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DEVICE FOR REMOVING INSULANT FROM WIRES

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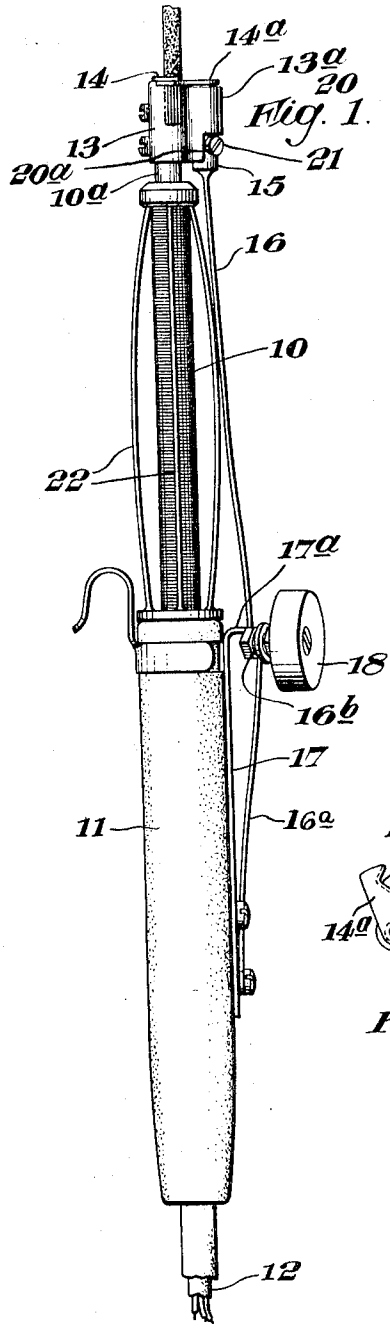


Fig. 1.

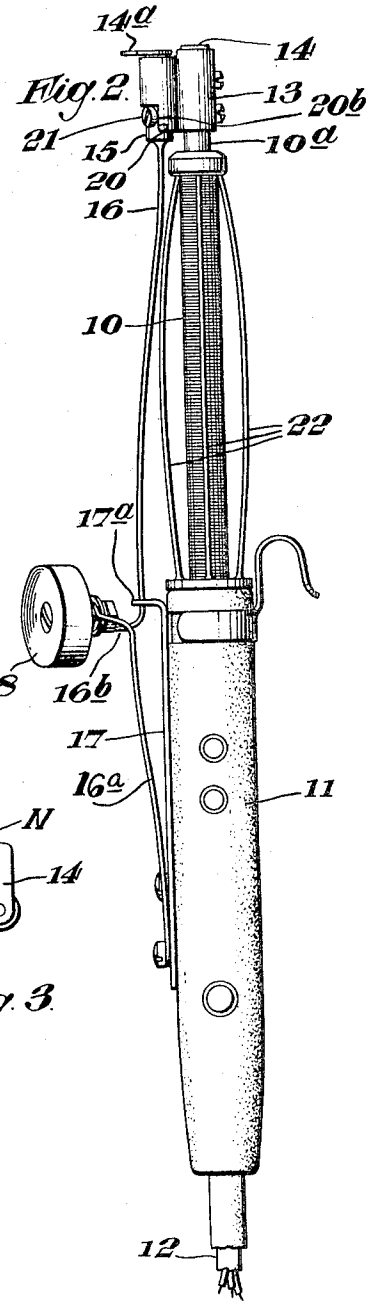


Fig. 2.

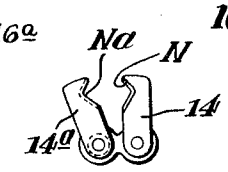


Fig. 3.

INVENTORS

ROBERT A. ADAMSON
COLIN P. ADAMSON

By Emory L. Groff Jr. Atty

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DEVICE FOR REMOVING INSULANT FROM WIRES

Robert A. Adamson, 35 Courtfield Rise, West Wickham, England, and Colin P. Adamson, Monorest, Westerham Road, Biggin Hill, England

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3 Claims. (Cl. 81—9.5)

This invention relates to a wire and insulant stripper for the removal of the part of an insulating cover from the end of an insulating wire, thus to leave a bare end wire part for electrical connection.

The main object of the present invention is to provide a device for removing insulant, which device is easy to use and can be manufactured cheaply. Another object of the invention is to provide a device in which there is little likelihood of damage to the wire. A further object is to provide a device which can be constructed for operation at normal mains voltage, although low voltage operation also is contemplated

The stripper according to this invention is easily manufactured in that the body with its assembly and handle can consist of a small electric soldering iron as is normally used as a wireman's soldering iron. The stripper includes relatively pivoting jaws between which a wire end can be gripped, and the additional parts, over a soldering iron, and their construction and assembly, enabling the stripper to be manufactured easily.

A preferred embodiment of the invention will now be described with reference to the accompanying drawings, in which:

FIGURE 1 is an elevation of the wire stripper with the blades closed,

FIGURE 2 an elevation from the side opposite to that shown in FIGURE 1 with the blades open, and

FIGURE 3 is a top view.

As shown in the drawings, the device consists of a rod-like body **10** having an electric resistance wire assembly therein, this being of conventional form, the body being carried by a handle **11** conveniently of tubular form, with connecting wires **12** to the assembly brought out through the handle. The assembly is preferably energised by the normal mains supply, and with the body consists of a small electric soldering iron with the bit end cut off square. Bowed guard wires **22** extend between the handle **11** and a bit end **10***a* of the body **10** and serve to prevent accidental touching, in use, of the hot body **10** by an operator. The upper or bit end **10***a* of the body is of circular cross-section, and has a tubular socket **13** fixed thereon. On the end of the socket is a fixed flat jaw blade **14**. A second socket or tubular member **13***a* is secured along its outer surface to the outer surface of the fixed socket **13**, either by brazing or the two sockets could be made integrally. The two sockets are arranged with their axes parallel. The second socket **13***a* receives a rod **15** therein so as to serve as a bearing therefor, and on the upper end of this rod **15** a second flat blade **14***a* is fixed. The two blades are in parallel and closely adjacent planes. The lower end of the rod **15** projects below its socket **13***a* and one end of a springy thin link rod or wire **16** is secured thereto.

The handle **11** has a bracket or plate **17** secured thereto, and the link rod or wire **16** passes through a guide member **17***a* formed by a lug on the bracket or plate, the other end of the link rod **16***a* being secured to the bottom of the bracket or plate. The link rod or wire has a finger

pad **18** extending laterally therefrom, the wire being formed as a laterally projecting loop **16***b* at this point through which a stud of the pad **18** is secured. The arrangement is such that when the handle is held in a hand the pad is positioned conveniently to be pressed laterally with respect to the axis of the handle and body. In fact, the pad **18**, when moved, tends to rotate about an axis approximately defined by the relatively straight portions of the wire **16**. Normally (when unpressed) the moving blade is at an acute angle with respect to the fixed blade (FIGURE 2). The pad is moved against the torsional resilience of the link wire **16** to close the blades to a slightly overlapping position. The facing edges of the blades are notched or cut away as at N, N*a*, to provide a location to press on and locate a wire end between the notches. When pressure is released, the blades open apart due to the spring torsion of the link rod or wire.

When an insulated wire W is gripped between the blades (FIGURE 1) heat conducted to the blades melts or softens the insulant so that by pulling the wire up in relation to the blades, the insulant from the wire below the blades is removed. This is shown in FIGURE 1, but the insulant is not removed until the wire is pulled.

It will be appreciated that other forms of link coupling can be provided. In the example above described, the lower part of the link rod serves as a spring, but other forms of spring return could be provided. The plate conveniently (and as shown) consists of a blade part secured to and running along the handle, with a turned-out upper end forming the guide member.

The lower end of the second socket has a cut-away part **20**, the rod having a stop **21**. This arrangement is to limit the closing movement of the blades by the stop bearing on the edge **20***a* of the cut-away, and it can also limit opening movement by bearing on the edge **20***b*. The torsion or spring arrangement of the rod **16** is such that a cushioning effect on the gripped wire is provided, this being such that an effective grip, without damage to the wire, is obtained.

The assembly of sockets and blades must be such that effective heat conduction to the blades is obtained.

Essentially, the device according to this invention, consists of a single electrically heated rod-like body, with a handle at one end and a pair of blades pivoted to close and open, heat from the body being conducted to the blades so as to melt plastic insulant on a wire gripped therebetween, opening and closing of the blades being under the control of a pad or the like mounted so as to be manipulated by a finger or the thumb of a hand gripping the handle.

We claim:

1. A wire end insulant stripper comprising a rod-like body containing a heating element, a handle secured to one end of said body, a mounting unit secured to the other end of said body, said mounting unit having closely adjacent parallel bores in a first of which bores said other end of said body is received, a first wire insulant stripping blade secured to said unit so as to close an open end of said first bore and projecting laterally from said unit, an axle rotatably mounted in a second of said bores and carrying a second wire insulant stripping blade secured to and projecting laterally from said axle, said second blade being movable into overlying relation to said first blade on rotation of said axle and said blades having co-operating notches for engaging wire insulant, a finger operable member mounted on said handle, and a resilient torsion like connected at one end to said finger operable member, and at the other end of said axle, said torsion link resiliently maintaining said second blade in non-overlapping

relation to said first blade until said finger operable member is depressed.

2. A wire end insulant stripper according to claim 1, wherein said mounting unit has a cut-away in the region of said second bore, and said axle has stop means to limit rotational movement thereof in said second bore.

3. A wire end insulant stripper according to claim 1, wherein said torsion link comprises a resilient wire connected axially to said axle at one end and twisted around said finger operable member, a free end of said resilient wire being connected to said handle so as to provide a further torsion link against the resilience of which said finger operable member is movable.

References Cited by the Examiner

UNITED STATES PATENTS

1,049,956	1/1913	Wheeler	81—346 X
1,607,766	11/1926	McGarvey	294—30
3,080,469	3/1963	Benoit	81—9.5

FOREIGN PATENTS

581,618	10/1946	Great Britain.
922,734	4/1963	Great Britain.

WILLIAM FELDMAN, *Primary Examiner.*

MILTON S. MEHR, *Examiner.*