

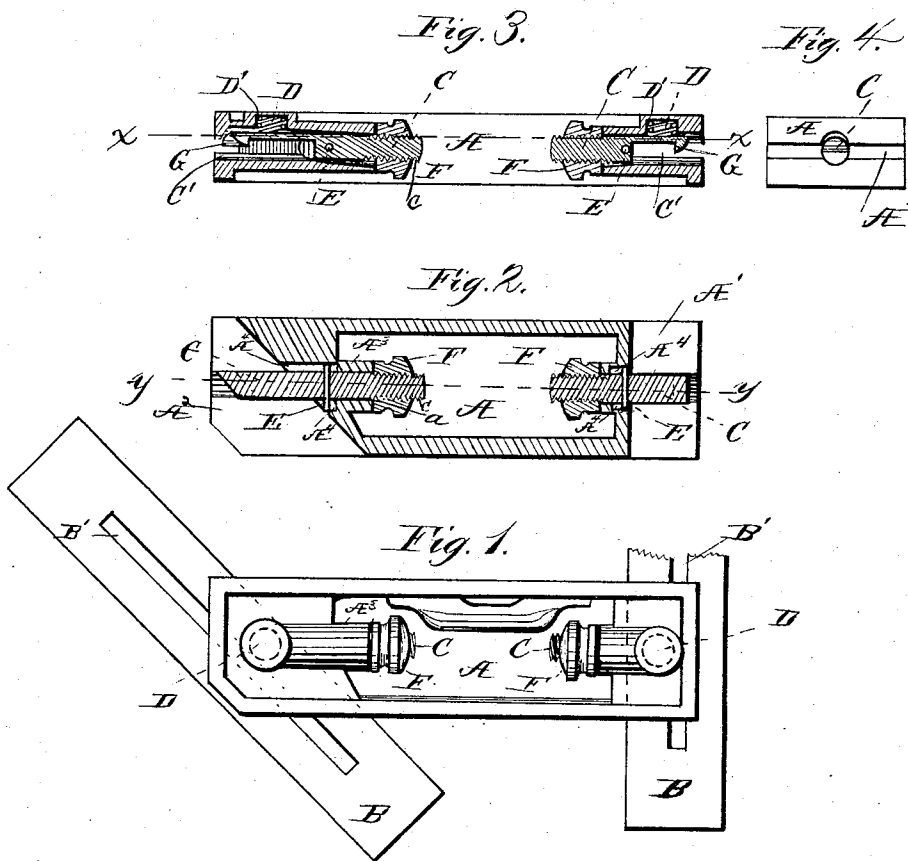
(Model.)

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COMBINED TRY SQUARE AND BEVEL.

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COMBINED TRY-SQUARE AND BEVEL.

SPECIFICATION forming part of Letters Patent No. 324,323, dated August 11, 1885.

Application filed October 2, 1884. (Model.)

To all whom it may concern:

Be it known that I, LEONARD D. HOWARD, a citizen of the United States, residing at St. Johnsbury, in the county of Caledonia and State of Vermont, have invented a new and useful Improvement in Try-Squares, of which the following is a specification.

My invention relates to that class of try-squares and bevels which are provided with removable and adjustable blades; and it has for its object the production of a combined try-square and bevel of the above-described class which is adapted to hold the blade adjustably at one end of the head or stock thereof at right angles to the same, the said stock being further so constructed at its opposite end as to adapt it to hold the blade adjustably therein at an angle of forty-five degrees, with reference to the stock itself, and which shall possess advantages in the points of simplicity of construction and efficiency in operation.

To these ends my invention consists in the improved construction and combination of parts which will be hereinafter fully described and claimed.

Referring to the annexed drawings, Figure 1 is a top or plan view of my improved combined try-square and bevel showing a blade removably and adjustably secured in each end of the stock thereof. Fig. 2 is a longitudinal sectional view taken on the plane indicated by line *x x* in Fig. 3. Fig. 3 is a longitudinal sectional view taken on the plane indicated by line *y y* in Fig. 2; and Fig. 4 is an end view of that end of the stock which is provided with the straight transverse slot.

The same letters of reference indicate corresponding parts in all the figures.

Referring to the several parts by letter, A represents the rectangular head or stock of my improved combined try-square and bevel, which is formed at one end with the straight horizontal slot A', extending through the said end at right angles to the stock, and is also provided at the opposite end with the inclined or slanting horizontal slot A², as shown more clearly in Fig. 2 of the drawings. That end of the stock which is provided with the inclined slot A² is formed with the inwardly-projecting sleeve A³, having the central longitudinal opening or aperture, *a*, which communicates at its forward end with the inclined

slot A², the lower rear side and upper forward side of this opening *a* being inclined or cut away, as shown in Fig. 3, for the purpose which will be hereinafter specified.

A tilting clamping-bolt, C, is pivotally secured within the sleeve A³ by the transverse pivot-pin E, the ends of which are mounted and slide within the longitudinal grooves or slots A⁴, (shown in Fig. 2 of the drawings,) whereby the bolts C are capable of longitudinal movement for the purpose which will be hereinafter specified, the lower side of the forward portion of this bolt being cut away longitudinally at C', to adapt it to extend over the inner half of the slotted adjustable blade B, and being further provided at its outer extremity with the downwardly-projecting inclined or slanting lip or catch G, adapted to fit within the central longitudinal slot B' of the blade B, the said lip or catch G extending parallel with the inner side of the inclined slot A², as shown more clearly in Fig. 2 of the drawings. The blade B is formed with the central longitudinal slot, B', adapted to receive the downwardly-projecting lip or catch G of the clamping-bolt.

D represents a spiral spring, which is seated within a suitable recess, D', in the upper side of the slotted head A, in such a position as to adapt it to bear down upon the upper side of the forward portion of the tilting clamping-bolt C, near the forward end of the same, the object of this arrangement being that after the forward end of the bolt has been tilted upward on its pivotal point to admit of the insertion of the blade B, the spiral spring will operate to automatically depress the forward end of the clamping-bolt into its locked or operative position, thereby firmly holding the blade in its adjusted position.

The inner end of the tilting clamping-bolt, which extends beyond the inner end of the sleeve A³, is formed with an exterior screw-thread, *c*, and upon this screw-threaded inner end works a nut, F. When it is desired to tilt the clamping-bolt C, in order to adjust or remove the blade B, this nut is unscrewed toward the rear extremity of the screw-threaded end; but when the blade has been placed in position and adjusted, and the spiral spring D has forced the outer end of the clamping-bolt down into its locked or op-

erative position, the nut F is screwed home until it bears against the end of the sleeve A³, as shown in the drawings, thereby drawing back the bolt C, (the ends of the pivot-pin E sliding in the slots A' to admit of this movement,) and effectually locking the bolt C in its operative position and the blade B in its adjusted position, rendering it impossible for the adjusted blade to become disturbed through the accidental tilting of the clamping-bolt, which might otherwise occur through the operator's hand unintentionally bearing upon and depressing the inner end of the said bolt, as would be liable to occur if the locking-nut were not employed.

The opposite end of the stock A is provided with the straight transverse slot A', as before stated, extending at right angles to the body of the stock, and is provided with clamping mechanism precisely similar in construction to that just described, with the exception that the downwardly-projecting lip or catch on the outer end of the tilting clamping-bolt is formed perfectly straight—that is to say, extending at right angles to the length of the bolt itself, to conform to the straight slot in that end of the stock.

The spiral springs D at each end of the stock A may, if desired, be entirely dispensed with, thereby simplifying the construction, as the nut F will serve to secure the clamping-bolt in its operative position, as will be readily understood.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of my improved combined try-square and bevel will be readily understood without requiring further explanation.

It will be seen that my invention is simple in construction, and at the same time is very efficient in its operation.

A single blade may be employed in connection with the stock A, being changed from end to end of the stock, as required; or a blade may be adjustably secured in each end of the stock, if desired.

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

1. The combination, with the slotted head, of the tilting clamping-bolt, arranged as described, and provided at its outer end with the catch or lip, and means for securing the said tilting bolt in its operative position.

2. The combination, with the slotted head, of the tilting clamping-bolt, arranged as described, and provided at its outer end with the catch or lip, and the spiral spring, arranged as described, substantially as set forth.

3. The combination, with the slotted head, of the tilting clamping-bolt, arranged as described, and provided at its outer end with the catch or lip, and having its inner end formed with an exterior screw-thread, and the nut arranged to work upon the said screw-threaded end, and adapted to secure the tilt-

ing bolt in its operative position, substantially as described.

4. The combination, with the slotted head, of the tilting clamping-bolt, arranged as described, and provided at its outer end with the catch or lip, and having its inner end formed with an exterior screw-thread, the spiral spring, arranged as described, and the nut working upon the screw-threaded end of the tilting clamping-bolt, all constructed and arranged to operate in the manner and for the purpose shown and set forth.

5. The combination, with the stock having the inclined or slanting horizontal slot in one of its ends, of the tilting clamping-bolt, arranged as described, and provided at its outer end with the slanting catch or lip, and means for securing the tilting bolt in its operative position.

6. The combination, with the stock having the inclined or slanting horizontal slot in one of its ends, of the tilting clamping-bolt, arranged as described, and provided at its outer end with the slanting catch or lip, and the spiral spring, arranged as described, substantially as set forth.

7. The combination, with the stock having the inclined or slanting horizontal slot in one of its ends, of the tilting clamping-bolt, arranged as described, and provided at its outer end with the slanting catch or lip, and having its inner end formed with an exterior screw-thread, and the nut arranged to work upon the said screw-threaded end, and adapted to secure the tilting bolt in its operative position, substantially as described.

8. The combination, with the stock having the inclined or slanting horizontal slot in one of its ends, of the tilting clamping-bolt, arranged as described, and provided at its outer end with the slanting catch or lip, and having its inner end provided with an exterior screw-thread, the spiral spring, arranged as described, and the nut working upon the said screw-threaded end of the tilting clamping-bolt, all constructed and arranged to operate in the manner and for the purpose shown and set forth.

9. The combination, with the stock provided at one end with the inclined or slanting horizontal slot, and having at the other end the straight horizontal slot, of the tilting clamping-bolts, arranged as described, and provided at their outer ends, respectively, with the slanting and straight catches or lips, and means for securing the said tilting bolts in their operative positions, substantially as described.

10. The combination, with the stock provided at one end with the inclined or slanting horizontal slot and having at the other end the straight horizontal slot, of the tilting clamping-bolts, arranged as described, and provided at their outer ends, respectively, with the slanting and straight catches or lips, and having their inner ends formed with the exterior screw-thread, the spiral springs, arranged as

described, and the nuts working upon the screw-threaded inner ends of the tilting clamping-bolts, all constructed and arranged to operate in the manner and for the purpose shown and set forth.

11. The combination, with the slotted head, of the tilting and sliding bolt, arranged as described, and provided at its outer end with the catch or lip, and means for securing the said tilting and sliding bolt in its operative position.

12. The combination, with the slotted head, of the tilting and sliding bolt, arranged as described, and provided at its outer end with the catch or lip, and the spiral spring, arranged as described, substantially as set forth.

13. The combination, with the slotted head, of the tilting and sliding bolt, arranged as described, and provided at its outer end with the catch or lip, and having its inner end formed with an exterior screw-thread, and the nut arranged to work upon the said screw-threaded end, and adapted to secure the tilting and sliding bolt in its operative position, substantially as described.

14. The combination, with the slotted head, of the tilting and sliding bolt, arranged as described, and provided at its outer end with the catch or lip, and having its inner end formed with an exterior screw-thread, the spiral spring, arranged as described, and the nut working upon the screw-threaded end of the tilting and sliding clamping-bolt, all constructed and arranged to operate in the manner and for the purpose shown and set forth.

15. The combination, with the stock having the inclined or slanting horizontal slot in one of its ends, of the tilting and sliding clamping-bolt, arranged as described, and provided at its outer end with the slanting catch or lip, and means for securing the tilting and sliding bolt in its operative position.

16. The combination, with the stock having the inclined or slanting horizontal slot in one of its ends, of the tilting and sliding clamping-bolt, arranged as described, and provided at its outer end with the slanting catch or lip, and the spiral spring, arranged as described, substantially as set forth.

17. The combination, with the stock having the inclined or slanting horizontal slot in one of its ends, of the tilting and sliding clamping-bolt, arranged as described, and provided at its outer end with the slanting catch or lip, and having its inner end formed with an exterior screw-thread, and the nut arranged to work upon the said screw-threaded end, and adapted to secure the tilting sliding bolt in its operative position, substantially as described.

18. The combination, with the stock having the inclined or slanting horizontal slot in one of its ends, of the tilting and sliding clamping-bolt, arranged as described, and provided at its outer end with the slanting catch or lip, and having its inner end formed with an exterior screw-thread, the spiral spring, arranged as described, and the nut working upon the said screw-threaded end of the tilting and sliding clamping-bolt, all constructed and arranged to operate in the manner and for the purpose shown and set forth.

19. The combination, with the stock provided at one end with the inclined or slanting horizontal slot and having at the other end the straight horizontal slot, of the tilting and sliding clamping-bolts, arranged as described, and provided at their outer ends, respectively, with the slanting and straight catches or lips, and means for securing the said bolts in their operative positions, substantially as described.

20. The combination, with the stock provided at one end with the inclined or slanting horizontal slot and having at the other end the straight horizontal slot, of the tilting and sliding clamping-bolts, arranged as described, and provided at their outer ends, respectively, with the slanting and straight catches or lips, and having their inner ends formed with the exterior screw-threads, the spiral springs, arranged as described, and the nuts working upon the screw-threaded inner ends of the tilting and sliding clamping-bolts, all constructed and arranged to operate in the manner and for the purpose shown and described.

LEONARD D. HOWARD.

Witnesses:

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LYMAN S. HOOKER.