

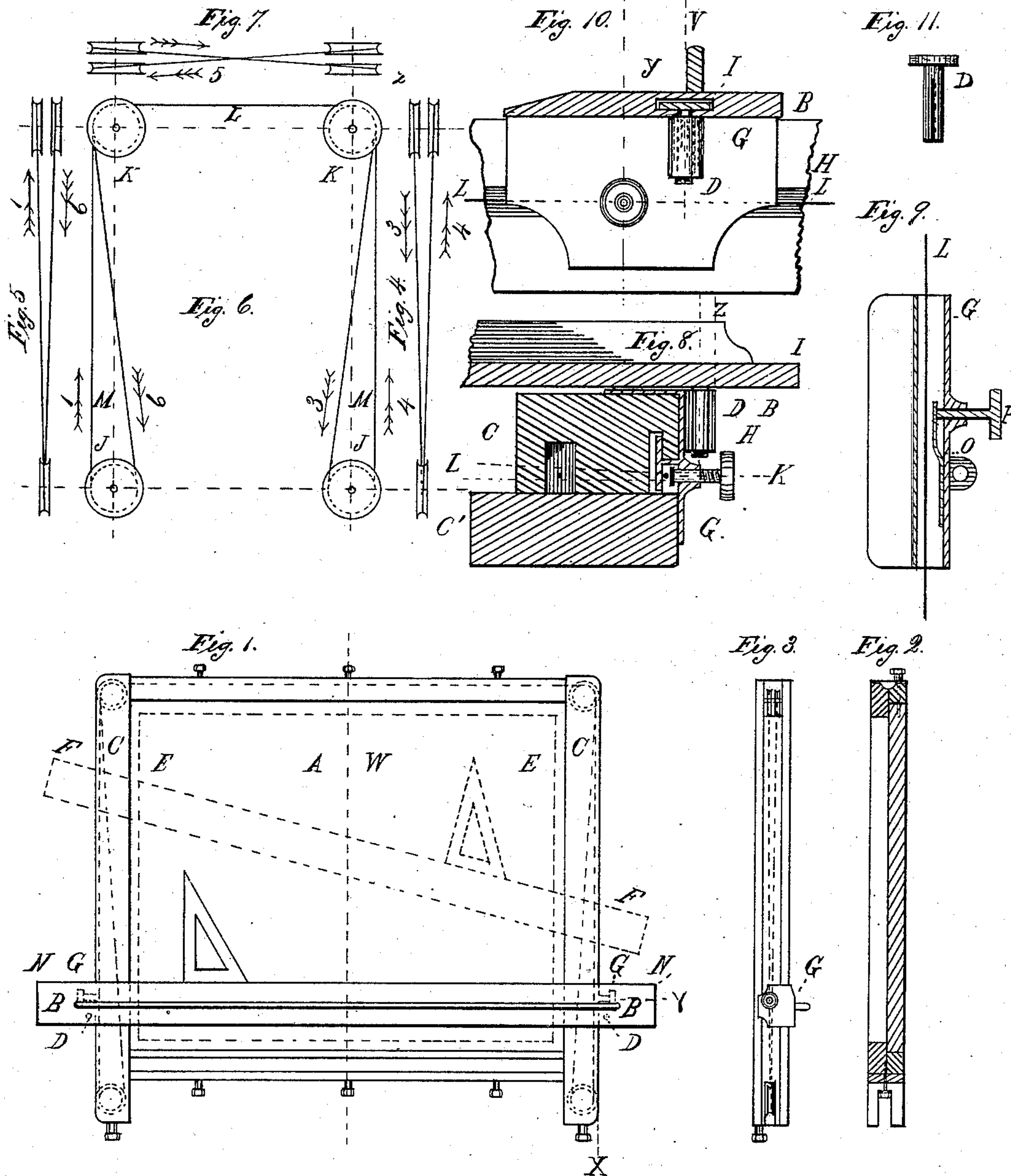
(No Model.)

S. W. GOODWIN.

DRAWING BOARD.

No. 316,538.

Patented Apr. 28, 1885.



Witnesses.

L. H. Colburn.
Rebecca P. Horowitz

Inventor.

Seth W. Goodwin,
by L. H. Colburn, Atty.

UNITED STATES PATENT OFFICE.

SETH W. GOODWIN, OF TOLEDO, OHIO.

DRAWING-BOARD.

SPECIFICATION forming part of Letters Patent No. 316,538, dated April 28, 1885.

Application filed June 18, 1884. (No model.)

To all whom it may concern:

Be it known that I, SETH W. GOODWIN, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Improvement in Drawing-Boards, of which the following is a specification.

My invention relates to improvements in drawing-board mechanism with which rules are used for drawing true and parallel lines in making mechanical and other drawings.

The nature of my invention consists in placing, in combination with a drawing-board, a rule which is connected by suitable mechanism, hereinafter described, the object of which is to keep the rule at all times in true parallelism. I attain this object by mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a plan of the entire mechanism. Fig. 2 is a vertical section on line *w*, Fig. 1. Fig. 3 is an end view on line *x*, Fig. 1. Figs. 4, 5, 6 and 7 are detached and enlarged views of the wheels and wires by which the rule B is operated. Fig. 8 is a sectional view of one of the side-bars, C, cut on line Y, Figs. 1 and 10, except the rule B, which is cut on line V, Fig. 10. Fig. 9 is a sectional view of a metallic clasp, the office of which is to connect the rule B with the frame C, which holds the board and its connections. This view is cut on line *x*, Fig. 8. Fig. 10 is a sectional view of the rule B and its fastening-bolt D on line *z*, Fig. 8. Fig. 11 is a full-size side view of the bolt D.

The frame C is made in a rectangular form, the ends being made of two pieces of material, as shown at C and C', Fig. 8, the under one extending inward, forming a ledge, as shown in this figure, and as shown by the dotted lines E E, for supporting in working position the drawing-board A. This board is made in the ordinary manner, and several such boards can each in turn be used with the frame C and its connections. In connection with this mechanism is a rule, B, which extends over the ends of the frame C, as shown in Fig. 1. One object of this extra length is to enable the said rule B to swing around for drawing diagonal lines, as shown by the dotted position F F; and another object of the said extension is to connect the rule B with the sliding clamps G, hereinafter explained.

On either end of the frame C is a sliding metallic clamp, (shown at G in the several views,) portions of which clamp pass over the top and down upon the edge of the frame and through the groove H in such a manner and being of such a form as to be firmly locked to the said frame C in every direction, except longitudinally to the end of the frame C, which way it slides freely.

Connecting the clamps G and the rule B are the bolts *d*. (Shown in the several views, and also detached in Fig. 11.) This bolt has a rectangular-shaped head, and said head slides tightly in the slot I in either end of the rule B. The body part of the bolt D is made round and split, as shown in Fig. 11, in order that it may be slightly expanded to fill and fit tightly in the hole in the clamp G, thus completing the connection of the rule B with the frame C, in a very efficient and perfect manner, and enabling the said rule to be set at different angular positions, as illustrated in Fig. 1.

The principal part of my invention is the mechanism hereinafter shown for maintaining the parallelism of the rule B. This motion is clearly traceable by reference to the several Figs. 4, 5, 6, and 7.

In Fig. 6 is shown a continuous metallic or other belt or cord, L, passing over a series of pulleys, one each at J J, and two each at K K. Between J and K the belt passes and the pulleys are arranged as shown in Figs. 4 and 5, and between K K the belt crosses and the pulleys are arranged as shown in Fig. 7. The motion of the belt L is traceable in all these figures (Figs. 4, 5, 6, and 7) by reference to the arrows and by following the order of the numerals 1, 2, 3, 4, 5, and 6. In Fig. 1 these pulleys J and K and the belt L are shown in dotted lines, and are provided with suitable taking-up screws for maintaining the tension of belt L.

By again referring to Fig. 6 it will be seen that the belt L, at the position shown by arrows 1 and 4, moves in the same direction, and when reversed both parts move in an opposite direction, as shown by arrows 3 and 4. It is therefore apparent that if the two ends of the rule B are attached to this belt at the points M M, and the said rule moved over the face of the board A, the parallelism of the

rule will be maintained, and the same will be true regardless of the angle at which the said rule is fastened to the said belt, as shown by F and N in Fig. 1.

5 To accomplish the changing of the position of the rule B, as shown in Fig. 1 at F N, I have provided a ready means of fastening the metallic clamp G at any desired point to the belt L, and for quickly releasing the same, as
10 follows:

In Fig. 9 the belt L is quickly fastened to or released from the clamp G by turning the screw P, which screw actuates the spring O in an obvious manner.

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

1. The belt L and pulleys K and J, in com-

bination with the rule B, for producing a parallel motion, substantially as shown and described. 20

2. In a drawing-board mechanism, the rule B and slotted bar C, in combination with the clasp G and its locking and releasing device, consisting of the screw P and spring O, substantially as shown and described. 25

3. In a drawing-board mechanism, the rule B, having the T-slot I in one or both of its ends, in combination with the bolts D and mechanism, substantially as described, for giving a parallel movement to the rule B. 30

SETH W. GOODWIN.

Witnesses:

WM. JOHNS, Jr.,
C. I. SCOTT.