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BLACKBOARD RULING DEVICE

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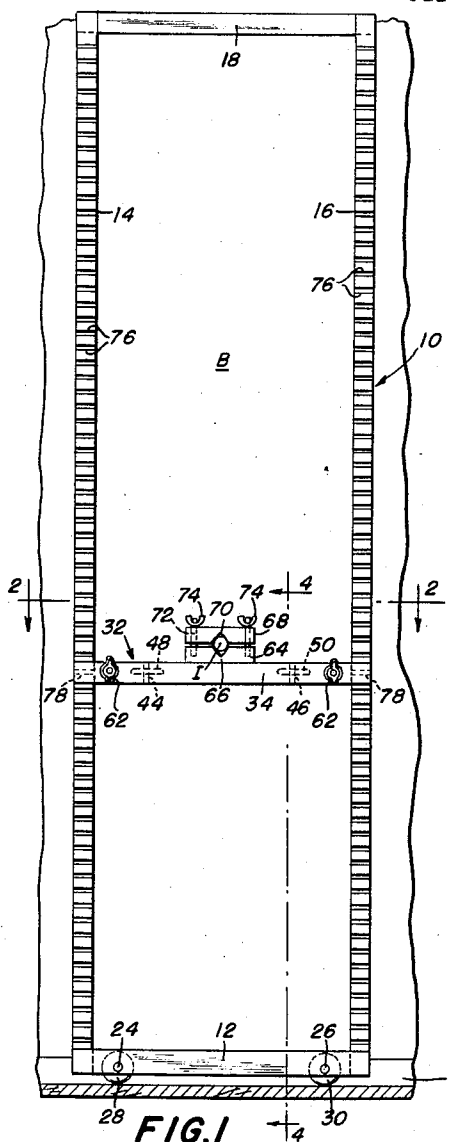


FIG. 1

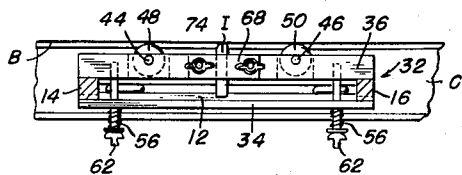


FIG. 2

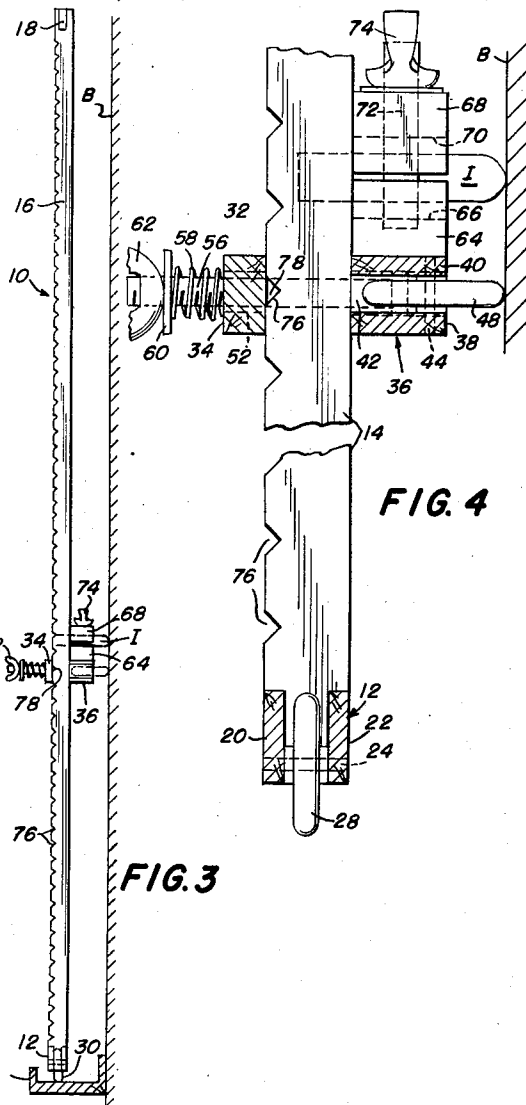


FIG. 4

FIG. 3

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BLACKBOARD RULING DEVICE

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3 Claims. (Cl. 33—41)

This invention relates to a blackboard ruling device. More specifically this invention relates to a device for drawing a line or lines on a blackboard or the like, said line being parallel to the chalk tray or other surface which supports the device. More specifically, this invention relates to a blackboard ruling device comprising a rectangular frame having a base and two vertically extending sides at the opposite ends thereof, said sides having a bridge member adapted to be clamped therebetween at a selected vertical height, said bridge member having thereon means to hold a conventional marking instrument. In use, the structure is supported with its base on a horizontal supporting surface and the marking instrument engaging a vertical writing surface. The structure is then moved along the supporting surface whereby the marking instrument scribes a line on the writing surface.

Attempts have been made in the past to produce satisfactory blackboard ruling devices. One such attempt is shown in the United States Patent 1,186,716 to Walker. One of the devices in the prior art comprises a wheeled triangular figure, one side of which is perpendicular to the wheeled base. Attached to the device and slidable along the perpendicular side thereof is a roller marking instrument which is specially designed for use with the device.

The prior art does not show simple means by which conventional marking instruments may be used on devices of this general nature. Also the devices of the prior art do not provide adequate means for easily adjusting the vertical height of the marking device.

Accordingly, it is an object of this invention to provide a blackboard ruling device with novel means for holding in vertically adjustable disposition a conventional marking means.

It is another object of this invention to produce a device for ruling the blackboard featuring unusually simple and easy means for vertically adjusting and accurately fixing the marking instrument.

It is yet another object of this invention to provide a blackboard ruling device having a simple and sturdy structure.

This invention embodies other novel features, details of construction and arrangement of parts of which are hereinafter set forth in the specification and claims, and illustrated in the accompanying drawing, wherein:

Fig. 1 is an elevational view showing the device supported in a blackboard chalk tray;

Fig. 2 is a horizontal sectional view taken on line 2—2 of Fig. 1;

Fig. 3 is a side elevational view showing the device supported in a chalk tray;

Fig. 4 is an enlarged fragmentary sectional view taken on lines 4—4 of Fig. 1.

Referring more specifically to the drawings, my invention comprises a rectangular frame 10 having a base 12 with parallel vertical upstanding sides 14 and 16 at

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opposite ends thereof. A top member 18 parallel to base 12 connects the two sides at their upper ends. As is best shown in Fig. 4, base 12 may comprise a pair of slats 20 and 22 in parallel side by side relation secured to the opposite sides of each of the side members respectively. To provide a neat appearance the lower ends of the side members are preferably mitered. A pair of spindles 24 and 26 are connected between the two base slats and on each of them rotates a wheel 28 and 30. The lower surface of the wheels must extend below the lower surface of the slat members in order that the wheels may provide antifriction means to support frame 10. The wheels may be rubber-tired to reduce noise and assure good frictional contact with the supporting surface, normally a cleared chalk tray C as is shown in Fig. 1.

Spanning the two vertical side members is the vertically adjustable bridge member 32. Bridge member 32 comprises a pair of elongated members 34 and 36 in parallel side by side relation, one on either side of the frame (see Fig. 4). The elongated member 36 may comprise a pair of slats 38 and 40 similar to base slats 20 and 22. The slats 38 and 40 of elongated member 36 are spaced by means of block spacers 42 at the center and adjacent the end of member 36. Connected between the slat members of the elongated member are a pair of spindles 44 and 46 disposed parallel to the side members. On these spindles rotate wheels 48 and 50 respectively a portion of each of which extends outwardly beyond the slats 38 and 40 to engage the blackboard or other writing surface B. The other elongated member 34 is a flat bar. Elongated member 34 and 36 have a pair of aligned horizontally disposed bores 52 and 54 therethrough. The bores each receive from the wheeled side of the elongated member a threaded member 56 the head of which is held against rotation. The bores through the elongated member 34 are somewhat larger in diameter than the diameter of the threaded members so that the elongated member 34 may be easily moved in a direction axial to the threaded members 56. The free end of the bolts are fitted with a compression spring 58, a washer 60, and a wing nut 62.

To the top surface of the bridge member at its center is secured a block 64 having a notch 66 in the center of the upper surface thereof. A similar block 68 with a matching notch 70 opposes and is disposed immediately thereabove. The upper block 68 is apertured, and extending upwardly from the lower block 64 are a pair of threaded studs 72 adapted to pass through said apertures. Wing nuts 74 are provided for the upper free ends of the threaded studs. Thus, a conventional writing instrument I, namely, a pencil, pen, or piece of chalk may be fitted in the opposed notches 66 and 70 of the members 64 and 68 and the wing nuts 74 tightened to clamp them together between said members. The clamp members 64 and 68 are adapted for use with a marking instrument of the fluid dispensing type. One of such instruments is presently marketed under the trademark "Magic Marker" and is especially effective in making marks on blackboards.

In use, obviously, the device is placed in the clearer chalk tray and moved therealong on its wheeled base, the marker engaging the blackboard.

To adjust with great facility the vertical height of bridge 32 with respect to base 12, the side members 14 and 16 are graduated at regular, preferably one-half inch, intervals. Side members 14 and 16 are notched transversely, as at 76, at these intervals as is shown in Fig. 4. To complete the height adjusting means, the inside surface of the elongated member 34 is formed with a V-shaped projection 78 at either end adapted to

cooperate selectively with any one of the notches. Thus, to set bridge 32 at the proper height with respect to the base is no problem at all. The elongated members 34 and 36 are spread away from each other and the bridge is slid up or down to the approximate height desired. At this height the members 34 and 36 are released and the compression spring 58 biases them toward each other causing the projection 78 to move into the desired notch, firmly centering the bridge at the exact height.

Aside from this effective yet simple means for adjusting the height of the bridge member, my invention provides in a blackboard ruling device means for using conventional writing instruments, said means including anti-friction device adapted to space the frame appropriately from the writing surface. Thus, no matter how much force is exerted by the user against the frame, the intensity of the mark made by the marking device remains constant. The anti-friction spacing device assures this.

My invention is of special value to teachers of primary school age children. In teaching such young children it is often necessary to draw lines of horizontal disposition on a blackboard. In this connection, it should be understood that my device may be used with a plurality of bridge members and marking instruments so that, for instance, five parallel lines could be drawn on a blackboard to symbolize the musical staff. This, however, is only one of the many uses of my invention.

It can be seen that my invention combines with a rugged durable structure a desirable simplicity which means economy in manufacture. My invention features means for drawing a line parallel to a supporting surface utilizing a conventional marking instrument and provides means for accurately and simply adjusting the vertical height of the instrument.

While this invention has been shown in but one form, it is obvious to those skilled in the art that it is not so limited but is susceptible of various changes and modifications without departing from the scope and spirit of the claimed invention.

I claim:

1. A ruling device, adapted to make lines on a writing surface, said device comprising a rectangular frame having a horizontal base with parallel vertically disposed side members attached to and extending upward from either end thereof, the upper ends of said side members being attached to the opposite ends of a top member, said base having antifriction base rollers attached thereto, said rollers being adapted to support said frame, a

horizontally disposed bridge member attached to and extending between said side members, said bridge member having at least one anti-friction roller adapted to rollingly engage such writing surface and to keep said bridge member in spaced relation from such writing surface and said bridge member comprising a pair of elongated members disposed in parallel relation on opposite faces of said frame respectively, releasable compression means connecting said elongated members and clamping said side members therebetween, said bridge member having mounted thereon between said side members clamping means adapted to hold in compressive engagement a writing instrument in a position whereby said instrument is adapted to write on such writing surface and whereby said frame may be supported with said base rollers on a supporting surface substantially perpendicular to such writing surface and be moved therealong with said bridge rollers and said writing instrument engaging the writing surface and making thereon a line parallel to such supporting surface.

2. A ruling device as in claim 1 wherein said compression means includes a compression spring biasing said elongated members toward each other.

3. A ruling device as described in claim 2 wherein said side members each have transverse notches therein at spaced intervals therealong on a face thereof abutted by a surface of one of said elongated members and said last mentioned elongated member has fixed projections thereon on said abutting surface at the area of said abutment whereby said projections are adapted to selectively nest in said notches and be held in said nesting engagement by the compressive force of said spring; whereby the vertical height of said bridge may be adjusted by springing said elongated members outwardly against the force of said spring to a position whereat said projections and notches do not nestingly engage, and moving said bridge up or down.

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