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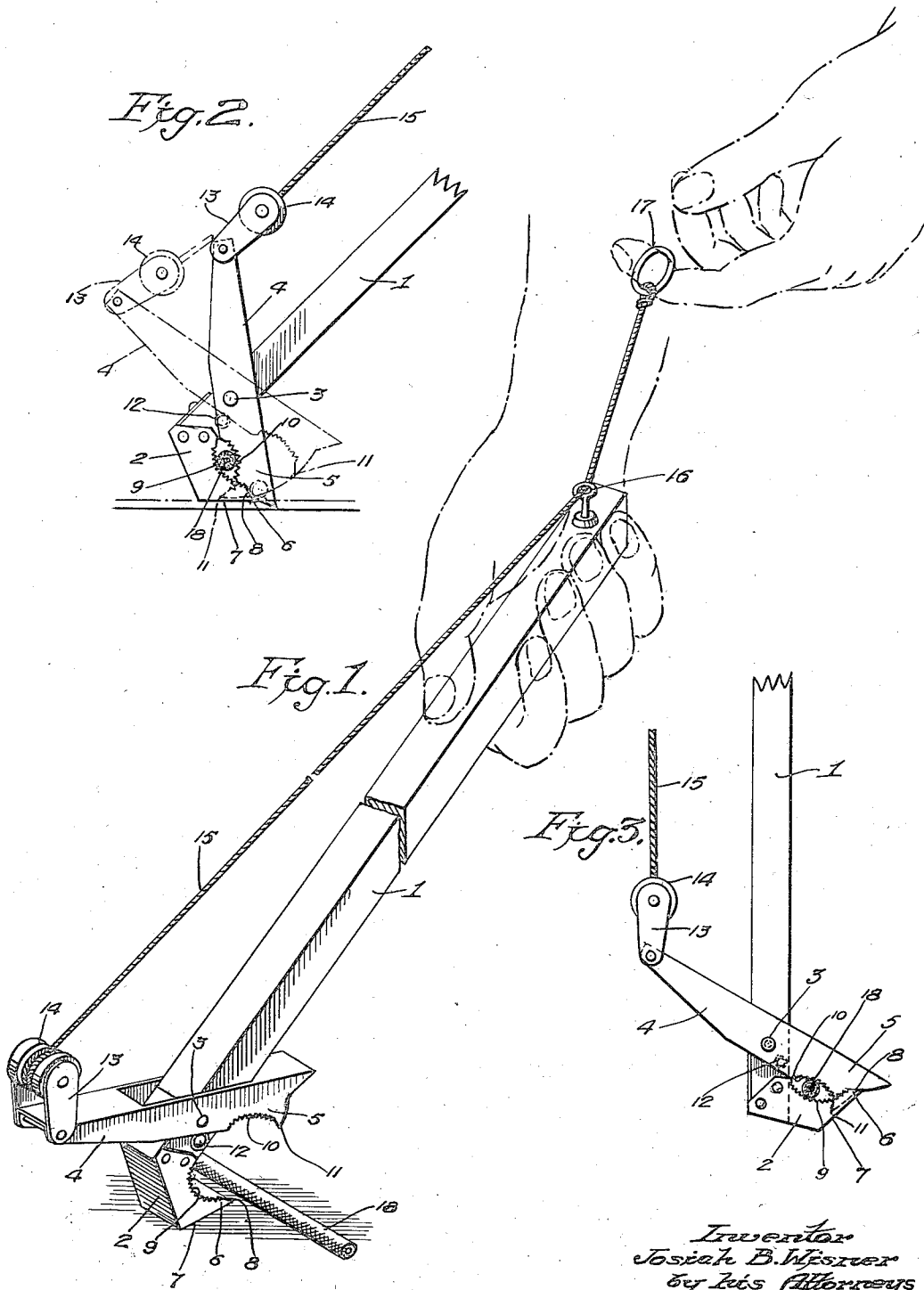
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DEVICE FOR HANDLING LIVE ELECTRIC WIRES

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2 Sheets—Sheet 1



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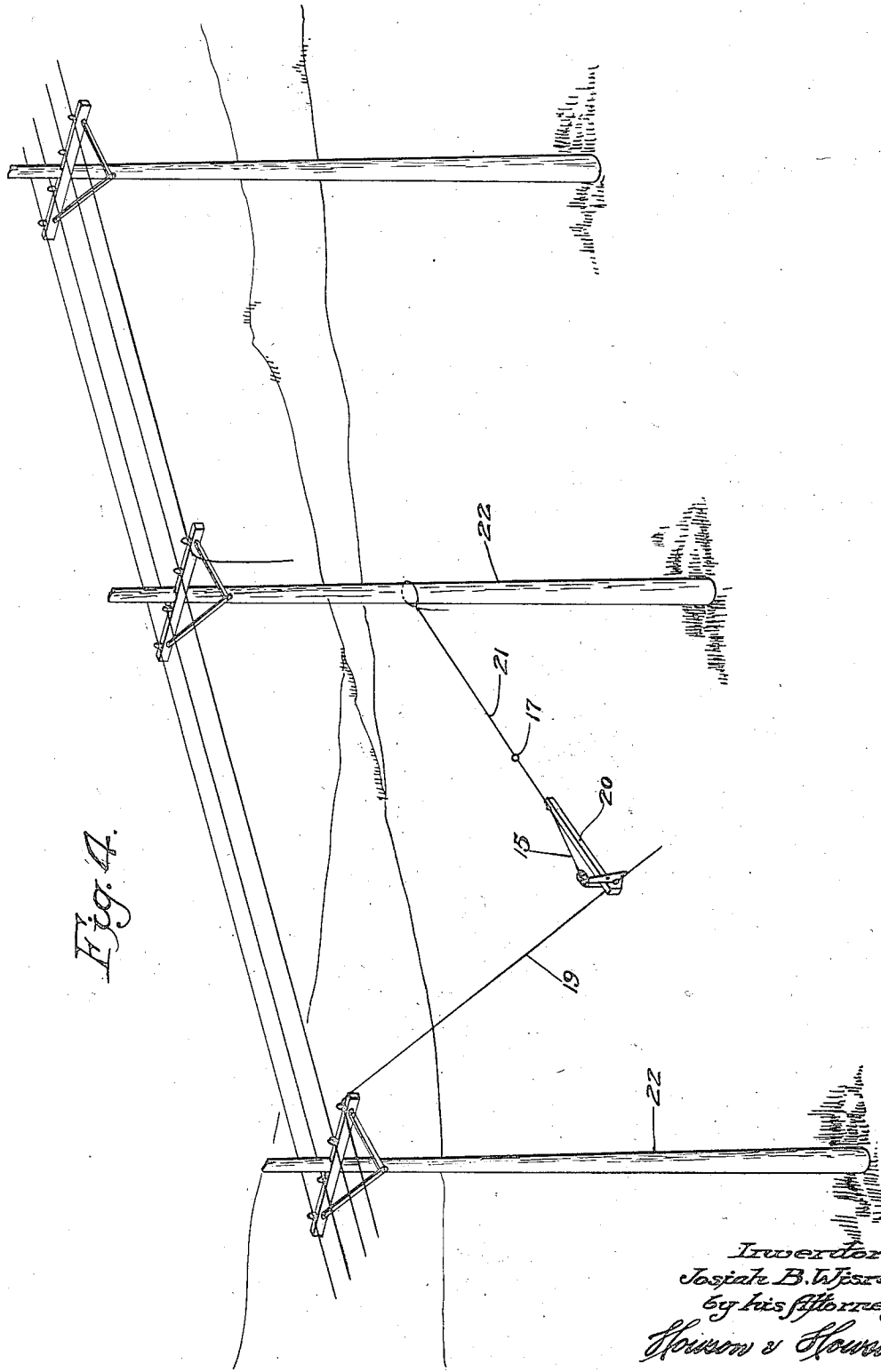
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UNITED STATES PATENT OFFICE

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DEVICE FOR HANDLING LIVE ELECTRIC WIRES

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5 Claims. (Cl. 294—104)

This invention relates to devices for handling live electric conductors and has for its principal object the provision of an improved device of simple construction which is adapted to pick up a conductor lying flat on the ground or other surface. Many instances requiring the handling of live conductors arise from the breakage of electric lines. In these and other instances, the conductor to be handled lies flat on the ground and it is necessary to pick it up from this position. It is also very desirable to be able to support the live conductor in an easy and simple manner without the necessity of shutting off the current and in such a way as to insure the safety of persons in the vicinity of the conductor. Devices used heretofore are inefficient because they are lacking in adaptability for these purposes, and they are really dangerous in use. The device of this invention fulfills the urgent need for some means for handling safely a conductor lying flat on the ground and for supporting the conductor safely after it has been picked up.

Another object of the invention is to provide a device of this nature which may be manufactured at low cost owing to its simplicity of construction.

A further object of the invention is to provide a device which, by virtue of its construction, is adapted to grip and hold a conductor in a positive manner and is capable of easy manipulation and handling.

These and other objects, as will appear more clearly hereinafter, are attained by the construction exemplified by the preferred embodiment illustrated on the accompanying drawings.

In the drawings:

Fig. 1 is a perspective view of the device in operation;

Fig. 2 is a partial side elevational view showing more clearly the operation of the device;

Fig. 3 is a similar view of the device in suspended position after the picking up of a conductor; and

Fig. 4 is a diagrammatic illustration of the device in use.

Referring to Figs. 1 to 3 of the drawing, the device comprises a handle 1 of any desired length formed of insulating material such as wood, hard rubber or the like. At one end of the handle, there is fixedly carried a jaw 2 and pivotally attached to the handle at 3 is an arm 4 carrying or having integrally formed therewith a jaw 5 which is adapted to cooperate with the fixed jaw 2. As illustrated, jaw 2 and the pivoted arm are formed of sheet metal and are of chan-

nel shape or formation in cross section. Forming these members of sheet metal merely necessitates the stamping or punching of blanks from the metal followed by bending of the blanks to the required shape. This construction is very economic and at the same time it serves the purpose quite satisfactorily. It will be understood, however, that any other construction may be employed.

Jaw 2 is shaped so as to form a hook with a projecting nose 6 spaced laterally from the handle of the device. This jaw is also preferably formed so as to have a resting surface 7, an inclined cam surface 8 adjacent the resting surface, and an arcuate gripping surface 9 adjacent the cam surface, the purpose of which construction will be fully explained hereinafter. When this member is formed of sheet metal, the cam and gripping surfaces will be constituted by parallel edges. The gripping edges 9 are serrated as illustrated to insure good gripping of the conductor.

The movable jaw 5 is also provided with an arcuate gripping surface 10, which in the case of sheet metal formation, takes the form of parallel serrated edges. Adjacent the gripping surface 10, there is formed a projection 11 which serves to engage and impel the conductor, as will be further explained hereinafter. It will be noted also that the end of the arm beyond jaw 5 is tapered projectingly. The movable jaw is formed so as to be of slightly less width than the stationary jaw in order that the movable jaw may enter the stationary jaw as shown clearly in Fig. 3. This structure enables the jaws to completely encircle the conductor and prevent the same from becoming disengaged from the device.

In order to maintain the jaws in open position as shown in Fig. 1, there is preferably provided on the handle a spring-pressed ball or knob 12 seated in a recess in the handle and serving as a stop to prevent the movable jaw from closing of its own accord but allowing closure of the movable jaw when the device is operated. At the end of arm 4 opposite jaw 5, there is pivotally attached a link 13, which rotatably carries a grooved roll 14 formed of insulating material such as porcelain. A cord 15 has one end attached to the grooved portion of the roll 14 and extends through an eyelet 16 carried at the end of the handle. At the free end of the cord, there is attached a ring 17 which prevents the cord from passing through the eyelet and which also

enables the operation of the device in the manner clearly illustrated.

When it is desired to pick up a conductor, such as that shown at 18 in Fig. 1, lying flat on the ground or other surface, the device in open condition is brought into cooperative relation with the conductor as illustrated. The resting surface 7 is placed flat against the ground or other surface and the handle is pulled by the user to move jaw 2 toward the conductor. The angle of surface 7 relative to the handle is such that the device may be readily positioned as described with the handle extending at a desired angle relative to the ground. The tendency of the hook-shaped stationary jaw is to scoop the conductor up or cause it to ride up along the cam surface 8 onto the gripping surface 9. At the same time that the device is moved toward the conductor, the cord is pulled to swing the movable jaw toward the conductor as illustrated by the broken and full line positions of Fig. 2. The projection 11 engages the conductor and serves to impel it over the cam surface 8 onto the gripping surface 9. The snapping together of the jaws securely holds the conductor in place. It will be noted that the conductor is gripped laterally and while lying in the direction of the axis of pivot 3. By virtue of this manner of gripping the conductor and the specific construction of the device as above described, the device functions very efficiently to lift a conductor lying flat on the ground or other surface.

After the conductor has been gripped and is securely held between the jaws of the device, the handle may be released and the device suspended simply by the cord 15. The constant tension exerted on the cord maintains the movable jaw in closed position with sufficient force to securely grip the conductor. At the same time, the eyelet 16 serves to support the end of the handle. The suspended position of the device is illustrated in Fig. 3. Thus, the gripped conductor may be held in a certain position by simply suspending the device gravitationally from the end of the cord or the conductor may be carried about by carrying the device thus suspended. It is important to note that with the jaws formed as channel-shaped members, there are provided four gripping edges which maintain the conductor in a secure grip.

It will be seen from Figs. 2 and 3 that the projecting end of arm 4 beyond the jaws may be used to open the jaws if it is desired to release the conductor. By releasing the tension on the cord and placing the projecting end against the ground or other surface the jaws may be forced open without danger to the user.

In many instances, it is desirable to support the live conductor in a simple and safe manner. The adaptability of the device for this purpose is illustrated in Fig. 4. The live conductor 19 is shown held securely by the device 20, the cord of which is attached to piece of cord or the like 21 which, in turn, is tied or otherwise fastened to the pole 22. The constant tension on the cord maintains the device in closed condition so that the conductor is held securely in safe position. The handle of the device is supported by the cord through the medium of eyelet 16. This merely illustrates one specific manner of supporting a live conductor without shutting off the electrical energy. Many other manners of use of the de-

vice are possible. For example, the device, with the conductor gripped thereby, may be merely suspended on a nail on a post out of reach of passersby. While it is preferred to use a flexible cord or like member to actuate the device, any suitable member may be used for this purpose. For example, the device might be designed so as to use a relatively rigid member passing through the eyelet 16 or other equivalent guide and support means.

It will be seen from the foregoing description that the device embodies various novel features which mutually contribute toward the advantages and efficiency of the device. Although a preferred form has been illustrated and described for the purpose of disclosure, it will be understood that various modifications are possible within the scope of the appended claims.

I claim:

1. A device for handling live electric conductors, comprising a handle, a jaw fixedly carried at an end of said handle having a gripping surface, a cam surface adjacent the gripping surface, and a resting surface adjacent the cam surface, a pivoted jaw arranged cooperatively with said fixed jaw so as to impel a conductor over said cam surface onto said gripping surface when actuated, and means for actuating the pivoted jaw from the other end of said handle.

2. A device for handling live electric conductors, comprising a handle, a jaw fixedly carried at an end of said handle having a gripping surface and a cam surface adjacent the gripping surface, a pivoted jaw arranged cooperatively with said fixed jaw so as to impel a conductor over said cam surface onto said gripping surface when actuated, and means for actuating the pivoted jaw from the other end of said handle.

3. A device for picking up a live electric conductor, comprising a handle, a jaw fixedly carried at an end of said handle having a gripping surface and a flat resting surface, a pivoted jaw arranged cooperatively with said fixed jaw having a gripping surface and a projection adjacent thereto, so as to impel a conductor onto the gripping surface of the fixed jaw when actuated, and means for actuating the pivoted jaw from the other end of said handle.

4. A device for handling live electric conductors, comprising a handle, a jaw fixedly carried at an end of said handle having a gripping surface and a cam surface adjacent the gripping surface, a pivoted jaw arranged cooperatively with said fixed jaw having a projection adapted to impel a conductor over said cam surface onto said gripping surface when actuated, and means for actuating the pivoted jaw from the other end of said handle.

5. A device for picking up a live electric conductor, comprising a handle, a jaw fixedly carried at an end of said handle having a gripping surface and a flat resting surface, a pivoted jaw arranged cooperatively with said fixed jaw having a gripping surface and a projection adjacent thereto, so as to impel a conductor onto the gripping surface of the fixed jaw when actuated, means for actuating the pivoted jaw from the other end of said handle, and a second projection beyond said pivoted jaw whereby the jaws may be forced open.

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