Jan. 9, 1962 C. K. GUTH 3,015,906

EASELS

Filed Sept. 28, 1959 2 Sheets-Sheet 1

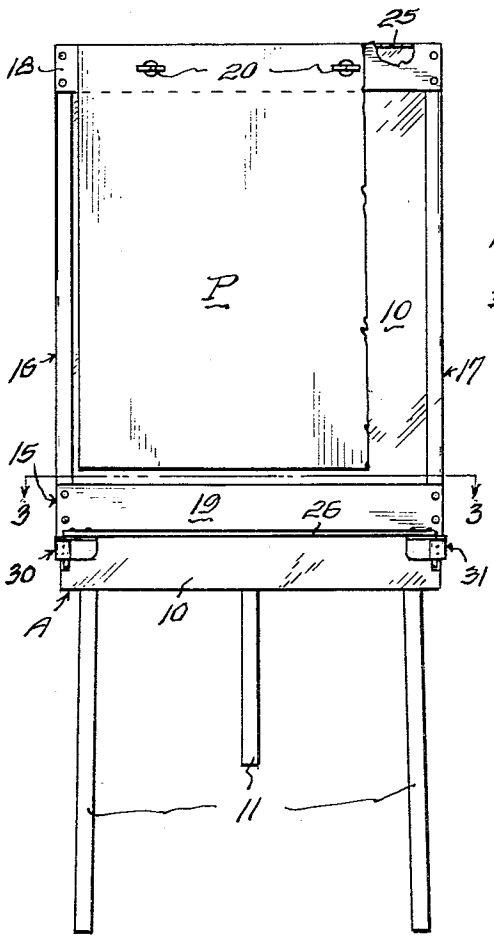


Fig. 1.

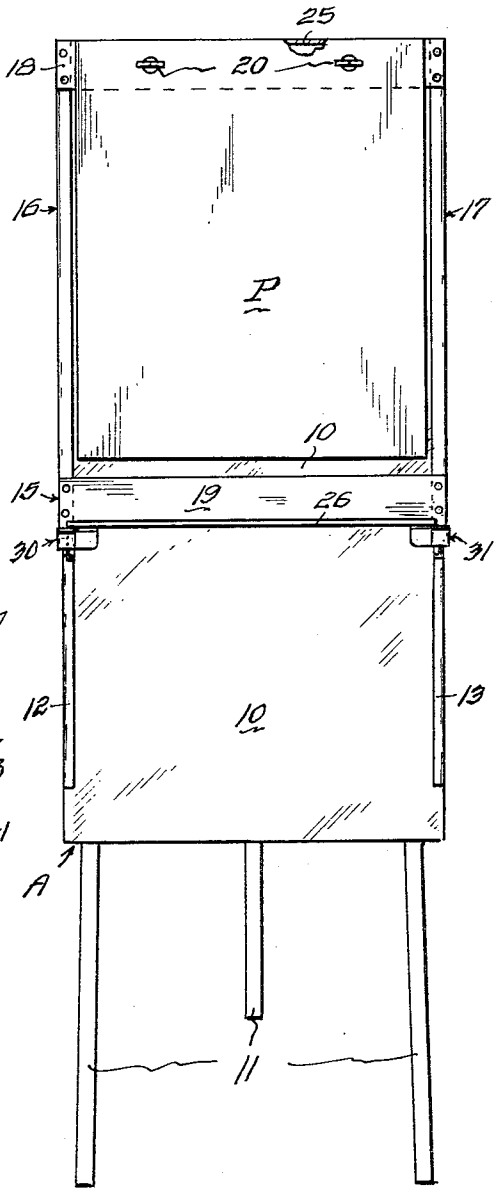


Fig. 2.

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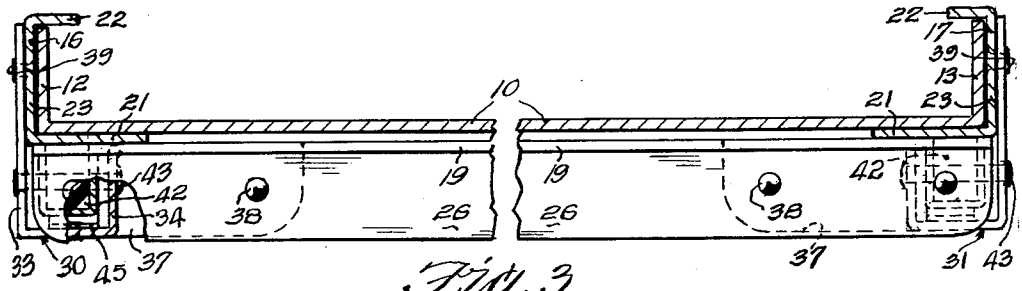


Fig. 3.

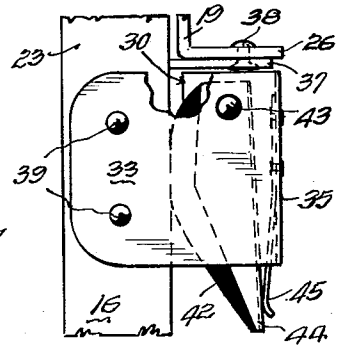


Fig. 7.

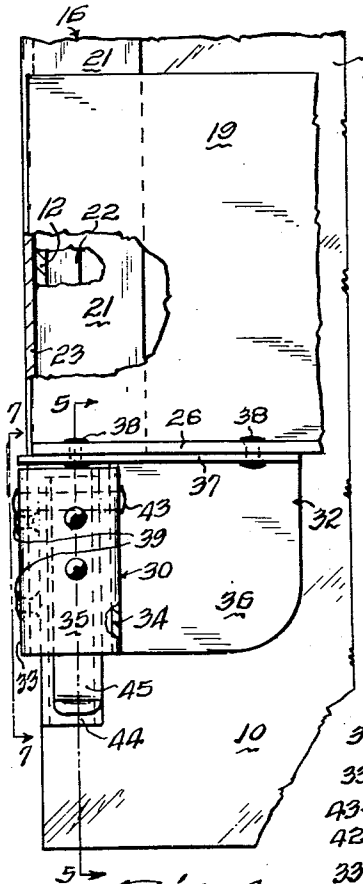


Fig. 4.

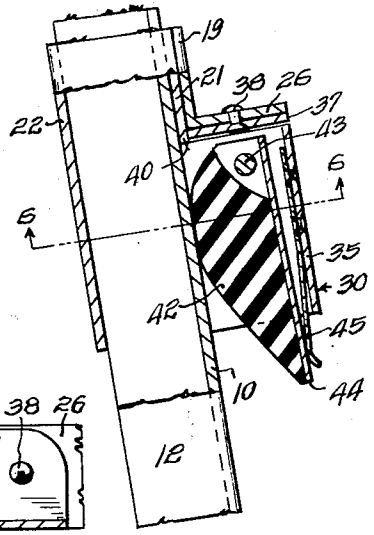


Fig. 5.

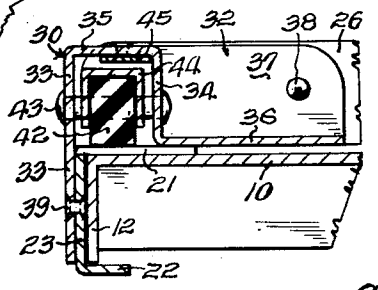


Fig. 6.

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3,015,906

EASELS

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2 Claims. (Cl. 45—129)

The present invention relates to an improvement in lecture stands of the easel type arranged to support a relatively large sheet of paper or the like in a position to enable a person to write or draw thereon before an audience.

In using easels of the type mentioned, as writing on the sheet progresses the lower lines thereof become difficult to observe by persons in the audience beyond the first row, and the writer must lean or crouch in an uncomfortable and difficult writing position. An object of the present invention is the provision of an improved easel having a writing sheet support structure which positions the writing sheet on a backing panel or board and which can be readily shifted to selected elevated positions as the writing progresses whereby the lowermost line of writing is at an elevation to be easily viewed by an entire audience and to be written by the writer while in an erect, comfortable position.

In carrying out the invention it is a further object to provide an improved easel comprising an upright backing panel for a sheet to receive writing, a support frame for the sheet, which frame is guided upwardly relative to the backing panel, and clutch means acting between the panel structure and supporting frame to lock the frame relative to the panel at different selected elevations. Preferably, the clutch means is ineffective to block upward movements of the frame and automatically locks the frame relative to the panel by the weight of the frame.

A more specific object of the invention is the provision of a sheet support frame having channel like guide members extending along opposite sides which receive the opposite side edge portions of the panel therebetween whereby the frame is guided in upward movements relative to the panel, and friction clutch devices at opposite sides of the frame which cooperate with the panel to force the guide members against the edges of the panel when the weight of the frame is released and thereby frictionally retain the frame in an elevated position on the panel.

A still further object of the invention is the provision of a device to automatically clamp the sheet supporting frame to the panel comprising an eccentrically shaped friction member supported on the frame so that the surface thereof engages a surface of the panel whereby a slight downward movement of the frame causes the member to be wedged between the panel and frame resulting in a forcing of parts of the frame guide against the panel which frictionally locks the frame against further downward movement on the panel. The eccentric member includes a part by which it may be rotated manually to release the member and frame from the locking engagement with the panel mentioned.

Other objects and advantages of the invention will be apparent from the following description of a preferred embodiment of the invention, reference being made to the accompanying drawings wherein

FIG. 1 is a front elevational view of an easel embodying the invention;

FIG. 2 is a view similar to FIG. 1 but showing certain parts of the easel in different positions;

FIG. 3 is a sectional view taken substantially along line 3—3 of FIG. 1 but on a larger scale and showing the central portion broken away;

FIG. 4 is a fragmentary front view of the structure shown in FIG. 3;

FIG. 5 is a sectional view taken on line 5—5 of FIG. 4;

FIG. 6 is a sectional view taken along line 6—6 of FIG. 5; and

FIG. 7 is a view taken along line 7—7 of FIG. 4, showing a part broken away.

In the form shown, my invention is embodied in an easel A, comprising a conventional board or panel 10 which is adapted to be supported in an upright position above the floor by three legs 11, so as to form a smooth, flat backing for a sheet lying against the outer face thereof. The legs may be attached to the panel in any suitable manner, for example, like that shown in U.S. Patent Number 2,638,300. Although panel 10 could be formed of any suitable material or form, in the present instance it comprises an aluminum sheet having rearwardly turned edge portions which form reinforcing flanges 12 and 13 along opposite sides to provide stiffening of the panel.

Sheets of writing material, such as a pad of paper P, are adapted to be supported on the front face of panel 10 by a frame structure 15 which is slidingly carried on the panel and which comprises two side members 16 and 17 inter-connected at top and bottom by cross members 18 and 19, respectively. Member 18 has conventional wing-nut type fasteners 20 which project through openings in the top of pad P to attach the pad to the frame. Frame 15 has guide means which cooperate with the side edge portions of panel 10 to guide the frame for movement up and down the panel, and in the form shown, these guide means comprise channel formations in side members 16 and 17 consisting of two parallel flanges 21 and 22 inter-connected by a yoke portion 23. Rear flanges 22 of side members 16 and 17 are somewhat shorter than front flanges 21, as may be seen in FIG. 3. Upper cross member 18 is preferably formed of an aluminum strip having a rearwardly projecting upper flange 25 for engaging the top of panel 10 to limit downward movement of frame 15, and the cross member is suitably secured, as by rivets, to side members 16 and 17. Lower cross member 19 is likewise preferably formed of an aluminum strip having a forwardly projecting flange or ledge 26, and this cross member is likewise riveted to side members 16 and 17 adjacent to lower ends thereof but spaced slightly thereabove. Ledge 26 provides a convenient hand hold by which frame 15 can be raised relative to panel 10, as described hereinafter, and it may also serve as a holder for crayons or the like. Side members 12 and 13 are maintained spaced by cross members 18 and 19 so that yoke portions 23 of the guide channels straddle the outer sides of flanges 12 and 13 of panel 10, as seen in FIG. 3. It is to be noted that the space between flanges 21 and 22 of side members 12 and 13 is slightly greater than the depth of flanges 12 and 13 so that flanges 21, 22 and yoke 23 cooperate with flanges 12 and 13 and the face of panel 10 to guide frame 15 in relatively free telescoping upward and downward movements on panel 10. It may be desirable to line confronting or rubbing surfaces of the frame member and panel with suitable low friction material to minimize friction between the sliding parts, but since such expedient is not essential to the operation of the invention it is not shown.

Clutch devices 30 and 31 are attached to the lower edges of cross member 19 and are operative to permit free upward movement of frame 15 relative to panel 10 but prevent downward movement of the frame except upon manual release thereof. In the preferred form, clutch means 30 and 31 are of like construction and to avoid undue repetition, only clutch means 30 is described in detail.

Referring to FIGS. 4, 5 and 6, clutch means 30 com-

prises a bracket 32 which is generally a channel shape sheet metal member having two parallel spaced walls or flanges 33 and 34 inter-connected by a yoke wall 35. Wall 34 has an outwardly turned flat portion 36 which lies against the outer surface of panel 10, and the upper edge of which is turned outwardly in the form of a flange 37 which is riveted to the underside of ledge 26 by rivets 38. Flange 33 extends beyond the plane of flat portion 36, and is riveted to yoke portion 23 of side member 12 by rivets 39. Flange 21 of side member 12 terminates short of flange 22, as at 40, and the end thereof lies approximately in the plane of the upper surface of ledge 26, so that the channel formed by flanges 33, 34 and wall 35 has the open side thereof facing the outer surface of panel 10. An eccentric clutch member 42 is pivotally supported within the channel of bracket 32 and is preferably formed of a resilient material having a high coefficient of friction, such as soft rubber, which is cemented in a channel shaped metal member 44 which forms a rigid backing therefor and also provides durable bearing means by which member 42 may be swung about a pivot pin 43 supported in aligned openings in flanges 33 and 34 and extending through aligned openings in opposite sides of member 44. A flat spring 45 is riveted to wall 35 and continually urges member 42 in a clockwise direction, as seen in FIG. 5, so that the member is normally biased against the outer face of panel 10. Member 42 is shaped so that the surface thereof facing panel 10 is eccentric relative to pin 43 with the radius increasing toward the lower end thereof, as seen in FIG. 5, whereby as frame 15 tends to move downwardly, member 42 rolls on the panel surface and wedges between pivot pin 43 and the panel. This action urges the lower portion of frame 15 outwardly, pressing flanges 22 of the frame tightly against the rear edges of flanges 12 and 13 of panel 10, thereby frictionally clamping the frame to the panel. Preferably, the lower ends of members 42 and 44 project below channel wall 35, as seen in FIG. 5, so that the fingers of the user may be inserted beneath these ends and the members moved outwardly to release the surfaces thereof from panel 10 so that frame 15 can move freely toward its lowermost position. When frame 15 is moved upwardly by the writer, this movement tends to rotate member 42 counterclockwise, as viewed in FIG. 5, thereby releasing the pressure of that member on pivot 43 due to the shortening of the radius about which member 42 pivots, so that the frame may be freely raised to any position desired and when it is released, the wedging and clamping action effected by members 42 of the clutch devices 30 and 31, automatically secure the frame in the elevated position.

It will be seen that by my invention, as the sheet supported by frame 15 becomes filled with writing and the lines approach the lower portion thereof, rack 15 can be readily elevated as described to maintain the line of writing at a normal writing level. This not only permits writing on the entire sheet from top to bottom at a convenient elevation to the writer, but it also enables all persons in an audience to have an unobstructed view of the written material. The frame may be applied to existing backing boards or panels without alteration thereof because the locking devices 30 and 31 operate by friction and require no special forms or devices on the panel.

It is to be understood that although but one form of the invention has been described, other forms, modifications and adaptations thereof may be employed, all of which fall within the scope of the claims which follow.

I claim:

1. An easel comprising, a sheet metal panel arranged to be supported upright and having rearwardly projecting side flanges, means to support said panel in an upright position, an open rectangular frame slidingly supported on the front of said panel and including two upright side members interconnected by top and bottom cross members, the opening of said frame adapted to be substantially closed by said panel when said frame is in its lowermost position relative to said panel to form a flat backing for sheet material supported by said top cross member, means to guide said frame vertically along said panel comprising rearwardly and inwardly extending portions of said side members adapted to embrace said rearwardly projecting side flanges of said panel, and cam means pivotally attached to said frame on an axis parallel to the face of said panel and having its periphery normally engaging said panel and tending to rotate in a direction to urge said frame outwardly relative to said panel to frictionally lock the interengaging guide means and flanges of said frame and panel respectively.

2. An easel comprising, a sheet metal panel arranged to be supported upright and having rearwardly projecting side flanges, means to support said panel in an upright position, an open rectangular frame slidingly supported on the front of said panel and including two upright side members interconnected by top and bottom cross members, the opening of said frame adapted to be substantially closed by said panel when said frame is in its lowermost position relative to said panel to form a flat backing for sheet material supported by said top cross member, means to guide said frame vertically along said panel comprising rearwardly and inwardly extending portions of said side members adapted to embrace said rearwardly projecting side flanges of said panel, a pair of cams each pivotally attached to the lower opposite side portions of said frame and having the axes thereof parallel to the plane of said panel with the peripheries thereof engageable with said panel, means normally urging said cams about their pivots to cause the cams to engage said panel and wedge said frame outwardly of said panel and frictionally lock said guide means of said frame with said flanges and manually movable means attached to said cams for rotating said cams in an opposite direction to release said cams from said panel.

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