Jan. 8, 1946. C. J. KNUDSEN 2,392,538

POLE CLIMBER

Filed May 2, 1945

Fig. 1.

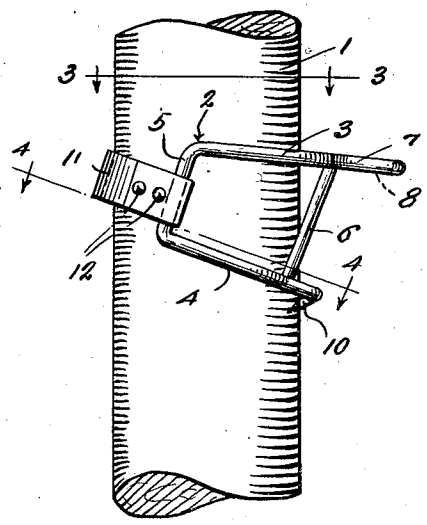


Fig. 2.

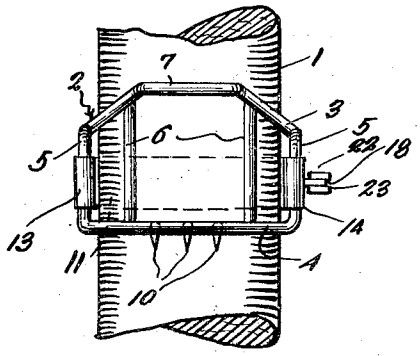


Fig. 3.

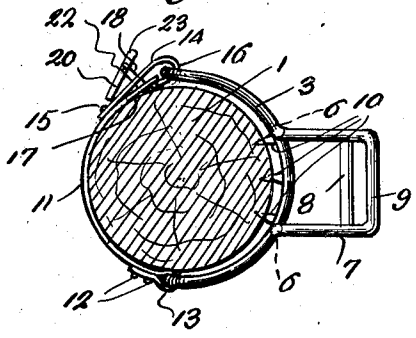


Fig. 5.

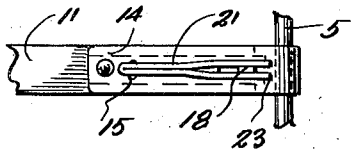


Fig. 6.

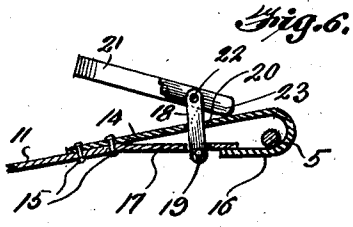
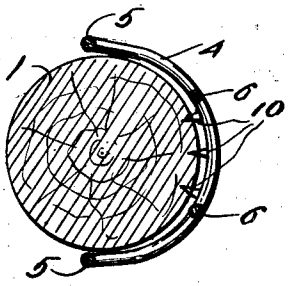


Fig. 4.



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POLE CLIMBER

Carl J. Knudsen, Tyler, Minn.

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4 Claims. (Cl. 227—25)

This invention relates to a pole climber and safety device and more particularly to a device adapted to be disposed about a pole carrying power lines or telephone or telegraph wires, and grasped by a person's hand while climbing or descending from the pole.

Linemen who work for electric power companies or telephone or telegraph companies have to climb the poles upon which wires are strung and, in order to do so, wear climbing spikes having spurs which penetrate the pole and prevent their feet from slipping. The pole is grasped with the hands but the entire weight is upon the spikes and if a pole is softened by rotting, due to water penetrating the pole, the spikes are liable to slip instead of having deep penetrating engagement with the pole.

It has also been found that during cold weather ice gathers upon poles and wires. Linemen who mount the poles to fix broken wires are liable to fall due to leg spikes failing to penetrate the ice and bite deeply into a pole and also due to the fact that it is very difficult to firmly grasp an icy pole with the hands.

Therefore, one object of the invention is to provide a climber intended to be grasped with one hand and shifted along a pole while climbing the pole. The improved climber has spurs for penetrating the pole and when it is shifted along the pole and then tilted to a canted position by downward pull, the spurs bite into and firmly grip the pole and permit the lineman to support his weight by means of the hand-engaged climber as well as by means of the spikes of climbers strapped to his legs and engaged under his feet.

Another object is to so form the improved climber that, while it may be readily shifted along a pole, downward pull exerted upon its handle, will automatically tilt the climber to a position causing its spurs to penetrate the pole.

Another object is to provide a climber which may be easily applied to a pole, where it is held by a metal strap pivoted at one end to a side of the climber and having its other end releasably connected with the climber by a hook of such construction that while it may be easily and quickly engaged with the climber, and also readily detached therefrom, it will not be liable to accidentally become disconnected from the climber.

Another object of the invention is to provide a climber having its handle so formed and so located that after a lineman has climbed a pole his safety belt may be passed through the handle and his weight exert downward pull to tilt the climber to a position causing its teeth or spurs to bite into the pole. Therefore, the lineman will be supported by the hand climber as well as by his leg spikes and this not only relieves his legs from strain, but also permits him to use both hands for repairing broken wires or installing new wires without fear of slipping and falling.

Another object of the invention is to provide a safety device or hand-operated climber which not only is very useful for an experienced lineman, but will give a sense of security to beginners and to workmen who only have to climb a pole occasionally.

Another object of the invention is to provide a climber which is of simple construction, very strong, and capable of being manufactured at small cost.

The invention is illustrated in the accompanying drawing, wherein:

Figure 1 is a side view showing the improved climber applied to a pole.

Figure 2 is a view looking from the right of Figure 1.

Figure 3 is a view on the line 3—3 of Figure 1.

Figure 4 is a view on the line 4—4 of Figure 1.

Figure 5 is a side view of the hook for the strap of the climber.

Figure 6 is a sectional view taken longitudinally through the hook.

This improved climber is for use by linemen when climbing poles used to support power wires, telegraph and telephone wires. Such pole is shown in the drawing and indicated by the numeral 1. The climber is preferably manufactured in two sizes, one for small to medium poles and the other for larger poles, but it will be understood that they may be of any size desired.

The climber 2 is formed of strong metal, such as steel or iron, and has a body which is substantially U-shaped when viewed in top plan and has an upper portion 3 and a lower portion 4. Ends of the arms of the upper and lower portions 3 and 4 are connected by bridging portions 5 formed integral therewith and, in order to brace the upper portion, there has been provided bars or struts 6 spaced from ends of said portions and also spaced from each other, as shown in Figures 2 and 4. The upper and lower portions or sections 3 and 4 extend from the bridging bars 5 in diverging relation to each other, as shown in Figure 1, and the upper section is formed with an extension 7 constituting a handle and provided with a cross bar 8 spaced from its bridge 9 so

that it braces the handle and also cooperates with the bridge to form a hand hold capable of being readily grasped by the person using the climber. The handle projects outwardly an appreciable extent beyond the lower section 4 and, when the handle is grasped and pulled downwardly, the force exerted will tilt the climber and cause spurs 10 carried by the lower section to be forced into the pole and prevent the climber from slipping downwardly along the pole. Therefore, a lineman may place part of his weight upon the climber and brace himself while climbing a pole and may have a firm grip upon a support instead of depending upon his hands gripping the pole itself to prevent him from slipping.

The climber must be held to the pole and allowed to be slid along the pole and in order to do so there has been provided a strap 11 formed from a strip of spring steel. This strap has one end portion folded and secured by rivets 12 to form an eye 13 through which one of the bridging bars 5 passes to pivotally mount the strap. The free end of the strap is secured to a hook 14 by rivets 15 and this hook has a bill 16 for engaging about the other bridging bar 5 and releasably holding the strap engaged therewith. A resilient keeper 17 is provided to prevent the hook from becoming detached from the bridging bar and may be formed from an end portion of the strap or from a separate strip of resilient metal which is suitably secured to the shank of the hook. A link 18 which is pivoted to the keeper by a pin 19, passes through an opening 20 formed in the hook and, at its outer end, carries a lever 21. This lever is pivoted to the link by a pin 22 spaced from the inner end of the lever to provide a heel 23 for engaging the hook and pull to be exerted upon the link for drawing the keeper to a retracted position allowing disengagement of the hook from the bar 5 when the lever is grasped by its outer end and swung away from the hook. When the hook is engaged with the bar 5 and the keeper in the operative position shown in Figure 6, the hook cannot accidentally become detached from the bar 5 and the climber will be held in operative engagement with the pole.

When the climber is in use it is disposed in straddling engagement with a pole and its straps passed about the pole at the opposite side thereof from the climber and its hook engaged with the adjacent bridge portion 5. The lineman then grasps the handle and slides the climber upwardly as he mounts the pole, pull being exerted upon the handle after each upward movement to cause the spurs 10 to bite into the pole and assist in supporting the weight of the lineman as one foot and then the other is moved upwardly and the leg spikes driven into the pole. While one climber has been shown applied to the pole, it will be understood that two may be used, one for each hand and located one above the other and extending from opposite sides of the pole. Upon reaching the top of the pole the lineman may pass his safety belt through the handle and his weight will tilt the climber and cause its spurs to dig into the pole. The lineman will then be supported by the improved climber as well as by his leg spikes and both hands may be freely used. After wires have been strung or broken wires mended the safety belt is removed and handles of the climbers again grasped and the climbers alternately shifted downwardly along the pole and tilted to a gripping position as the lineman descends from the pole.

What is claimed is:

1. A pole climber comprising a substantially U-shaped body for straddling a pole, spurs extending downwardly from the lower edge of the bridge portion of the body at an incline for penetrating the pole when subjected to downward pressure, a U-shaped handle projecting outwardly from the upper end of the bridge portion of the body over said spurs and reinforced by a bracing bar spaced from its bridge portion, and means for holding the body in operative engagement with the pole engaged with the body at opposite sides thereof.

2. A pole climber comprising a substantially U-shaped body for straddling a pole, said body having an upper section and a lower section connected with the upper section by bridging bars, spurs carried by said lower section for penetrating the pole, a handle projecting outwardly from the upper section over said spurs, said handle being U-shaped and having a bracing bar spaced from its bridge portion and together forming a hand grip, and a strap for holding the body in operative engagement with a pole having its ends connected with the bridging bars.

3. A pole climber comprising a substantially U-shaped body for straddling a pole, said body having an upper section and a lower section connected with the upper section, said lower section having means for penetrating the pole, a U-shaped handle projecting outwardly from the bridge portion of the upper section and reinforced by a transversely extending member spaced from its bridge portion, and a strap loosely carried by the body at one side thereof and having means at its other end for detachably engaging the other side of the body.

4. A pole climber comprising a substantially U-shaped body for straddling a pole, said body having an upper section and a lower section connected with the upper section by bridging bars, spurs carried by said lower section for penetrating the pole, a handle projecting outwardly from the upper section over said spurs, a strap formed from a strip of resilient metal having one end secured about one bridging bar, a hook having its shank secured to the other end of said strap, a resilient keeper extending longitudinally of said hook with its free front end engaged under the bill of the hook, a link carried by the keeper and passing through an opening in the hook, and a lever pivoted to the outer end of said link, said lever having its inner end bearing against the hook and serving to exert pull upon the link to draw the keeper away from the bill of the hook and allow movement of the hook into and out of engagement with the other bridging bar.

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