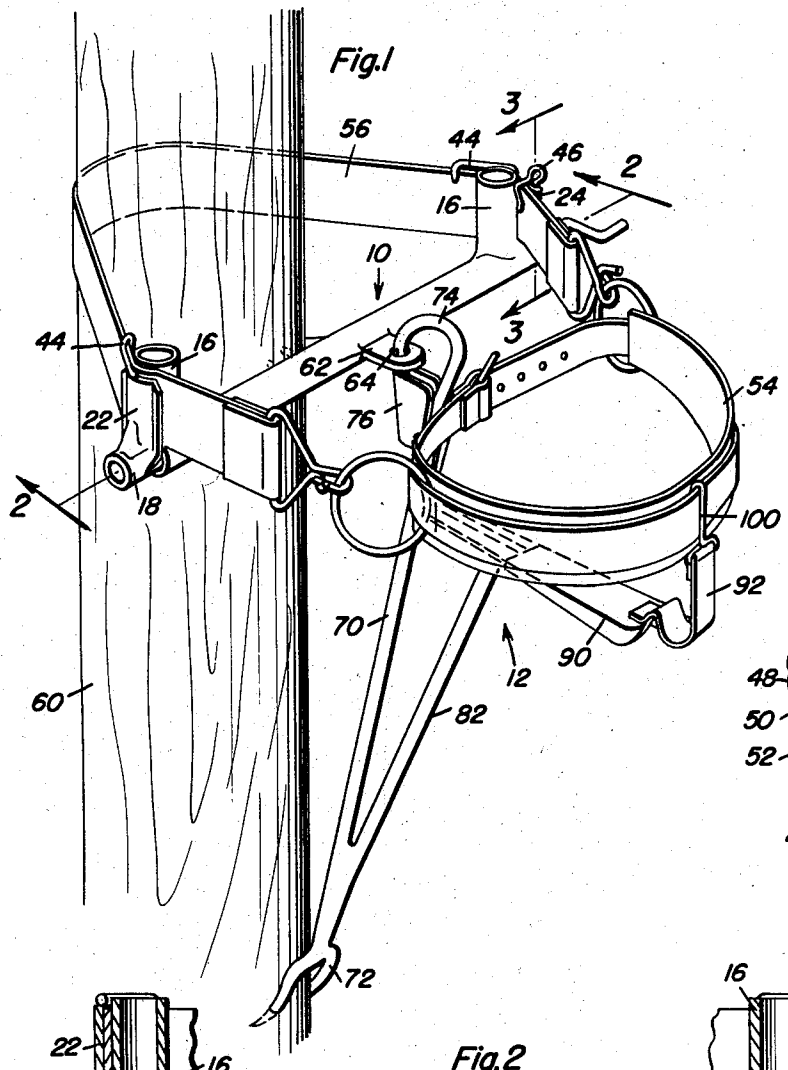
March 31, 1959 J. M. JOHNSON 2,879,830

POLE CLIMBING SAFETY DEVICE AND SEAT

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Fig.1



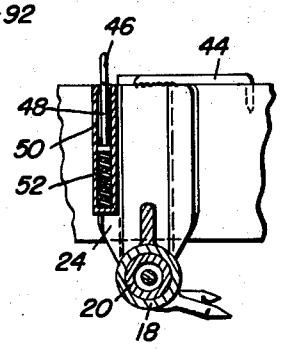


Fig.3

Fig.2

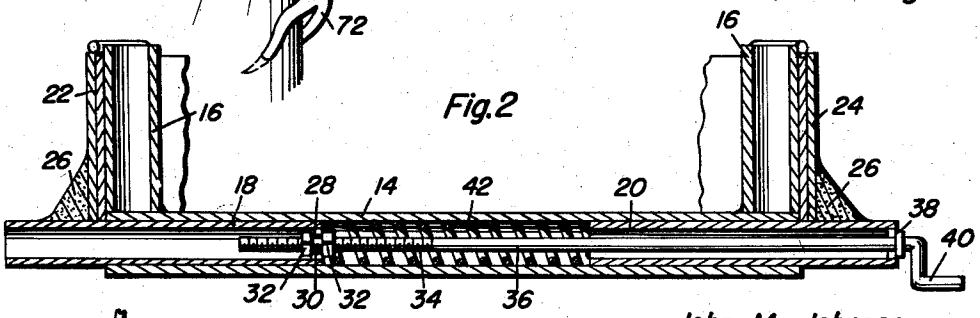
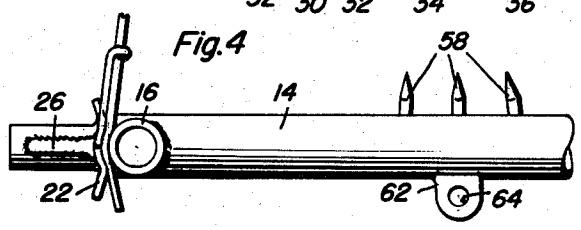


Fig.4



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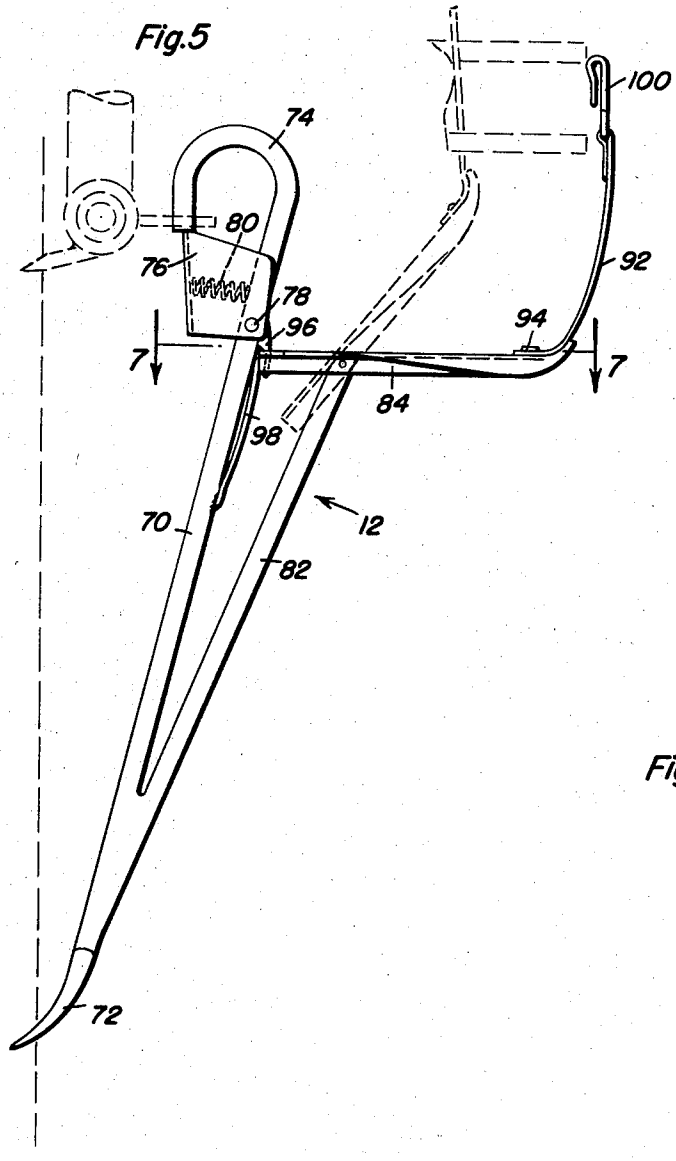
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March 31, 1959 J. M. JOHNSON 2,879,830

POLE CLIMBING SAFETY DEVICE AND SEAT

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Fig.5



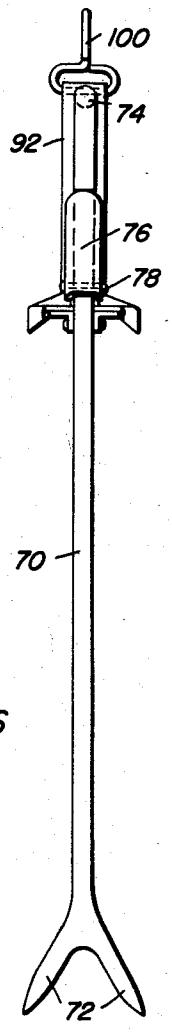
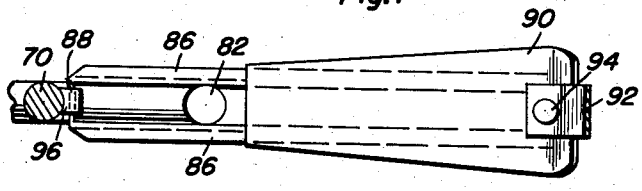


Fig.6

Fig.7



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POLE CLIMBING SAFETY DEVICE AND SEAT

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Application December 3, 1957, Serial No. 700,482

3 Claims. (Cl. 155—78)

This invention relates generally to safety devices, and more particularly to a safety device and a novel and movable safety seat for assisting pole or tree climbers.

The primary object of this invention is a provide a pole climbing safety device and seat, which may be attached to the conventional safety belt worn by pole climbers and which will prevent a climber from sliding down a pole if the climber should accidentally slip from his position.

Another object of this invention is to provide a safety device having spikes thereon, so that when a pole climber slips or when he does not properly engage his spurs into the pole, the safety device will grasp the pole and prevent the climber from falling to the ground. This is particularly important since these climbers have a great strain placed on their legs and back while they are working on the pole. This is occasioned because of the angle and brace position which the climber must assume while working on the pole, and because of this, the climber's legs must be flexed to support at least twice the climber's weight. In addition, the spurs worn by pole climbers place an additional strain on the climber because of the peculiarities of position occasioned thereby. A great number of accidents have been caused because the pole climber while working became so exhausted that proper care was not used.

Yet a further object of this invention is to provide a seat for pole climbers, whereby these climbers may rest in a seated position while working at dangerous heights.

Yet a further object of this invention is to provide novel means for clamping this safety device to the conventional type of safety belt, so that the slipping of the belt out of the clamping device is virtually impossible. In addition, this device serves to prevent the twisting of the safety belt so that the problem of twisted safety belts is obviated.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view of the pole climbing safety device and seat illustrating the same as would be used on a pole;

Figure 2 is an enlarged vertical sectional view taken substantially along the plane defined by reference line 2—2 of Figure 1, illustrating details of construction of the clamping means thereon;

Figure 3 is a vertical sectional view taken substantially along the plane defined by reference line 3—3 of Figure 1;

Figure 4 is an elevational plan view of a portion of the device illustrated in Figure 1, illustrating the relationship of the spikes, the attaching eyelet, and the clamping means;

Figure 5 is a side elevational view illustrating the pole climbing safety seat comprising a portion of the present invention;

Figure 6 is a front elevational view of the device illustrated in Figure 5, illustrating the structural relationships therein; and

Figure 7 is an elevational plan view taken substantially along the plane defined by reference line 7—7 of Figure 5.

Referring now more specifically to the drawings, the numeral 10 generally designates the pole climbing safety device, and the numeral 12 generally designates the safety seat to be used in connection therewith.

The safety device 10 is constructed of a horizontal hollow tube 14, having vertical, upstanding, tubular stationary jaws 16 mounted at either end thereof. Mounted internally of tube 14, are telescopic extension sections 18 and 20, which have movable arcuate jaws 22 and 24 respectively connected in upstanding relation near the outer end thereof, by means of welding 26. Extension 18 has a closed end 28 having a horizontal threaded aperture 30 formed therethrough. On either side of closed end 28, and in alignment with aperture 30, are mounted nuts 32, which threadedly receive a threaded portion at 34 of shank 36. Shank 36 is journaled in bearing 38 which is secured in the outer end of extension 20. This shank 36 has a crank handle 40 which allows rotation of shank 36, and correspondingly will move extension 18 and 20 either toward or away from each other. A coil spring 42 is located internally of tube 14 and abuts against the inner ends of extensions 18 and 20, so as to constantly urge them away from each other.

Downwardly facing hooks 44 are connected to the upper edges of movable jaws 22 and 24. These hooks are used to hold the safety belt in place with relation to safety device 10. In addition, another means for holding the safety belt in place, is a spring urged clamp 46 which has a vertically depending shank 48 which extends downwardly into a vertically disposed cylinder 50. The cylinder 50 is secured to the jaw 24 to the right of the vertical center of the jaw 24, as viewed in Figure 1, and has a closed bottom. This clamp 46 is constantly being urged downwardly by means of coil spring 52 which is connected between the lower end of shank 48 and the bottom of cylinder 50.

In use, the conventional pole climbing safety belt 54 would be placed about the waist of a climber. Then, pole engaging belt 56 would be partially placed about the pole and connected to the waist belt of the climber. Crank handle 40 would be rotated so as to open the jaws, and belt 56 would be placed therein and the jaws then closed tightly upon the belt. Open hooks 44 would engage the top of belt 56 so that safety device 10 would be held securely thereto. Additionally, spring urged clamp 46 would be secured to one corner of belt 56. A plurality of sharp teeth 58 are connected to and extend outwardly from hollow tube 14. Thus, if a climber should slip, the teeth 58 would engage the pole and give the climber a chance to recover, thus averting an accident. An outwardly projecting flange 62 is connected to hollow tube 14 and has an eyelet 64 formed therein for the purpose of accommodating a safety seat attachment to be described below.

Safety seat 12 is constructed of a main frame member 70, having sharp teeth 72 formed at the lower end thereof for the purpose of engaging a pole 60. At the upper end of main frame 70 is a downwardly facing open hook portion 74. A U-shaped spring clamp 76 is pivoted at 78 to main frame 70. A coil spring 80 located therein serves to urge U-shaped member 76 to the left to the position illustrated in Figure 5 so as to effectively close open loop shaped portion 74. It may be seen that loop shaped portion 74 is engaged through eyelet 64 so as to connect seat portion 12 to safety device 10. A brace member 82 is connected angularly to main frame 70 at the lower end

thereof. At the upper end of brace member **82** a seat **84** is pivotally connected. Seat **84** is constructed of parallel supporting members **86** which are connected together at one end by a flange section **88**. A seat portion **90** is mounted on parallel members **86**, and a strap **92** is riveted thereto by means of rivet **94**. An open hook **96** is connected to the rear portion of main frame **70**, and opens downwardly, so as to accommodate flange **88**, and lock this flange securely therein. The weight of a pole climber on seat portion **90** will serve to further lock flange portion **88** into open loop **96**. A spring latch **98** is also connected to the rear portion of main frame **70** and is constantly urged away from the main frame **70** and toward open hook **96**.

On the free end of strap **92** a hook **100** is connected, which is to be engaged with the rear portion of a waist belt worn by pole climbers.

In use, the safety device **10** would be set up in the position illustrated in Figure 1, and a pole climber wearing waist belt **54** may then safely climb up pole **60**. If desired, the safety seat **12** may also be carried up the pole. To facilitate easier handling of the safety seat **12** when climbing the pole, the seat would be unlatched from an open hook **96** and moved to the dotted line position illustrated in Figure 5. Then, the pole climber may either carry the safety seat **12** in his hands, or allow it to dangle by strap **92**, or connected to eyelet **64**. When the climber desires to use the seat, it is merely necessary to engage spike **72** into the pole **60**, connect hook **100** to belt **54**, and hook **74** to eyelet **64**, and when the climber assumes a seated position, seat portion **90** will be lowered. Thus the climber may work in a partially relaxed condition. When the climber desires to move the seat upwardly or downwardly on a pole, it is merely necessary for him to engage his spurs into pole **60** and assume a standing position, whereby the strap **92** will pull upwardly and remove spike **72** from pole **60**. The climber may then climb up or down the pole to another working location.

It may now be seen that I have herein shown and described a new and improved type of pole climbing safety device.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A safety device for climbing poles comprising a body, means on said body for engagement with a pole, means for clamping a safety belt to said body, a frame, means for detachably connecting said frame to said body, means on said frame for engagement with a pole, a seat, means pivotally mounting said seat on said frame, said clamping means including a stationary jaw on each end of said body, a movable jaw on each end of said body movable toward and away from, and in opposition to said stationary jaw, means for simultaneously moving each movable jaw toward or away from each stationary jaw, open loops on the upper end of each movable jaw, and means for urging the safety belt toward said body whereby the safety belt may be positively held in position by said clamping means.

2. A safety device for climbing poles comprising a body, means on said body for engagement with a pole, means for clamping a safety belt to said body, a frame, means for detachably connecting said frame to said body, means on said frame for engagement with a pole, a seat mounted on said frame, said clamping means including a stationary jaw on each end of said body, a movable jaw on each end of said body movable toward and away from and in opposition to said stationary jaw, means for simultaneously moving each movable jaw toward or away from each stationary jaw, open loops on the upper end of each movable jaw, and means for urging the safety belt toward said body whereby the safety belt may be positively held in position by said clamping means.

3. A safety device for climbing poles comprising a body, means on said body for engagement with a pole, means for clamping a safety belt to said body, a frame, means for detachably connecting said frame to said body, means on said frame for engagement with a pole, a seat, means pivotally mounting said seat on said frame, said clamping means including a stationary jaw on each end of said body, a movable jaw on each end of said body movable toward and from, and in opposition to said stationary jaw, means for simultaneously moving each movable jaw toward or away from each stationary jaw, open loops on the upper end of each movable jaw, and means for urging the safety belt toward said body whereby the safety belt may be positively held in position by said clamping means, means on said seat for detachably connecting the latter to a safety belt.

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