March 6, 1945. E. GUNZBURGER 2,370,857

SNAP-ON HOT LINE STIRRUP

Filed March 11, 1934

Fig. 1

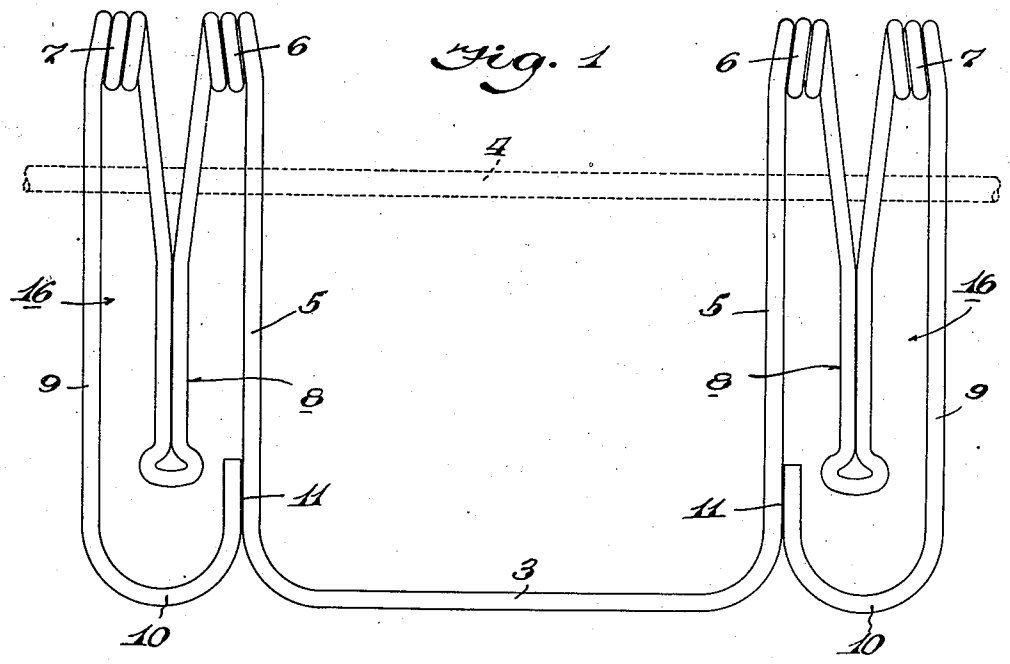
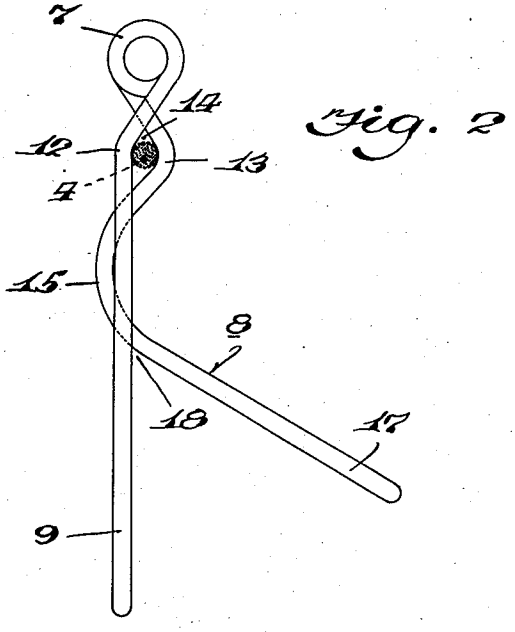


Fig. 2



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SNAP-ON HOT LINE STIRRUP

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5 Claims. (Cl. 173—273)

This invention relates to improvements in snap-on hot line stirrups designed for the mechanical and electrical connection of tapoff wires to an energized line conductor by means of commercially available hot line clamps or hot tap clamps without connecting the hot line clamp or tap directly to the line conductor, itself.

My improved stirrup will protect the line conductor from any electric arcing occurring when a hot line clamp is being connected to or disconnected from the energized line.

The use of the improved stirrup will also prevent vibration breaks of line conductors which occur when a hot line clamp is directly connected to the line conductor as the weight of such a clamp rigidly attached to the line conductor and concentrated at one point may mechanically fatigue such conductor when it is vibrating due to wind or other causes.

The stirrups heretofore generally used consist of U-shaped pieces of wire attached to the line conductor by means of electrical connectors, of the split bolt type for example, and in order to attach such a stirrup, it is necessary to de-energize the line conductor or perform hazardous "hot line" work. Efforts have been made to eliminate these undesirable features, but the resulting structures cannot be used with commercial types of hot line clamps which are generally available.

One of the objects of the present invention is to provide a stirrup which can be attached to a line conductor while the latter is energized and without any hazardous operation.

Another object is to supply a stirrup which may be used with commercial types of hot line clamps now generally available.

With the foregoing objects outlined and with other objects in view which will appear as the description proceeds, the invention consists in the novel features hereinafter described in detail, illustrated in the accompanying drawing and more particularly pointed out in the appended claims.

In the drawing,

Fig. 1 is a side elevation of my improved stirrup shown attached to a line conductor, illustrated in dotted lines.

Fig. 2 is an end elevation of the stirrup shown attached to the line conductor.

My improved stirrup may be made of any suitable resilient conducting material, and is preferably formed from a single piece of material, such as galvanized steel wire, bronze wire, hard-drawn copper wire, or copperweld wire.

Referring to the drawing, 3 designates a substantially horizontal bar of the stirrup which, when the latter is attached to the line conductor 4, will extend substantially parallel to the latter for several inches. The ends of the bar extend upwardly as indicated at 5, and merge with coils 6 which, in turn, are joined to coils 7 by means of legs 8. Other legs 9 extend downwardly from the coils 7 and terminate in U-shaped portions 10 that are preferably rigidly secured to the arms 5 by welded joints indicated at 11.

It will be noted from Fig. 2 that the parts 5, 9, and 10 are preferably in the same plane, and bowed portions 12 join these parts to the loops. It may also be seen from this figure that each leg 8 has an oppositely bowed portion 13 cooperating with the bowed portion 12 to form eyes 14 for the reception of the line conductor 4. Each leg 8 is preferably of zig-zag shape and has a medial portion 15 bowed in the opposite direction to the bow 13, so as to extend through the loop 16 (at each end of the stirrup) when the device is in use.

Each leg 8 extends downwardly at an angle to the parts 5 and 9, as indicated at 17, so as to provide a crotch 18 to receive the line conductor when the stirrup has to be attached to the latter.

In installing the device on a hot line conductor, an insulated stick having a horizontal pin may be used, and the pin will be inserted into one of the coils 6, 7 and then the stirrup can be raised by the stick until the line conductor enters the crotches 18 so that the device will straddle the conductor. Then, the pin of the insulated stick is removed from the coil and placed on one of the U-shaped parts 10 and pulled downwardly until the leg 8 at that end of the stirrup snaps onto the conductor. Afterwards, the pin of the insulated stick is placed on the U-shaped part 10 at the opposite end of the stirrup and pulled downwardly to snap the leg 8 at that end onto the line conductor. It will be obvious that through such pulling movement, the lower end of each leg 8 will be moved away from the lower end of the stirrup until the conductor is in position to enter the eye 14.

After the stirrup has been attached to the line conductor, a hot line clamp or clamps can be readily secured to the bar 3.

While I have disclosed what I now consider to be a preferred embodiment of the invention in such manner that the same may be readily understood by those skilled in the art, I am aware

that changes may be made in the details disclosed without departing from the spirit of the invention, as expressed in the following claims:

What I claim and desire to secure by Letters Patent is:

1. A snap-on hot line stirrup comprising a main substantially U-shaped portion having auxiliary substantially U-shaped portions at the ends thereof, a leg depending into each auxiliary U-shaped portion, and coils joining the legs respectively to the upper ends of each auxiliary U-shaped portion.

2. A snap-on hot line stirrup comprising a main substantially U-shaped portion having auxiliary substantially U-shaped portions at the ends thereof, a leg depending into each auxiliary U-shaped portion, and coils joining the legs respectively to the upper ends of each auxiliary U-shaped portion, said stirrup being constituted of resilient conducting wire.

3. A snap-on hot line stirrup comprising a main substantially U-shaped portion having auxiliary substantially U-shaped portions at the ends thereof, a leg depending into each auxiliary U-shaped portion, and coils joining the legs respectively to the upper ends of each auxiliary U-shaped portion, each leg and adjacent part of the companion auxiliary U-shaped portion being oppositely bowed to provide an eye.

4. A snap-on hot line stirrup comprising a main substantially U-shaped portion having auxiliary substantially U-shaped portions at the ends thereof, a leg depending into each auxiliary U-shaped portion, and coils joining the legs respectively to the upper ends of each auxiliary U-shaped portion, each leg being of substantially zig-zag shape and terminating in a portion extending downwardly away from the U-shaped portions.

5. A snap-on hot line stirrup formed of a single piece of resilient conducting wire and comprising a main substantially U-shaped portion having arms terminating in coils, a leg integral with each coil, a second coil integral with each leg, and an auxiliary leg integral with each second coil, and rigidly connected with the main substantially U-shaped portion.

ERICH GUNZBURGER.

CERTIFICATE OF CORRECTION.

Patent No. 2,370,857. March 6, 1945.

ERICH GUNZBURGER.

It is hereby certified that error appears in the above numbered patent requiring correction as follows: In the heading to the drawing, line 3, for "Filed March 11, 1934" read --Filed March 11, 1944--; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 29th day of May, A. D. 1945.

Leslie Frazer

(Seal) Acting Commissioner of Patents.