May 27, 1958 J. H. KNAPP, JR., ET AL 2,836,385

FOLDABLE STAND FOR PORTABLE STREET SIGNS

Filed Jan. 27, 1954

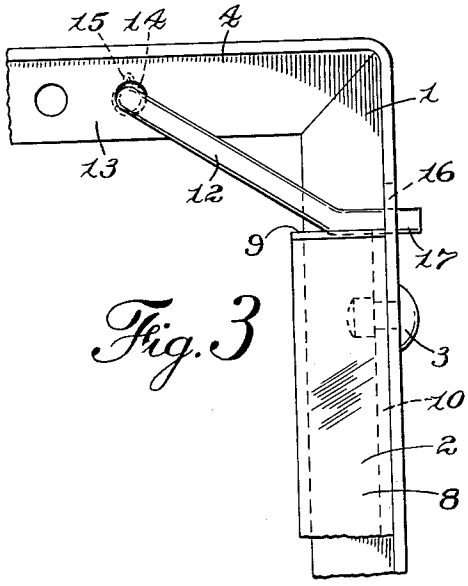


Fig. 3

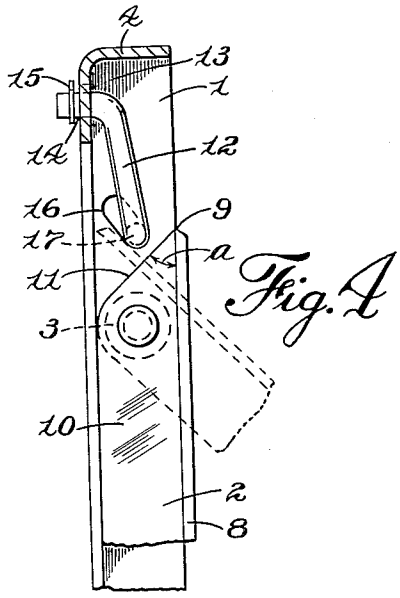


Fig. 4

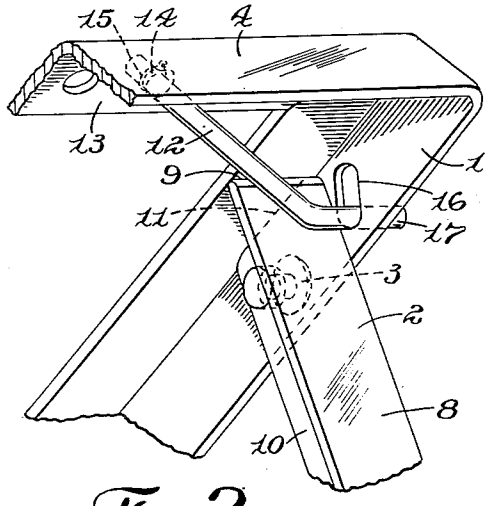


Fig. 2

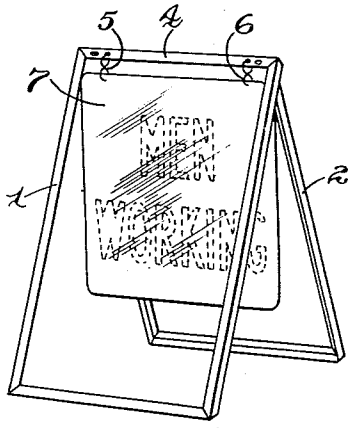


Fig. 1

INVENTORS
John H. Knapp, Jr.
Burleigh M. Names

BY Clinton L. James
ATTORNEY

WITNESS:
Esther M. Stockton

United States Patent Office 2,836,385 Patented May 27, 1958

2,836,385

FOLDABLE STAND FOR PORTABLE STREET SIGNS

John H. Knapp, Jr., and Burleigh M. Names, Elmira, N. Y., assignors to Eastern Metal of Elmira Inc., Elmira Heights, N. Y., a corporation of New York

Application January 27, 1954, Serial No. 406,533
3 Claims. (Cl. 248—166)

The present invention relates to a folding stand or easel for portable street signs and more particularly to hinging and latching means for such devices.

Portable stands for outdoor use in supporting temporary signs or directives must be sufficiently stable to resist the strongest winds likely to be encountered in service, and at the same time must be capable of folding flat and stacking smoothly. It is also desirable that means be provided for positively preventing undesired collapse of the stand.

It is an object of the present invention to provide a novel folding stand of the above type which is convenient to set up and to fold, and which is simple and economical in construction.

It is another object to provide such a device incorporating a positive latching instrumentality for holding the stand extended, which operates automatically and is readily released to permit folding.

It is another object to provide such a device in which the latch is moved out of operative position automatically when the easel is unfolded, but thereafter falls into locking position to prevent collapse of the stand until the latch is raised manually or by inverting the stand.

Further objects and advantages will be apparent from the following description taken in connection with the accompanying drawing, in which:

Fig. 1 is a perspective view of a preferred form of the novel stand or easel in extended or operative position;

Fig. 2 is an enlarged detail in perspective showing the hinged connection between the frame members of the stand in operative, latched position;

Fig. 3 is an enlarged detail in side elevation of the same parts in folded position; and

Fig. 4 is an elevation looking from the left in Fig. 3, showing the extended position of the hinged frame member in dotted lines.

In Fig. 1 of the drawing there is illustrated a rectangular frame 1 formed of suitable material such as angle iron to which a slightly smaller U-shaped frame 2 is pivoted near its upper end in any suitable manner as by means of flanged rivets 3 as best shown in Figs. 2 and 3.

The upper cross member 4 of the frame 1 is punched for the reception of link members or the like 5, 6 on which a sign 7 is pivoted for display while permitting swinging movement to reduce wind effects.

The U-shaped frame 2 is also formed of bars with angular cross section, the outer web 8 having its terminal edge 9 at right angles to the body of the bar while the inner web 10 is terminated by a bias cut 11 as best shown in Fig. 4. The angle (*a*) which this edge makes with the plane of the outer web is substantially the same as the desired angle between the two frame members when the stand is in operative position as shown in Fig. 1, whereby the surface 11 together with the end surface of the web 8 form a stop to limit the extension of the frame by contacting the adjacent web of the main rectangular frame member as shown in Fig. 2.

A latch bar 12 is pivoted at one end as indicated at 14 to the inner web 13 of the cross bar 4 of the rectangular frame 1, and is retained by suitable means such as a cotter pin 15. The latch extends diagonally across the corner of said frame and traverses a slot 16 in the side bar of said frame, extending therefrom to provide a short handle 17 for convenient manipulation. As best shown in Fig. 2, slot 16 is slightly divergent from and immediately above the end of the web 8 of the U-shaped frame 2 when the parts are in operative position whereby the latch effectively prevents the stand from being folded until the latch is raised manually in the slot 16 out of the path of said end portion.

In utilizing the device, starting with the parts in folded position as shown in Fig. 3 and in full lines in Fig. 4, when the stand is to be set up it is merely necessary to swing the U-shaped frame 2 away from the sign-holding frame 1 while maintaining the stand in substantially vertical position. The angular surface 11 on the end of the arm of frame member 2 cams the latch bar 12 upwardly in the slot 16 until the end of the arm passes under the latch into the position shown in Fig. 2 and in dotted lines in Fig. 4. The latch bar 9 then falls into locking position and the stand is securely held in operative position.

The stand may be conveniently folded merely by grasping the top bar 4 of the rectangular frame and raising the latch 12 by its handle 17. The stand then collapses with the U-shaped frame 2 nesting within the rectangular frame 4 so as to provide a smooth surface well adapted for convenient storage or stacking.

Although but one form of the invention has been shown and described in detail it will be understood that changes may be made in the design and arrangement of the parts without departing from the spirit of the invention.

We claim:

1. In a folding stand for portable street signs, a rectangular frame, a U-shaped frame pivoted to the first frame near one end, the ends of the U-shaped frame extending beyond the pivotal connection, and a latch bar pivoted at one end to a horizontal member of the first frame, having a sliding bearing permitting vertical movement in a vertical member thereof, and so located as to be movable in said sliding bearing to a position to engage said extended portion of the U-frame and hold the U-frame in angular relation to the rectangular frame; in which the pivoted ends of the U-frame are bevelled to provide surfaces adapted to engage opposed surfaces of the rectangular frame and limit the relative angular movement of the frames; in which further the bevelled surface of the end of the U-frame adjacent the latch serves to move the latch out of locking position during the opening of the stand, and permits the latch to fall into locking position back of said end when the stand is fully opened.

2. In a folding stand for portable street signs, a rectangular frame, a U-shaped frame pivoted to the first frame near one end, the ends of the U-shaped frame extending beyond the pivotal connection, and a latch bar pivoted at one end to a horizontal member of the first frame, having a sliding bearing permitting vertical movement in a vertical member thereof, and so located as to be movable in said sliding bearing to a position to engage said extended portion of the U-frame and hold the U-frame in angular relation to the rectangular frame; in which the sliding bearing for the latch is provided by a slot in the vertical member of the rectangular frame to which the adjacent end of the U-frame is pivoted, said slot extending in slightly divergent relation to the U-frame when the stand is in fully opened position.

3. A folding stand as set forth in claim 2 in which the latch bar projects through said slot to provide a release handle.

References Cited in the file of this patent

UNITED STATES PATENTS

1,639,009	Singley	Aug. 16, 1927
1,750,213	Collins	Mar. 11, 1930
2,636,702	Brody	Apr. 28 1953