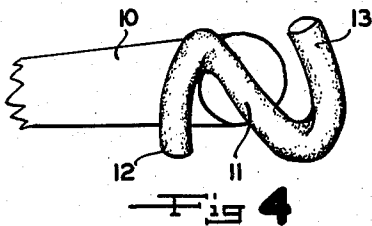
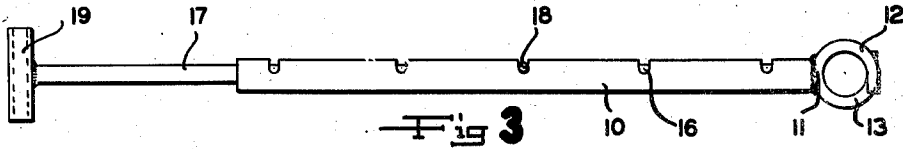
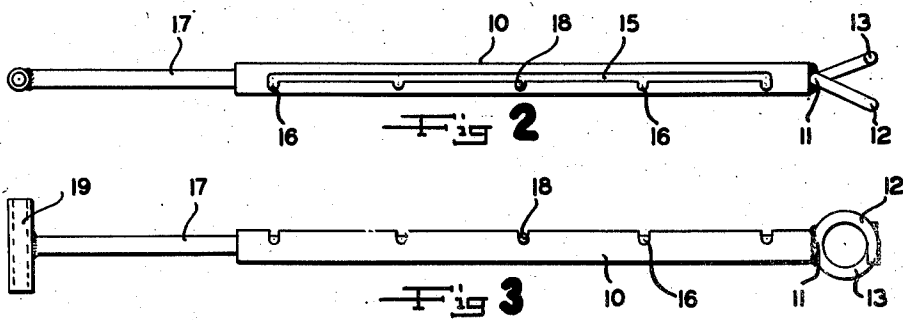
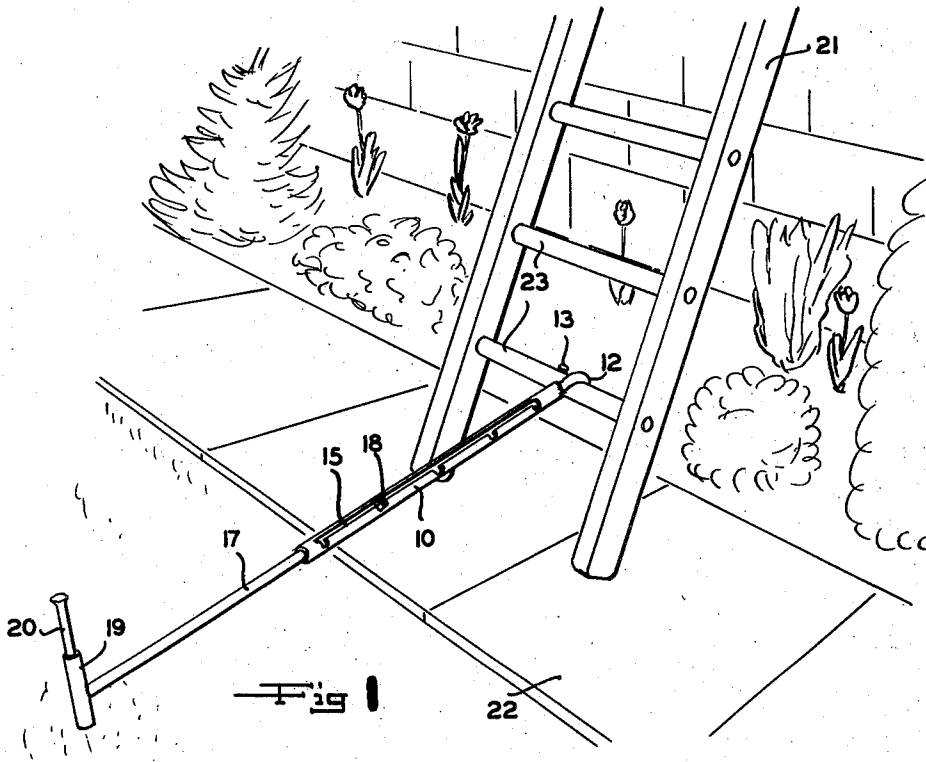


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W. E. LITTLE  
ADJUSTABLE LADDER ANCHOR

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Inventor  
WARREN E. LITTLE

By *Francis J. Klempay,*  
Attorney.

# UNITED STATES PATENT OFFICE

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## ADJUSTABLE LADDER ANCHOR

Warren E. Little, Youngstown, Ohio

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2 Claims. (Cl. 228-60)

1 This invention relates to an adjustable anchor for the foot of a ladder and more particularly to an improved device for effectively preventing the skidding of the foot or lower portion of a ladder away from a building or other structure against which it is leaned. It is well known that many serious accidents result from such skidding of inclined ladders when the same are placed on a smooth drive-way, walk or other supporting surface and while it is generally recognized that a safety precaution in the form of an anchor for the foot of a ladder should always be employed except when the ladder is positioned on a yieldable or very rough surface where no skidding is possible, this safety precaution is very seldom taken because no practical and easily operated device has heretofore been made available for the purpose.

Inasmuch as the walks, drive-ways or other hard surfaces on which ladders are placed may vary considerably in width and since it is impractical to drive anchoring stakes in such surfaces it is desirable that a rigid extendable anchoring member be provided which will reach from the lower portion in the ladder outwardly or inwardly with respect to the building whereby an anchoring pin may be driven in comparatively soft ground or fill adjacent the aforementioned hard surface. It is further desirable that the anchoring member be capable of instant and safe adjustment as to length without the use of tools of any kind and it is accordingly one of the primary objects of the present invention to provide an improved anchoring member for the foot of a ladder which is readily and safely adjustable as to length without the use of tools.

A further object of the invention is the provision of an improved arrangement for detachably but safely connecting an end of an outwardly extending anchoring member to the bottom rung of a ladder without the use of tools of any kind. This object is accomplished, in accordance with my invention, by providing on the end of an anchoring rod or tube a strong double hook of novel configuration wherein the two bights of the hook are spaced laterally with respect to the longitudinal axis of the rod or tube and wherein the two free-ended tines of the hook project in opposite directions whereby the hook structure may be applied to the rung of a ladder by longitudinal movement of the tube or rod and wherein the hook structure is effectively and safely locked onto the rung by the subsequent rotational movement of the tube or rod through 90°.

Yet another object of the invention is the pro-

2 vision of an anchoring rod or tube having at one end a hook structure of the kind outlined above and at its other end means to simultaneously anchor said other end to earth or fill and to simultaneously restrain rotation of the tube or rod whereby it is impossible to disconnect the anchoring member from the rung of the ladder so long as the outer end of the anchoring member is secured to the earth or fill.

A still further object of the invention is the provision in apparatus of the kind outlined immediately above of an improved arrangement for effecting the length adjustability of the anchoring member whereby the inherent inability of the double hook structure to permit rotation of the connected rod or tube in one direction beyond a "locking on" position is utilized to securely lock the anchor member in length adjusted position.

Another object of the invention is the provision of an improved ladder anchor which may be carried about as a unitary light weight assembly and which may be readily connected to and detached from a ladder without the use of any tools and which may be readily connected to earth or fill by any suitable hard weight, as a brick, for example.

The above and other objects and advantages of the invention will become apparent upon consideration of the following detailed specification and the accompanying drawing wherein there is disclosed a preferred embodiment of the invention.

In the drawing:

Figure 1 is a perspective view of the apparatus of my invention shown in operative use with a ladder;

Figures 2 and 3 are plan and side views, respectively, of the apparatus of Figure 1; and

Figure 4 is a perspective end view of the apparatus of Figure 1.

Referring to the drawing in detail, the reference numeral 10 designates a length of metal pipe or tubing across one end of which is welded or otherwise suitably secured a double hook member 11 having transversely spaced tines 12 and 13 which extend in opposite directions as shown. The curvature of the double hook member 11 is further such that the tines 12 and 13 are spaced outwardly from the adjacent end of the tube 10 whereby a round cylindrical object, as the rung of a ladder, for example, may extend through the structure of the hook assembly in a direction normal to the principal axis of the tube 11. As is clearly evident from Figure 4 the double hook member 11 including the tines 12 and 13 may be

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fashioned simply by properly bending a short length of steel rod. It should be observed that upon the application of the hook assembly 11 to the rung of a ladder, for example, the tube 10 is free to rotate about its principal axis in one direction whereas rotation of the tube in the opposite direction is effectively restrained by the carrying loops or bights for the tines 12 and 13. Also, the spaced nature of the latter is such that upon 90° rotation of the tube 10 in the possible direction the hook structure may be readily moved away from the ladder rung by longitudinal movement of the tube 10 and connected hook 11, as will be understood.

The tube 10 is slotted longitudinally as shown at 15 for a substantial portion of its length intermediate its ends and communicating with the slot 15 is a plurality of longitudinally spaced and circumferentially extending notches 16 formed in the side wall of the tube 10. The end of the tube 10 opposite the hook 11 is open and slidably received through this open end is a rod 17 which is telescopically received in the tube 10. Slidably received in the slot 15 or the notches 16 is a pin 18 which is rigidly secured to the inner end portion of the rod 17 and it should be understood that the parts are assembled by first inserting rod 17 in tube 10 and thereafter driving the pin 18 into a radially extending bore previously formed in the inner end portion of the rod 17 or through the use of other suitable connecting means. It should be observed particularly that the notches 16 open out of the slot 15 in a circumferential direction which is co-incident with the direction of rotation of the tube 10 barred by the configuration of the hook 11, all as described above.

Welded or otherwise suitably secured to the outer end of the rod 17 is a pipe length 19 which extends at right angles to the principal axis of the rod 17 and which is adapted to slidably receive a stake 20. The stake 20 is preferably a length of steel rod having a pointed lower end, not shown, and a headed upper end of a diameter sufficiently large to engage and overlie the top end of the pipe length 19. If desired, suitable means such as a keeper chain, for example, may be employed to permanently attach the stake 20 to the other parts of the apparatus so that all the essential parts of the assembly will be instantly available as a unitary assembly if and when needed. It should be noted that the permanent attachment of the pin 18 to the rod 17 and the termination of the slot 15 short of the open end of the tube 10 effectively retains the rod 17 in assembled relation with the tube 10.

The pin 18 on the rod 17 is so oriented in a circumferential direction with respect to the longitudinal axis of the pipe length 19 that upon the hook structure 11 being fully applied to a horizontal bar as the rung of a ladder, for example, and upon the said axis of the pipe 19 being in a vertical plane the pin 18 will bear against the circumferential end of the particular notch 16 in which it is located. This arrangement effectively prevents rotation of the tube 11 in a counter-clockwise direction.

The above mentioned prevention of rotation of the tube 10 effectively secures the assembled brace of the invention to the rung of the ladder while at the same time locking the rod 17 against telescoping movement in the tube 10. Therefore, so long as the pin 20 remains in a vertical driven position the ladder 21 will be effectively restrained from skidding inwardly or outwardly

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of the building wall when resting on a smooth surface as the walk 22 in Figure 1, for example.

Reference numeral 23 designates the conventional rungs of the ladder 21 and it should be obvious that immediately upon retraction of the pin 20 the assembly comprised of the tube 10 and the hook 11 may be rotated in a counterclockwise direction, as viewed in Figure 1, whereby the hook structure may be readily detached from the lower ladder rung 23.

The above specifically described embodiment of the invention should be considered as illustrative only as obviously many changes may be made therein without departing from the spirit or scope of the invention. Reference should therefore be had to the appended claims in determining the scope of the invention.

I claim:

1. Apparatus of the character described comprising in combination a rigid elongated brace having a normally disposed sleeve at one end adapted to receive an anchoring pin whereby said brace may be anchored to earth or fill and be simultaneously restrained against rotation about its longitudinal axis, and a double hook member rigidly connected to the other end of said brace member and having a pair of bights spaced from each other in a lateral direction with respect to said axis and positioned on opposite sides of said axis with the free-ended tines thereof extending in opposite directions, the arrangement being such that said hook member is applicable to a rung of a ladder by longitudinal movement of said brace along said axis toward said rung and said hook member being locked on said rung by the subsequent rotation of said brace about said axis through 90°.

2. Apparatus according to claim 1 further characterized in that said elongated brace comprises a tubular member and a rod telescopically received therein and projecting outwardly therefrom an adjustable extent, a longitudinally extending slot in the side wall of said tubular member intermediate the ends thereof, longitudinally spaced but circumferentially extending notches in one side wall of said slot, and a pin projecting radially outward of the inner end portion of said rod and adapted to be received in one or the other of said notches, the arrangement being such that upon said tubular hook member being operatively applied to a lower horizontal rung of a ladder and said sleeve being anchored by a vertically driven earth pin received therein said hook member will be restrained against rotation in a direction tending to uncouple the hook member from the rung by the circumferential end of the particular notch in which said pin is positioned while the side walls of said particular notch restrains telescoping movement between said tubular member and rod.

WARREN E. LITTLE.

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