Jan. 31, 1928.

1,657,939

H. O. ROCKWELL

CABLE HOOK OR STEP

Filed July 11, 1923

Fig. 1.

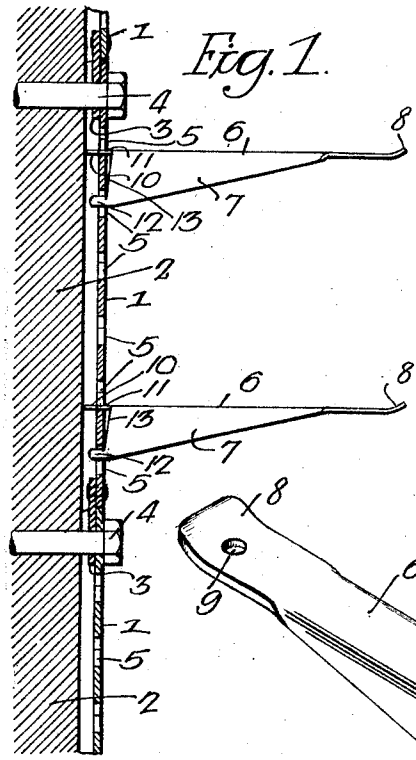


Fig. 2.

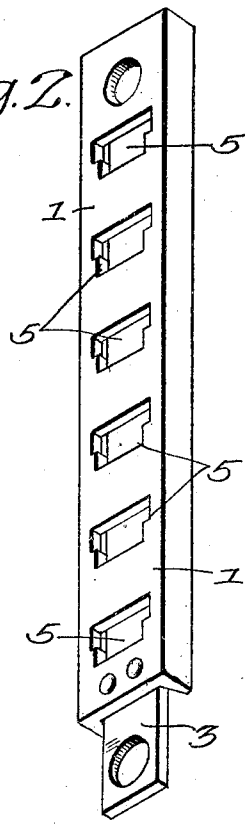


Fig. 3.

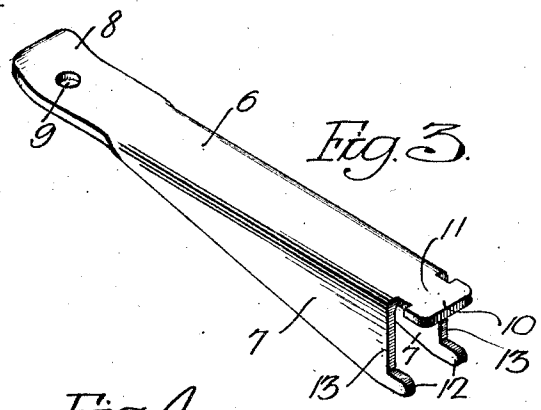


Fig. 4.

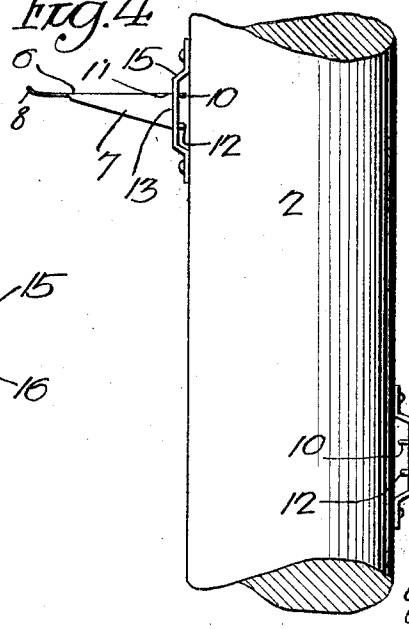


Fig. 5.

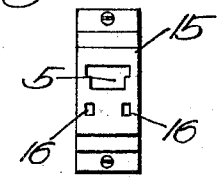
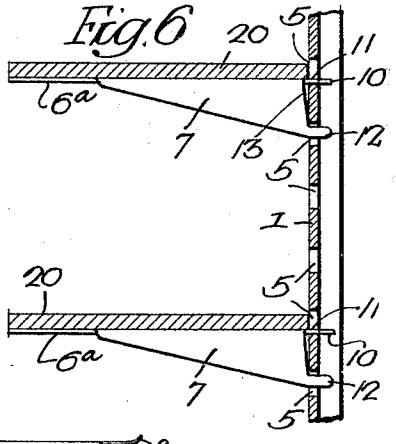


Fig. 6.



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UNITED STATES PATENT OFFICE.

HERBERT O. ROCKWELL, OF PHILADELPHIA, PENNSYLVANIA.

CABLE HOOK OR STEP.

Application filed July 11, 1923. Serial No. 650,858.

One object of my invention is to provide a novel structure equally adapted for use as a support for electric wires and cables, as a bracket for supporting shelving made of wood, metal or glass, as a pole step, or as a bracket to support pipe or steel bars and the like, which shall be characterized by the fact that in addition to being easily and quickly detachable from its supporting structure, it is rigidly held from rotation about its longitudinal axis.

Another object of the invention is to provide a novel combination of bracket and a supporting structure detachably connected and yet so associated that said bracket cannot be accidentally separated from said structure.

A further object of the invention is to provide a novel form of cable-supporting hook or bracket which shall include means for effectually preventing its rotation while a wire or cable is being drawn over it and which shall likewise prevent its coming unhooked until it is raised or swung upwardly through an angle of approximately 45°.

These objects and other advantageous ends I attain as hereinafter set forth, reference being had to the accompanying drawings, in which,

Fig. 1 is a vertical section of a supporting structure illustrating my invention as applied thereto;

Fig. 2 is a perspective view of a supporting bar or rack provided with T-shaped openings for the reception of hooks or brackets in accordance with my invention;

Fig. 3 is a perspective view of one form of hook or bracket for supporting electric wires and cables;

Fig. 4 is an elevation showing my invention as adapted for use as a pole step;

Fig. 5 is a front elevation of one of the supporting fixtures shown in Fig. 4; and,

Fig. 6 is a vertical section showing my invention as used in supporting shelving.

In Figs. 1 and 2 of the above drawings, 1 represents an elongated bar, preferably of channel section mounted on a wall, frame or other suitable structure 2. In the present instance, said bar is made in a number of lengths each having at one end a perforated projecting tongue 3 designed to be attached to the opposite end of a similar length by bolts or lag screws 4 which also hold said bar sections to a wall or other supporting structure 2.

The web or main portion of the channel bar or section 1 is formed with a succession of slots 5 which may be roughly described as of flattened T-shape; that is to say, they each have a narrow vertically extending lower portion and a transverse upper portion.

The hook or bracket made in accordance with my invention consists of a generally straight elongated body portion 6 preferably of flat material having depending side flanges 7 decreasing in depth from the inner to the outer end which is preferably slightly turned up as indicated at 8 and is provided with a hole 9 therein. The opposite end of the body 6 consists of a head portion 10 whose width is just sufficient to permit of its passage into the larger or upper portions of any one of the T-shaped slots 5 and which is connected to said body portion by a neck 11 whose width is slightly less than that of the narrow portion of any one of said slots 5.

The lowest portion of each of the substantially vertical edges of the flanges 7 is projected longitudinally of the bracket in the form of a lug 12 and these lugs are of such dimensions and distance apart as to be capable of simultaneously entering and closely fitting into the wider upper portion of any one of the slots 5, when the neck 11 lies within the narrow portion of the slot 5 next above that entered by said lugs. The neck 11 is a little longer than the thickness of the web of the channel bar or section 1, and inasmuch as the head and neck are relatively thin the entire hook can be inclined upward while the head is being moved downward behind the narrow portion of the corresponding slot 5. When the bottom of the narrow portion of the slot is reached, the hook can then be swung downward into horizontal position, the lugs 12 entering the wider portions of the next lower slot 5. The sizes and spacing of the parts are such that the said lugs are out of contact with the top and bottom of the said wider portion of the corresponding slot or hole when the bottom of the head is in contact with the bottom of the narrow portion of its corresponding slot or hole. The result is that the hook, together with the load carried thereby, is vertically supported by means of the head and not by means of the lugs.

As clearly shown in the drawings the rear edges 13 of the braces 7 are preferably in-

clined away from the plane at right angles to the plane at the top of the body 6. This insures contact with the supporting structure at points near the lugs and prevents contact at other points. Thus the flanges are enabled to act most effectively as diagonal braces to support the main body 6.

The hook then has the relative position shown in Fig. 1 and lateral stresses such as those due to the drawing of a cable across the top surface of its body 6, cannot longitudinally rotate or otherwise displace the hook, which is held rigidly in position by the cooperation of its lugs 12—12 with the head 10. Moreover, said lugs effectually prevent the hook being bodily raised from its normal or horizontal position, making it necessary for it to be manually swung upwardly through an angle of about 45° before such bodily raising is possible. As a consequence of this construction and combination of parts, the accidental dislodgment of the hook is effectually prevented, so that it constitutes a firm support which cannot move laterally or become easily displaced. At the same time, it may be entered in or removed from its supporting bar with the utmost ease.

As indicated in Figs. 4 and 5, my invention is equally adapted for use as a detachable pole step such as may advantageously be used on metal, wood or other poles, and while the latter may be equipped with bars such as those shown in Figs. 1 and 2, I preferably bolt or otherwise attach to the poles at the desired points, supports in the form of bars or plates 15 having their ends offset to form feet whereby they may be bolted, screwed or nailed to the supporting structure. In this case, each bar has an upper T-shaped slot 5 for the reception of the head and neck of a bracket in the form of a step and below this has two openings 16—16 of the proper size and position to receive and be closely fitted by the lugs 12 respectively. As before, the steps may be easily and quickly mounted or detached. When desired for use as shelf supports as shown in Fig. 6, the top surface of the bracket 6ª is flat and they are mounted on a supporting structure 1 as before described. The shelves 20—20 rest upon and extend between brackets mounted at the same level.

I claim:

The combination of a supporting structure having a series of similar uniformly spaced holes therein, each hole having a wider upper portion and a narrower lower portion, and a sheet metal bracket having a flat upper portion formed with a T-shaped head adapted to horizontally enter the wider portion of one of the said holes and to be moved downward to bring the wider part of the head back of the narrower portion of the hole and also having separated depending sides formed integrally with and bent downward from the said upper portion and respectively terminating in lugs adapted and positioned to enter another one of the said holes below the first said hole and to respectively engage the sides of said latter hole, the rear faces of the depending sides being inclined upward and outward to prevent contact with the supporting structure except at points near the lugs.

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