Jan. 22, 1957 W. P. JOHNSON 2,778,556

LADDER ATTACHMENT FOR CLAMPING A LADDER TO A POLE OR LIMB

Filed Sept. 18, 1953

Fig. 1.

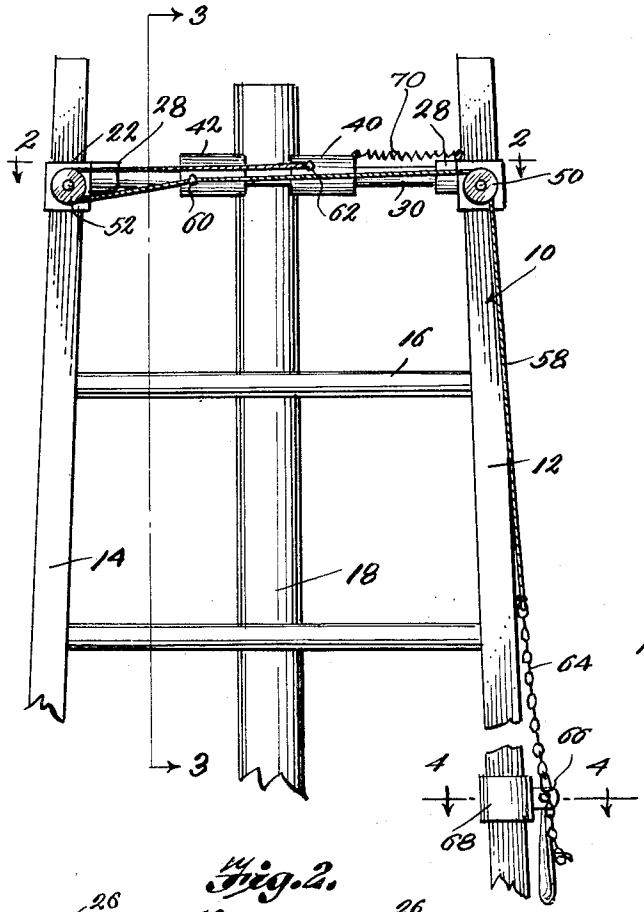


Fig. 3.

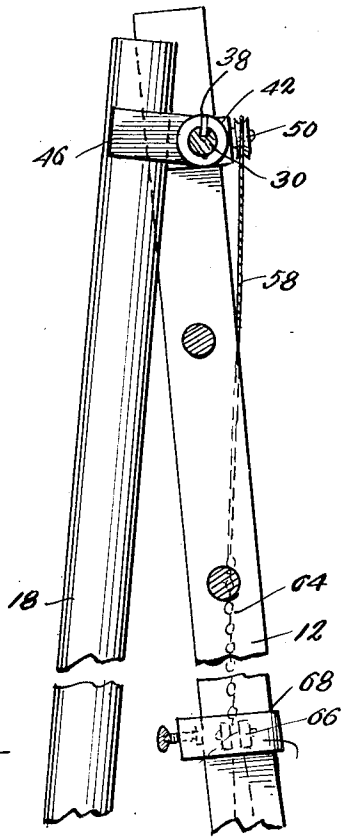


Fig. 2.

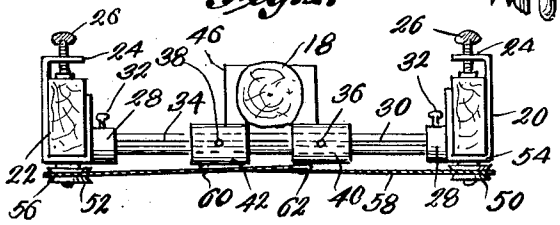


Fig. 4.

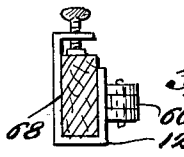


Fig. 5.

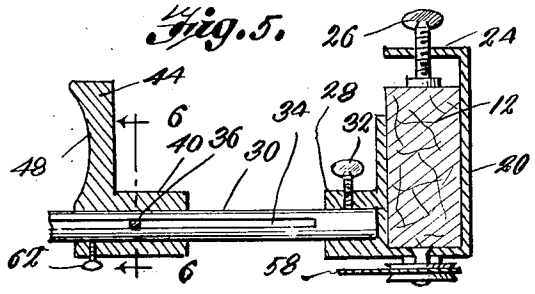
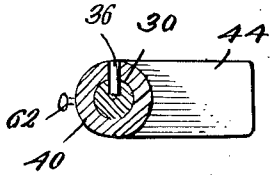


Fig. 6.



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United States Patent Office 2,778,556 Patented Jan. 22, 1957

2,778,556

LADDER ATTACHMENT FOR CLAMPING A LADDER TO A POLE OR LIMB

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Application September 18, 1953, Serial No. 380,911

1 Claim. (Cl. 228—60)

This invention relates to improvements in ladder constructions and especially is directed to improvements in safety attachments for a ladder.

The primary object of this invention is to provide a clamp which is adjustably carried by a ladder and is securely attachable to a pole or limb of a tree to hold the ladder securely in place and prevent the ladder from twisting or falling.

Another object of this invention is to provide a clamp that is supported by the top of a ladder and is easily adjusted from a standing position on the ladder to securely engage objects of varying cross-sectional areas and diameters.

A further object of this invention is to provide a pair of complementary clamping jaws which are mounted on a rail mounted transversely between the legs of a ladder above the top rung, the jaws being slidable relative to each other on the rail and being selectively positionable parallel to the legs and extending at right angles therefrom.

A still further object of this invention is to provide a simple and compact ladder attachment which can be easily installed on any ladder and which can be conveniently used to engage any type of supporting member.

These and ancillary objects are attained by this invention, the preferred embodiment of which is set forth in the following description and illustrated in the accompanying drawing, wherein;

Figure 1 is a front elevational view of the top of a ladder, showing a clamp, in accordance with this invention mounted thereon and engaging a pole;

Figure 2 is a cross-sectional view taken on line 2—2 of Figure 1;

Figure 3 is a vertical sectional view taken on line 3—3 of Figure 1;

Figure 4 is a detailed cross-sectional view taken on line 4—4 of Figure 1;

Figure 5 is an enlarged fragmentary cross-sectional view, showing the guide means for one of the jaws and manner of mounting same, and,

Figure 6 is a cross sectional view taken on line 6—6 of Figure 5.

In the drawing, number 10 designates a ladder having legs 12 and 14 and a top rung 16. Above the top rung and extending transversely between the legs 12 and 14 is a clamping means for securing the ladder to a limb of a tree, an upright support or the like. For exemplary purposes only, a vertical pole 18 has been illustrated in engagement with the clamping means.

The clamping means includes a pair of C-clamps 20 and 22 which are circumposed on the legs and having a free apertured flange 24 spaced away from the legs. A clamping screw 26 extends through the aperture in each flange and bears against the legs.

Each clamp has a bearing socket 28 formed on its inner side and receiving the ends of a track 30. The ends

of the track are held in the sockets by set screws 32 which bind the track and hold it from rotative movement.

The track is formed with an axial slot 34 which extends radially through one side of the track and securely receives pins 36 and 38. The pins 36 and 38 are mounted radially inside collars 40 and 42 which are free to slide and serve to keep the collars from rotating on the track.

Projecting laterally from the inner ends of the collars 40 and 42 are jaws 44 and 46. Each jaw has a concave inner grooved or roughened gripping face 48. The jaws are adapted to engage the pole, as shown in Figure 2, and means is provided to lock them in place and move them on the track.

The means includes pulleys 50 and 52 rotatably carried by the end walls or webs 54 and 56 of the clamps 20 and 22. A cable 58 is sheaved over the pulley 50 and under and around the pulley 52. The cable passes through an anchor clamp 60 on the collar 42 and is anchored on a pin 62 which projects from the collar 40.

The cable is attached at its other end to a chain 64 which is attached to a chain tightener 66. The chain tightener 66 is mounted on the leg 12 of the ladder well below the top rung 16 by a clamp 68, as shown in Figure 4.

The jaws 44 and 46 project laterally from the ladder, that is, at right angles thereto to clamp on the pole 18 but by loosening the set screws 32, the track 30 can be rotated to bring the slot 34 in a vertical plane. The jaws will then extend vertically and can clamp on an overhanging limb. Thus, the jaws can be positioned in any desired plane and at any angle from the ladder to engage any supporting object. When there is no structural or natural supporting object available, then the pole 18 is used and is set vertically on the ground, at a slight angle to the ladder.

It can be seen that the jaws can be moved together by tightening a chain, while standing on the ladder and the chain tightener 66 is conveniently located. When the tightener is unlocked, the jaws will slide easily apart, as the ladder is moved away from the pole, due to the provision of a spring 70, which is anchored to the leg 12 and is attached to the collar 40 to which the end of the cable is anchored.

While the preferred embodiment of this invention has been shown and described, other forms may be realized, as come within the invention defined by the appended claim.

What is claimed is:

A ladder attachment for clampingly engaging a structural or natural object to secure a ladder in an upright position comprising a track, clamping means releasably mounting the track transversely of the sides of a ladder, a pair of complementary jaws slideable on the track, means carried by the jaws and track for preventing rotation of the jaws on the track, said clamping means for the track including clamps adapted to be mounted on the sides of a ladder and having bearing sockets rotatably receiving the ends of the track, means carried by the sockets to releasably locate the track against rotative movement, a cable and pulley means for urging the jaws together and locking means associated with the cable to lock the jaws in clamping engagement of an object.

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