Aug. 25, 1970 G. R. WITT 3,525,156

DRAFTING DEVICE

Filed Jan. 2, 1969

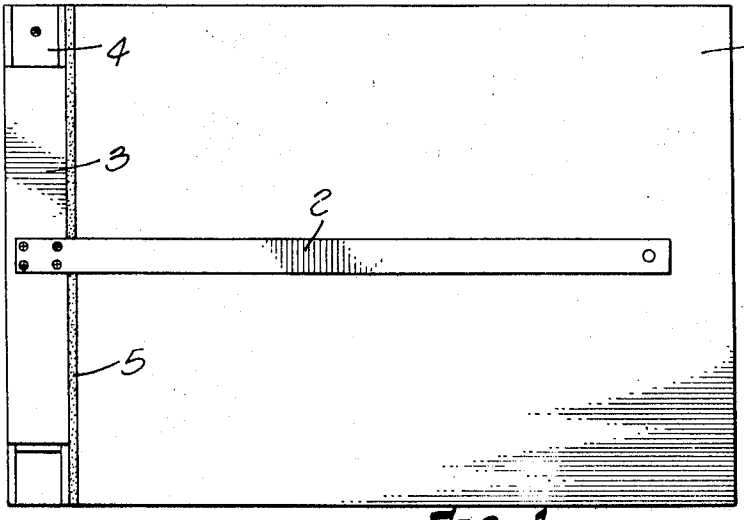


FIG. 1.

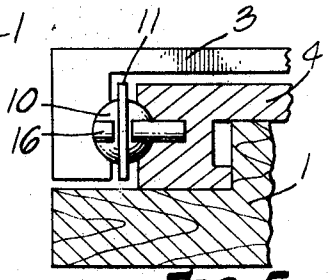


FIG. 5.

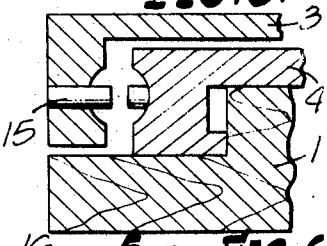


FIG. 6

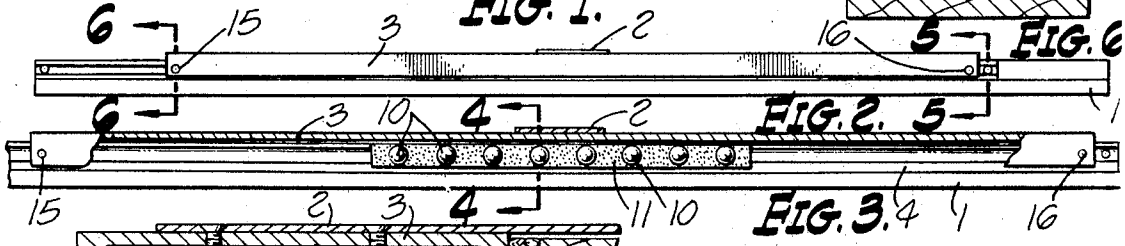


FIG. 2.

FIG. 3.

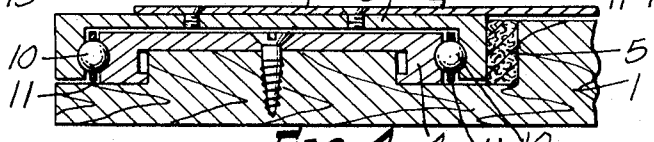


FIG. 4.

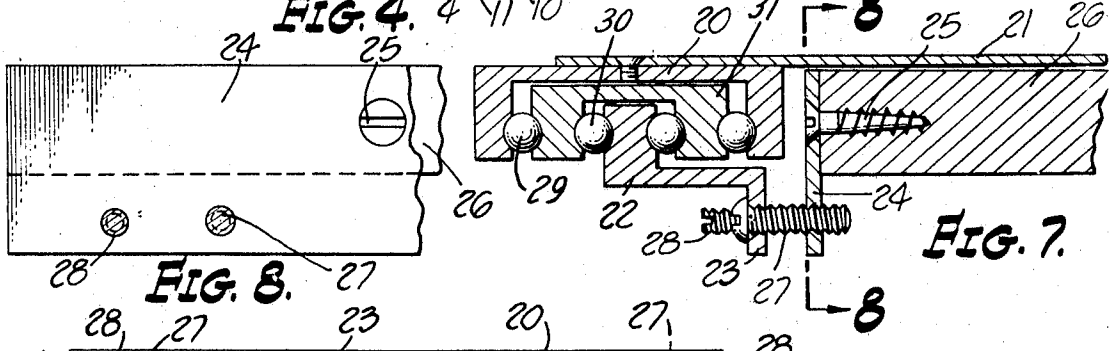


FIG. 8.

FIG. 7.

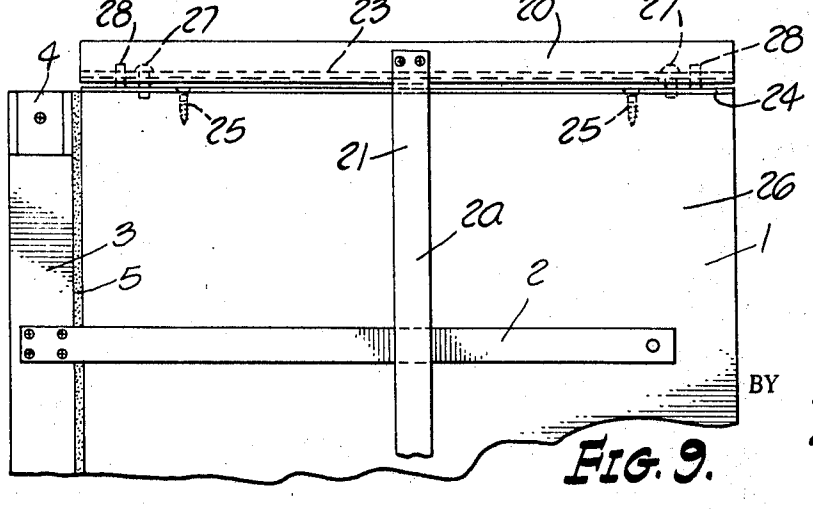


FIG. 9.

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DRAFTING DEVICE

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U.S. Cl. 33—76 4 Claims

ABSTRACT OF THE DISCLOSURE

A drafting device having at least one rigid straight edge piece slidably mounted on a drafting board or table with a slide mechanism operably connected to said straight edge piece which maintains said straight edge piece in a fixed relationship to the edge of the table, while said straight edge piece is moved across the table and means to inhibit movement of said straight edge piece in one direction induced by the force of gravity.

SUMMARY OF THE INVENTION

The present invention comprises a straight edge of a T-square which is slidably mounted to a drafting board of drafting table top. The head of the T-square is rigidly mounted to the board or table so that the cross piece is at all times in a 90° relationship to the side of the board to which it is attached.

A common problem encountered with the present T-squares comprising a head and a straight edge is that the head is not always held secure to the edge of the drafting board. This causes the straight edge to be at an angle other than 90° to the edge of the drawing or piece to be cut.

The present invention provides a mechanism in which the straight edge is always in the desired 90° relationship with the work and yet is freely movable in relationship to the artwork on the board. These objects of the present invention can be accomplished in any one or combination of three ways.

The head mechanism may be permanently attached at one end of the board or drafting table or at one end and the top of the table to provide a double straight edge combination with one straight edge on the horizontal and the other on the vertical. For already existing drafting boards or tables the head may be made separate and clamped thereon.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top elevation showing the drafting device mounted on a drafting board or table top.

FIG. 2 is a side elevation of the drafting device and the board or table top.

FIG. 3 is a cross sectional elevation of the drafting device.

FIG. 4 is a cross sectional elevation taken through lines 4—4 of FIG. 3.

FIG. 5 is a partial cross sectional elevation of one end of the drafting device taken through lines 5—5 of FIG. 2.

FIG. 6 is a partial cross sectional elevation of the other end of the drafting device taken through lines 6—6 of FIG. 2.

FIG. 7 is a cross sectional elevation showing an alternate form of the invention.

FIG. 8 is a cross sectional elevation taken through lines 8—8 of FIG. 7.

FIG. 9 is a top elevation showing two heads and two straight edges mounted on a drafting board or table top.

Referring now to the drawings, particularly to FIG. 1, the drafting area is designated generally as **1**. The straight edge **2** is affixed to a sliding head member **3** which slides on a base track member **4**. If this base member were al-

to the bottom of the drafting area top **1** when the drafting area was placed on an incline. Therefore, a friction means **5** which may be of felt material is provided which inhibits the motion of sliding head member **3** when the drafting area is placed on a slant.

FIGS. 2, 3 and 4 illustrate the use of ball bearings **10** held in a plate **11** to prevent these ball bearings from bunching up at one place. The purpose of ball bearings **10** is to give a smooth even track of the head member **3** so that the straight edge **2** is in a constant 90° relationship to the head **3** as it travels up and down the board.

FIGS. 5 and 6 illustrate the use of pin members **15** and **16** which prevent removal of the head member **3** from the base member **4** inadvertently and also prevents the loss of ball bearings **10** when the head member **3** is moved from one extreme end or the other.

FIG. 7 illustrates another form of the present invention where the head member **20**, it carrying the straight edge **21** and associated base member, are provided with a support base **22** and braces **23** and **24**. Brace member **24** is attached to the edge of the board by screws **25** and is comprised of a noncompressible material such as steel or a hard plastic. Brace member **23** is affixed to base member **24** by screws **27** which are threaded into that brace member. Threaded holes are also provided in brace **23** into which adjusting screws **28** are placed. These screws allow the head member to be aligned in a perpendicular relationship to the bottom or top of the drafting board. The head member **20** rides on a plurality of outer ball bearings **29** and a plurality of inner ball bearings **30**. The outer ball bearings **29** are positioned between the head member **20** and an intermediate member **31** and the inner ball bearings **30** are positioned between the intermediate member **31** and the support brace **22**. This arrangement is particularly useful when the double straight edge combination of FIG. 9 is used in that it allows for alignment of straight edges **2** and **2*a*** to be aligned to a near perfect 90° relationship to each other.

FIG. 9 illustrates the use of two base and head assemblies to provide perpendicular straight edges **2** and **2*a*** in one drafting area.

Various changes and modifications may be made in carrying out the present invention without departing from the scope and spirit thereof. Insofar as these changes and modifications are within the purview of the appended claims, they are to be considered as part of the invention.

I claim:

1. A drafting device of the type having a drafting board and a straight edge member which is slidably mounted at one end only wherein the improvement comprises:

a base track rigidly affixed to the drafting board;

a first pair of linear races contained in said base track and positioned at a 90° angle to the straight edge member;

a plurality of antifrictional rolling elements adapted to ride in the linear races;

a sliding head member containing a second pair of linear races telescopically mounted on said base track so as to cooperate with said antifrictional rolling elements and the first pair of races;

the straight edge member rigidly mounted on said sliding head member;

friction means mounted along a longitudinal edge of said drafting board and positioned to cooperate the sliding head member so that said sliding head member will maintain its position when its base track is inclined at an angle from the horizontal; and

pin members at the end of each of said linear races to prevent inadvertent removal of said sliding head

member from said base track while permitting the straight edge member to move in a direction parallel to said linear races across the entire drafting board.

2. The device of claim 1 wherein said anti-friction rolling elements comprise ball bearings, each said ball bearing in each said linear race maintained in a spaced relationship with each said adjacent bearing.

3. The device of claim 1 wherein said base track is integral with the drafting board.

4. The device of claim 1 wherein said friction means comprises a longitudinally extending member composed of matted fibers mounted along the longitudinal edge of said drafting board in frictional engagement with said sliding head member.

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