March 2 , 1926. 1,575,017

P. G. SWARS

CLAMP FOR CABLES

Filed March 29, 1924

Fig. 1.

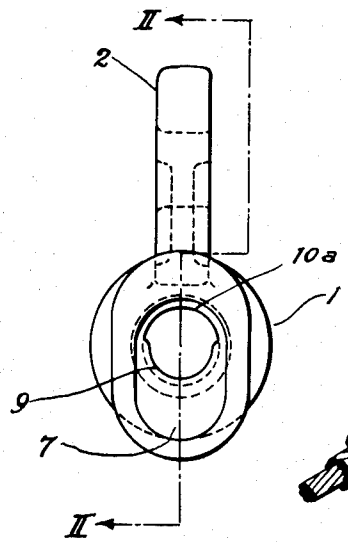


Fig. 2.

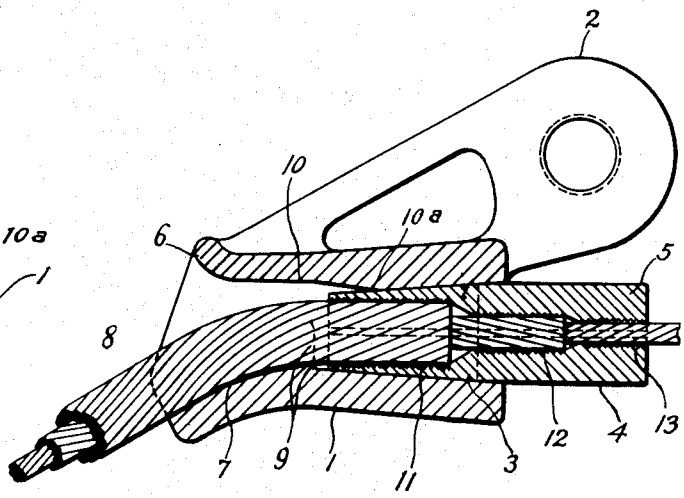


Fig. 3.

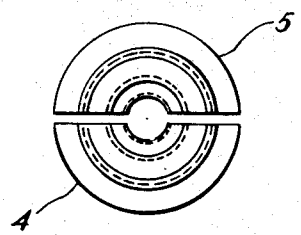
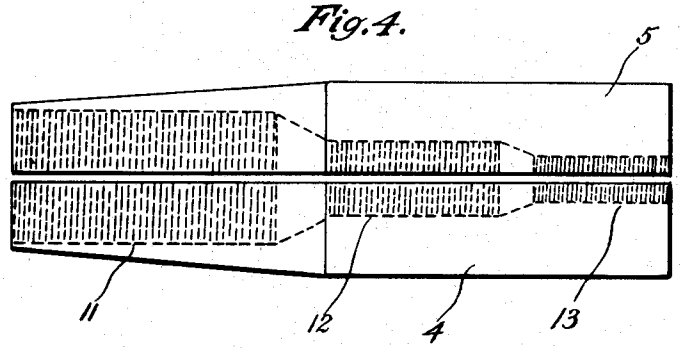


Fig. 4.



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UNITED STATES PATENT OFFICE.

PAUL G. SWARS, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR TO WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, A CORPORATION OF PENNSYLVANIA.

CLAMP FOR CABLES.

Application filed March 29, 1924. Serial No. 702,709.

To all whom it may concern:

Be it known that I, PAUL G. SWARS, a citizen of the United States, and a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Clamps for Cables, of which the following is a specification.

My invention relates to devices for clamping cables and securing them to their supports and it has special relation to devices of this character having channels or apertures in which clamping jaws are placed to grip the cable and secure it firmly in position.

One object of my invention is to provide a device of the above-indicated character that shall be simple and durable in construction, economical in manufacture, and effective in operation.

Another object of my invention is to provide a cable clamp that shall be easy to manipulate and that shall employ a minimum number of parts.

A further object of my invention is to provide a cable clamp that will exert a powerful grip on the cable and hold it securely without fracturing any portion of it.

Another object of my invention is to provide a cable clamp in which the inner strands of the cable may be held as securely and firmly as the outer strands thereof. It has been found in practice, that where a clamp grips only the exterior strands of a cable embodying more than one layer of strands, the outer layer of strands slips or slides on the inner layer and causes the cable to give way when placed under severe tension.

The invention is disclosed by way of illustration in the accompanying drawing, in which—

Figure 1 is a view, in end elevation, of a clamping device embodying my invention.

Fig. 2 is a view, partly in longitudinal elevation and partly in section, of the device, taken on the line II—II of Fig. 1, and also includes a view, in longitudinal section, of a cable and clamping jaws therefor.

Fig. 3 is a view, in end elevation, of the clamping jaws employed in the device, and

Fig. 4 is a view, in side elevation, of the clamping jaws.

Referring to the drawings, the structure therein illustrated comprises a hollow body member or receptacle that may be provided on one side with a clevis or eye 2, or other means for attachment to a suitable support (not shown). The body member 1 is of tubular form and one end section of its inner surface forms a tapered recess 3 that is adapted to receive tapered clamping jaws 4 and 5. The other end section 6 of the inner surface of the body member 1 is flared outwardly with an under grooved portion 7 of relatively large size to provide a suitable throat for a cable 8. The inner end of the grooved portion 7 is so formed that it provides a transverse shoulder or heel 9 extending approximately 180° around the inner surface of the tubular member 1 where it meets the tapered recess 3.

The inner wall of the member 1 is cut away at 10, opposite the shoulder or heel 9, so that the axis of the tapered recess 3 is offset with relation to the axis of the flared or throat portion 6 of the body member, as clearly shown in Fig. 1. This cutting away of the inner wall at 10 extends longitudinally into one side of the tapered recess 3 and is gradually lost therein, thus providing an opening of such shape that the cable 8 may be readily inserted in the body member 1 and further providing a fulcrum at 10*a* whereby the clamping jaws 4 and 5 may act as levers and the pressure at all their points of contact with the cable 8 be equalized. The under grooved portion 7 of the throat 6, in combination with the shoulder or heel 9, which is located near the inner end of the tapered recess 3, forms a continuous supporting surface for that portion of the cable 8 extending out of the clamping jaws in line with the inner surface of the clamping jaws, and thus prevents an acute bend in the cable and the concentration, at any one point, of forces tending to fracture it.

My improved cable clamp may be employed to grip a cable at a point intermediate its ends or it may be employed as a dead-end clamp. When it is employed as a dead-end clamp for a cable comprising a plurality of layers of wire, (as illustrated in Fig. 2), the outer and intermediate layers of the cable 8 are cut away near the end of the cable and the clamping jaws 4 and 5 are provided with inner passages 11, 12 and 13 adapted to receive and grip the inner and the outer layers, the inner faces

of the passages 11, 12 and 13 being preferably roughened or threaded in order to form good gripping surfaces. The passage 11 is large enough to receive and grip the outer layer of the cable 8 but the passage 12 is smaller and is designed to receive and grip the next inner layer, where the outer layer has been cut away, while the passage 13 is still smaller than the passage 12 and is adapted to receive the innermost strands of the cable 8 where all the outer layers have been cut away.

In using the device as a cable clamp, the cable 8 is first inserted in the tubular member 1. The clamping jaws 4 and 5 are next placed in position around the cable 8, and are then driven into the tapered socket 3, whereby they are wedged in the socket and against the cable, thus gripping it and holding it firmly. It will be readily understood that any tension exerted upon the cable 8 will cause the clamping jaws 4 and 5 to be more firmly wedged in the tapered socket 3 and exert a firmer grip upon the cable 8.

While I have shown and described a particular form of my invention, changes may be effected therein without departing from the spirit and scope thereof as set forth in the appended claims.

I claim as my invention:

1. A cable clamp comprising a tubular member in which the inner wall of one side of one end portion is offset with relation to the inner wall of the other end portion, and clamping jaws adapted to be inserted in the tubular member and clamp a cable therein.

2. In a cable clamp, the combination with clamping jaws for clamping a cable, of a tubular member in which the inner wall of one section forms a tapered socket for the clamping jaws and a portion of the inner wall of the remianing section is offet to form a supporting surface for the cable in line with one side of the inner surface of the clamping jaws.

3. In a table clamp, the combination with clamping jaws for clamping a cable, of a tubular member one end of which forms a tapered socket for the clamping jaws and the other end of which forms a rounded throat having a raised portion on one side to provide a continuous bearing surface for the cable in line with the inner surface of the clamping jaws.

4. In a cable clamp, the combination with clamping jaws, of a tubular body support therefor having one portion of one side of its interior wall offset to form a support for that part of the cable immediately adjacent to the clamping jaws.

5. In a cable clamp, the combination with clamping jaws, of a tubular member provided with suspension means on one side, a tapered socket for the clamping jaws and a throat for the cable, the inner surface of the throat being raised on the side opposite said suspension means so that it forms a continuous supporting surface for the cable in line with the inner surface of the clamping jaws on the side opposite to that on which said suspension means is located.

6. A clamp for multi-layer stranded cables comprising a body member provided with a tapered socket, and tapered clamping jaws having interior clamping passages of different diameters corresponding to the several stranded layers and being adapted to wedge into the socket in the body member and firmly grip all strands of the cable.

7. A clamp for multi-layer stranded cables comprising a body member provided with a socket, and clamping jaws adapted to be wedged in said socket and severally provided with a plurality of interior recesses of varying sizes corresponding to the several stranded lavers for gripping the cable.

8. In a cable clamp, the combination with clamping jaws, of a tubular holder therefor, one portion of which forms a tapered socket and the other portion of which forms a throat having its axis offset with relation to the axis of the tapered socket.

In testimony whereof, I have hereunto subscribed my name this 20th day of March, 1924.

PAUL G. SWARS.