

UNITED STATES PATENT OFFICE

2,570,957

FASTENING DEVICE

Ervin W. Lee, Zanesville, Ohio

Application April 26, 1950, Serial No. 158,251

3 Claims. (Cl. 248—71)

1

This invention relates to a fastening device of the type employed for holding against a support an insulated electric cable or the like.

This application is a continuation-in-part of my co-pending application Serial No. 54,698, filed October 15, 1948.

The primary object of the invention is to hold an insulated electrical conductor or the like against a support, such as a wall, ceiling or other supports, and to effectively improve the rapidity with which cables and the like may be placed in position.

Another object of the invention is to protect the insulation of an insulated cable from injury during the fastening of the cable against the support and also to retain a fastening device, such as a nail, screw or the like in assembled position in the cable clamp during transportation and storage.

A still further object of the invention is to reinforce the body of the clamp so that it may be easily stamped from sheet metal, and when in use will not readily be deformed.

The above and other objects may be attained by employing this invention which embodies among its features an elongated sheet metal body which is substantially concavo-convex in cross section throughout substantially its entire length, a hollow reinforcing rib carried by the body and extending throughout substantially the entire length thereof, said rib projecting outwardly from the convex side of said body substantially midway between opposite side edges thereof, a hook integral with the body adjacent one end thereof, a leg integral with the body adjacent its opposite end, said leg lying substantially perpendicular to the portion of the body lying adjacent thereto and defining with said portion of the body and hook a cable receiving recess.

Other features include providing the rib with an opening extending therethrough at the junction of the leg and portion of the body lying adjacent thereto, said opening aligning axially with the portion of the rib which lies along the leg, an apron carried by the leg at the end thereof remote from the opening, and said apron lying against the side of the leg adjacent the hook and bridging a portion of the open side of the portion of the rib that lies along a leg to cooperate with the opening in forming a guide for the shank of the fastener and to hold the fastener out of contact with an article held by the clip.

Still other features include a tongue on the apron extending toward the opening for entering the open portion of the rib which lies along the

2

leg and engaging a fastener entering said portion of the rib to retain said fastener in said rib, and a seat on the rib around the opening therein against which the head of a fastener rests.

In the drawings:

Figure 1 is a side view partly in section of a clip embodying the features of this invention showing it in use;

Figure 2 is a front view in elevation of the clip illustrated in Figure 1;

Figure 3 is a horizontal sectional view through the clip taken substantially along the line 3—3 of Figure 1;

Figure 4 is a bottom plan view of the clip;

Figure 5 is a sectional view taken substantially along the line 5—5 of Figure 3;

Figure 6 is a side view of the clip showing the apron projecting beyond the leg thereof; and

Figure 7 is a bottom plan view of a modified form of the invention in which the tongue on the apron is omitted.

Referring to the drawings in detail this improved clip designated generally 10 comprises a body 12 formed of sheet metal which is of substantially concavo-convex throughout its entire length as will be readily understood upon reference to Figures 3, 4 and 5. Extending outwardly from the convex side of the body 12 and extending longitudinally substantially throughout the entire length thereof is a reinforcing rib 14 which in the preferred form of the invention is hollow to form a groove 16 which opens into the concave side of the body as will be readily understood upon reference to the drawings.

One end of the body is bent in a direction away from the rib 14 to form a hook 18, and formed integrally with the opposite end of the body is a leg 20 which extends substantially perpendicular to the portion of the body adjacent said leg and cooperates with the hook 18 in defining a recess 22 for the reception of an insulated cable C or the like. As illustrated in the drawings, the rib 14 not only extends around with the hook 18, but also continues along the leg 20, and formed in the rib 14 at the junction of the portion which lies along the leg 20 and the portion of the body which lies adjacent the leg 20 with an opening 24 which aligns axially with the portion of the rib that lies along the leg. Formed in the outer surface of the rib immediately around the opening 24 is a seat 26, and formed in the rib 14 at the end remote from the opening 24, is an aligning opening 31. Carried by the leg 20 at the end thereof remote from the opening 24 is an apron 28 which as illustrated in the drawings is bent inwardly

3

to lie against the inner face of the leg 20 and bridge the portion of the groove 16 which lies along the leg, and thus cooperate with the opening 24 in guiding a fastening device such as a nail N in the portion of the groove 16 which lies along the leg 20.

In the preferred form of the invention the end of the apron 28 remote from its junction with the leg 20 is equipped with a tapered tongue 30, which when the apron is bent back to lie adjacent the leg 20 will enter the portion of the groove 16 which lies along the leg 20 so as to engage the shank of the nail and hold the nail or other fastening device in assembled position within the clip.

In the modified form of the invention illustrated in Figure 7, the body 12a which corresponds in all respects to the body 12 and is provided with a longitudinally extending outstanding hollow rib 14a which corresponds in all respects to the rib 14. The body 12a is equipped at one end with a hook, not shown, and at its opposite end with a leg 20a which corresponds to the leg 20 of the structure previously referred to. The junction of the portion of the rib 14a which lies along the leg 20a, and the portion of the rib 14a which lies along the portion of the body 12a adjacent the leg 20a is provided with a seat 26a which corresponds with the seat 26 previously referred to, and the rib is also provided at this point with an opening corresponding to the opening 24. The opposite end of the leg 14a is formed with one opening which corresponds to the opening 31 in the leg 14. The apron 28a of the modified form of the invention which corresponds to the apron 28 previously referred to is provided at its end remote from the leg 20 with a flat edge 32 which when the apron is folded back to bridge the open side of the rib 14a and lie against the leg 20a, it will serve simply as a guard to prevent contact of a fastener passing through the hollow portion of the rib which lies along the leg 20a from engaging the insulation of an insulated cable.

In use it will be understood that the device assembled with a fastener, such as a nail N is placed over the cable or other device to be supported so that the cable or the like is received in the recess 22. The fastener, is then driven home and it will be evident that the apron 28 and tongue 30 will effectively serve to hold the fastening device on the cable and out of contact with the insulation of the conductor, and the cable will be clamped firmly against the support S.

While in the foregoing there has been shown and described the preferred form of this invention it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

I claim:

1. A clip for holding against a support an insulated electrical conductor or the like, said clip comprising an elongated sheet metal body which is substantially concavo-convex in cross section throughout substantially its entire length, a hollow reinforcing rib carried by the body and extending throughout substantially the entire length thereof, said rib projecting outwardly from the convex side of said body substantially midway between opposite side edges thereof, a hook integral with said body adjacent one end thereof, a leg integral with said body adjacent

4

its opposite end, said leg lying substantially perpendicular to the portion of the body lying adjacent thereto and defining with said portion of the body and the hook a cable receiving recess, the rib having an opening extending there-through at the junction of the leg and the portion of the body lying adjacent thereto, said opening aligning axially with the portion of the rib which lies along the leg, an apron carried by the leg at the end thereof remote from the opening, and said apron lying against the side of the leg adjacent the hook and bridging a portion of the open side of the portion of the rib that lies along the leg to cooperate with the opening in forming a guide for the shank of a fastener and to hold the fastener out of contact with an article held by the clip.

2. A clip for holding against a support an insulated electrical conductor or the like, said clip comprising an elongated sheet metal body which is substantially concavo-convex in cross section throughout substantially its entire length, a hollow reinforcing rib carried by the body and extending throughout substantially the entire length thereof, said rib projecting outwardly from the convex side of said body substantially midway between opposite side edges thereof, a hook integral with said body adjacent one end thereof, a leg integral with said body adjacent its opposite end, said leg lying substantially perpendicular to the portion of the body lying adjacent thereto and defining with said portion of the body and the hook a cable receiving recess, the rib having an opening extending there-through at the junction of the leg and the portion of the body lying adjacent thereto, said opening aligning axially with the portion of the rib which lies along the leg, an apron carried by the leg at the end thereof remote from the opening, said apron lying against the side of the leg adjacent the hook and bridging a portion of the open side of the portion of the rib that lies along the leg to cooperate with the opening in forming a guide for the shank of a fastener and to hold the fastener out of contact with an article held by the clip, and a seat on the rib around the opening therein against which the head of a fastener rests.

3. As a new article of manufacture, a clip fabricated solely of a single continuous piece of sheet metal bent to define a shank, one end of said shank terminating in a transversely arranged leg, the other end of said shank terminating in a curved hook for coacting with said leg and shank to embracingly engage a conductor cable, there being a channel extending longitudinally in said shank and leg for reinforcing said clip, and a guard plate arranged in superposed relation with respect to said leg and projecting therefrom for preventing a fastening member from contacting said conductor cable.

ERVIN W. LEE.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
651,482	Greenfield	June 12, 1900
1,109,568	Flagge	Sept. 1, 1914
1,116,573	Day et al.	Nov. 10, 1914
1,329,268	Dickelman et al.	Jan. 27, 1920
2,418,539	Anderson	Apr. 8, 1947