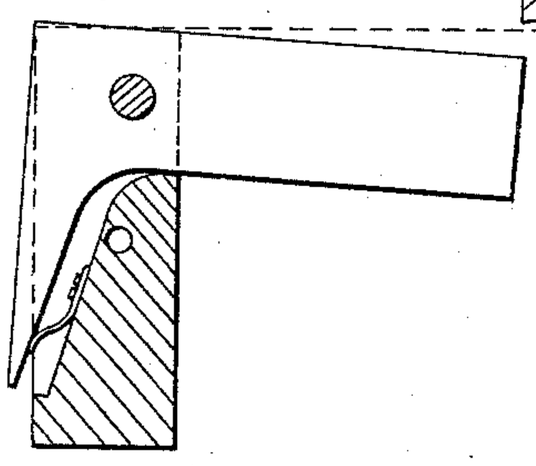


Fig. 5.

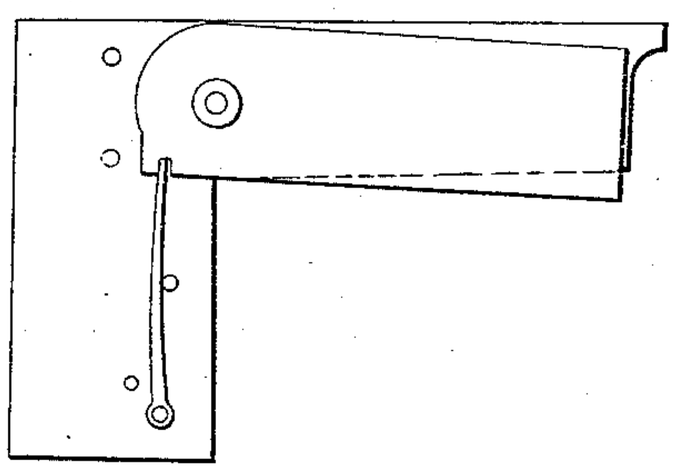
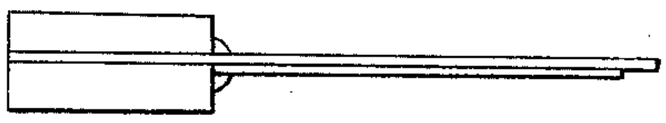


Fig. 6.



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Inventor:
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by his Atty's
Mason, Fenwick & Lawrence

UNITED STATES PATENT OFFICE.

JOHN RICHARDS, OF COLUMBUS, OHIO.

IMPROVEMENT IN TRYING-SQUARES.

Specification forming part of Letters Patent No. **41,396**, dated January 26, 1864.

To all whom it may concern:

Be it known that I, JOHN RICHARDS, of Columbus, county of Franklin, State of Ohio, have invented certain new and useful Improvements in Trying-Squares; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of my invention, showing the blade and its pointer in three positions. Fig. 2 is an edge view of Fig. 1. Figs. 3, 4, 5, and 6 represent modifications of Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

Wood-workers employ in their business a small instrument which they use in dressing stuff for determining when they have brought the edge of a piece to a right angle with one or the other of its sides. This tool is called a "trying-square," and is used by applying it to the stuff and looking with one eye along its edge. If a space is seen beneath the blade of the square, the edge is not true. If the edge of the blade and the edge of its head or stock fit closely against the two surfaces of the piece of stuff, the piece is called "true," and requires no further dressing.

The object of my invention is to construct an instrument in such manner that it will indicate the angle of the edge of a piece of stuff, and also indicate when this angle is a right angle, without requiring the workman to raise the piece of stuff from the bench or to stoop to sight along its edge, as will be hereinafter described.

To enable others skilled in the art to fully understand my invention, I will proceed to describe its construction and operation.

In the accompanying drawings, *a* represents the head or stock of the instrument, which may be made of wood, metal, or of both wood and metal, at the option of the maker. This head *a* should be made with its inner edge, *a'*, straight, and, if desirable, parallel with the opposite edge, as shown in Fig. 1. To one corner of this head *a*—say at *i*—I pivot the blade *b*, which has one straight edge, *b'*, and a pointed finger, *c*, formed on it that projects out from the end of head *a* a suitable distance to form a pointer for indicating the position of the blade *b*, as will be hereinafter described.

In the instrument represented in Fig. 1 I use a tapering pointed finger, *d*, which is fixed to or which may form a part of the head *a* for indicating the position of the blade *b* with reference to the straight edge *a'*. This fixed finger *d* is of the same length and shape as finger *c*, so that when the blade *b* is in the position indicated in full red lines, Fig. 1, the two points will be brought together, as shown in Fig. 2.

A steel V-spring, *g*, is suitably secured at one end to the edge plate *a'* of the head *a* and inserted at the other end into a notch, *e*, which is cut in the "lower" edge of the rear part of the pivoted blade *b*, as shown in Fig. 1. This spring *g* is suitably recessed into the head *a*, entirely out of sight and out of the way, and its office is to force the blade *b* down on the shoulder of the edge plate *a'*, so that the edge *b'* of this blade will form an acute angle with the edge *a'* of the head *a*, as shown in Fig. 1, where I have represented the instrument applied to a piece of stuff which is not true.

The extreme point of the fixed finger *d* should be so located with reference to the position of the point of the movable finger *c* that when the two edges *a' b'* are exactly at right angles to each other the points of the two fingers will be together or in the same line, and when the points are not thus together the space between them will indicate the extent of variation of the two edges *a' b'* from a right angle.

It will be seen from the above description that the spring *g* will yield and allow the blade *b* to adapt itself to the angle of the stuff to which the instrument is applied, and that when the instrument is removed from the stuff this spring will return the blade *b* to its original position against the shoulder of the edge plate *a'*. This spring will also allow the finger *c* to be moved from one side to the other of the fixed finger *d*, as indicated in Fig. 1, so that the instrument is adapted to the edges of pieces of stuff which bevel either to the right or to the left.

In Figs. 3, 4, and 5 I have represented several modifications of the instrument of Fig. 1, in all of which it will be seen that the blade which is applied to the stuff to be dressed is movable and pivoted to the head of the instrument in such manner that this blade will yield and accommodate itself to the edges of stuff which may be true or more or less beveled, and at the same time indicate, either by the stock or head or a fixed plate applied to

the head, a "true" angle (right angle) or any deviation from such angle.

I do not desire to limit myself to the form and proportions of the instrument represented in Fig. 1, and described in the body of this specification, as this form may be greatly changed without departing from the principle of the invention which is embodied in the instrument above described.

Having thus described the nature of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A trying-square constructed with a movable blade or its equivalent, substantially as and for the purposes described.

2. Applying a spring or its equivalent to the movable blade trying-square for the purpose of keeping said blade in a proper position for use, substantially as described.

3. Registering or indicating angles by means of the blade and head (or some portion thereof) of a trying-square, substantially as described.

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Witnesses:
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