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S. M. PALM ET AL

WIRE CLAMP

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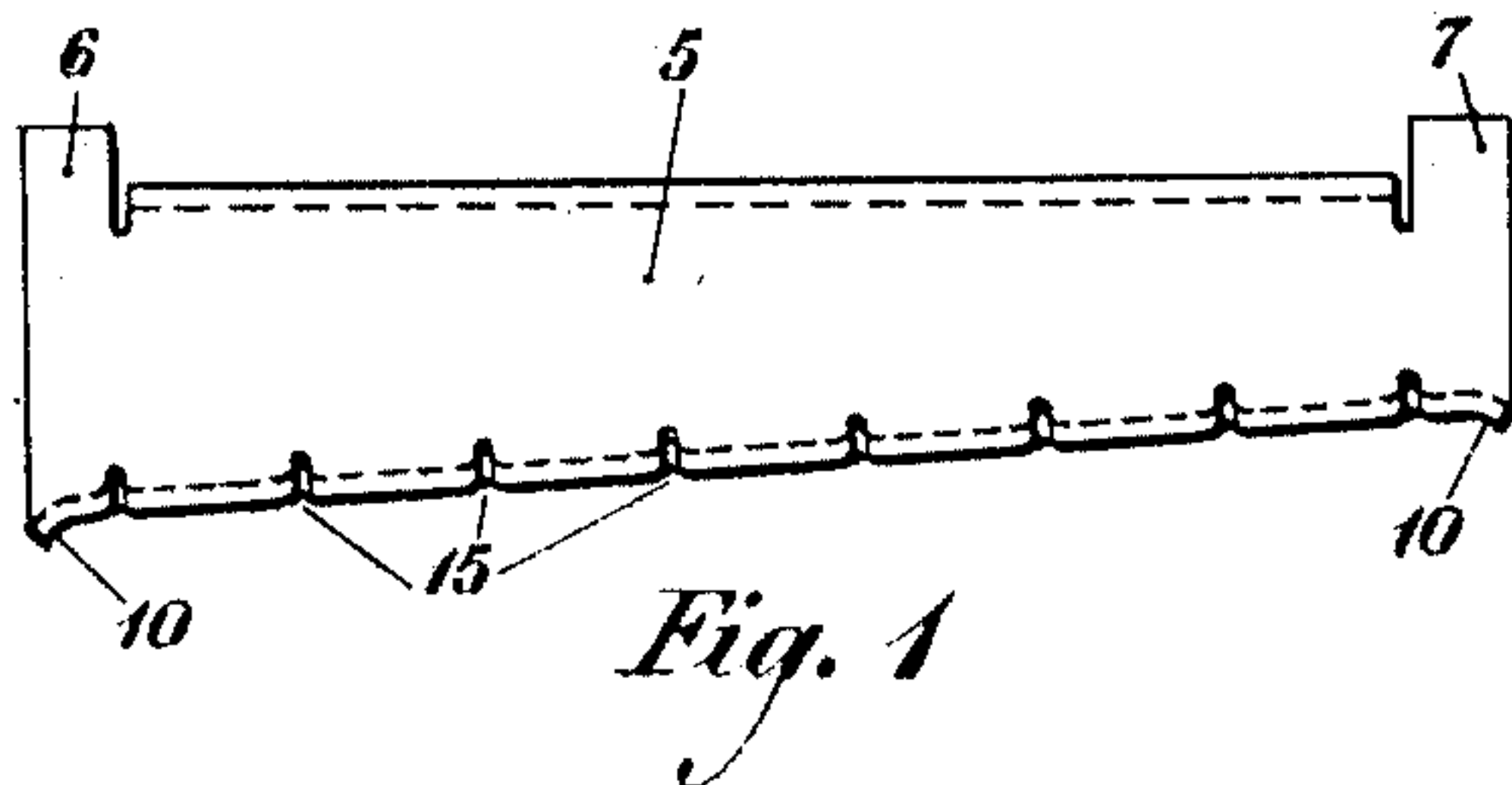


Fig. 1

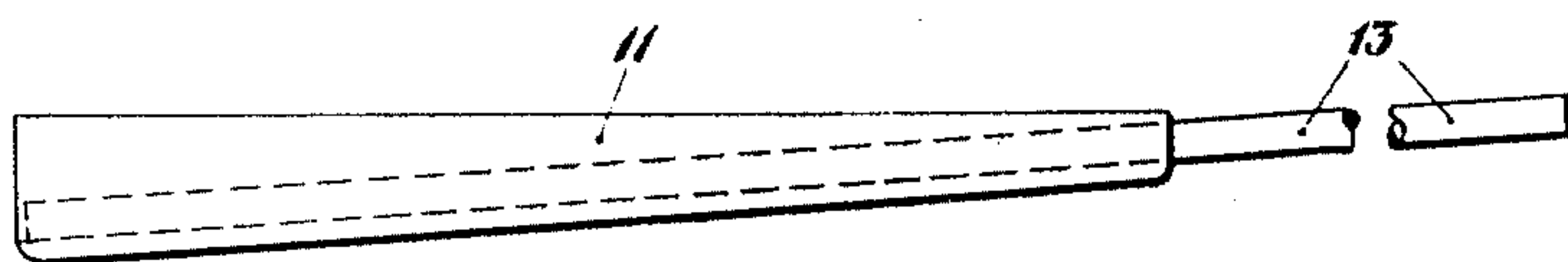


Fig. 2

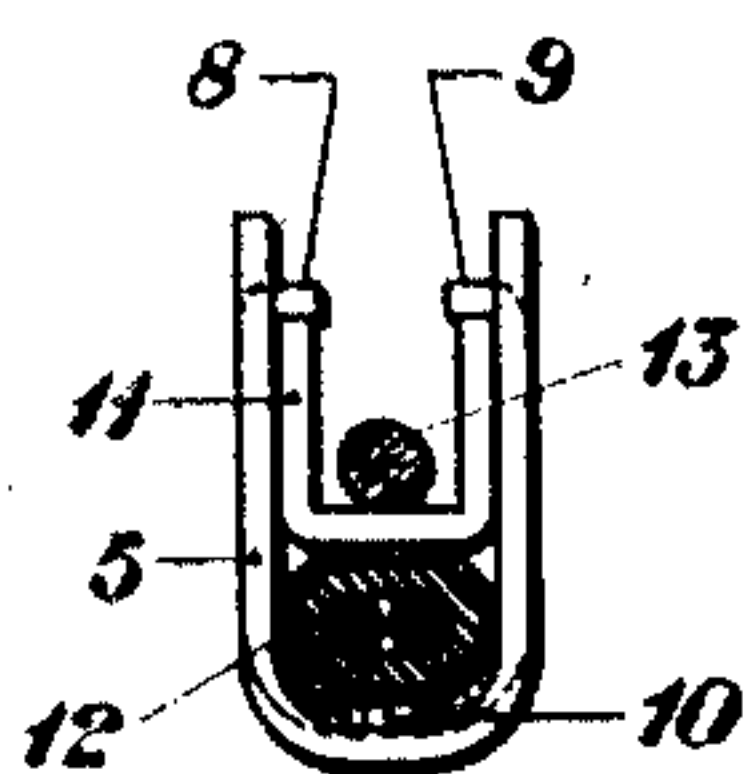


Fig. 3

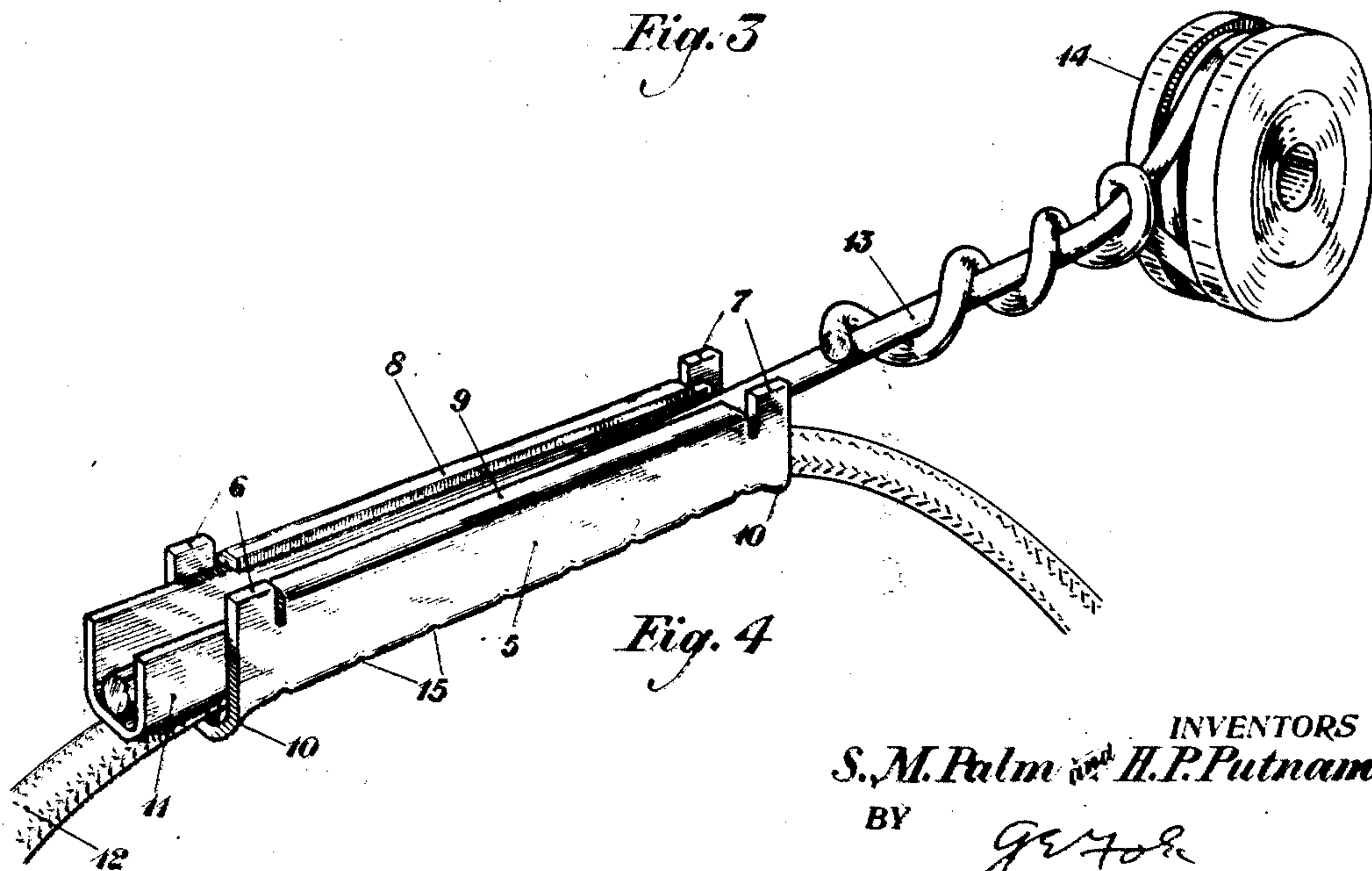


Fig. 4

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UNITED STATES PATENT OFFICE.

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WIRE CLAMP.

Application filed April 1, 1926. Serial No. 99,130.

This invention relates to improvements in clamps, particularly adapted for use in clamping or supporting wires together, especially those employed for conducting electric currents.

One of the objects of the invention is to provide an improved device of this class having efficient and durable clamping means for securing the wire without injury thereto, and which may be readily adapted for use with different sizes of wires or conductors.

A further object consists in providing a device of comparatively simple and inexpensive construction which may be readily and quickly applied to wires and detached therefrom in an expeditious manner.

These and further objects will be apparent from the following description, when considered in connection with the accompanying drawing, in which one embodiment of the invention is illustrated.

Referring to the drawing, Figure 1 illustrates a side elevation of the shell member of the clamp. Fig. 2 is a side elevation of the wedge member which is adapted to register in the shell member shown in Fig. 1; Fig. 3 is an end view of Figs. 1 and 2, showing the shell and wedge member in registered relation with wires seated therein as in practice, and Fig. 4 is a perspective view of the improved arrangement showing the conductor seated therein and the means whereby the device may be attached to a support such as a porcelain knob.

The clamp may be composed of suitable metal such as brass or the like, and its members may be of any desired length and thickness.

In the drawing, the numeral 5 designates a shell member, which in the present instance is shown as of substantially U-shaped form. This elongated member is provided at either end with pairs of lugs 6 and 7, respectively, and the top of the shell is bent inwardly to form flanges 8 and 9 which extend longitudinally between the members 6 and 7. At either end of the shell 5, a flared portion 10 is preferably provided. These flared portions function to effect a gradual release of the clamping pressure exerted on the wire or wires seated within the bottom portion of the shell, and thus prevent any sharp bend or cutting of the wires or their covering at the points where they leave the clamp. A wedge member 11, as more clearly shown in

Fig. 2, is adapted to register in the shell 5. The member 11 is of like form to the shell member 5, and is adapted to slidably enter therein, in such manner that the top edges of the wedge engage the bottom faces of the flanges 8 and 9. The wedge is of such height that sufficient clearance is permitted between the bottom surface thereof and the inner groove of the shell on which the wire is seated to permit the members to exert a clamping action on the wire. The ends of said wedge may extend, if desired, slightly beyond the extremes of the shell member.

In Fig. 4 is indicated the manner in which the clamp may be connected with a drop wire and supported by a suspended wire. The drop wire 12 is seated within the bottom portion of the groove formed in the shell member 5, and when suitably placed therein, the wedge member 11 is inserted and forced in said shell member to such point that it clamps the wire 12 between its bottom surface and the inner surface of the groove formed in the shell 5. The groove in the wedge 11 has a supporting wire 13 attached to it by some such means as brazing or soldering, and this wire may extend to some such supporting means as a ring, or, as shown in the present instance, a porcelain knob 14.

The shell member is provided with corrugations 15 which are for the purpose of producing a greater coefficient of friction between the wire and the shell member 5 than between the wire 12 and the wedge member 11. These corrugations are not so pronounced as to damage the wire covering in any manner, but are effective in producing sufficient friction between the shell member and the wire. By use of the improved arrangement, an increased load applied to the wire 12 results in increased power of the clamp. The wedge member may be seated initially in the shell member so that it has a very considerable holding power, and vibration or handling thereof will not loosen the wire clamped between said members preceding the application of a heavy load.

The lugs 6 and 7 provide an effective means of attaching and detaching the wedge from the shell. In the attachment of the wedge to the shell, the wedge is inserted by hand to a point where it can be advanced no further, and a pair of pliers, for instance, having one jaw applied to the inner shoulders

of the lugs 6 and the other jaw applied to the outer end of the wedge causes the wedge to be more firmly seated within the shell upon bringing the jaws of the pliers together. 5 The removal of the wedge from the shell is accomplished by a reverse action in applying the pliers to the lugs 7 and tapered end of the wedge 11.

This improved clamp obviates the need for a relatively large support in making attachments to walls or poles, and it is practicable to attach the present clamp carrying an insulated wire directly to some such device as a screw-eye inserted in the pole or in the 15 masonry walls.

The length of insulated wire required in an installation will be reduced with the use of the present clamp, since it is necessary to pass the wire to a support, thence back upon 20 itself for a sufficient distance to permit of tying by the present method. In the usual practice with drop wires, the wire is passed about the porcelain knob and the loop formed in the free end, so that the wire regains its 25 initial direction. Thus the tie-wire must enclose three thicknesses of the insulated wire.

The passing of insulated wire about porcelain knobs such as are now employed is not so desirable as the relatively straight runs 30 obtainable with the improved clamp. With larger sizes of insulated wire, the size of insulator required to make this loop of the wire practicable increases rapidly.

The holding power of the ties employed 35 heretofore has not been great, and there is no tie which will consistently hold the usual drop wire to its ultimate strength without injuring the insulation of the wire. The improved clamp described in this application 40 accomplishes this result in a simple and expeditious manner.

From the foregoing, it is thought that the construction, operation and many advantages of the herein described and delineated 45 invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape and minor details of construction may be resorted to without departing from the spirit or sacrificing any advantages of the hereindescribed invention, as 50 defined in the appended claims.

What is claimed is:

1. In a device for clamping wires comprising an elongated transversely U-shaped shell 55 member having a wedge member of elongated transversely U-shape registering therein, said members co-operating to hold a wire in clamped position between them, and means associated with the shell member for exerting greater friction between the wire and shell than between the wire and wedge 60 member.

2. In a device for clamping wires comprising an elongated transversely U-shaped shell 65 member having a wedge member of elongated transversely U-shape registering therein, said members co-operating to hold a wire in clamped position between them, means associated with the shell member for exerting greater friction between the wire and shell than between the wire and wedge member, and means associated with either end of said shell for facilitating, respectively, the engagement and disengagement of the wedge 70 member and shell member.

3. In a clamp for wires, a transversely U-shaped tapered shell member, a transversely U-shaped wedge member adapted to register therein, and means associated with the 80 shell member for creating a greater coefficient of friction between the wire and shell member than between the wire and wedge member.

4. In a clamp for wires, a transversely U-shaped tapered shell member, a transversely U-shaped wedge member adapted to register therein, means associated with the shell member for creating a greater coefficient of friction between the wire and shell member than 85 between the wire and wedge member, means at one end of said shell member for facilitating the engagement of said wedge member and shell member, and means at the opposite end of said shell member for facilitating the disengagement of the wedge member and shell member. 90

5. In a clamp for wires, a tapered shell member, a wedge member adapted to register therein, corrugations associated with 100 the shell member for creating a greater coefficient of friction between the wire and shell member than between the wire and wedge member, and means whereby a pull on the wire tends to drive the wedge member more 105 securely into said shell member.

6. In a device for clamping wires, comprising an elongated transversely U-shaped shell member having a wedge member of elongated transversely U-shape registering 110 therein, said members co-operating to hold a wire in clamped position between them, flanges for the shell member for retaining the wedge positioned, lugs at either end of the flanges for facilitating the engagement and disengagement, respectively, of the wedge member and shell member, and means associated with the shell member for exerting greater friction between the wire and shell than between the wire and wedge member. 115 120

In testimony whereof, we have signed our names to this specification this 29th day of March, 1926.

SAMUEL M. PALM.
HOWARD P. PUTNAM.