Oct. 9, 1928. 1,686,980

C. C. NUCKOLS

DRAWING BOARD AND ATTACHED STRAIGHT EDGE

Filed July 26, 1927 2 Sheets-Sheet 1

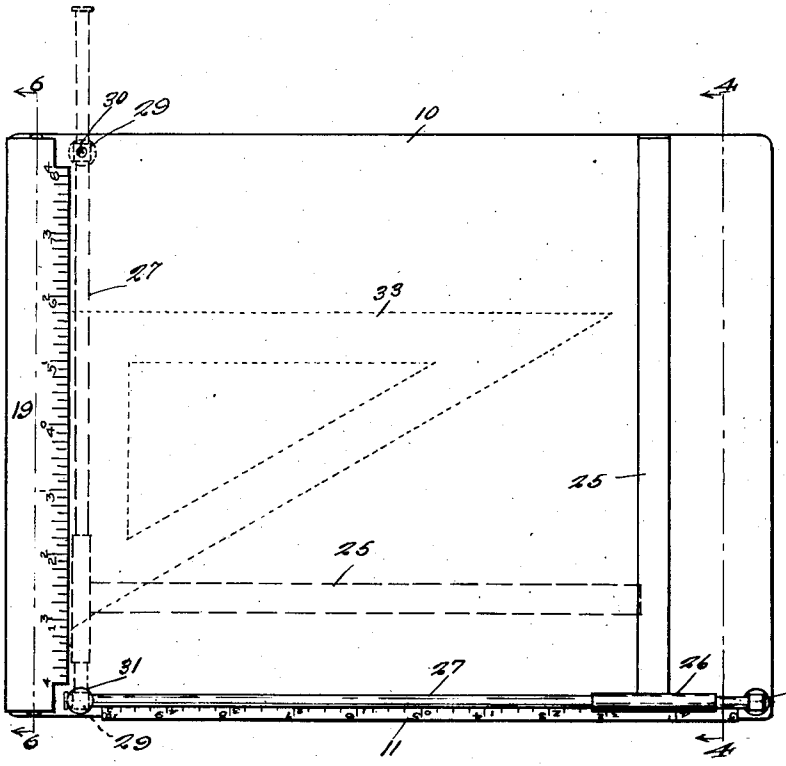


Fig-1

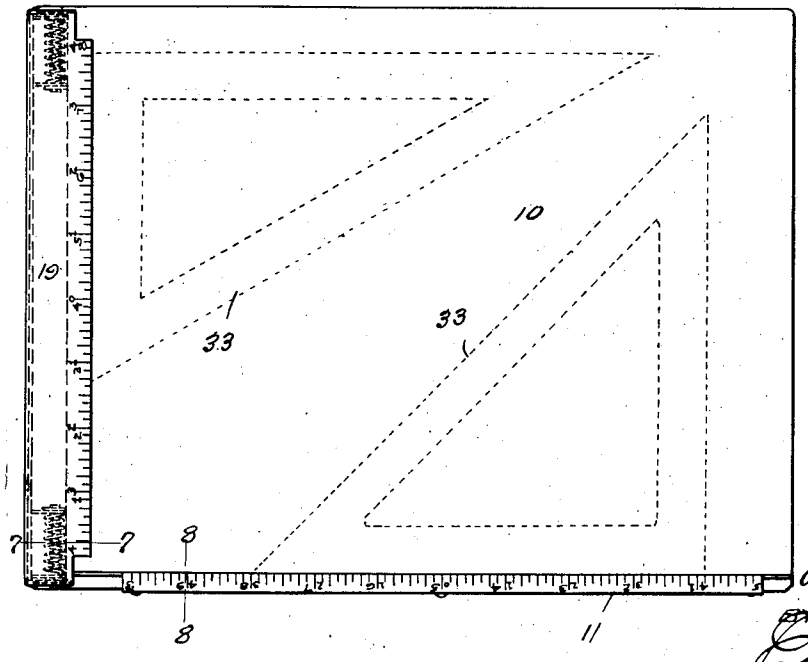


Fig-2

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DRAWING BOARD AND ATTACHED STRAIGHT EDGE

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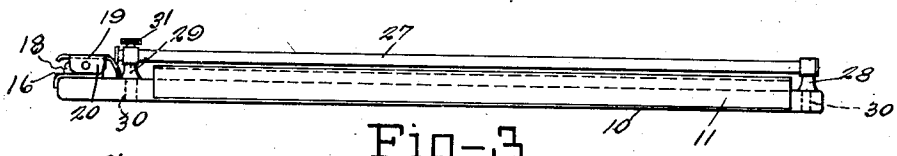


Fig-3

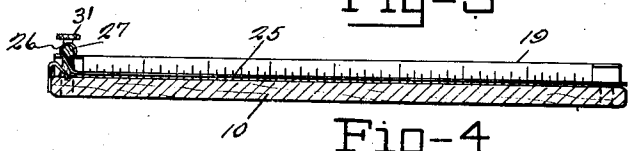


Fig-4

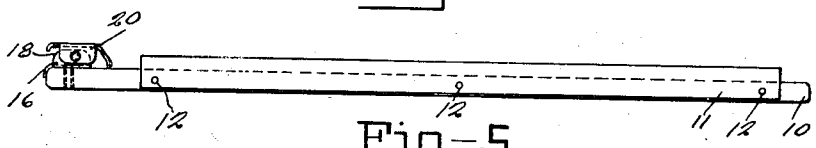


Fig-5



Fig-6

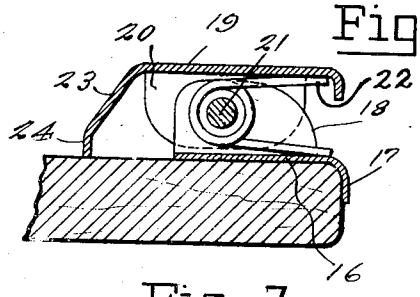


Fig-7

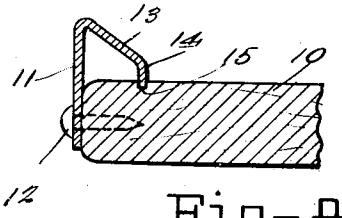
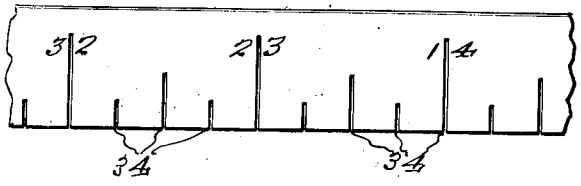


Fig-8

Fig-9



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Patented Oct. 9, 1928.

1,686,980

UNITED STATES PATENT OFFICE.

CLAUDE C. NUCKOLS, OF MENANDS, NEW YORK.

DRAWING BOARD AND ATTACHED STRAIGHTEDGE.

Application filed July 26, 1927. Serial No. 208,650.

This invention comprehends the provision of a portable drafting board, embodying among other features, straight edges secured to two adjacent sides of the board so that the paper can be quickly and properly centered thereon, one of said straight edges being yieldably mounted and designed to clamp the paper in position.

One of the chief characteristics of the present invention resides in the provision of means for supporting a straight edge for sliding movement on the board, and which means permits the straight edge to be arranged parallel with each of two adjacent sides of the board, so that horizontal lines or vertical perpendicular lines can be accurately drawn.

A further object of the invention resides in providing the straight edges with indented scale markings for rapid lay-out of work, the indentations on the scale being of sufficient depth to accommodate the point of a pencil, making it possible to conveniently, quickly and accurately locate the dimension line with the point of a pencil or scribe.

Another object of the invention resides in providing a board with straight edges associated with two adjacent sides of the board, one of which is employed for clamping the paper in position, while both of said straight edges are provided with a double scale, the graduations of one of said scales reading from the center to the opposite ends of said straight edge.

Other objects and advantages of the invention will be better understood when the following detail description is read in connection with the accompanying drawings, the invention residing in the construction, combination and arrangement of parts as claimed.

In the drawings forming part of this application like numerals of reference indicate similar parts in the several views and wherein:

Figure 1 is a plan view of the board showing by full lines how the movable straight edge is arranged for the drawing of perpendicular lines, and also showing by dash lines how the said straight edge can be arranged for the drawing of horizontal lines.

Figure 2 is a view similar to Figure 1 showing how the board may be used without the movable straight edge and its supporting means.

Figure 3 is an edge elevation of the board illustrated in Figure 1.

Figure 4 is a sectional view on line 4—4 of Figure 1.

Figure 5 is an edge elevation of the board illustrated in Figure 2.

Figure 6 is a view taken on line 6—6 of Figure 1.

Figure 7 is a cross sectional view taken on line 7—7 of Figure 2.

Figure 8 is a sectional view taken on line 8—8 of Figure 2.

Figure 9 is a fragmentary view of one of the scale markings showing the indentations.

Referring to the drawings in detail, 10 represents a drawing board of any ordinary and well known construction, and which board has permanently secured along one edge thereof a straight edge preferably formed from a single piece of material and of the cross sectional configuration illustrated in Figure 8. This straight edge is indicated generally at 11 and is secured to the side of the board in any suitable manner, preferably by fastening elements 12, the straight edge including a downwardly inclined portion 13, the lower edge 14 of which is arranged substantially parellel with the body portion 11, and adapted to be positioned in a groove 15 formed on the surface of the board. This straight edge is of course utilized to center the paper on the board 10, and by reason of the manner in which the straight edge is positioned in the groove 15, it is obvious that the paper can be moved against the straight edge, without any possibility of the paper slipping beneath the edge. Consequently the paper can be moved against this straight edge without any particular care and the paper centered on the board in a quick and convenient manner.

Secured to the adjacent edge of the board 10 is another straight edge, the latter being preferably in the form of a clamp used to clamp and hold the paper fixed upon the board in its given position. While this straight edge may be constructed for the purpose intended in various ways, without departing from the inventive idea, I preferably construct the same in the manner illus-

trated in Figure 7. This straight edge includes a stationary section 16 which reposes upon the board adjacent the edge thereof and is formed with a depending flange 17 which is secured to said edge in any suitable manner. This flange 17 reinforces the board proper and prohibits distortional warping of the surface of the board. Rising from this stationary section are spaced apertured ears 18, the latter being arranged in pairs adjacent each end of said section as clearly illustrated in Figure 6. The straight edge also includes a yieldingly mounted movable section 19 formed at each end with a depending ear 20, the latter being arranged next to the outermost ear 18 formed on the stationary section 16 to accommodate a pivot bolt 21. Each of these bolts is surrounded by a coil spring 22 having one end bearing against the stationary section 16 and its other end bearing against the movable section 19, and exerting a pressure upon the latter to always hold it in effective contact with the face of the board. The movable section 19 is provided with a downwardly inclined portion 23 similar to the portion 13 of the straight edge 11, and this inclined portion 23 terminates to provide a straight edge 24 which reposes upon the board 10. It is manifest that the movable section 19 can be easily and quickly depressed against the tension of the springs 22, to permit the paper to be slipped beneath the straight edge 24 thereof, and when the movable section is released the said straight edge will engage and clamp the paper on the board 10.

The downwardly inclined portion 13 of the straight edge 11 and the similar portion 23 of the other straight edge arranged along the adjacent edge of the board, are preferably graduated as illustrated. In other words each of these inclined portions is provided with a double scale, one series of graduations reading from one end to the other of the straight edge, while the other series of graduations are readable from the center toward the opposite ends of said straight edge. The graduations on the scales are preferably indented as illustrated at 34 in Figure 8, this view being enlarged to clearly illustrate the indentations, each of which is of a sufficient depth to make it possible to conveniently, quickly and accurately locate the dimension line with the point of a pencil or scribe. In other words the point of the pencil can be quickly arranged in the particular indentation, and the triangle or T can then be placed in contact with the point of the pencil or scribe as the case may be, and the line projected from a true dimension point. This of course provides for a rapid lay-out of work. It is of course understood that these straight edges may be graduated in any desired divisions without departing from the spirit of the invention.

In accordance with the present invention I contemplate use of an adjustable straight edge, substantially in the form of a T and indicated at 25. The head 26 of this straight edge is of tubular formation in cross section, and hollow to receive the guide rod 27 on which the straight edge 25 is mounted for sliding movement with relation to the board 10. As illustrated in Figure 4 the straight edge 25 is arranged to lie in close proximity to the board 10, while the tubular head 26 is slightly offset to receive the guide rod 27 which is spaced an appreciable distance from the board. It is my purpose to mount the guide rod 27 so that it can be arranged in parallelism with the straight edge 11, thus positioning the straight edge 25 as illustrated by full lines in Figure 1, so that perpendicular lines can be quickly and accurately drawn, and the straight edge 25 shifted along the guide rod 27 as the occasion requires; or said guide rod 27 together with its straight edge 25 can be quickly and conveniently shifted to arrange the guide rod parallel with the combined straight edge and clamp as illustrated by dash lines in Figure 1. When the guide rod is arranged in the last mentioned position, it is manifest that the straight edge 25 is then arranged for the drawing of horizontal lines, and can also be shifted along the rod 27 as desired.

Various means may be employed for mounting the guide rod upon the board to permit of the quick change in the position of the rod for the purpose above stated, and I do not limit myself to what is herein shown and described in connection with this important feature of the invention. However I preferably make use of two headed studs indicated at 28 and 29 respectively, and provide the board 10 with sockets 30 adjacent three corners. The heads of these studs receive the guide rod 27, while the head of the stud 29 is provided with a set screw 31, which when tightened holds the rod fixed relatively to the studs. The studs 28 and 29 are of course adapted to be positioned within two of the openings 30, having a snug fit therein so as to be held in position by friction, and when it is desired to draw perpendicular lines, the studs are arranged upon the board in the adjacent openings, to support the rod 27 and the straight edges 25 in the positions illustrated by full lines in Figure 1. However when it is desired to position the rod 27 parallel with the adjacent edge of the board, as illustrated by dash lines in Figure 1, it is only necessary to remove the studs 28 and 29 from their respective openings, and then place the stud 28 in the opening previously occupied by the stud 29, and at the same time position the stud 29 in the other of said openings arranged adjacent one corner of the board. The rod 27 is then positioned as illustrated by dash lines in Fig-

ure 1, and this of course positions the straight edge 25 as illustrated by dash lines in Figure 1 so that horizontal lines can be quickly and accurately drawn. When the rod 27 is arranged in the position illustrated by dash lines in Figure 1, it is allowed to slide through the head of the stud 29, as the rod is slightly longer than the width of the board.

By reason of this construction and arrangement of parts, it is obvious that the rod 27 and straight edge 25 can be removed from the board as a unit, should it be desired to use the board without these elements. For this purpose it is only necessary to remove the studs from the openings 30, which can be quickly and conveniently accomplished, inasmuch as the studs are merely held frictionally within the openings. Figure 2 illustrates how the board may be used without the straight edge 25 and its guide rod 27. Then again triangles 33 may be used in the ordinary manner for the drawing of straight lines, and these angles may also be used when the board is equipped with the straight edge 25 and guide rod 27. As the guide rod 27 is spaced an appreciable distance from the board as illustrated in Figure 4, it is manifest that the triangles can be slipped beneath the rod 27 to engage either of the straight edges associated with the adjacent edges of the board itself.

While it is believed that from the foregoing description, the nature and advantages of the invention will be readily apparent, I desire to have it understood, that I do not limit myself to what is herein shown and described and that such changes may be resorted to when desired as fall within the scope of what is claimed.

What is claimed is:

1. In combination, a drawing board, a straight edge permanently secured along one edge of the board, a combined straight edge and clamp secured to the adjacent edge of the board and adapted to hold a sheet of paper in position thereon, said board having spaced openings, a pair of headed studs, a guide rod supported by said studs, an additional straight edge slidably mounted on said rod, and said studs being adapted for interchangeable engagement with said openings, whereby said rod can be arranged parallel with either of the first mentioned straight edges.

2. In combination, a drawing board having openings adjacent certain corners thereof, and a longitudinal groove adjacent one edge, a straight edge secured to the latter mentioned edge of the board and including a portion terminating within said groove, a combined straight edge and spring clamp secured to the adjacent edge of the board, a pair of headed studs, a guide rod supported by said studs, an additional straight edge including a sleeve-like portion slidable on said rod, a set screw carried by one of said studs, and said studs being adapted to be interchangeably fitted in said openings, whereby said rod can be arranged parallel with either of the first mentioned straight edges.

In testimony whereof I affix my signature.

CLAUDE C. NUCKOLS.