

H. D. CAHILL.
 TOOL FOR STRIPPING INSULATION COVERING FROM ELECTRIC WIRES.
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1,153,286.

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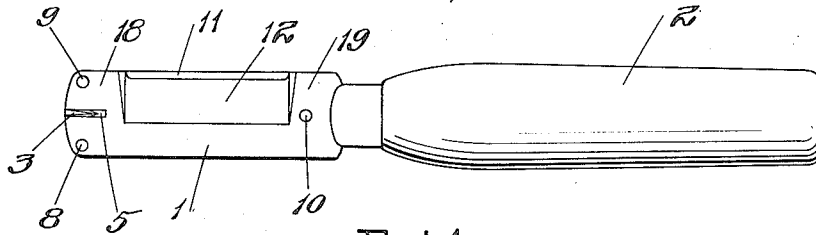


Fig. 1.

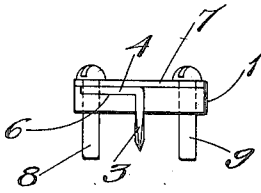


Fig. 3.

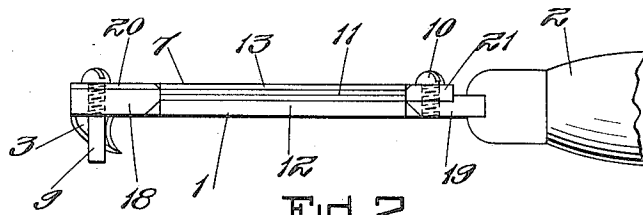


Fig. 2.

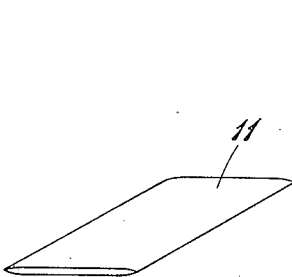


Fig. 5.

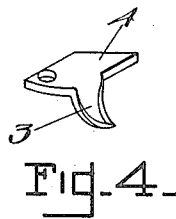


Fig. 4.

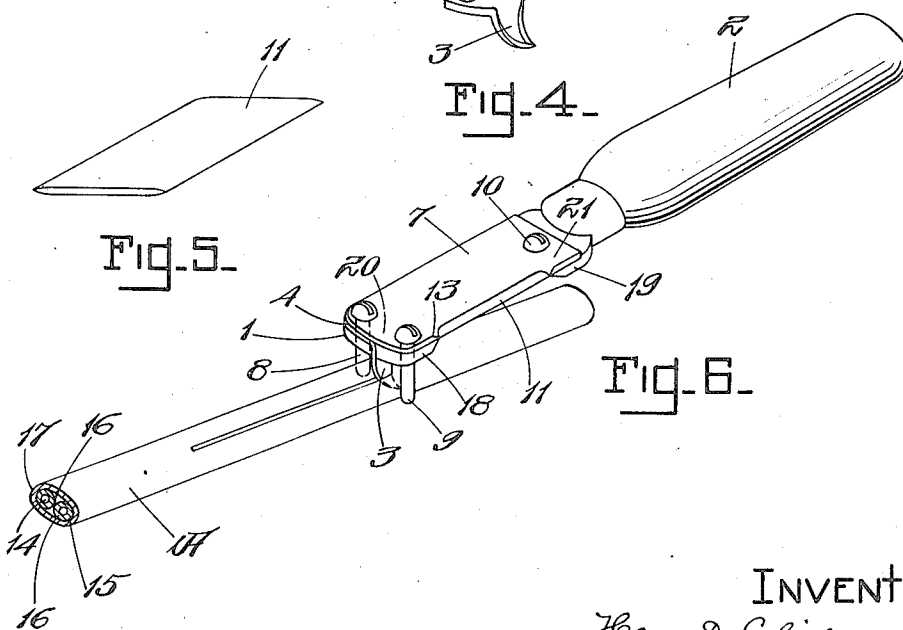


Fig. 6.

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UNITED STATES PATENT OFFICE.

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TOOL FOR STRIPPING INSULATION-COVERING FROM ELECTRIC WIRES.

1,153,286.

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To all whom it may concern:

Be it known that I, HENRY D. CAHILL, citizen of the United States, residing at Boston, county of Suffolk, State of Massachusetts, have invented a certain new and useful Improvement in Tools for Stripping Insulation-Covering from Electric Wires, of which the following is a specification, reference being had therein to the accompanying drawings.

For many purposes in electric wiring it is common to employ two or more electric wires each of which is covered with insulating material as for example a rubber composition and braid and all of said separately covered wires are then covered by an outside insulation wrapping which incloses them, this combination when composed of two wires being usually referred to as duplex when the wires run parallel to each other, or sometimes called a twisted pair when the wires are twisted together. Sometimes more than two wires are thus bound together in an insulating covering. It is frequently desired to separate said wires for a short distance at their end and to strip the insulation therefrom for a short distance to enable each of the said wires to make a separate electric connection with some other wire or terminal. Usually the workman in preparing the wires for such connection uses an ordinary knife with which he splits the outer covering or wrapping for the wires and then scrapes the insulation for a short distance back from the end to clean the wire. Workmen who are engaged in this class of work usually have to do considerable of it and by the use of the ordinary knife they frequently cut themselves, sometimes resulting in blood poisoning.

The object of the present invention is to provide a convenient, cheap and safe tool for splitting the outside covering without injuring the insulation on the individual wires or liability of the blade coming in contact with live wires, thereby causing a shock to the workman; also to provide safe means for stripping and cleaning the ends of the wires.

For the splitting of the outer wrapping I provide a tool having a laterally extending blade and having on each side of said blade spaced somewhat apart therefrom two projections which serve as guides while the tool is drawn lengthwise of the covered wires and

the blade serves to split the covering. The tool is also provided with another blade with which the scraping of the insulation from the wire is accomplished after the cover has been split.

The invention will be fully understood from the following description taken in connection with the accompanying drawings and the novel features thereof will be pointed out and clearly defined in the claims at the close of the specification.

The drawings show the preferred form of construction of a tool embodying the invention although I desire it to be understood that the form may be varied and still come within the scope of the invention.

In the drawings,—Figure 1 is a plan of a tool embodying the invention. Fig. 2 is a side elevation of the tool shown in Fig. 1. Fig. 3 is an end view viewed from the left as shown in Fig. 2. Fig. 4 is a perspective detail view of the splitting blade. Fig. 5 is a detail perspective view of the stripping blade. Fig. 6 is a perspective view showing the application of the tool in the act of splitting the covering from a duplex.

Referring now to the drawings—1 represents a holder plate or blade provided with an insulated handle 2 with which it may be connected in any suitable way. A splitting blade 3 is secured to one face of said plate 1 in such manner that the said splitting blade 3 extends at right angles to the face of the said holder plate 1 intermediate the two side edges of said holder plate. Said stripping blade in the form shown is formed with a base 4 extending at right angles to said blade, said base lying against the back face of said plate 1 near the end thereof and the blade 3 extends through a slot 5 midway between the two side edges of the holder plate 1. The back face of said holder plate 1 is formed with a depression 6 to receive said base 4 of the splitting blade and it is clamped in position by a clamping plate 7 secured to the back face of the holder plate 1 by means of screw pins 8, 9, 10 which pass through said clamping plate from the back side and through said holder plate 1. The screw pin 8 passes also through the base 4 of the splitting blade which is embraced between the clamping plate 7 and the holder plate, and the screw pin 9 passes through the clamping plate and the thicker portion of the holder plate. The two pins 8, 9 are on

the opposite sides of the splitting blade and spaced at equal distances therefrom. These pins 8, 9 project some distance from the face of the holder plate and are spaced apart
 5 from each other a distance which will about equal the width of the covered wires with which the tool is to be used, thus the splitting blade will come against the line between the said wires. The screw 10 which binds
 10 together the said holder plate and clamping plate near the handle end will preferably be only just long enough to bind together the two plates without having any projecting portion on the face side of the holder plate
 15 because any projection would be of no service and would interfere with the work. Additional screws may be employed if desired but are not deemed necessary.

A stripping blade 11 is clamped between
 20 the holder plate 1 and the clamping plate 7, the edge of which projects slightly beyond the side edges of the clamping plate and holder plate. Preferably the holder plate and the clamping plate are both beveled off
 25 on their faces toward the cutting edge of the stripping blade, as shown by the portions 12, 13 respectively on the holder plate and clamping plate.

Preferably the bevel portions 12, 13 of the
 30 holding and clamping plates do not extend the full length of said plates but said holder plate is formed with unbeveled end portions 18, 19 and the clamping plate is formed with unbeveled end portions 20, 21 thus forming
 35 guards at each end to protect the fingers of the workmen in the use of the tool. The stripping blade 11 should preferably be only of about the same length as the beveled portions of the holder plate and clamping plate.
 40 Preferably also the end portions 18, 19, 20, 21 of said plates are slightly wider than the intermediate portions which are beveled so that while the edge of the stripping blade 11 is about in line with the edge of said thickened end portions 18, 19, 20, 21 it will project beyond the edges of the beveled edges of the plates, so as to give a working edge portion to the blade and yet not project beyond
 45 said thickened guard portions 18, 19, 20, 21. Thus the said holding plate and clamping
 50 plate protect the workmen against danger of cutting themselves in the use of the tool or of injuring the wire.

A represents covered wires such as the tool is intended to be used with, for illustration being shown as consisting of two wires 14, 15 each of which is covered with an insulating covering 16 and these wires are wrapped with an outside covering 17.

In the use of the tool it will be held so that the two pins 8, 9 guide the blade, thus bringing the point of the splitting blade 3 between the wires 14, 15. Then by pressing down hard to cause the point of the splitting blade to engage with the outer wrapping 17 the

point will be dug into the wrapping and then by drawing the tool lengthwise the splitting blade will split the covering along a line between the wires sufficiently to expose the ends of the wires which are wrapped within
 70 it. Then the tool will be held by the handle and the stripping blade will be used to scrape the insulation from the ends of the wires. The stripping blade is guarded at the outer end as well as at the inner end by the plates
 75 between which it is clamped.

The splitting blade is shown as having a blunt back, the edge being on the front, that is, toward the handle, and is also shown as having a sloping back and coming to a point
 80 on the top, thus forming a sort of sharp tooth. This is the preferred form of construction but it is not absolutely essential that the said blade should be pointed.

Preferably the stripping blade 11 is a two
 85 edge blade, as shown in Fig. 5, so that when it becomes blunt on one edge it can be reversed so that the other edge can be used. Preferably also the cutting portion of the blade on both sides is slightly convex, as
 90 shown in Fig. 5.

What I claim is:

1. A tool for stripping insulation from electric wires comprising a holder, a stripping blade and a splitting blade attached to
 95 the holder, said splitting blade projecting substantially at right angles to the stripping blade.

2. A tool for stripping insulation covering from electric wires consisting of a holder
 100 plate, a stripping blade secured to the face of said holder plate, and guards at each end of the stripping blade.

3. A tool for stripping insulation covering from electric wires consisting of a
 105 holder plate, a stripping blade, means for clamping said stripping blade to said holder plate in such manner that the cutting edge of the stripping blade projects beyond the edge of said holder plate, and guards at each
 110 end of the stripping blade.

4. A tool for stripping insulation covering from electric wires consisting of a holder
 115 plate, a stripping blade, means for clamping said stripping blade to said holder plate in such manner that the cutting edge of the stripping blade projects beyond the edge of said holder plate, and a splitting blade projecting from the face of said holder near one end thereof intermediate of its two edges.
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5. A tool for stripping insulation covering from electric wires consisting of a holder
 125 plate, a stripping blade, means for clamping said stripping blade to said holder in such manner that the cutting edge of the stripping blade projects beyond the edge of said holder plate, a splitting blade projecting from the face of said holder near one end thereof intermediate of its two edges, and guides projecting from the face of said
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holder plate on opposite sides of said splitting blade.

5 6. A tool for stripping insulation covering from electric wires consisting of a holder plate having one face beveled intermediate of its ends, and a stripping blade secured to the other face of said holder plate and projecting slightly beyond the edge of the beveled portion of the holder plate, the end portions of the holder plate being of greater thickness than the intermediate beveled portions.

10 7. A tool for stripping insulation covering from electric wires consisting of a holder plate, a clamping plate, a stripping blade, and means for clamping said stripping blade between said holder plate and said clamping plate in such manner that the cutting edge of the stripping blade projects laterally beyond the edges of said holder plate and clamping plate.

8. A tool for stripping insulation covering from electric wires consisting of a holder plate, a clamping plate, a stripping blade, means for clamping said stripping blade between said holder plate and said clamping plate in such manner that the cutting edge of the stripping blade projects beyond the edges of said holder plate and clamping plate, and a splitting blade projecting from the face of said holder plate near one end thereof intermediate of its two edges, means for clamping said splitting blade to said holder plate and guides projecting from the face of said holder plate on opposite sides of said splitting blade.

In testimony whereof I affix my signature, in presence of two witnesses.

HENRY D. CAHILL.

Witnesses:

WILLIAM A. COPELAND,
ALICE H. MORRISON.