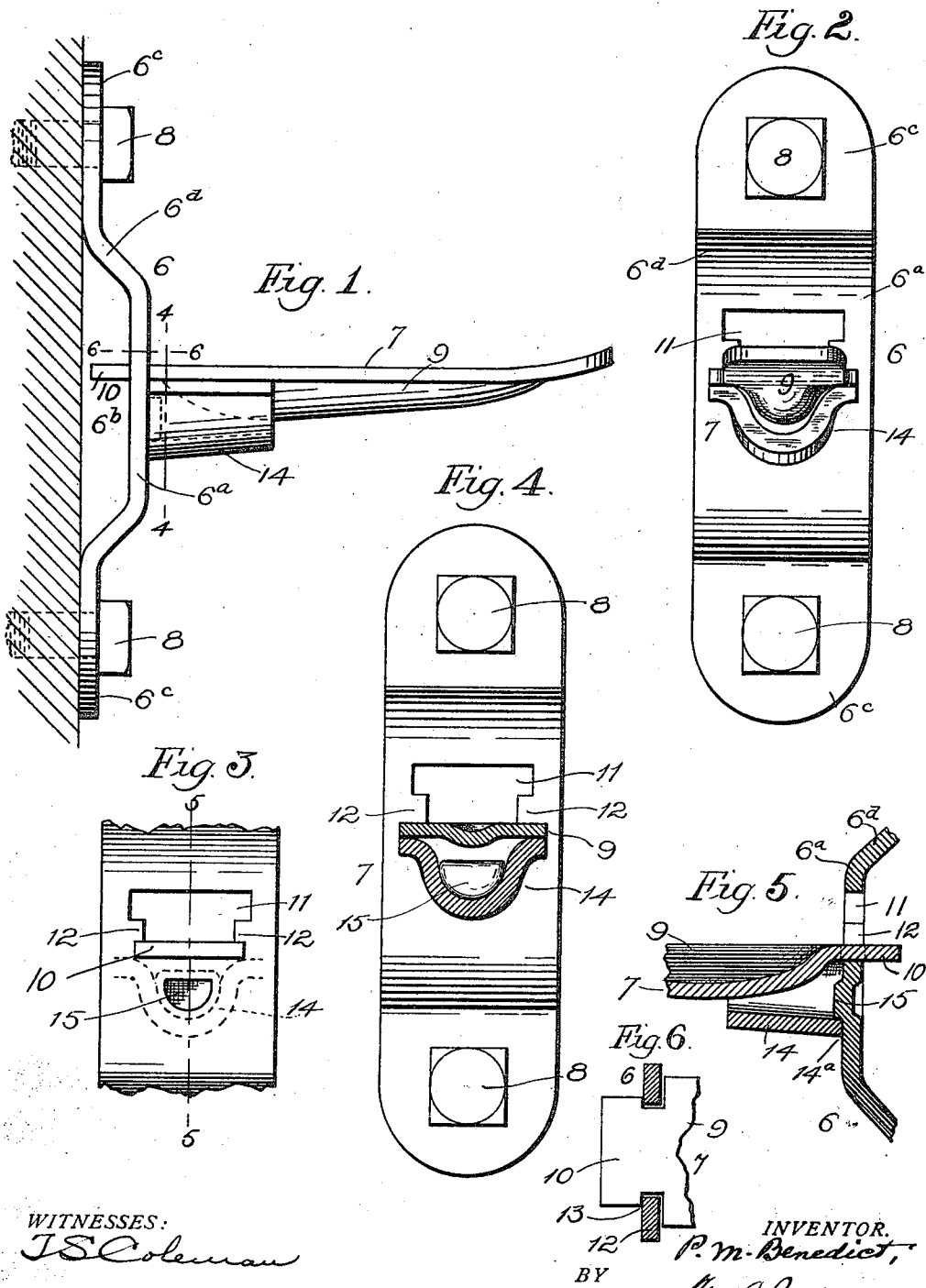


P. M. BENEDICT.
POLE STEP.
APPLICATION FILED APR. 3, 1916.

1,322,869.

Patented Nov. 25, 1919.



WITNESSES:
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UNITED STATES PATENT OFFICE.

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POLE-STEP.

1,322,869.

Specification of Letters Patent.

Patented Nov. 25, 1919.

Application filed April 3, 1916. Serial No. 88,593.

To all whom it may concern:

Be it known that I, PAUL M. BENEDICT, a citizen of the United States, and resident of the city and county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Pole-Steps, of which the following is a full, clear, and exact description.

This invention relates to pole steps such as used on telegraph poles, and more particularly to that type of pole step which is composed of a metal attaching plate adapted to be permanently secured to the pole and a metal footrest or step proper adapted to be attached to the plate when the lineman desires to climb the pole, and to be removed from the plate after he is through with his work, so that the step cannot be used by unauthorized persons.

One of the primary objects of the invention is to provide improved means for securing the footrest or step to the attaching plate or bracket so that the footrest or plate is prevented from turning about its longitudinal axis. Heretofore considerable difficulty has been encountered with devices of this character owing to the fact that the step or footrest will turn in the attaching plate, under which conditions it affords a very precarious footing, but by my improvements this disadvantage is overcome, for the construction is such that a heavy man may obtain a reliable footing on a pole-step which is comparatively light and inexpensive.

Another object of the invention is to provide a pole step in which the supporting plate is so formed as to prevent the average person from obtaining a foothold thereon when the step or footrest is removed.

The invention also has in view the general improvement of devices of the class mentioned.

To these and other ends, the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

In the accompanying drawing,

Figure 1 is a side elevation of a pole step embodying my improvements, showing a portion of the pole in section;

Fig. 2 is a front elevation of the pole step;

Fig. 3 is a fragmentary rear elevation of the step;

Fig. 4 is a section on line 4—4 of Fig. 1;

Fig. 5 is a section on line 5—5 of Fig. 3; and

Fig. 6 is a section on line 6—6 of Fig. 1.

As shown in the drawing, my improved pole step comprises two main parts, first, a supporting plate 6 adapted to be secured to the pole, and second, a foot rest or step portion 7 which is adapted to be detachably connected with the plate 6. The plate 6 is preferably made of pressed steel, and provided at the upper and lower ends with perforations, through which suitable screws 8 are passed for securing the plate to the pole. The plate 6 is elongated and arranged vertically on the pole, the upper and lower extremities being flat against the pole, and the intermediate portion of the plate being bowed or bulged outwardly, as shown at 6^a, in order to provide a space 6^b between the part 6^a and the opposing face of the pole, as shown in Fig. 1. The outwardly bulged or bent portion 6^a is joined with the flat ends 6^c of the plate by inclined portions 6^d which are arranged at a considerable angle to the horizontal. In this manner, the portion 6^d which is uppermost presents a surface which slants downwardly at such an angle that it will not afford a foothold. Thus, the attaching plate by itself does not afford a footing for an unauthorized person who attempts to climb the pole.

The footrest or step proper 7 is preferably made of pressed steel. In the form shown, it comprises a plate 9 which is longitudinally corrugated in order to reinforce the same. At the inner end of the plate, the same is provided with a T-shaped head 10 (Fig. 6) which is adapted to be secured in a T-shaped opening or slot 11 in the intermediate portion of the supporting plate. The slot or opening 11 is wider at the top than at the bottom so that the T-shaped head 10 may be inserted into the top portion of the slot, after which, as the head is caused to descend in the slot, shoulders 12 at the side edges of the lower portion of the slot engage notches 13 at the neck portion of the T-shaped head. At the same time, an abutment member 14, which depends from the plate 9, engages its edge portion 14^a with the front face of the portion 6^a below the slot, as shown more particularly in Fig. 5, whereby the step is firmly supported on the supporting plate. If, however, it is desired to remove the step from the sup-

porting plate, this can be readily done by lifting the step in the slot 11, and then pulling it out in a forward direction, as will be obvious.

5 In order to prevent the tipping, twisting or turning of the step relatively to the supporting plate, suitable means should be provided for preventing the step from rotating in the slot 11. In order to effect this result, I prefer to provide means on the supporting 10 plate for engaging the member 14 which abuts the front face of the supporting plate. In the particular form shown, the member 14 is of U-shape and the supporting plate is 15 provided with a projection 15 extending outward from the front face thereof at a point below the slot 11, and entering and engaging the lower part of the U-shaped member 14 in such a manner as to prevent the turning 20 of the step in the slot. By preference, the boss or projection 15 will be formed by displacing a portion of the metal of the supporting plate in a forward direction. It will be noted from Fig. 4, that the boss or projection 15 corresponds in contour to a portion 25 of the U-shaped member 14, and that the latter conforms rather closely to the boss or projection. As the member 14 catches under the lower edge of the boss, the step is 30 effectively prevented from tipping laterally to any appreciable extent. The greater the weight imposed on the step, the tighter will be the engagement of the abutment 14 with the boss or projection 15, and therefore the 35 greater will be the resistance to turning movement. Thus I overcome a defect which has given considerable trouble in the case of other pole steps with which I am familiar.

In the particular form shown, the abutment 14 is applied to the under surface of 40 the pole 9 by welding, the side edges of the abutment being welded to the respective side edges of the plate. The supporting plate is in the nature of a strap, arranged vertically, 45 and having its ends formed to engage a pole, or the like, the intermediate portion of the strap being offset in a forward direction relatively to the pole or other support, so as to leave a space between the latter and the intermediate part of the strap. The slot in the 50 strap or plate is provided in this intermediate portion so that the head of the step proper may be received in the space between the pole and strap. The means for preventing turning movement of the step proper is, however, arranged at the front of the strap, and is composed of a part 15, or the like, at the front surface of the strap, 55 slightly below the step proper, arranged to engage the depending abutment on the step proper, which is usually in the form of a

loop, as described, so that it engages the part of projection 15 on opposite sides of the latter.

While I have described my invention as 65 being particularly useful in connection with pole steps, certain features may be used to advantage in other devices where it is desired to support a weight on a horizontal member detachably secured to a support. 70

Various changes in the details of the construction may be adopted without departing from the scope of the invention as defined in the claims.

What I claim is:— 75

1. In a device such as described, the combination of a straplike supporting member having an outwardly bulged or off-set intermediate portion, said intermediate portion having a slot extending therethrough, a footrest member having a head extending 80 through said slot and interlocked with said straplike member, a projection on the front face of said straplike member, and a loop-shaped part on said footrest member engaging said projection to prevent turning movement of the footrest member and positively 85 prevent the foot rest from rising in a vertical position while the loop-shaped part is in engagement with the projection. 90

2. In a device such as described, the combination of a strap-like member having its end portions lying in the same plane and its intermediate portion slightly displaced relatively to this plane, said intermediate portion 95 having a slot formed therethrough, a foot rest member having a part extending through said slot and interlocking with said strap-like member, and a projection on the front face of said intermediate portion of 100 the strap-like member adapted to be received in a cooperating opening formed in a portion of said foot rest member; substantially as described.

3. In a device such as described, the combination of a supporting member having a slot extending therethrough, a second member extending substantially at right angles to said first member and having a T-head extending through said slot and interlocking 110 with said first member, a projection formed upon the outer face of said supporting member, and an abutment formed on said second member, comprising a U-shaped shell-like member positioned to be moved into inclosing 115 engagement with said projection, whereby said second member is held against movement bodily in any direction by said projection and cooperating U-shaped member.

In witness whereof, I have hereunto set 120 my hand on the 1st day of April, 1916.

PAUL M. BENEDICT.