Jan. 4, 1949. J. MORAN 2,458,188

DRAFTING INSTRUMENT

Filed May 13, 1946

FIG. 3

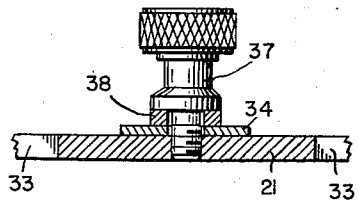


FIG. 1

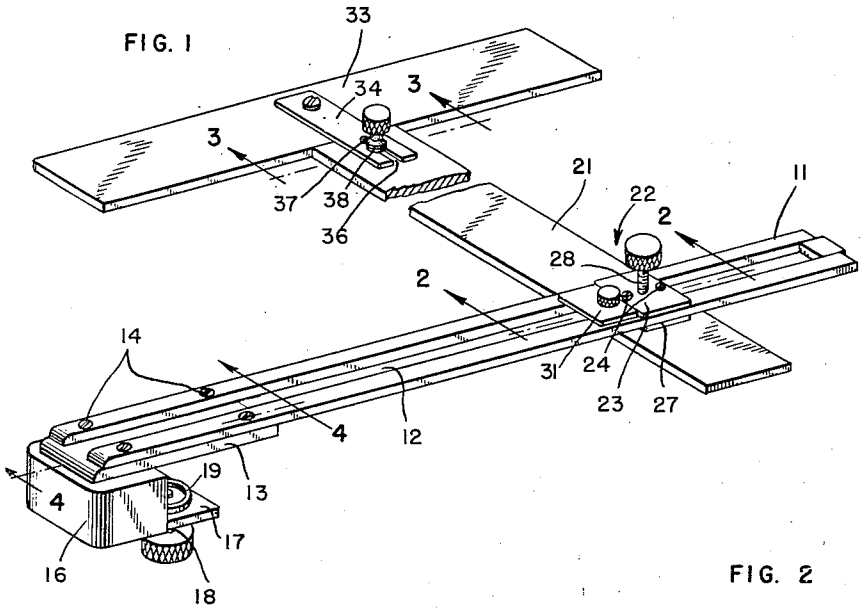


FIG. 2

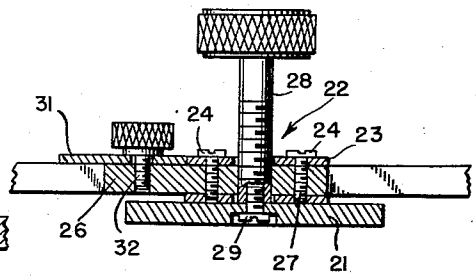
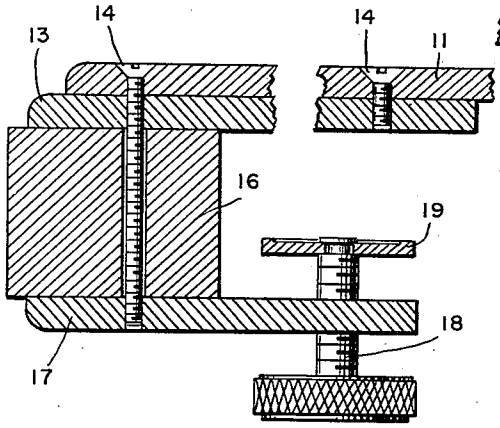


FIG. 4



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DRAFTING INSTRUMENT

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2 Claims. (Cl. 33—76)

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The present invention relates to drafting instruments, and more particularly to improvements therein.

It is often necessary in drafting to draw lines or do lettering at various angles or at various positions on the sheet on which the work is being done. The usual method for such operations is to utilize a T-square and triangles, which perform suitably under many conditions. However, such implements are not satisfactory for operations at varied angles, or where it is desirable to clamp the instruments in a certain position for repeated operations.

Accordingly, an object of the present invention is to provide means for allowing drafting at any angle or at any position on the sheet on which work is being done.

A second object of the invention is to provide suitable clamping means for insuring repeated operation at the same angle or position.

The device embodying the invention comprises, in general, a member for securement to a drafting table, a straight-edge, means for securing the straight-edge to the member in such a manner as to allow it to be secured at any position thereof or at any angle thereto, and a second straight-edge which may be secured to the first straight-edge perpendicularly thereto, when desired.

A better understanding of the device may be had by the following detailed description thereof, when read in conjunction with the accompanying drawing, in which

Figure 1 is a perspective view of an apparatus embodied in the invention;

Figure 2 is an enlarged sectional view taken on the line 2—2 of Figure 1;

Figure 3 is an enlarged sectional view taken on the line 3—3 of Figure 1; and

Figure 4 is an enlarged sectional view taken on the line 4—4 of Figure 1.

Referring now to Figure 1, it may be seen that a two barred longitudinal member 11 is provided, which has a central longitudinal slot 12 extending almost the entire length thereof. At one extremity of the member 11 a short flat base 13 is secured by means of screws 14, or other suitable means.

By reference to Figure 4 it may be seen that two of the screws 14 are short, passing through the member 11 and the base 13 only, whereas the other two screws pass through a block 16 and thread into another flat base 17. The base 17 is provided with a large-headed bolt 18 threaded

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therethrough which is provided at one extremity with a flat clamping disc 19.

In use, the member 11 is secured to a suitable drafting table by positioning the base 13 over the top thereof until the block 16 engages the edge thereof and then tightening the bolt 18, the disc 19 engaging the under side of the table. It is obvious that the device may be clamped to different tables of different thicknesses and at any suitable position on the table.

A straight-edge 21 is secured to the member 11 by securing means, indicated generally as 22. The securing means 22 include a plate 23 which is secured by screws 24 to a block 26 located within the slot 12 in the member 11. The plate 23 is sufficiently wide to extend across the slot 12 and over the member 11, thus precluding the block 26 and plate 23 from passing downwardly through the slot 12.

A plate 27, similar in size to the plate 23, is positioned under the member 11 and in alignment with the plate 23. The two plates are secured together by the screws 24.

A bolt 28 having a large knurled head passes through an opening in the top plate 23, is threaded through the block 26, and passes through an opening in the lower plate 27. The bolt 28 is provided with a tapped central opening in the bottom thereof, the threads being opposite to those on the bolt, that is, if the bolt is provided with right-hand threads those of the opening are of the left-hand variety.

The tapped opening in the bolt 28 receives a set screw 29 which is threaded through the straight-edge 21, the under side of the straight-edge being counterbored to receive the head of the set screw.

From the above description it may be seen that inasmuch as the set screw 29 secures the straight edge 21 to the bolt 28, and as the bolt 28 is threaded through the block 26, the plate 27 will be held between the straight-edge 21 and the block 26.

By loosening, or unscrewing the bolt 28, and because the opening in the bolt 28 is of an opposite thread, such will not result in loosening of the screw 29, the straight-edge 21 becoming loosened with respect to the remainder of the assembly, thereby allowing it to be positioned at any angle with respect to the plate 27 and thus with respect to the member 11. Thereafter the bolt 28 wil be tightened, with the straight edge 21 being held by the described assembly in such angular position.

A second top plate 31 is provided, adjacent the

plate 23, which is also of sufficient width to extend over the slot 12 and member 11. The plate 31 is provided with an opening through which extends a large headed bolt 32 which is threaded into the block 26. By tightening the bolt 32 the plate 31 will be clamped against the member 11 and preclude movement of the block 26 in the slot 12. However, by loosening the bolt 32 the entire assembly may be moved within the slot 12 to any position with respect to the member 11, at which time the bolt 32 will be tightened again.

Therefore, from the above description it may be seen that the straight-edge 21 may be secured at any angle with respect to the member 11 and may then be moved to any position along the length of the member 11 and be secured in that position all while retaining the previously set angular relationship with the member 11.

With reference to Figure 1 again, it may be seen that a second straight-edge 33 is optionally provided. The straight edge 33 has a plate 34, bifurcated at 36, extending sidewardly therefrom approximately midway of its length. The plate 34 is secured to the straight-edge 33 by any suitable means, such as the illustrated screw.

Referring now to Figure 3, it may be seen that a knurled headed bolt 37 passes through the bifurcated portion 36 of the plate 33 and threads into the straight-edge 21, the plate 34 and shoulder portion of the bolt 37 being separated by a washer 38.

When it is desired to use the straight-edge 33 the bolt 37 may be loosened, if in the straight-edge 21, the bifurcated portion 36 of the plate 34 positioned encompassing the bolt 37 under the washer 38, and the bolt 37 tightened. By placing the straight-edge 33 in engagement with the extremity of the straight-edge 21 it will insure the members being perpendicular with respect to each other. It is obvious that when the straight-edge 33 is not in use the bolt 37 may be removed from the straight-edge 21.

The members of the described device may be constructed of wood, metal, or plastic material, or combinations of the same.

While a specific embodiment of the invention has been described it is illustrative only, merely being an embodiment within the scope and spirit of the invention.

What is claimed is:

1. A drafting instrument comprising a member having a longitudinally extending central slot, means secured to said member for securing said member to a drafting table, a straight-edge, a block positioned in the slot in said member, an upper plate secured to said block and extending over the slot and said member, a bolt passing through said upper plate and threadably engaging said block, said bolt being provided with a tapped central opening, a screw threadably engaging said straight-edge and the opening in said bolt, and a lower plate positioned between said block and said straight-edge, whereby the recited elements operate to permit said straight-edge to be positioned at any angle with respect to said member.

2. A drafting instrument comprising a member having a longitudinally extending central slot, means secured to said member for securing said member to a drafting table, a straight-edge, a block positioned in the slot in said member, an upper plate secured to said block and extending over the slot and said member, a bolt passing through said upper plate and threadably engaging said block, said bolt being provided with a tapped central opening, a screw threadably engaging said straight-edge and the opening in said bolt, and a lower plate positioned between said block and said straight-edge, whereby the recited elements operate to permit said straight-edge to be positioned as an angle with respect to said member, a second upper plate extending over the slot and said member, and a bolt passing through said second upper plate and threadably engaging said block, whereby said second upper plate and said bolt operate to permit said straight-edge to be positioned at any point in the slot in said member.

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