

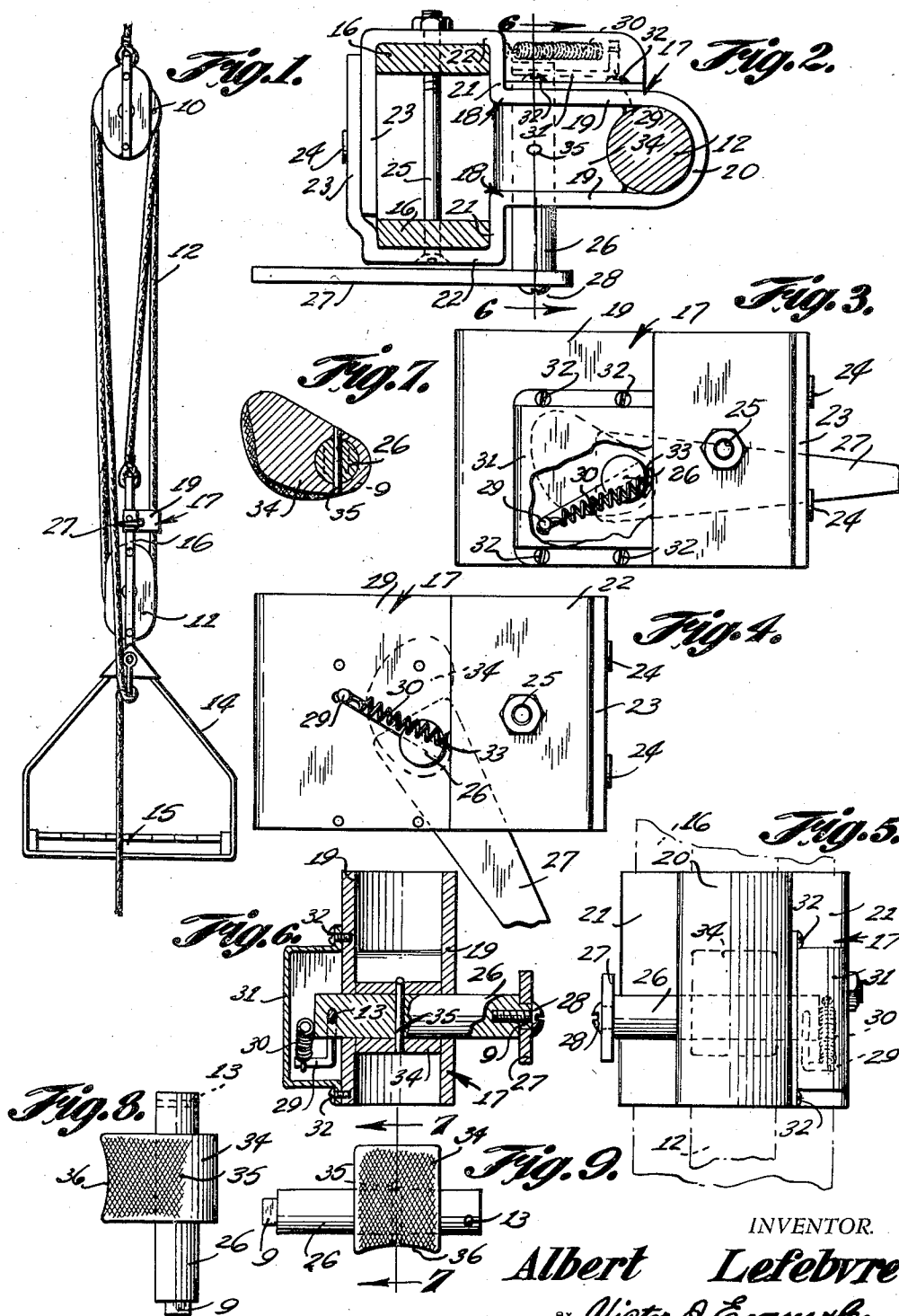
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SAFETY UNIT

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2,867,020

SAFETY UNIT

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1 Claim. (Cl. 24—134)

This invention relates to a scaffold, and more particularly to a safety unit for a scaffold.

The object of the invention is to provide a safety unit which will safely lock a load such as a scaffold in any position to which it may be adjusted.

Another object of the invention is to provide a unit which will prevent the falling of the scaffolding in case the usual hoisting tackle breaks or becomes accidentally released.

A further object of the invention is to provide a safety unit which is extremely simple and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, and in which like numerals are used to designate like parts throughout the same:

Figure 1 is an end elevational view showing a scaffold with the present invention attached thereto.

Figure 2 is a horizontal sectional view taken through the scaffold cable and showing the present invention.

Figure 3 is a side elevational view of the casing, with parts broken away and in section.

Figure 4 is a view similar to Fig. 3 with certain parts removed and with the unit in releasing position.

Figure 5 is an end elevational view of the unit.

Figure 6 is a sectional view taken on the line 6—6 of Figure 2.

Figure 7 is a sectional view taken on the line 7—7 of Figure 9.

Figure 8 is an elevational view of the wedge and cam on the shaft.

Figure 9 is a view taken at right angles to the view shown in Figure 8.

Referring in detail to the drawings, there is shown a portion of a scaffold which includes an upper pulley 10 and a lower pulley 11, there being cables 12 extending between the pulleys 10 and 11. Suitable brackets 14 may be arranged below the pulley 11, and a horizontally disposed platform 15 may be supported by the brackets 14. Arms 16 may be secured to each of the lower pulleys 11.

The present invention is directed to a safety unit 17 which will serve to maintain the scaffold immobile in its various adjusted positions and which will also serve to prevent the scaffold from falling in the event that one of the cables accidentally breaks. The safety unit 17 comprises a casing or housing, and one of the casings may be provided for each side of the scaffold or for each upper and lower pulley. The casing may be made of a single piece of suitable material such as metal, and may include spaced apart side members 18 which each include a flat portion 19. The flat portions 19 are interconnected together by an arcuate web 20. Arranged at right angles with respect to each flat portion 19 is a straight section 21, and extending from each straight section 21 is a flat portion 22. Overlapping end portions 23 extend inwardly from the flat portions 22 and are interconnected

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together by a suitable securing element such as a rivet 24.

A pair of the arms 16 may be secured within the casing by a bolt and nut assembly 25. A shaft 26 is journaled between the flat portions 19, and a handle or lever 27 is secured to the outer end of the shaft 26 by a suitable securing element such as a screw 28. A coil spring 30 has one end connected to a pin 29 which extends from the shaft 26, and the other end of the coil spring is connected to a pin 33 that extends from the adjacent side member. An opening 13 may be provided in an end of the shaft 26 for receiving the pin 29, and the shaft 26 may also be provided with a reduced diameter portion 9 for attachment to the lever or handle 27.

Interposed between the flat portions 19 is a rotatable cam or wedge 34 which may be knurled exteriorly, and the wedge 34 is secured to the shaft 26 by a key or pin 35. The wedge 34 may be provided with an arcuate recess 36 for at times engaging a portion of the cable 12.

From the foregoing it is apparent that a safety unit has been provided which will maintain a scaffold immobile in its various adjusted positions and which will prevent the platform 15 from falling even though one of the cables may break. In use when the platform 15 is to be raised or lowered, it is only necessary to manually grip the lever handle 27 and pivot it in a counterclockwise direction from the position shown in Figure 2. By manually moving the handle 27, the wedge 34 will be moved out of locking engagement with the cable 12 which is arranged contiguous to the web 20 so that the cable can be adjusted or moved vertically in the casing. The spring 30 serves to maintain the wedge 34 out of engagement with the cable 12 after it has been moved therefrom, and the spring 30 also serves to maintain the wedge 34 into locking engagement 12 when the parts are in the position shown in Figure 2. The spring 30 is able to function to thus maintain the device locked or unlocked since it is connected off center to the shaft 26. The knurling and recess 36 on the wedge 34 help to provide a more positive and safer lock between the wedge and the cable. The numeral 13 designates an opening in the shaft 26 which may receive the pin 29, and an end of the shaft 26 is of reduced size as at 9 for engagement with the lever 27. A cover 31 may be secured to one of the side members by suitable screws 32 and the cover 31 serves to enclose and protect the movable spring 30 and its associated parts.

The unit of the present invention is a separate unit from the block and tackle assembly and the present invention can be readily installed or removed from the block and tackle. One or two of the bolt and nut assemblies 25 can be used for connecting the casing to the straps 16. The present invention does not lock the main lines but locks one of the lines 12 in the back which extends between the upper and lower pulleys. The present invention can be used for any type work wherein a scaffold is needed and can be used on any type building and is simple and inexpensive to manufacture. The present invention can be used by painters, steeple jacks and the like. With the present invention the scaffold can be raised without unlocking the safety unit, but it cannot be lowered without unlocking the safety unit. The size of the parts can be varied as desired.

I claim:

In a safety unit for a cable of a block and tackle, a casing including a pair of spaced apart side members each including flat portions interconnected together by an arcuate web which is positioned in circumjacent relation to the cable, a straight section extending outwardly at right angles with respect to each flat portion, flat sections extending from each straight section, and over-

lapping end portions extending inwardly from said flat sections and secured together, a shaft extending rotatably through said flat portions and having a reduced diameter portion, an exteriorly knurled cam secured to said shaft and interposed between said pair of flat portions for engagement with the cable, an L-shaped pin mounted in said shaft and extending from said shaft and outwardly from one of said side members, a coil spring connected to said pin and to said one side member, said spring serving to maintain said cam immobile in its adjusted positions in engagement with the cable, and a cover enclosing said coil spring, a handle secured to the reduced diameter portion of said shaft, said cam having an arcuate recessed portion for engagement with the cable, said handle being arranged on the opposite side of said casing from said cover, the sides of said cam frictionally and snugly engaging the inner surfaces of said flat portions.

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