Aug. 17, 1965 J. L. WEEKS 3,200,904

CLIMBING STIRRUPS

Filed Feb. 3, 1964 2 Sheets-Sheet 1

FIG. 1

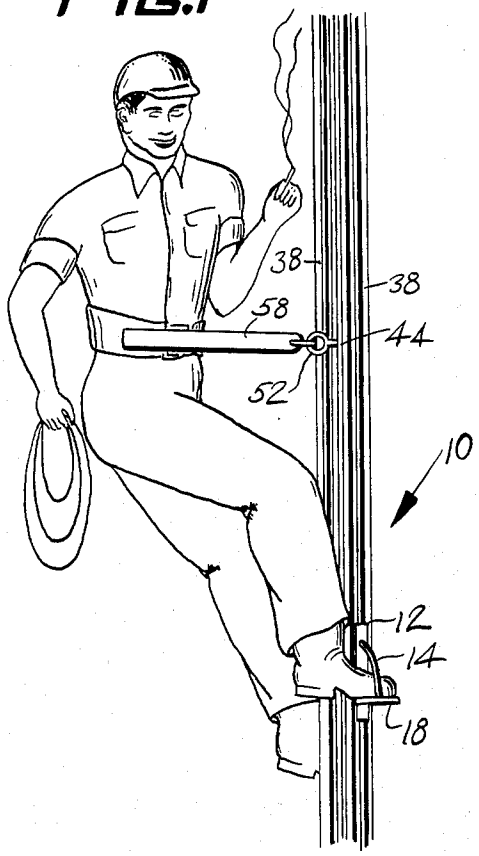


FIG. 2

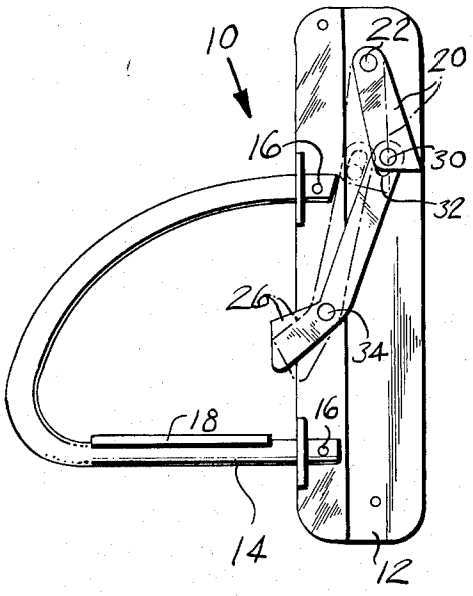


FIG. 3

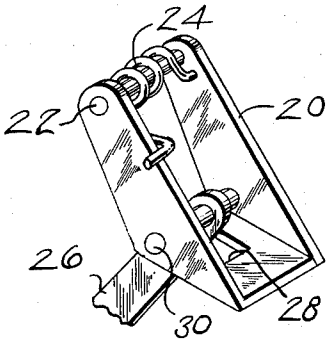
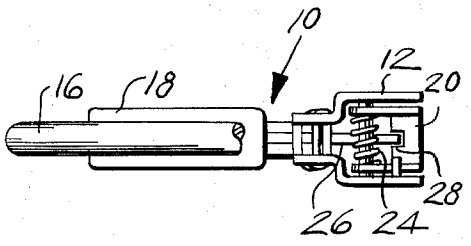


FIG. 4



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FIG.5

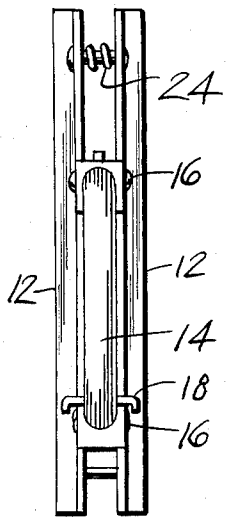


FIG.6

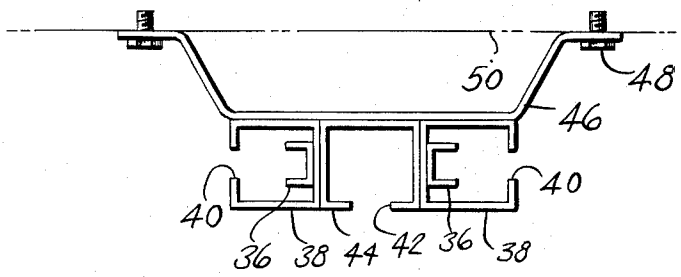


FIG.7

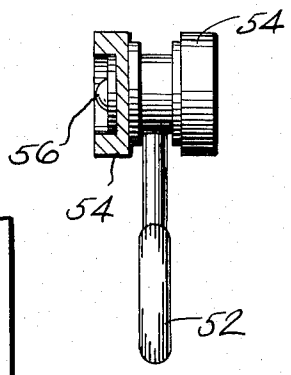


FIG.8

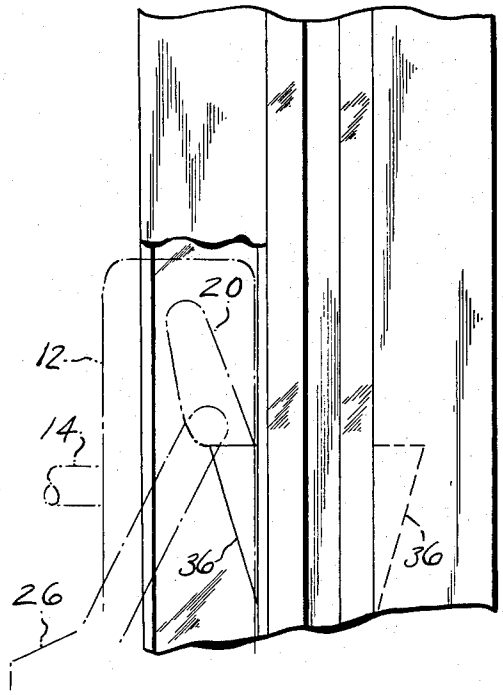
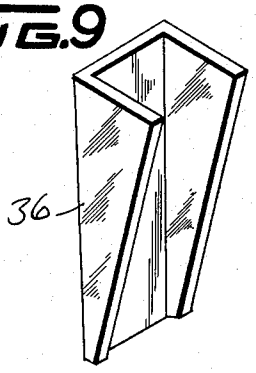


FIG.9



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3,200,904

CLIMBING STIRRUPS

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Filed Feb. 3, 1964, Ser. No. 342,067
2 Claims. (Cl. 182—134)

This invention relates to climbing apparatus for use on tower structures, masts or the like.

It is a primary object of the present invention to provide climbing stirrups which will be used in combination with a receiver channel which may be attached to tower, mast or the like as a permanent part thereof, and by adapting a horizontal foot rail and safety roller channel, transfer from a vertical section to a horizontal one would be achieved on any type of building or other structure.

Another object of the present invention is to provide climbing stirrups which will provide access to any part of a structure without the use of scaffolding and with a maximum of safety. Unauthorized access to such structures will be prevented since the stirrups which are necessary to its use are removable.

A further object of the present invention is to provide climbing stirrups which may be utilized as a line of portable units for household use, and a free standing unit for tree trimming, fruit picking or in other areas where relatively low heights must be reached in the open.

A still further object of the present invention is to provide climbing stirrups which will be adaptable to provide easily adjusted platforms for bricklaying and the like by the use of two or more vertical units braced and on bases, substituting a platform bracket for the stirrup.

Other objects of the invention are to provide climbing stirrups bearing the above objects in mind which are of simple construction, have a minimum number of parts, are inexpensive to manufacture and efficient in operation and use.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in conjunction with the accompanying drawing, in which:

FIGURE 1 is a perspective view of the present invention shown in operative use;

FIGURE 2 is a fragmentary side view of a foot retaining unit shown in elevation;

FIGURE 3 is a fragmentary perspective view of the control mechanism shown removed from FIGURE 2;

FIGURE 4 is a fragmentary top plan view of FIGURE 2;

FIGURE 5 is an end view of FIGURE 2;

FIGURE 6 is a top plan view of the receiver channel for the stirrup shown in FIGURE 2;

FIGURE 7 is a plan view of the safety belt hook shown partly broken away;

FIGURE 8 is a fragmentary front view of the channel showing the stirrup in phantom lines; and

FIGURE 9 is a perspective view of a step member shown removed from within the channel.

Referring now more in detail to the drawing, a climbing stirrup 10 made in accordance with the present invention is shown to include a pair of elongated Z-shaped side frames 12 having an arcuate foot guard 14 secured by fasteners 16. A flat foot rest plate 18 is fixedly secured within foot guard 14 and provides comfortable foot rest means for the user of stirrup 10. A U-shaped triggered latch 20 is received between side frames 12 and is pivotably received by a pin 22 secured to side frames 12. A coil spring 24 is received on pin 22 and provides return means for latch 20. An angular release lever 26 is freely received within slot 28 of triggered latch 20 and the upper extremity of release lever 26 is pivotably received by pin 30 secured within latch 20. Pin 30 of

latch 20 is freely received within elongated slot 32 through the upper extremity of release lever 26 and slot 32 provides freedom for pin 30 when the angles of latch 20 and release lever 26 vary. A pin 34 through the lower extremity of release lever 26 secures release lever 26 between side frames 12. Latch 20 abuts at its lower end with the upper end of an angular and U-shaped channel stop member which is fixedly secured within a slotted channel 38 and release lever 26 is freely received within opening 40 of channel member 38. U-shaped channel member 36 secured within channel member 38 provides support means for the user of stirrup 10. Channel members 38 are each secured oppositely to each other to a central channel which will hereinafter be described. An elongated opening 42 through central channel member 44 provides safety belt holding means for the user of the climbing stirrup 10. Channel members 38, 44 are fixedly secured to a channel 46 providing mounting means by receiving bolts 48 which secure to a structure 50. An eye 52 is pivotably received between a pair of rollers 54 which are secured to eye 52 by a bolt 56. The shaft of eye 52 is freely and slidably received within opening 42 of channel member 44 and rollers 54 are in rolling engagement within channel member 44 and eye 52 is secured to a safety belt 58 which is strapped around the waist of the worker to support the trunk of the worker and allowing him to use both of his hands for work, while a pair of stirrups 10 by means of the channels 36 support his weight enabling him to accomplish his job.

In operation, triggered latch 20 when engaging the upper extremity of channel member 36 within channel members 38 will remain in position supporting the worker until the worker urges against the lower extremity of release lever 26 and raises his foot toward the upper extremity of foot guard 14. When the worker raises his foot, triggered latch 20 by means of coil spring 24 upon pin 22 automatically returns.

It will be noted that the structure herein described is provided with two stirrup assemblies to provide means for a worker to ascend or descend a structure.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

What I claim as new and desire to protect by Letters Patent of the United States is:

1. Climbing stirrups and channel structure comprising, in combination, pairs of parallel and elongated frames, a spring triggered latch carried between each pair of frames and between oppositely opposed channel members secured to a structure to be climbed, an arcuate foot guard carried by each pair of side frames providing means for raising and lowering said stirrups, a plurality of spaced apart U-shaped and angularly configured channels secured within said channel members providing holding means for said stirrups to support a worker, an elongated release lever carried by each pair of said side frames providing release means for said latches, an eye and associated rollers carried within a central channel on said structure providing safety belt holding means to support a worker to free both of his hands, each said triggered latch received between said side frames of each stirrup member being U-shaped in configuration and provided with an upper pivot pin receiving a spring which provides return means for said latch after actuation by said lever, and a second pin secured in the lower extremity of said latch receiving the slotted upper extremity of said lever, the lower extremity of each said lever being pivotably received upon a third pin traversely between said side frames, said third pin providing pivot means for

said lever for releasing said latch, and the upper extremity of said lever is freely and slidably received within a U-shaped slot within the lower extremity of said latch to provide freedom of movement of the upper extremity of said lever within said latch.

2. The combination of claim 1 wherein each said foot guard is secured between said side frames by suitable fasteners at each extremity of said foot guard and a foot rest plate is secured within the lower portion of said foot guard to provide maximum area for support of the worker while working on a structure.

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