Oct. 25, 1960 A. A. RIZZUTO 2,957,542

STEPLADDER SAFETY SUPPORT

Original Filed May 27, 1957

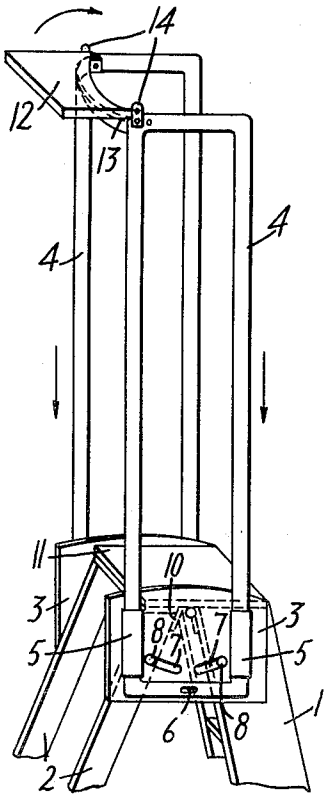


FIG. 1

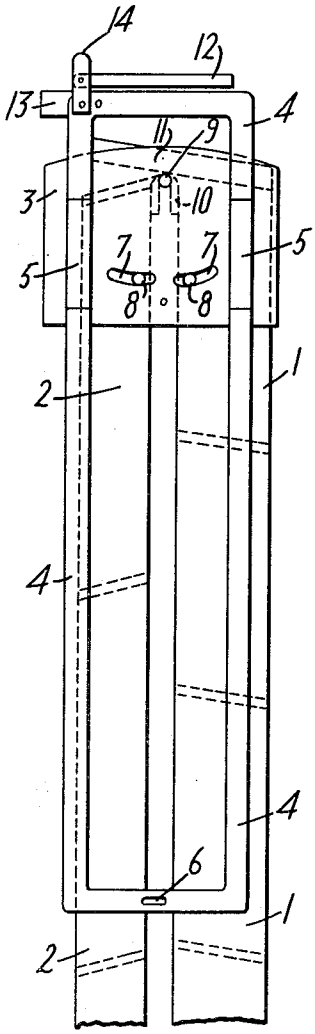


FIG. 3

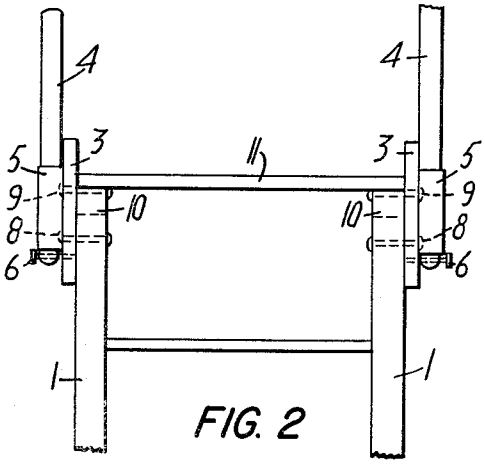


FIG. 2

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United States Patent Office 2,957,542 Patented Oct. 25, 1960

2,957,542

STEPLADDER SAFETY SUPPORT

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Original application May 27, 1957, Ser. No. 661,644. Divided and this application Feb. 19, 1959, Ser. No. 794,467

2 Claims. (Cl. 182—129)

This invention relates to new and useful improvements in stepladders and more particularly to safety supporting means for stepladders, and this application constitutes a division of a copending application, Serial No. 661,644, filed May 27, 1957.

An object of the present invention is to provide a simple and practical supporting means for a stepladder which permits utilization of the full height thereof without undue risk of injury to the user.

Another object is to provide a utility shelf for the conventional stepladder which, in conjunction with the supporting means referred to, permits a convenient use of equipment and materials.

A further object is to provide a stepladder with a safety support and a utility shelf of simple construction and operation and which may be incorporated in the conventional stepladder with only a slight modification of the top portion thereof.

In the accompanying drawing forming a part hereof:

Fig. 1 is a perspective view of the upper portion of a stepladder showing the safety support in an elevated position and the utility shelf in an extended or open position.

Fig. 2 is a face view of the upper portion of a stepladder and the lower portion of the safety support in an elevated or operative position illustrating the simple means employed to attach the support to the stepladder.

Fig. 3 is a side view of the upper portion of a stepladder showing the safety support suspended in an inoperative position from tubular brackets and showing the utility shelf in a reversed or closed position.

The basic elements of the invention consist of two rectangular bars or arms 4, a pair of side plates 3 having tubular brackets 5 and arcuate slots 7, an arcuate crossbar 13 connecting the upper rear portions of the arms 4, and a shelf 12 which is pivotally attached at the upper rear portions of the arms 4 immediately above the crossbar 13 and which, in an extended position as seen in Fig. 1, is supported by the crossbar 13.

The simple means by which the safety support is attached to the stepladder consist of an elongated headed pivot pin 9 which is substituted for the regular pin or pintle in an ordinary hinge 10, and a pair of bolts or headed lugs 8 fastened to the front side rails 1 and the rear side rails 2 below the top step 11 of the stepladder. Of course each side of the ladder is provided with the hinge 10 having the elongated pin 9, and the headed lugs 8, as seen in Fig. 2. The side plates 3 are secured to the upper sides of the stepladder by the headed pins 9 and the headed lugs 8. The pin 9 on each side, passing thru an opening provided near the upper portion of the plate 3, remains in a fixed position and serves both as a pivot member of the hinge 10 and as a fastening means to assist in securing the plate 3 to the side rails 1 and 2. The headed lugs 8 pass thru the arcuate slots 7 and are slidably disposed therein, the heads of the lugs 8, like the head of the pin 9, of course serving as the actual securing means. The slots 7 permit the side rails 1 and 2 to

extend and fold without interference or resistance from the side plates 3 which remain in a relatively fixed position. The arms 4 are slidably disposed within the tubular brackets 5 and can be raised or lowered freely whether the stepladder is extended or folded. When in an elevated position serving as a safety supporting means, as seen in Fig. 1, the arms 4 are maintained securely upright by a thumbscrew 6 at the lower portion of each arm, which fastens onto the side plate 3 as seen in Figs. 1 and 2.

The arms 4 are connected at the upper rear portions by an arcuate crossbar 13 which serves to impart rigidity to the safety structure and which also supports the shelf 12 in an extended position as seen in Fig. 1. When not in use, the shelf 12 is simply and quickly pivoted to a closed position, as seen in Fig. 3.

A preferred embodiment of the invention is described and illustrated herein and it should be understood that modifications in the form and structural details of the invention may be made without departing from the spirit and scope thereof as hereinafter claimed.

What is claimed is:

1. A safety support for mounting on a stepladder having front and rear side rails connected by hinges and a top step thereon, said safety support comprising two substantially rectangular side plates, each of said side plates having a pair of tubular brackets attached vertically at the ends of the outer lateral surface thereof and having a pair of arcuate slots formed substantially in a semicircle below the center and a bore formed above the center thereof, said side rails being provided each with a headed lug, said lugs extending outwardly from the side rails below said top step, an elongated headed pivot pin in each of said hinges extending outwardly equidistant to said headed lugs, said side plates being secured to the side rails by the engagement of the headed lugs in said arcuate slots and the engagement of the headed hinge pins in said bores, said lugs being slidable within said arcuate slots to permit the front and rear side rails to extend and fold normally and to permit the side plates to maintain a relatively fixed position, a pair of barlike arms disposed and vertically slidable within each pair of said tubular brackets, transverse members connecting said pairs of arms at top and bottom, thumbscrews on the lower transverse members, said thumbscrews being engageable in perforations formed at the base of said side plates to releasably sustain said arms in a fixed vertically extended position, an arcuate bar connecting said pairs of arms at the upper rear portions thereof, and a shelf pivotally attached to said arms at the upper rear portions thereof superjacent to said arcuate bar, said shelf being supported in a horizontally extended position by said bar.

2. A safety support adaptable for use on a stepladder having front and rear side rails connected by hinges and a top step thereon, said safety support comprising a pair of side plates having tubular brackets attached at the sides therof and having arcuate slots formed below the center and a bore above the center thereof, said side rails having each fastening means extending outwardly therefrom below said top step, said hinges having each an elongated headed pin extending outwardly equidistant to said fastening means, said side plates being secured to the side rails by the engagement of the fastening means and the hinge pins in the arcuate slots and the bores respectively, said fastening means being adapted to slide within said arcuate slots to permit the front and rear side rails to extend and fold without substantially altering the position of said side plates, a pair of barlike arms engageable and vertically slidable within each pair of said tubular brackets, transverse members connecting said pairs of arms at top and bottom, fastening means in the lower transverse members, said fastening means being engage-

able in perforations formed at the base of said side plates to releasably sustain said pairs of arms in a fixed vertically extended position, an arcuate bar bowed outwards and connecting said arms at the upper rear portions thereof, and a shelf pivotally secured to said arms at the upper rear portions thereof superjacent to said arcuate bar, said shelf being supported in a horizontally extended position by said bar.

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