Sept. 19, 1933. E. F. PLUMPTON 1,927,469

SAFETY GRIP FOR LADDERS

Filed Dec. 13, 1932

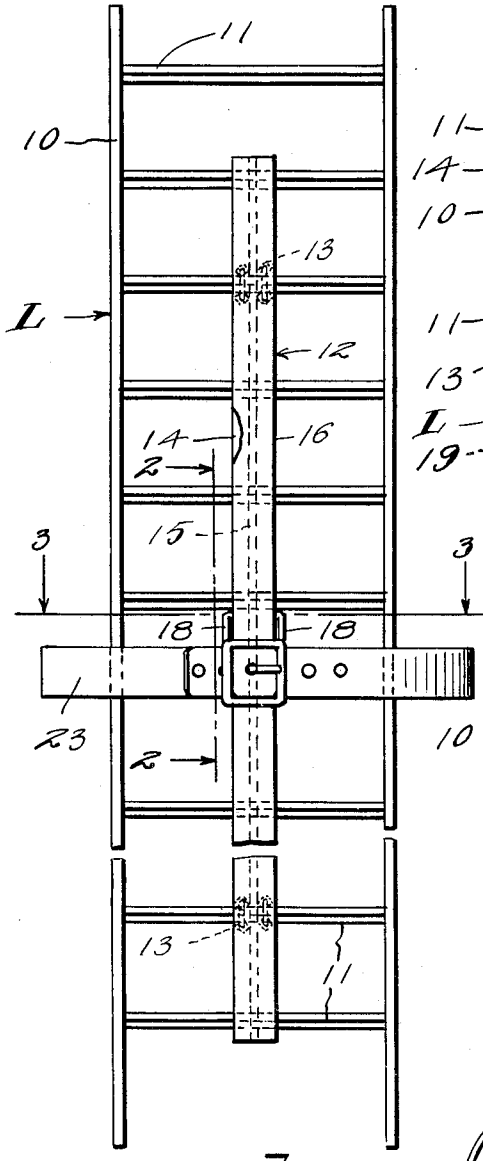


Fig. 1.

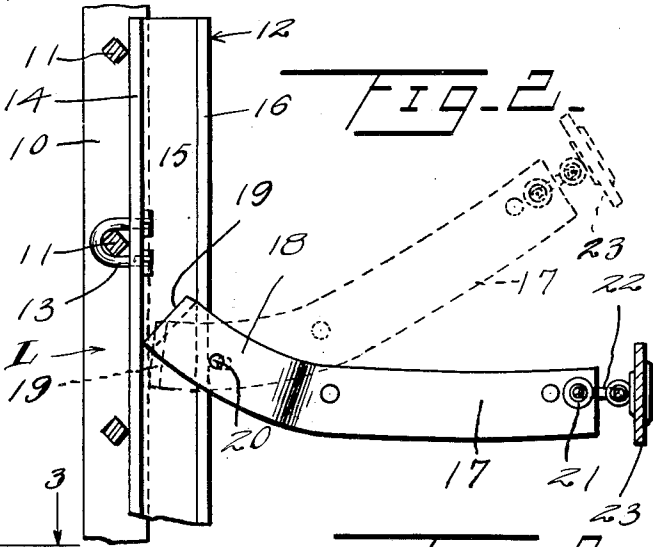


Fig. 2.

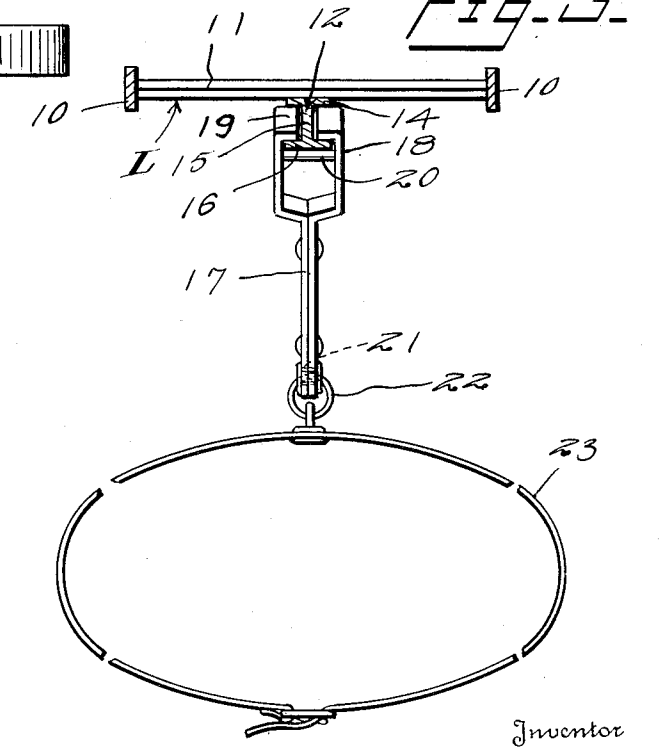


Fig. 3.

Inventor

E. F. Plumpton

By Watson E. Coleman

Attorney

Patented Sept. 19, 1933

1,927,469

UNITED STATES PATENT OFFICE

1,927,469

SAFETY GRIP FOR LADDERS

Earl F. Plumpton, San Mateo, Calif.

Application December 13, 1932
Serial No. 647,044

2 Claims. (Cl. 228—67)

This invention relates to safety devices and more particularly to a safety device for use in connection with ladders.

An object of this invention is to provide a means in combination with a conventional ladder whereby the ladder may be used in the ordinary manner but in the event the person using the ladder should slip, the device will prevent falling of the person.

Another object of this invention is to provide a device of this kind including a belt engaging about the person of the wearer which will not interfere with the ordinary use of a ladder but which will hold the person against falling.

A further object of this invention is to provide a device of this kind which can only be removed from the ladder from either the top or the bottom thereof.

The above and various other objects and advantages of this invention will in part be described and in part be understood from the following detailed description of the present preferred embodiment, the same being illustrated in the accompanying drawing wherein:—

Figure 1 is a detail fragmentary front elevation of a device constructed according to the preferred embodiment of this invention.

Figure 2 is a fragmentary vertical section taken on the line 2—2 of Figure 1.

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

Referring to the drawing wherein like characters designate corresponding parts throughout the views, the letter L designates generally a ladder of conventional construction provided with parallel side bars 10 and horizontal vertically spaced rungs 11.

In order to provide a safety means so as to prevent the falling of a person using the ladder L, and also to permit resting of the person in the event the ladder L is of a great length, I have provided a guide member, generally designated as 12, which is constructed in the form of an I-beam and which is secured to the rungs 11 of the ladder at substantially the center of the rungs by means of clamps or securing members 13 or the like. If desired, the guide member 12 may be welded or otherwise fixedly secured to the center of the rungs 11. These securing members 13 engage the base 14 of the beam 12 and the web 15 extends outwardly of the rungs at substantially a right angle thereto with the outer cross piece 16 extending parallel to the rungs 11.

A safety member in the form of a slide, comprising a shank 17 having a bifurcated inner end portion or forks 18 is adapted to loosely engage about the outer base 16 of the beam 12, and the outer ends of the arms or forks 18 are bent inwardly, as at 19. The opposing or confronting ends 19 are spaced apart a distance so that the web 15 of the I-beam will be slidably or loosely positioned therebetween.

A connecting bar or fulcrum 20 connects the two arms 18 intermediate the ends of these arms and slidably engages against the outer surface of the outer base member 16 of the I-beam. The safety members 19 are of a length greater than the distance between the flange members 14 and 16, so that even though the connecting bar 20 breaks, downward movement of the outer end of the member 17 will lock the safety member against movement. An aperture 21 is provided in the shank 17 adjacent the outer end thereof to receive a ring 22 having a belt 23 attached thereto.

In the use of this device, the confronting locking members 19 are slipped onto the web 15 inwardly of the outer base member 16 with the fulcrum 20 outside of the I-beam. The belt 23 may be attached to the person and the person may then ascend the ladder L in the usual manner, and the slide member including the shank 17 and the arms 18 will readily move upwardly as the person climbs the ladder L. Outward and downward movement of the shank 17 will cause the connecting bar 20 to engage against the outer surface of the outer base member 16 and to rock the securing or safety member so that the opposite ends of the confronting holding members 19 will engage against the inner surfaces of the flange members 14 and 16, and as these members 19 are constructed in substantially rectangular cross sectional configuration, a corner of each member 19 will bite into the surface of the flange members 14 and 16 and coact with the fulcrum member 20 in holding the device against sliding movement on the I-beam 12. In order to permit the device to slide on the I-beam 12, it is necessary that the shank 17 be raised so as to carry the holding members 19 away from the inner surface of the outer base member 16.

It will be noted from the foregoing that an exceedingly simple safety device has been disclosed which will safely hold a person against falling on the ladder L, and that this device cannot be removed by lateral movement of the person relative to the ladder and can only be removed from the ladder at either the top or the bottom thereof. This device will render more safe the work of linemen or the like, in the event an injury is suffered which might release the grasp of the lineman on

the ladder. This device may be attached to any conventional ladder and in view of the simplicity of the device, the ordinary use of the ladder will not be impaired.

It is, of course, understood that various changes and modifications may be made in the details of construction and design of the above specifically described embodiment of this invention without departing from the spirit thereof, such changes and modifications being restricted only by the scope of the following claims.

What is claimed is:—

1. A safety means comprising the combination with a ladder, of an elongated I-member, means for securing the member to the rungs of the ladder intermediate the ends of the rungs and a slide member loosely engaging the I-member, said slide comprising a shank portion, a pair of arms integral with the shank, inwardly extending locking members integral with the arms and engaging on opposite sides of the web of the I-member and inwardly of the outer base of the I-member, and a connecting member engaging the arms intermediate the ends thereof and adapted to engage against the outer surface of the I-member and coact with the locking members to hold the slide against movement relative to the I-member.

2. A safety means comprising the combination with a ladder, of an I-member having a length substantially equal to the length of the ladder, means for securing the member to the rungs of the ladder intermediate the ends of the rungs, a forked slide member having confronting inner end portions slidably engaging the I-member, a connecting bar connecting the forked portions of the slide member together at a point outwardly of the I-member, a flexible belt, and means for attaching the belt to the slide member.

EARL F. PLUMPTON.