May 8, 1945. D. M. PENNINGTON 2,375,685

STAND

Filed Oct. 16, 1943 2 Sheets-Sheet 1

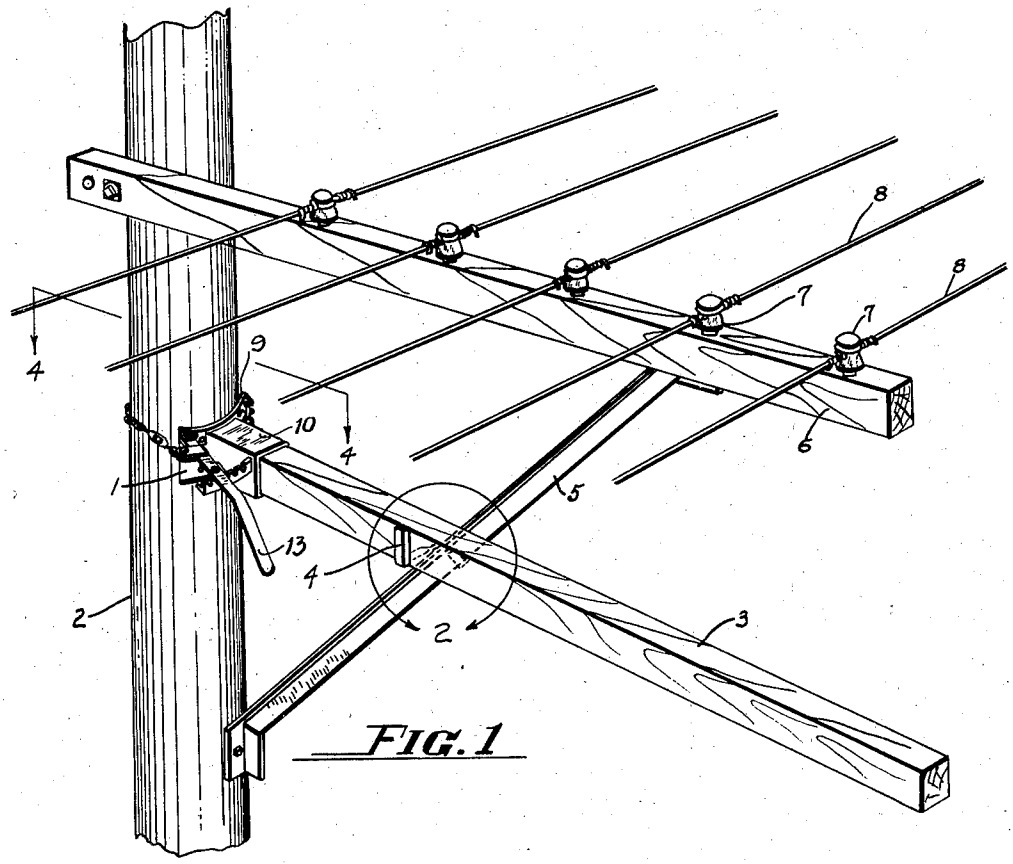

FIG. 1

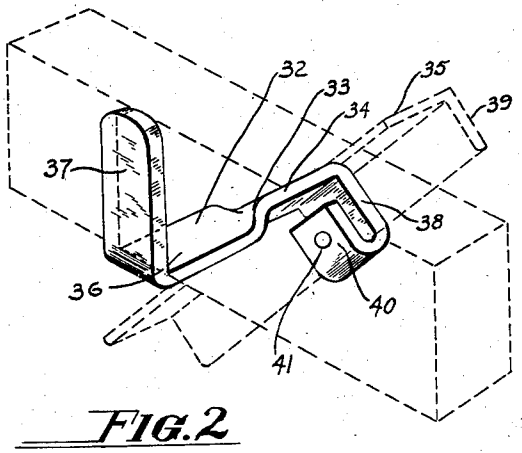

FIG. 2

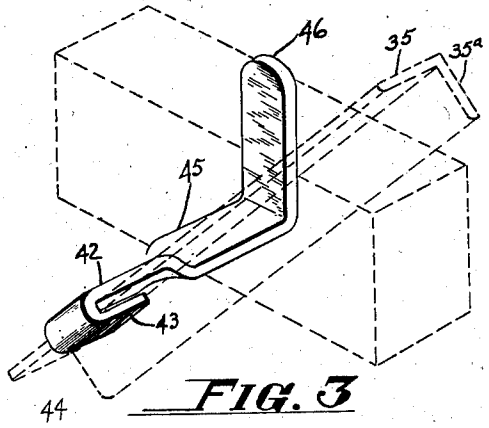

FIG. 3

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STAND

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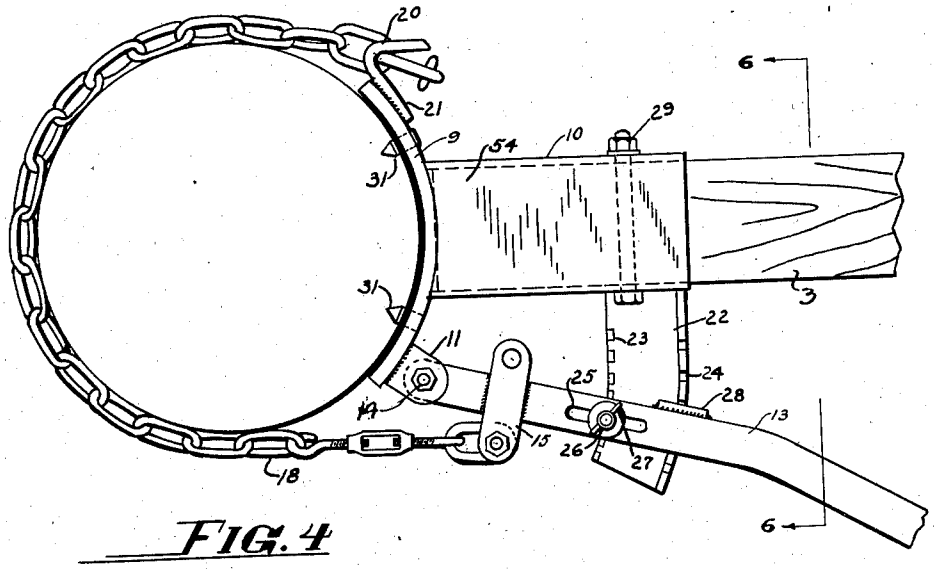

FIG. 4

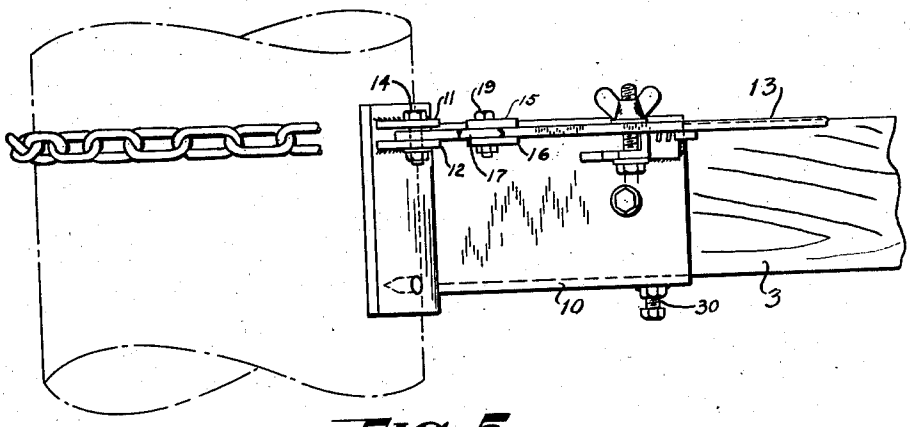

FIG. 5

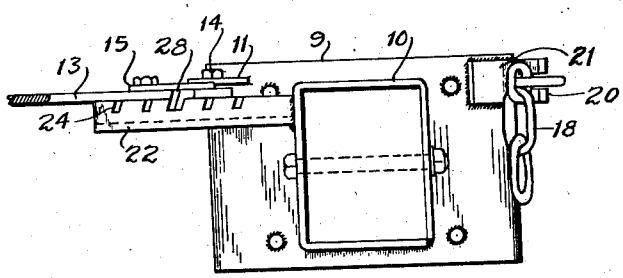

FIG. 6

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2,375,685

UNITED STATES PATENT OFFICE

2,375,685

STAND

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Application October 16, 1943, Serial No. 506,515

4 Claims. (Cl. 304—28)

This invention relates to stands, and specifically to a type of stand which may be utilized as a support for linemen.

When it becomes necessary to examine and make repairs of telephone or other wires carried on a cross-arm attached to a pole, the lineman must have some type of device which will support him while the repairs are made. Often spikes attached to the shoes are used, together with a safety belt. A platform may be secured to the pole or other unwieldy and heavy devices may be employed which, of necessity, require time to erect on the part of the lineman.

An object of the present invention is to provide a stand which may utilize such objects in forming the stand as are usually carried in the truck accompanying the lineman such, for instance, as a cross or wing arm of the type generally employed on a pole for supporting wires. This cross or wing arm is adapted to cooperate with a member which is readily secured to the telephone or telegraph or electric wire pole, whereupon the lineman may stand upon the wing or cross arm forming the support.

The average telephone or electric light pole is formed of wood which has been impregnated with creosote to preserve the same. Creosote, or other preservative, is a ready conductor of electricity, and sometimes when the lineman stands on a platform which is attached to the pole, the platform being in part formed of metal, the lineman is electrocuted or seriously burned when he attempts to operate upon the line due to short circuit from the line through the pole to the ground. The present invention overcomes this hazard in that it uses an untreated wing or cross arm which effectively acts as an insulating member for the lineman to stand upon.

The invention incorporates a structure which is simple of construction, inexpensive in cost of manufacture, readily erected, is fool-proof, and safe in operation, and generally superior to devices now known to the inventor for forming a platform for a lineman.

With the above mentioned and other objects in view, the invention consists in the novel and useful provision, formation, construction, association, and relative arrangement of parts, members and features, all as shown in certain embodiments in the accompanying drawings, described generally, and more particularly pointed out in the claims.

In the drawings:

Figure 1 is a fragmentary perspective view of a pole upon which is secured one form of the invention,

Figure 2 is an enlarged perspective view of an element which is utilized in the practice of that form of the invention shown in Figure 1 and included within the circle 2 of Figure 1,

Figure 3 is a perspective view of a bracket which may be used in lieu of the type of bracket shown in Figure 2 in the practice of the invention,

Figure 4 is a fragmentary enlarged sectional view on the line 4—4 of Figure 1,

Figure 5 is a fragmentary side elevation of the device shown in Figure 4,

Figure 6 is a sectional view on the line 6—6 of Figure 4.

Referring now with particularity to the drawings, and specifically to the form of the invention shown in Figures 1 to 6, inclusive, the invention includes as elements a shoe 1 adapted to be secured to a pole 2, and which shoe is formed to carry a platform 3. A bracket 4 is utilized for bracing and aiding in the support of the platform 3, this bracket being so formed as to readily engage a brace 5 extending between the pole 2 and the wing arm or cross-arm 6. It is ordinary practice to secure a wing arm 6 to the pole 2 at a certain elevation above the ground, and it is also ordinary practice to provide a number of said wing arms attached at different levels to the pole. These wing arms carry the usual insulators 7, to which are secured wires 8.

It is often necessary for linemen to make repairs to the insulators 7 or the wires 8 where they are carried by the wing arms. To do this, particularly if it is necessary to work adjacent the outermost end or ends of said wing arms, some means of support is provided for the lineman. With the present device, the platform 3 may constitute one of the wing arms as wing arms are always carried by linemen in a truck so that wing arms which have deteriorated on the pole may be replaced. The present invention, therefore, makes use of one of the wing arms as a support upon which the lineman may stand while making repairs as required.

The shoe 1 includes a plate 9 which is curved to conform to the curvature of pole 2. These poles are generally standard as to diameter and, therefore, the curvature of the plate 9 is readily determined in advance. The plate 9 is provided with a socket member 10 which, in the present instance, is in the form of an elongated square-cross-section tube, so shaped in order to accommodate an end of the platform 3, which is substantially square in cross-section. This socket is

secured to the plate in any approved manner, such as by brazing, welding, or the like, and is outwardly facing from the convex surface of the plate 9. The plate 9 carries on its convex surface and adjacent one end thereof a pair of spaced apertured lugs 11 and 12. The apertures of the lugs are in alignment. A lever arm 13 is secured between the spaced lugs by means of a bolt 14 passed through the lug apertures and an aperture in the arm. The said arm carries an outstanding pair of aligned lugs 15 and 16, between which is received the end link 17 of a chain 18. A bolt 19 is passed through the apertures in the lugs 15 and 16 and through the end link 17. The plate 9 carries a bifurcated hook 20 adjacent plate end 21. This bifurcated hook is adapted to have a link of the chain passed therethrough, as illustrated in Figure 4, and for securing the said chain. Secured to the socket 10 and outwardly extending from a side thereof is an angle iron member 22. Either or both of the edges of the angles may be toothed or notched, as shown at 23 and 24, and likewise the notched edges may be curved to conform to the swing of the arm 13 relative to its pivot point, which would be the bolt 19. The arm 13 is longitudinally slotted at 25, and a slide bolt 26 is passed through said slot, and carries a wing nut 27. This slide bolt is headed and adapted to be received within some one of the notches or teeth 23 so as to lock the arm 13 against movement when the wing nut 27 is tightened, as will hereinafter appear in the statement of operation. In addition, and as a safety precaution, as previously stated, one leg of the angle iron member 22 may be provided with the notches 24, and when this construction is followed, the arm 13 carries a plate 28 receivable within certain of the said notches 24. Thus, when the wing nut 27 is tightened, plate 28 will be held securely within one of the notches.

It is intended that the construction described should utilize one of the ordinary wing arms, such as shown, for example, at 6 in Figure 1, and the wing arm has an end thereof received within the socket 10. The bolt 29 is passed through two sides of the socket and a hole in the wing arm, which constitutes the platform, as shown in Figure 4. In addition, a set screw 30, carried by the socket may be tightened against the platform, as shown in Figure 5. In this manner, the platform is held within the socket and against removal.

The plate 9 is provided with one or more pins 31 which are adapted to impale or penetrate the pole when the chain 18 is tightened therearound, as see Figure 4.

As the present type of platform is not of the cantilever type, a bracket, such as shown in Figures 2 or 3, is generally employed for aid in supporting said platform. Generally braces, such as shown at 5, are employed in supporting the wing arms, and these braces are angled in cross-section. The bracket 4 shown in Figure 2 constitutes a metal strap 32 which is given a structural twist at 33 so as to provide a portion 34 which overlies and rests upon a surface of one leg 35 of the brace 5, while the portion 36 is substantially in alignment with the socket member 10, to the end that the platform 3 which rests on portion 36 would be held in parallel alignment with the wing arm 6. Secured to portion 36 is a right-angled end 37 while secured to a portion 34 is a downwardly extending part 38, adapted to embrace the outer surface of the leg 39 of brace 5 and a returnedly bent part 40 which embraces the niner surface of leg 39. The returnedly bent portion 40 carries a set screw 41 for locking said part to leg 39.

The form of the bracket shown in Figure 3 does not differ in essential details from the form shown in Figure 2, save and except that the portion 42 which overlies the leg 35 of the brace 5 is provided with a returnedly bent portion 43 for engaging the inner surface of the leg, and this portion 43 is provided with a set screw 44 for locking the bracket to said leg. The portion 45 of the bracket is adapted to support a portion of the platform 3 and is provided with a right-angled end 46 for engaging a side of the platform.

The operation, uses and advantages of the invention are as follows:

When it is desired to make a repair upon a line or a wing arm, the lineman may ascend the pole 2 in the ordinary manner, either with spiked boots or use the usual steps to the point desired. If we assume that the point is somewhere beneath the wing arm, the lineman either carries with him or has drawn up to him by means of a rope, the shoe 1 and platform 3. He first loosens wing nut 27 and slides the bolt out of engagement with the notches 23. The shoe 9 is then placed against the pole at the desired location and the chain 18 is wrapped around the pole, as shown in Figure 4, with one of the links received between the bifurcations of hook 20. The lever 13 is then moved to tension the chain and to cause the pins 31 to impale the pole. Bolt 26 is then moved into engagement with one of the notches 23 of member 22 and the wing nut 27 tightened. This tightening of the wing nut will position the member 28 within one of the notches 24, and in this manner, the lever 13 is prevented from moving. The bracket 4 of either type as shown in Figures 2 and 3, is then positioned on brace 5 and thereafter the platform 3 is held so positioned as to rest upon the portion 36 in that form of the bracket shown in Figure 2, or the portion 45 of the bracket form shown in Figure 3, with an end portion of said platform received within socket 10. It is apparent that the platform is held rigidly in position by being interposed between leg 35 of brace 5 and part 37, for the form of bracket shown in Figure 2, or between leg 35^a and part 46 in the form of bracket shown in Figure 3. The platform is secured against movement within socket 10 by means of bolt 29, which is passed through the aligned bores in the platform and the socket and may likewise be held secured by means of the set screw 30. The lineman may thereafter stand on the platform 3 and perform such repairs as necessary and at any point of the wing arm 6.

That form of the invention shown in Figures 7 and 8 operates upon the same principle, save and except that a bracket is not utilized for supporting the platform. In this case, the shoe is properly positioned on the pole in the manner which has heretofore been set forth and thereafter the platform 50 has the part 52 received within the socket 10 and secured to the socket by means of a bolt 29. The enlargement 52 braces the platform so that the platform will not bend appreciably under the weight of a normal man.

I claim:

1. A lineman's stand adapted to be secured at different heights on a pole, including an arcuate shoe, a lever arm carried by the shoe, a hook

for said shoe, and a chain secured at one end to said lever arm and adapted to surround said pole and to engage said hook, a socket secured to the shoe, a toothed member projecting from said socket and over which said lever sweeps during movement thereof, movement of the lever in one direction causing the chain and shoe to be in compressive engagement with the pole, means for locking the lever to said toothed member when the desired compressive engagement between the shoe and chain and pole is reached, and a platform carried by the socket.

2. A lineman's stand adapted to be secured to a pole, including an arcuate plate, a lever pivoted to said arcuate plate adjacent an edge thereof, a chain secured at one end to said lever, a hook carried by the plate for engagement with an opposite end portion of the chain, a socket extending outwardly from the convex surface of the plate, a platform for reception in said socket, a member carried by the socket and provided with notches, and means carried by the lever for engagement with said notches to hold the lever against swinging movement.

3. The combination with a pole carrying a wing arm and a diagonal brace between the wing arm and pole, of a platform adapted to be secured to the pole whereby a lineman may work relative to the wing arm, said platform including a shoe, means for holding said shoe in compressive engagement with the pole, a bracket secured to the brace, and a platform carried between the bracket and the shoe.

4. The combination with a pole upon which is mounted a wing arm and a diagonal brace between the wing arm and pole, of a shoe, means for securing the shoe to said pole comprising a chain adapted to surround the pole, a lever carried by the shoe, the said chain at one end being secured to said lever, and a hook carried by the shoe for engagement with an opposite portion of the chain, the said lever when moved in one direction compressing the pole between said chain and shoe, and means for locking the lever against movement when the pole is so compressed; a platform secured to said shoe, and a bracket carried by the diagonal brace for in part supporting said platform.

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