May 18, 1937. E. C. BIXEL 2,080,527

LADDER HOLDER

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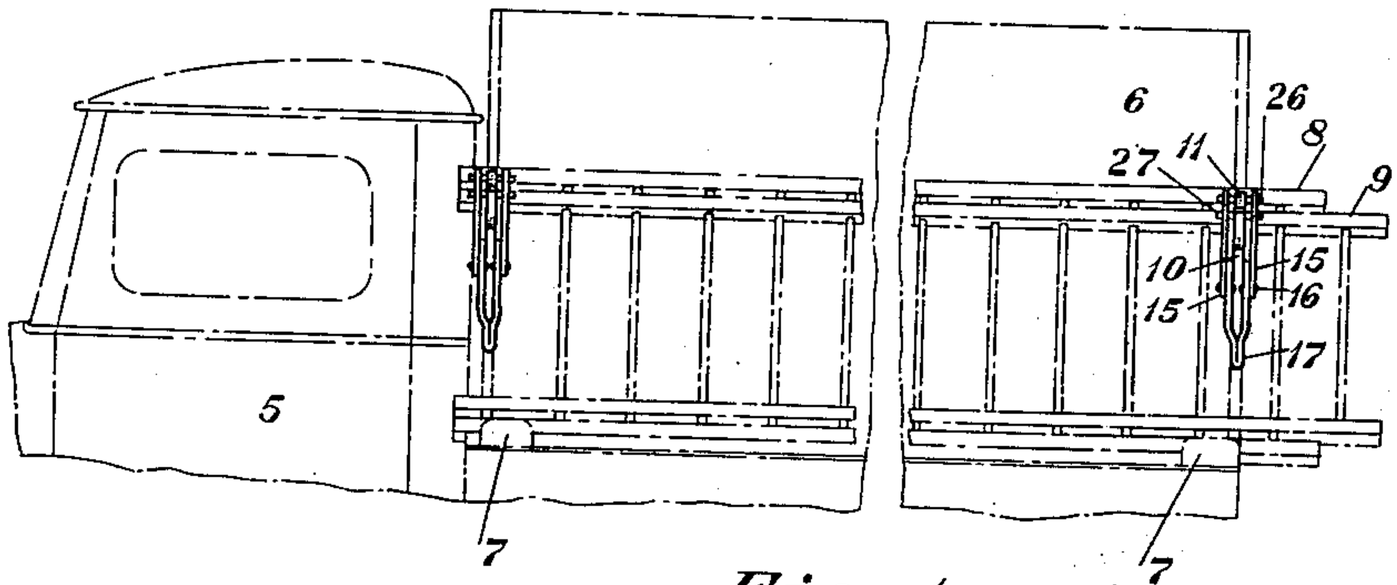

Fig. 1

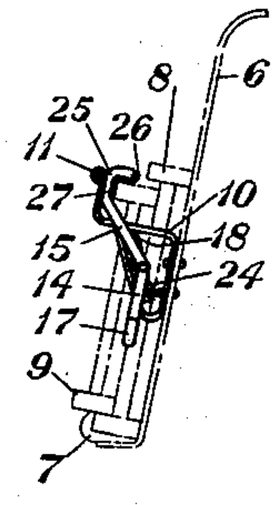

Fig. 2

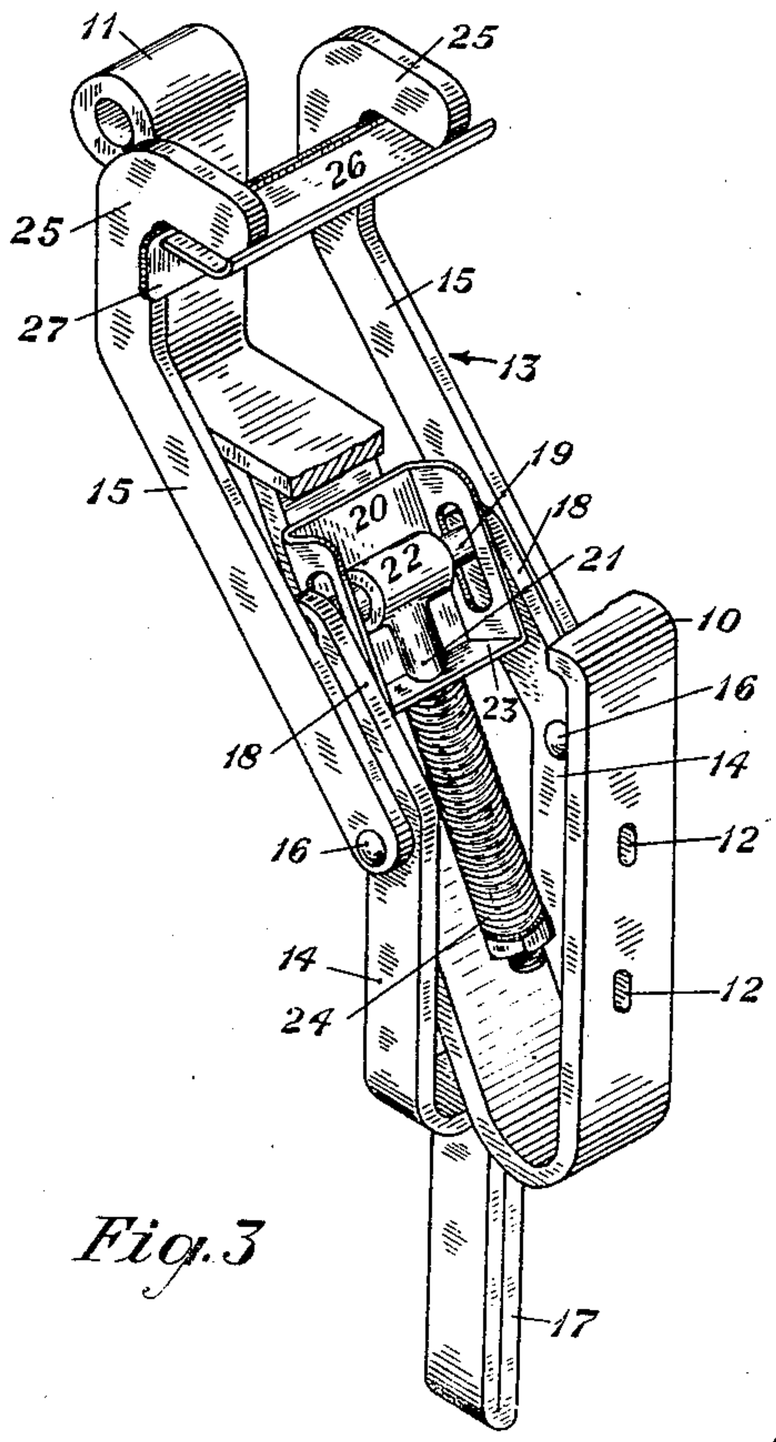

Fig. 3

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LADDER HOLDER

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2 Claims. (Cl. 224—29)

This invention relates to an improved arrangement for holding ladders in position upon the sides of automotive apparatus such as trucks, which trucks may be used for electric installation, repair or other work.

One of the objects of the invention is to provide a holder for ladders or grouped sections of ladders whereby they may be mounted in rigid position upon the side of a truck so that accidental displacement or rattling is prevented.

Another object is to provide holding means which will permit the ready attachment or detachment of the ladders or ladder sections.

These and further objects will be apparent from the following description when considered in connection with the accompanying drawing in which one embodiment of the invention is illustrated.

Referring to the drawing, Figure 1 is a side elevation of an automotive truck showing the improved ladder holder applied thereto; Fig. 2 is an end view of Fig. 1; and Fig. 3 is a perspective view of the improved holder.

In the drawing, a motor truck of well-known character is shown in dotted lines. This truck is illustrated as being provided with the usual driver's cab 5 from which a truck body portion extends. This body portion has side panels 6 which, though appearing in the present instance as being slightly inclined, may be vertical if so desired. The ladder or ladder sections are carried on one or the other or both sides of these side panels by means of the improved holder of this invention.

The improved holders, for the purpose of illustration, are shown as comprising a lower and an upper pair of brackets. The lower brackets 7 are of substantially L-formation and their horizontal legs may be fixed by rivets or the like to a flange extending outwardly from the side panel 6, while vertical portions of said brackets engage the lower rails of ladder sections 8 and 9.

The upper pair of brackets for the holder each comprise a frame member 10 having a triangular portion from which a vertical arm 11 extends. One side of the triangular portion is suitably affixed to the inclined side panel 6 of the truck body, and a diagonally extending portion connects the affixed side of the triangular portion to a third or substantially horizontal portion. This horizontal portion forms a support for the upper rail of the ladder section 9 while the vertical arms 11 of the upper brackets, with the cooperation of the lower bracket 7, prevent the outward displacement of the ladder or ladder sections from the truck. The pairs of brackets 7 and 10 are so disposed on the side panel 6 with respect to each other that ladder sections of standard size may register therewith as just outlined. To care for any width variations in the ladder sections which may be encountered, the brackets 10 may be slotted as shown at 12 in Fig. 3.

A clamp 13, as more clearly shown in Fig. 3, is associated with each of the upper brackets 10. This clamp includes a lower set of levers 14, 14 and an upper set of levers 15, 15 which sets of levers are pivotally connected to each other at 16. A handle 17 is connected to the bifurcated portion of the lower set of levers and serves to operate the sets of levers to clamped and released positions, as will presently appear. Angular arms 18 extend from the bifurcated portions of the levers 14 at their pivotal points and their extremities of said arms are interconnected by a pin 19. This pin extends through and is adapted to move in slots provided in the sides of a member 20 which is suitably affixed by welding or otherwise to the diagonal portion of the frame member 10. A bolt 21 is connected to the pin 19 by means of a tubular cross-head 22. The bolt extends through an opening in a strap 23 provided at the bottom of the slotted member 20, and a nut is threaded on the end of the bolt 21 and serves to adjust the tension of spring 24.

The other or upper set of levers 15 extends upwardly from their pivotal connections 16 and terminates at the hooked portions 25. Crossbars 26 and 27 interconnect the hooked portions and serve to hold together and maintain definite spaced relation between the hooked portions and also provide a smooth engaging surface which will not injure the ladder rails when the clamp 13 is applied or released.

It will be apparent that clamp 13 operates upon a leverage basis, using a spring to permit the off-center operation of the sets of levers and also to maintain a constant tension in the clamp to compensate for minor variations in the ladders. To operate the clamp to a released position the handle 17 is rotated outwardly from the truck and raised. This operation releases the tension in the spring and also releases the upper set of levers. Under this condition the connecting crossbars of the upper set of levers may be swung out over the vertical arm 11 of the frame member 10, and when so swung the levers 15, 15 will rotate about their pivotal connections and assume a vertical position with the hooked portions 25, 25 thereof lying at the bottom. In this position of the clamp,

the ladder or ladder sections may be placed on or removed from the upper and lower set of brackets. To clamp the ladder or ladder sections in position on the brackets, clamp 13 is operated in a reverse sequence to that just described. In this case the levers 15, 15 and handle 17 are raised until the crossbars connecting the hook ends of said levers can be swung over the top of the vertical arm 11 and down upon the rail of the ladder with which they are to be engaged. The handle is then pulled downward and rotated in a counter-clockwise direction toward the truck body, thus setting up tension in the spring and clamping the ladder or ladder sections in place.

While the arrangements of this invention have been illustrated and described as being of a certain specific form which has been deemed desirable, it will be understood that it is capable of embodiment in other and widely varied forms without departing from the spirit of the invention as defined in the appended claims.

What is claimed is:

1. A supporting bracket having a surface upon which an object to be supported may rest, an overthrow lever having a slot and pin connection with said bracket, a clamp member pivoted to the overthrow lever intermediate the ends of said lever and adapted to clamp the object upon the support, and tension means so arranged as to exert tension upon the pin connection upon which the lever is pivoted in such direction as to hold the clamp member in clamping position.

2. A supporting bracket having a surface upon which an object to be supported may rest, a slotted member carried by the bracket, an operating lever slidably pivoted in the opening of the slotted member, a hooked member pivoted to said operating lever and adapted to clamp the object upon the support, and tension means so arranged as to exert tension upon the operating lever to hold it in an overthrown position so as to hold the hooked member in clamping position.

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