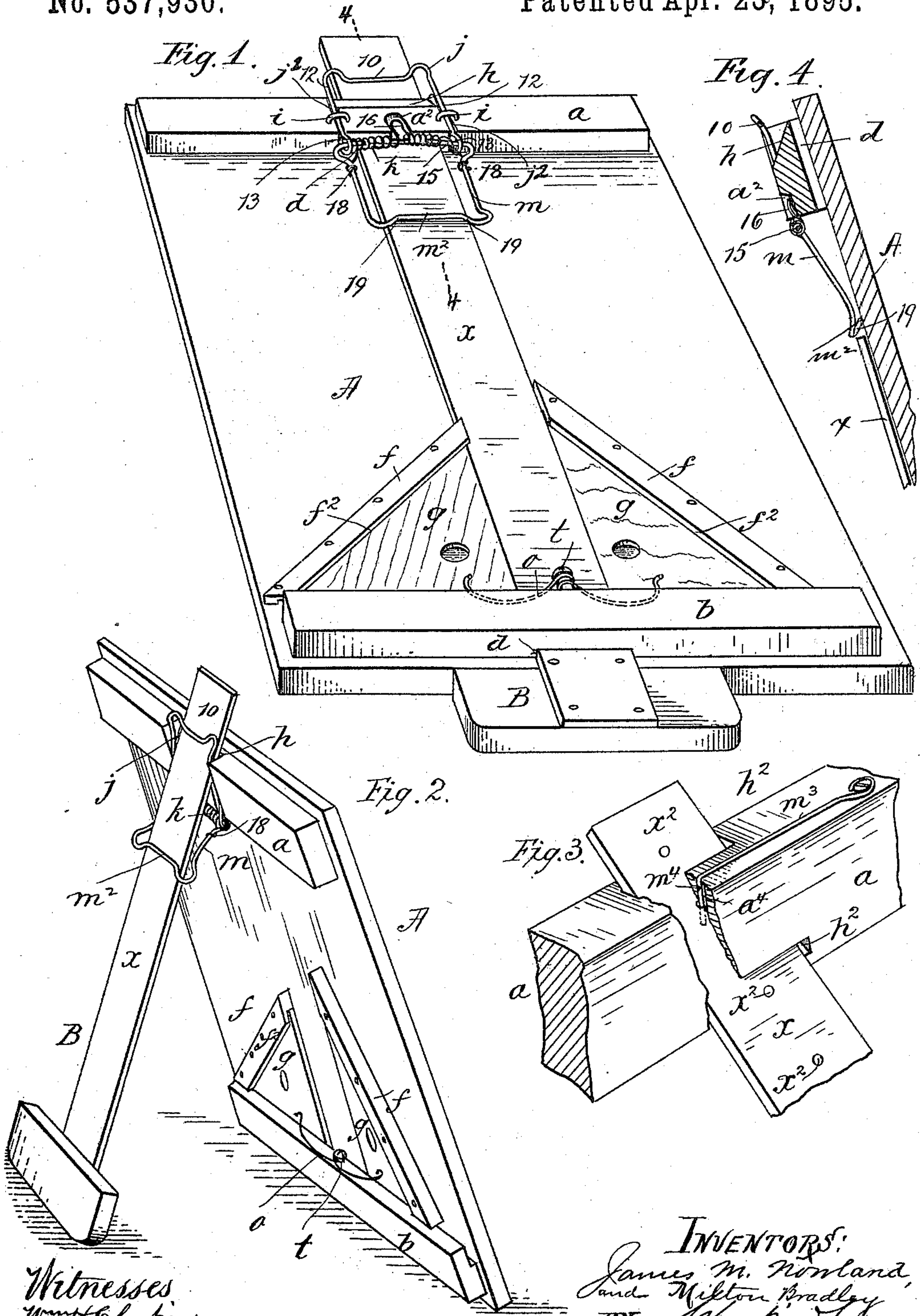


(No Model.)

J. M. NOWLAND & M. BRADLEY.  
DRAWING KIT.

No. 537,930.

Patented Apr. 23, 1895.



Witnesses  
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# UNITED STATES PATENT OFFICE.

JAMES M. NOWLAND, OF QUINCY, AND MILTON BRADLEY, OF SPRINGFIELD,  
ASSIGNORS TO THE MILTON BRADLEY COMPANY, OF SPRINGFIELD, MASSACHUSETTS.

## DRAWING-KIT.

SPECIFICATION forming part of Letters Patent No. 537,930, dated April 23, 1895.

Application filed February 2, 1895. Serial No. 537,124. (No model.)

*To all whom it may concern:*

Be it known that we, JAMES M. NOWLAND, residing at Quincy, in the county of Norfolk, and MILTON BRADLEY, residing at Springfield, in the county of Hampden, State of Massachusetts, citizens of the United States of America, have invented new and useful Improvements in Drawing-Kits, of which the following is a specification.

10 This invention relates to improvements in drawing kits which essentially comprise a drawing board and T-square.

The object of the invention is to adapt the drawing board and T-square, the one to the other, so that the T-square may have a proper engagement with one edge portion of the board whereby it may serve as the leg or prop of an easel, of which the drawing board constitutes the front.

20 The improvements for the attainment of the aforementioned objects embody constructions and combinations of parts, all substantially as will hereinafter fully appear and be set forth in the claims.

25 In the accompanying drawings, Figure 1 is a perspective view of the drawing board and the T-square engaged and retained in and through the apertured cleats of the board and against the under side of the latter, the triangles, shown as forming part of the kit,—being also shown as retained on the under side of the board. Fig. 2 is a view showing the T-square and drawing board as arranged to provide an easel for free-hand drawing. Fig. 3 is a perspective view showing modified features of detail construction to be hereinafter referred to. Fig. 4 is a longitudinal section on line 4—4, Fig. 1, the T-square being indicated as in the position preparatory to being engaged with the board.

40 In the drawings, A is the drawing board having at its rear, or under side, the end cleats, *a*, *b*, with the apertures through them at *d*, next to the back side of the board, through which to slide the blade of the T-square. The rear or under side of the board has also the angularly arranged cleats, *f*, *f*, with the overhanging inner edges, *f*<sup>2</sup>, for the retention of the triangles, *g*, *g*, all as fully set forth in

the Letters Patent to Milton Bradley, dated 50 December 3, 1889, No. 416,437.

The upper cleat, *a*, of the drawing board is so constructed that the blade, *x*, of the T-square, B, after having been withdrawn from the position seen in Fig. 1, may be engaged 55 with said cleat to assume the position seen in Fig. 2. The cleat has its upper corner, at its middle, reduced or recessed, and beveled, as seen at *h*, to provide a suitably flat rest for the face of the T-square blade and also 60 to provide shoulders for preventing lateral displacement of the blade, relative to the cleat. Adjacent the said beveled rest is a wire appliance, *j*, as of three sides of a square, the opposite terminal members being set, 65 and by the staples, *i*, confined, in the parallel grooves, *j*<sup>2</sup>, formed in the cleat. The intermediate member, 10, of said wire appliance overlies the recess, *h*, at a distance from the base thereof sufficient to permit the passage 70 under the said member, 10, of the blade. The ends of the parallel members, 12, 12, of said wire appliance, are formed into eyes, 13, 13, in which is hinge-supported the frame, *m*. This frame has its upper cross member, 15, 75 (formed from the two end sections of the wire from which the frame is composed, and which are brought into approached relations,) surrounded by the coiled wire spring, *k*. This spring is constituted by a wire the middle of 80 which is formed into the loop, or finger, 16. The portions of the wire intermediate between the loop and ends of the wire are wound into the coils, while the ends of the wire are extended radially from the coils. The said loop 85 finger, 16, has a resistance or bearing in the niche, *a*<sup>2</sup>, therefor, in the cleat while the ends, 18, 18, are wound around the side members of the wire frame, so that the frame has a spring reaction in a direction toward the rear side of 90 the drawing board.

The free end of the frame, *m*, has the cross member, *m*<sup>2</sup>, thereof supported in an offset plane by the inclined intermediate sections, 19, of the wire, so that when the T-square 95 blade is being forced through the apertures, *d*, *d*, under the cleats to assume the close or packed-up arrangement seen in Fig. 1, the



end of the blade, on striking the practically beveled end of the wire frame, will automatically cause it to yield sufficiently to permit the entrance of the blade through the recess 5 under the cleat.

When the T-square is to be made to constitute the easel back to adapt the board for freehand work, the end of the blade is forced under the bearing member,  $m^2$ , of the frame, 10  $m$ , which latter is then swung away from the drawing-board, sufficiently to permit the blade to be slid between the retaining member, 10, and the base of the recess,  $h$ .

The spring frame imparts a yielding pressure on the T-square blade, to prevent undue freedom of sliding movement of the latter, and yet to permit it to be swung or slid in any extent to acquire the best position of the T-square relative to the drawing-board for 15 any desired angle of inclination. In Fig. 3 substantially the same effects are acquired by reason of the inclined aperture,  $h^2$ , through the cleat, and the provision of the spring finger,  $m^3$ , on the cleat which has the inturned end,  $m^4$ , to protrude within the transverse 20 socket,  $a^4$ , therefor in the cleat, and within one of a series of perforations,  $x^2$ , in the blade of the T-square. The other cleat,  $b$ , has supported thereon the doubled armed spring,  $o$ , 25 to press against the faces of the triangles to keep them in place even when the T-square is withdrawn from the position shown in Fig. 1.

As shown, this spring is composed of a single piece of spring wire having its middle 35 composed of a number of coils, while its terminal portions are of bowed form with upturned extremities. The screw,  $t$ , passed through the coils, and into the inner edge of the cleat, holds the spring in its operative position. 40

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a drawing kit, the T-square, and drawing board constructed at its back, at one end 45 thereof, with a recess, in which the blade of the T-square may have a rest, the base of which rest is angular to the base of the board, and a device for detachably and adjustably confining the blade in its rest in said aperture, 50 substantially as described.

2. In a drawing kit comprising the drawing board and T-square, the board having the cleat with the beveled recess and the frame,  $m$ , hinged to the cleat and having a spring 55 applied thereto to impart thereto a reaction toward the board, substantially as and for the purpose set forth.

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