

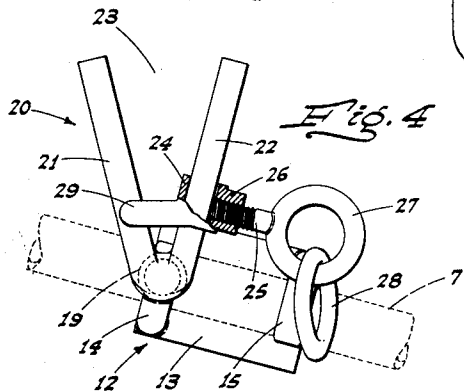
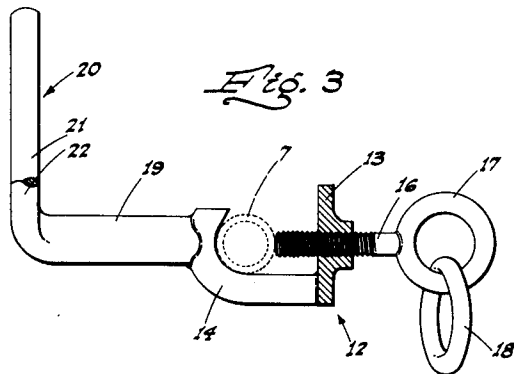
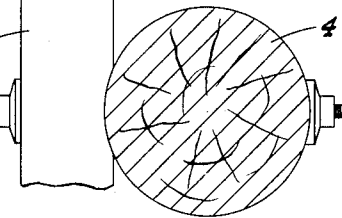
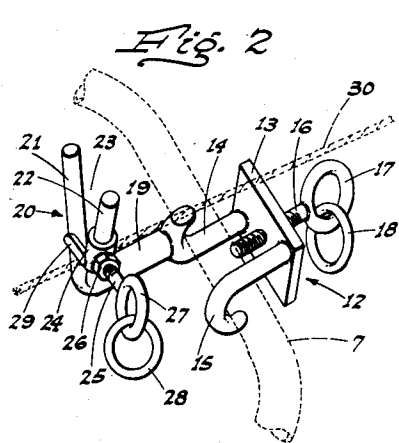
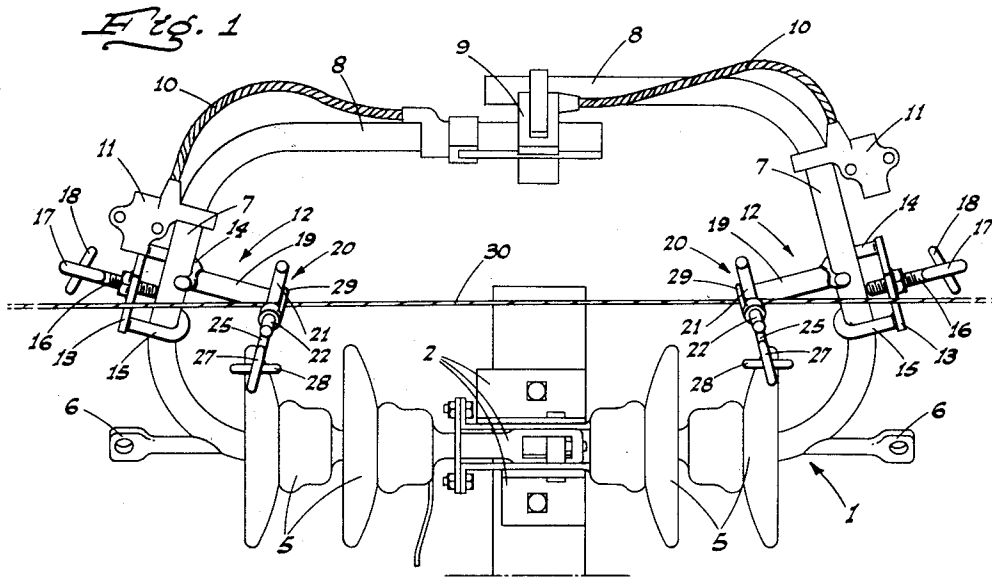
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E. F. PAHL ET AL

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WIRE LOCATING AND HOLDING DEVICE

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INVENTORS
Emil F. Pahl
John G. Pahl
BY
Webster & Webster
ATTYS.

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WIRE LOCATING AND HOLDING DEVICE

Emil F. Pahl and John G. Pahl, Stockton, Calif., assignors
to K-P-F Electric Co., Stockton, Calif., a corporation
of California

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2 Claims. (Cl. 269—122)

The present invention is directed to, and it is a major object to provide, a wire locating and holding device of novel structure and function; the device being adapted for use by linesmen when installing a pole top switch and connecting the same with an electric transmission wire which remains energized or "hot."

Another important object of the invention is to provide a device, as in the preceding paragraph, which is adapted to receive, locate, and hold the hot wire in a predetermined position relative to the pole top switch, and preparatory to connection of said switch in circuit with the wire.

Still another object of the invention is to provide a wire locating and holding device which—by virtue of locating and holding the wire in a predetermined position relative to the switch—affords greater safety to the linesmen; aids in manipulation of the wire during connection to the switch; and—if necessary before installation is completed—the wire can be left unattended, overnight or during inclement weather, without danger.

An additional object of the invention is to provide a wire locating and holding device which is arranged for detachable mounting on an arm of the pole top switch; the device being preferably used in pairs—one device on each of the two arms of the switch.

A further object of the invention is to provide a wire locating and holding device which is designed for economy of manufacture, and convenience of use; the device being arranged for manipulation by a linesman, and from a point clear of the wire and switch, through the medium of what is known as a "hot line tool."

It is also an object of the invention to provide a practical, reliable, and durable wire locating and holding device, and one which will be exceedingly effective for the purpose for which it is designed.

These objects are accomplished by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings:

Fig. 1 is a plan view of a pole top switch as mounted on a cross arm; the view showing a wire holding and locating device as in use on each of the switch arms and in cooperation with the electric transmission wire.

Fig. 2 is a perspective view of one of the wire locating and holding devices.

Fig. 3 is a side elevation of the same, partly broken away and partly in section.

Fig. 4 is an outer end elevation of the same, partly broken away and partly in section.

Referring now more particularly to the drawings, and to the characters of reference marked thereon, the numeral 1 indicates generally a pole top switch of the type with which the present invention is adapted to be used; such switch including a central mount 2 which rests on—and is attached to—the cross arm 3 of a pole 4. Insulators 5 project in opposite directions from the cen-

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tral mount 2, while dead-end eyes 6 project from the outer ends of said insulators.

Additionally, the switch includes a pair of arms 7 which extend laterally in generally the same direction from adjacent the corresponding dead-end eyes 6; said arms 7 having outer end portions 8 which are bent or turned toward each other and extend to the cooperating switch blade assembly 9. Such switch blade assembly 9 has leads 10 connected to opposite sides thereof, and which leads run to connectors 11 mounted on the arms 7 some distance laterally outwardly of the dead-end eyes 6.

All of the foregoing is generally conventional in a pole top switch; the present invention being embodied in a wire locating and holding device, indicated generally at 12. A pair of such devices 12 is used, one mounted on each of the laterally extending arms 7 of the switch 1, as shown in Fig. 1. As the pair of such devices 12 are identical, saving and excepting being right and left hand, a description of one will suffice for both.

Each wire locating and holding device 12 comprises a relatively small rectangular plate 13 having a pair of hooks, indicated at 14 and 15, secured to and projecting from one face of the plate 13 in right angular relation thereto.

The hooks 14 and 15 are not only transversely spaced, but are vertically staggered relative to each other; the hook 14 facing upwardly, while the hook 15 faces downwardly; i.e., said hooks being vertically opposed.

An eye bolt 16 is threaded through the plate 13 centrally thereof and from the face opposite that from which the hooks 14 and 15 project; such eye bolt 16 thus being disposed parallel to but intermediate said hooks.

The eye of the bolt 16 is indicated at 17, and a loose ring 18 extends through—and normally depends from—said eye 17.

A relatively short rod 19 is fixed in connection with the hook 14 exteriorly thereof and projects in a direction away from the plate 13; the rod 19 being integral at its outer end with the lower end of an upstanding or upwardly opening V-shaped fork, indicated generally at 20.

The fork 20 includes upwardly divergent legs, indicated at 21 and 22, whereby to define a V-notch 23. The leg 22 is fitted with an initially turnable and axially slidable sleeve 24, but which sleeve 24 is adapted to be releasably locked in selected positions on the fork leg 22. Such releasable locking of the sleeve 24 is accomplished by an eye bolt 25 threaded through a nut 26 formed on said sleeve. The eye of the bolt 25 is indicated at 27, and a loose ring 28 extends through—and normally depends from—the eye 27.

A substantially radial finger 29 is fixed on and projects from the sleeve 24; such finger being adapted in one locked, rotative position of the sleeve 24 to span between the legs 21 and 22 whereby to close the V-notch 23 above its lower end (see particularly Fig. 4). However, upon loosening of the eye bolt 25 the sleeve 24 can be rotated so as to dispose the finger 29 wholly clear of the V-notch 23.

A pair of the wire locating and holding devices 12 is—as aforesaid—used in the installation of each pole top switch 1; the devices being attached to the switch arms 7, in the manner shown in Fig. 1, preparatory to mounting of the switch on the cross arm 3. More particularly, each device 12 is attached to the related arm in the following manner:

With the eye bolt 16 backed off or unthreaded to a considerable extent, the plate 13 is grasped and turned so that the hooks 14 and 15 lie one above the other; the plate then being advanced until the arm 7 lies between said hooks.

Nextly, the plate 13 is part-rotated until said arm 7 is engaged from below and from above by the hooks 14 and 15, respectively.

The eye bolt 16 is then threaded in until it bears in tight or clamping relation against the arm 7; the plate 13, hooks 14 and 15, and eye bolt 16 thus providing an effective clamp unit detachably secured to the related arm 7 of switch 1. With such clamp unit so mounted on the arm 7, the fork 20 is disposed in upstanding position; the forks of the two devices 12, as mounted on the switch 1, being in alinement lengthwise of and below the hot transmission wire 30.

Before the switch 1, with the devices 12 thereon, is lifted to and mounted on the cross arm 3, the wire 30 is raised by a rope a distance above said cross arm so as to not obstruct or hinder said mounting of the switch 1.

After the switch 1 is mounted on the cross arm 3 and occupies the position shown in Fig. 1, the wire 30 is lowered, whereupon it is received in the forks 20 of the wire locating and holding devices 12; the sleeves 24 being initially set so that the fingers 29 are in an out-of-the-way position, i.e. do not span the V-notch 23.

After the wire 30 is received in the forks 20 the eye bolt 25 is loosened; the sleeve 24 turned until the finger 29 spans the V-notch 23 above the wire; and then said eye bolt 25 is re-tightened so that the finger thereafter prevents escape of the wire 30 from said forks 20.

Upon the wire 30 being located and held in the forks 20 of the devices 12, as above described, the linesmen conduct the usual operations attendant severing of the wire intermediate the devices 12, and connection of the then free end portions of the wire to the dead-end eyes 6, with leads running to the connectors 11. This involves the use of the conventional clamps or "come-alongs" attached to the wire 30 beyond opposite ends of the switch 1; the block and tackles which actuate said "come-alongs"; and a "jumper" wire connected to wire 30 between opposite sides of said switch 1. None of this apparatus is shown, as it is well known; it sufficing to understand that after the wire 30 is severed intermediate the devices 12, the free end portions of the wire are then each—and in succession—withdrawn from the related device 12 and worked in a manner to connect them with the dead-end eyes 6 by strain clamps, and with the connectors 11.

The advantage of the locating and holding devices 12 resides in the fact that after the pole top switch 1 is mounted on the cross arm 3, the wire 30 is held in a position which enhances safety of the linesmen; makes manipulation of the wire easier as it is being handled for connection to the switch 1; and—lastly—permits the wire 30, before it is severed, to be left unattended and without danger, as over-night or during a rain storm, when the linesmen cannot approach the installation.

A further advantage of the device 12 resides in the fact that it can be manipulated without direct manual engagement, and by means of hot-line tools, as—for example—a dielectric rod having a hook on the upper end. To adjust the sleeve 24, and which requires loosening and re-tightening of the eye bolt 25, the hot-line tool is engaged with the ring 28, or directly with the eye 27. Similarly, to loosen the eye bolt 16, for adjustment or removal of the device from the related arm 7, the hot-line tool is engaged with the ring 18, or the eye 17.

Thus, all manipulation of each device 12 can be accomplished by a linesman from a distance away from, and clear of, the switch 1, devices 12, and wire 30. Hot-line tools are also used in the handling of the wire 30 at all times.

From the foregoing description it will be readily seen that there has been produced such a device as will substantially fulfill the objects of the invention, as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described the invention, the following is claimed as new and useful, and upon which Letters Patent are desired:

1. A wire locating and holding device for temporary use on a pole top switch having an arm adjacent an initially separate wire; said device comprising a clamp unit adapted for detachable connection with the arm, a wire receiving fork, means rigidly mounting the fork on the clamp unit for unobstructed reception of the wire in said fork, and means on the fork adapted to releasably maintain the wire therein; the fork comprising spaced legs, and said last named means including a sleeve initially turnably mounted on one leg, means to releasably secure the sleeve against turning on said one leg, and a finger radiating from the sleeve; the finger in one position of the sleeve spanning between the legs of the fork and in another position projecting from said one leg clear of the other.

2. A wire locating and holding device for temporary use on a pole top switch having an arm adjacent an initially separate wire; said device comprising a plate adapted to be disposed adjacent and to face the arm, a pair of transversely spaced hooks projecting from the plate and adapted to engage the arm, an eye bolt threaded through the plate intermediate the hooks and adapted to bear in clamping relation against the arm, a short rod fixed to one hook exteriorly thereof and projecting therefrom, an upstanding fork fixed at its lower end on the rod, the fork being adapted for reception of the wire therein, the fork including spaced legs, a sleeve initially turnably mounted on one leg, an eye bolt threaded through the sleeve and bearing in clamping relation against said one leg whereby to releasably secure said sleeve in selective rotative positions, and a finger radiating from the sleeve; the finger in one position of the sleeve spanning between the legs of the fork whereby to then maintain the wire therein, and in another position projecting from said one leg clear of the other to then permit reception of the wire in or its removal from said fork.

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