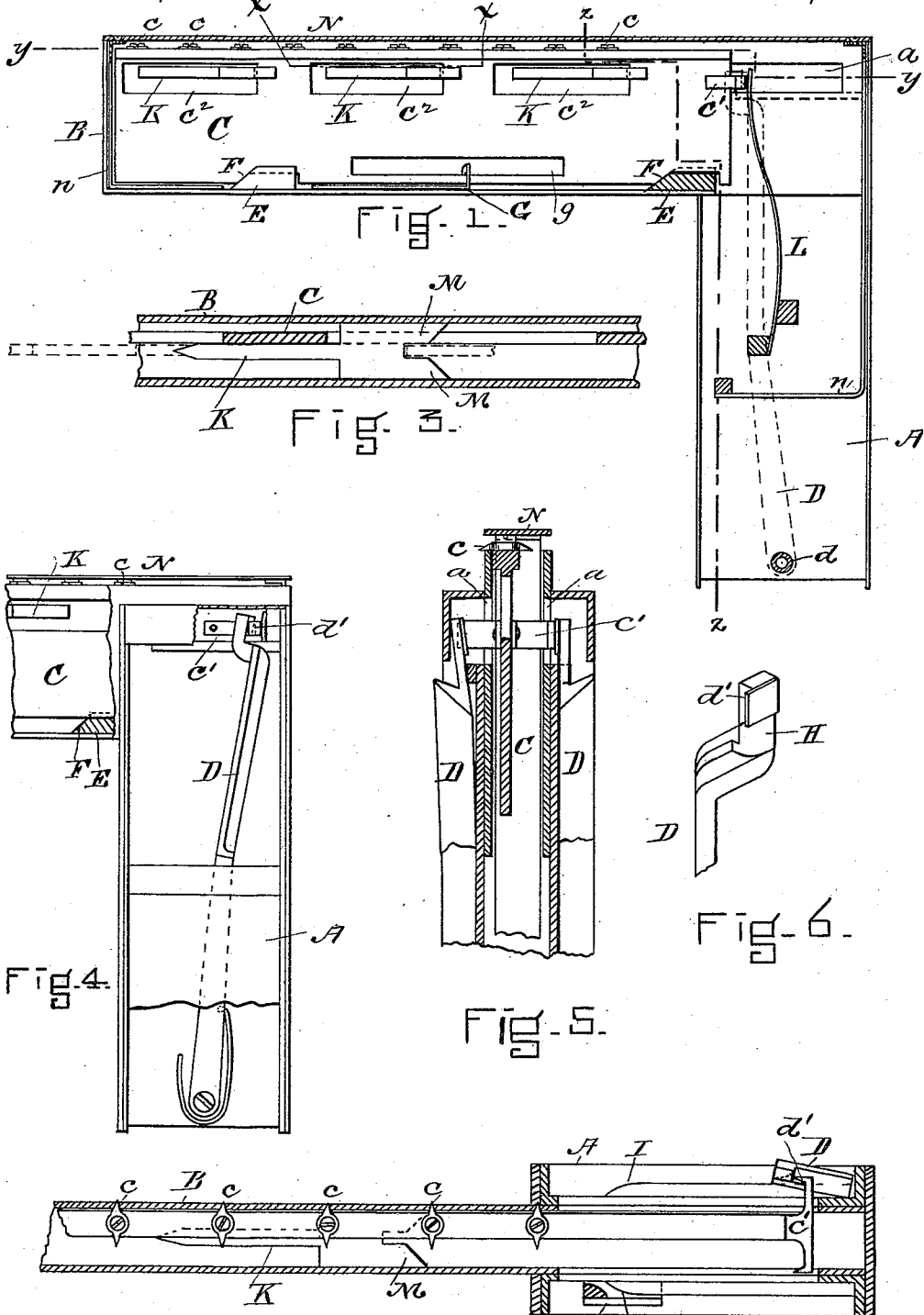


(No Model.)

W. JOHNSON.
SELF MARKING TRY SQUARE.

No. 464,074.

Patented Dec. 1, 1891.



WITNESSES.

Ellen B. Tomlinson.

John H. Taylor.

Fig. 2.

INVENTOR.

William Johnson

by Alex. P. Brown, atty.

UNITED STATES PATENT OFFICE.

WILLIAM JOHNSON, OF HULL, MASSACHUSETTS.

SELF-MARKING TRY-SQUARE.

SPECIFICATION forming part of Letters Patent No. 464,074, dated December 1, 1891.

Application filed April 21, 1891. Serial No. 389,798. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM JOHNSON, of Hull, in the county of Plymouth and State of Massachusetts, a subject of the King of Sweden, have invented certain new and useful Improvements in Self-Marking Try-Squares, of which the following is a specification.

My invention relates to try-squares such as are commonly used for marking clapboards and other carpenter's stock for cutting off. With the ordinary try-square, after it has been laid across the stock, a mark is ruled with a pencil, awl, or other marking-instrument.

The object of my invention is to provide, in connection with the try-square, an attachment whereby the position of the mark may be determined and the mark itself made by one and the same instrument and without the use of any outside marker.

In the drawings, Figure 1 is a vertical section of a device embodying my invention; Fig. 2, a horizontal section at *yy*, Fig. 1; Fig. 3, a similar section at *xx*, Fig. 1; Fig. 4, a side view of the vertical arm and operating-lever; Fig. 5, a vertical section at *zz*, Fig. 1; and Fig. 6, a detail view of the upper end of the operating-lever, reversed in position to show the wedge formed thereon.

My improved self-marking try-square comprises two arms A B, set at right angles to one another as in the ordinary try-square, the cross-arm B being thinner than the upright arm A, so as to form a shoulder to be brought up against the edge of the stock. In these features it resembles the try-square as now constructed. The marking apparatus is located within these arms, which are recessed or made hollow to contain it.

The marking device proper consists of a plate C, set within the cross-arm B of the square, and provided upon its edge with marking-points *c*. (Best shown at Fig. 2.) This plate C is made capable of being moved lengthwise within the cross-arm B, whereby the marking device is made to move across the stock to form the mark upon it. It is also made capable of vertical motion within the cross-arm, so that the plate and its marking device may ordinarily be entirely within

the cross-arm, but may be raised when the marking is to be done, so as to bring the marking device out of the recess in the cross-arm in which it is contained. Lastly, it is made capable of sidewise motion to bring the marking-points to whichever side of the cross-arm is next the stock. The means by which these motions are imparted to the plate and marking device will now be described.

I provide two operating-levers D, one arranged on each side of the vertical arm A of the try-square, and preferably in slots or recesses made in the sides thereof. These levers are fulcrumed upon the arm A, as shown at *d*, (see Fig. 1,) and each at its working end is provided with a hook *d'*, adapted to engage with a conveniently-formed opposed portion *c'* of the plate C, preferably a double hook or T-piece, as shown, (see Fig. 2,) attached to the plate C and arranged to slide in slots *aa* in the arm A. By reason of the connection above described between either operating-lever and the plate C with its marking device it is obvious that by moving the lever outwardly its hook will engage with the hook of the marking-plate and move it lengthwise in the arm B.

In order that a mark may be made when either side of the cross-arm B is upon the stock, it is obvious that the marking-points *c* should be on both sides of the marking-plate, and in order that this marking-plate and marking device may be ordinarily contained within and inclosed by the hollow cross-arm B, I provide mechanism whereby the plate may be first lifted out of the cross-arm high enough to bring the marking-points clear of it and then may be moved sidewise or toward that side of the cross-arm which is upon the stock, after which the marking-points are carried across the stock to make the mark.

The raising of the plate within the cross-arm I accomplish by means of a wedge connection between them, the lengthwise motion of the plate within the arm B causing one element of the wedge to rise upon the other, thereby lifting the plate up. For this purpose I provide wedge-blocks E E in the bottom of the chamber within the cross-arm B, and corresponding inclines F F upon the

lower edge of the plate. (See Fig. 1.) A spring-hook G, fastened to the cross-arm and hooking into a slot *g*, with the marking-plate, as shown, presses the same down at all times toward the bottom of the chamber, so that when the plate moves in one direction by means of the lever it will be raised against the tension of this spring, and when it moves in the other direction the tension of the spring will operate to carry it down into its normal position. This raising of the plate to bring the marking-points up clear of the cross-arm should take place as soon as the motion of the plate begins, and the wedge connection E F is suitably located for this purpose.

The motion of the plate and marking-points toward that side of the cross-arm which is laid upon the stock is obtained by means of a wedge connection between the operating-lever and one side of the upright arm A itself. The element of this wedge upon the lever is shown at H, Fig. 6, and the element upon the arm at I, Fig. 2. It will be understood that as the tool is placed with one side or the other next the stock the lever on that side will be used to operate the marker. It is desirable, also, that this shifting or forcing of the marking-plate to the sides of the cross-arm should take place as soon as its motion begins, and the wedge connection for this purpose is correspondingly located, as shown.

It is further necessary in view of the capacity of sidewise motion which the plate C has within the cross-arm B that when drawn across the stock in marking it should be suitably backed or supported, so as to force the marking-points into the surface of the stock. For this purpose I provide guides K K, centrally located in the hollow of the cross-arm and tapered at their forward ends so as to permit of the sidewise and rearward motion of the plate. (See Figs. 1 and 3.) The plate itself is slotted, as shown at *c*², so as to pass sidewise by these guides and be carried over to one side of the recess in the cross-arm into the position shown at Fig. 2.

The lengthwise motion of the marking-plate to make the mark upon the stock is obtained, as has been said, by operating one of the levers D. The return motion of the plate I obtain by means of a spring L, attached to the vertical arm A. (See Figs. 1.) This spring is made tense when the plate is moved by the lever, and its tension throws the plate back into its normal position when the lever is released. As the plate is so thrown back it is guided into its central position within the recess in the cross-arm by means of the inclines M M, formed upon the guides K and shown at Figs. 2 and 3.

As it is important that the recess in the cross-arm should normally be closed, so as to keep out dirt, &c., and prevent injury to the marking-points when the tool is not in use, I provide a covering-strip N, mounted upon

yielding or spring supports *n n*, as shown. This covering-strip by reason of its yielding supports is forced upward by the upper edge of the marking device pressing against it, and so permits the latter to be raised up and moved sidewise of the recess in the cross-arm, as before described. When the marking device is returned into place within the recess, the spring-supports of the covering-plate will carry it back into place to cover the recess.

I claim—

1. In a self-marking try-square, a recessed cross-arm, a plate located within the said recess and provided with marking devices, and mechanism, substantially as described, for moving the plate and marking device over the face of the stock to mark the same when the try-square is in position, substantially as set forth.

2. In a self-marking try-square, a recessed cross-arm, a plate located within the said recess and provided with marking devices, and mechanism, substantially as described, for carrying the said plate and marking devices to that side of the cross-arm resting upon the stock and then over the face thereof to mark the same.

3. In a self-marking try-square, a recessed cross-arm and plate located within the said recess and provided with marking devices, the said plate and marking devices being normally below the edges of the recess, and means for lifting the plate and marking devices, so as to bring the latter above the edge thereof and carry them over the face of the stock to mark the same.

4. In a self-marking try-square, a recessed cross-arm and plate located within the said recess and provided with marking devices, said plate and marking devices being normally within and central of the said recess, and means, substantially as described, for raising the plate and marking devices, so as to bring the latter above the edge thereof and carry them to the side of the cross-arm and then over the face of the stock to mark the same.

5. In a self-marking try-square, the combination, with the upright arm A and recessed cross-arm B, of the plate C, provided with marking devices *c*, the operating-levers D, wedge connection E F, and spring-hook G for raising and lowering the said plate within the recess, connections H I for moving the plate to that side of the cross-arm next the stock, and guides K, whereby as the plate is moved the marking devices are held in contact with the stock to be marked.

6. In combination, the vertical arm A, recessed cross-arm B, sliding plate C, provided with marking devices *c*, wedge connection E F, and spring-hook G for raising and lowering the said plate, operating-lever D, connections H I between the said lever and the ver-

tical arm for moving the plate and marking devices toward the stock, and a spring L for returning the plate to its position after the marking is completed.

5 7. In a self-marking try-square, the combination, with a recessed cross-arm and a movable marking-plate located therein, of a spring-supported covering-plate to cover the

recess, substantially as and for the purpose set forth.

In testimony whereof I have hereunto subscribed my name this 8th day of April, 1891.

WILLIAM JOHNSON.

Witnesses:

ELLEN B. TOMLINSON,
JOHN H. TAYLOR.