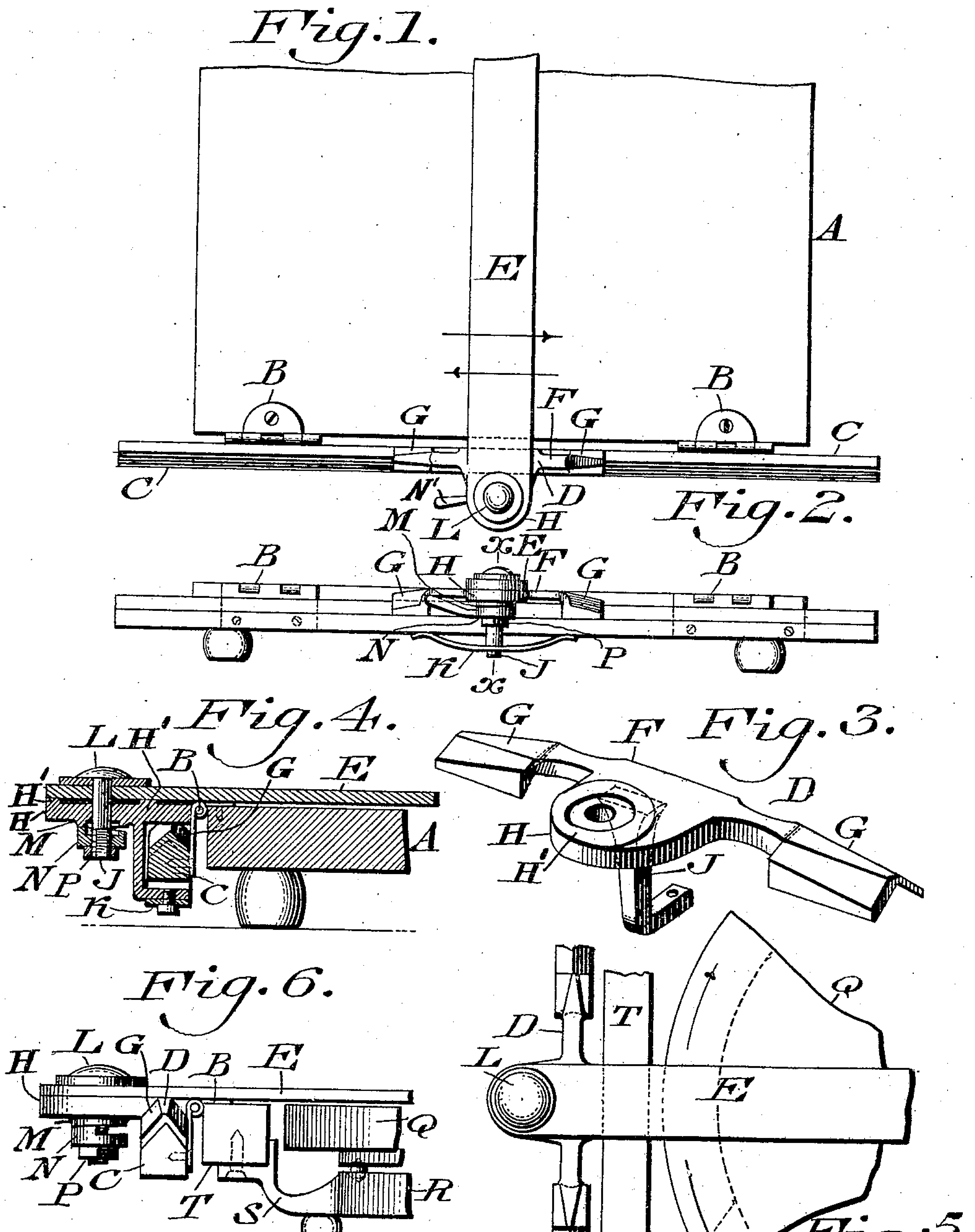
No. 855,916. PATENTED JUNE 4, 1907.

E. WERNER.

T-SQUARE.

APPLICATION FILED JAN. 7, 1907.



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T-SQUARE.

No. 855,916. Specification of Letters Patent. Patented June 4, 1907.

Application filed January 7, 1907. Serial No. 351,133.

To all whom it may concern:

Be it known that I, EMIL WERNER, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful T-Square, of which the following is a specification.

My invention consists of a T-square which is provided with means for connecting it with a drawing board adapting it to be automatically lowered thereon. It also consists in adapting the square to be moved in lateral directions and angularly adjusted.

Figure 1 represents a top or plan view of a T-square, including also a drawing board, with which the square may be connected embodying my invention. Fig. 2 represents an elevation thereof. Fig. 3 represents a perspective view of a detached member on an enlarged scale. Fig. 4 represents a section of a portion on line *x*—*x* Fig. 2 on an enlarged scale. Fig. 5 represents a top or plan view of the square applied to another form of a drawing board. Fig. 6 represents a section thereof on line *y*—*y* Fig. 5.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings: A designates a drawing board to which is connected by the hinges B, B, the tongue or guide C, which latter extends parallel with an end of said board. On said tongue is fitted the runner D, which comprises the limb of a T-square whose blade E is pivotally connected with said runner, and adapted to be placed over the board and moved with said runner in lateral directions according to usual requirements of a T-square.

The runner D consists of the bar or neck F, which is elevated above the tongue C, and has on its ends the pieces G whose undersides are grooved or channeled in upward direction so as to conform to the V-shaped or angular top face of said tongue and ride thereon, thus guiding the runner and permitting it to conform to any slight inequalities in the contacting parts, and as the bar is elevated from the tongue, the friction of said runner with the tongue is greatly reduced, and so the runner may be moved with ease to the right and left according to requirements.

In order to retain the runner in position, there extends from the bar F, the ear H, from which depends the hanger J, with which latter is connected the spring K, whose end portions bear against the underside of the tongue C, thus resiliently holding the top members of the runners on the tongue, the effect of which is evident.

L designates a pivot or pivotal pin for connecting the blade and runner, the same passing through said blade and the ear H, and through the boss M on the underside of the ear. A rotatable sleeve N is fitted on the pivot below said boss and retained in position by the nut or washer P. The contacting faces of said sleeve and boss are of spiral form, and said sleeve has a suitable handle N′, whereby when said sleeve is rotated as the spiral faces ride on each other the pivot L bearing against the nut P is drawn so as to tighten its head against the blade E and cause the latter to tighten against the runner or limb D, thus holding said blade in many of the angular positions to which it may be set.

For a rotary drawing board such as at Q, Figs. 5 and 6, the base R on which the same is rotatably mounted has projecting therefrom the brackets S, which support the battin T which extends parallel with the tongue C and with which it is connected by the hinges B. On said tongue is mounted the runner D of the T-square similar to that of the other figures, it being evident that in ether case, owing to the hinges B, the square will automatically lower itself on the board and so remain in its adjusted position on the paper, etc. thereon, this being due to the blade E, and the position of the same overhanging the board, the hinges B permitting the tongue or guide C to turn toward the board.

Rising from the ear H is the collar H′, the same encircling the opening which receives the pivot or pin L, see more particularly Fig. 3. The adjacent portion of the blade E is adapted to rest upon said collar, see Fig. 4, by which provision when said pivot is tightened, said portion is firmly pressed against said collar while the surrounding portion is in a measure forced into the channel within said collar and caused to bite the inner edge of the latter, whereby the blade is firmly retained on the ear in the angular position to which it may be set.

When the tongue or guide C has the hinges B connected therewith the square may be at-

tached to an existing board without requiring any special construction of the latter other than forming openings therein for the screws of said hinges.

The blade may be readily raised from the board for any purpose requiring the same, after which, when let go, it will return automatically to its operative position.

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

1. A carrier for a square, a hinge on the latter for connection with a drawing board, and a square embodying a runner pivotally connected with its blade independent of said hinge and outside of said carrier and a hanger depending from said runner and having a portion beneath said tongue.

2. A square having a pivoted blade, a carrier therefor, a tongue beneath said carrier and means connecting said carrier with a drawing board between said board and the pivot of the blade and independent of said pivot, whereby the blade of the square is permitted to automatically lower said board.

3. A square embodying a removably supported runner having a depending member, and a pivoted part, a guide beneath said runner and on which the latter is adapted to move in lateral directions, a hinge carried by said guide and adapted for connection with a drawing board, and a spring carried by the depending member of said runner and acting on the under side of said guide.

4. A square, a guide on which a member of said square is adapted to be removably supported and run in lateral directions, and a hinge on said guide independent of the pivot of the square adapted to connect the latter with a drawing board, permitting the blade of the square to automatically lower on the board and a resilient device on a depending member and bearing against said guide.

5. A square, a hinged guide, the limb of said square being adapted to run laterally on said guide, said limb being composed of end pieces which frictionally engage said guide, and a connecting bar intermediate of said end pieces, said bar being elevated above said guide.

6. In a square, a hinged support, a runner removably mounted thereon, a blade and a pivot connecting said blade and runner, said runner being provided about its pivot with an elevated collar on which the adjacent portion of the blade is seated and with which it may be tightly engaged.

7. A square embodying a limb and a connecting and tightening pivot, a sleeve on said pivot adapted to engage said limb, and a support for said sleeve, the contact faces of said sleeve and adjacent member of said limb being spiral and a nut on said pivot bearing against said sleeve.

8. A square, a guide on which said square is adapted to be movably supported, a runner, a hinging device on said guide, and an attachment with the support of a drawing board, said device being connected with said attachment and means resiliently holding said runner down upon said guide.

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