April 27, 1965 M. W. BRADLEY 3,180,184

WIRE INSULATION STRIPPER

Filed Sept. 23, 1963

FIG. 1

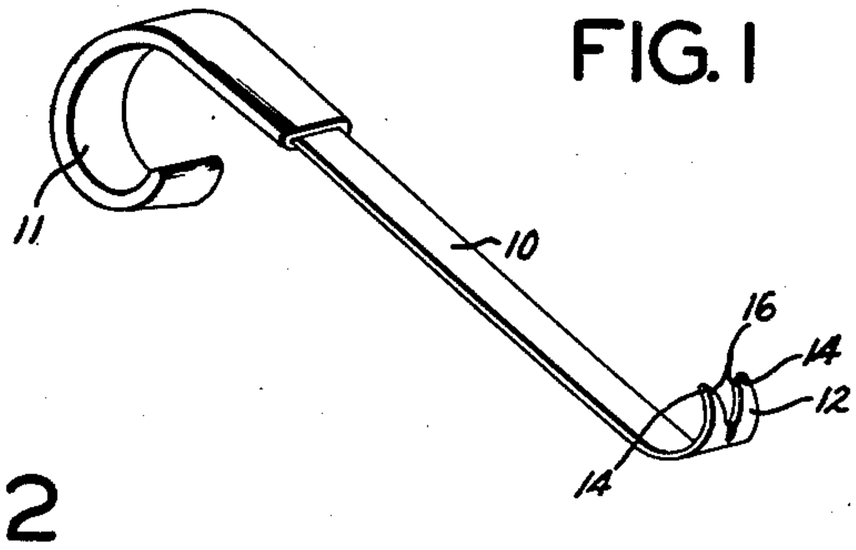


FIG. 2

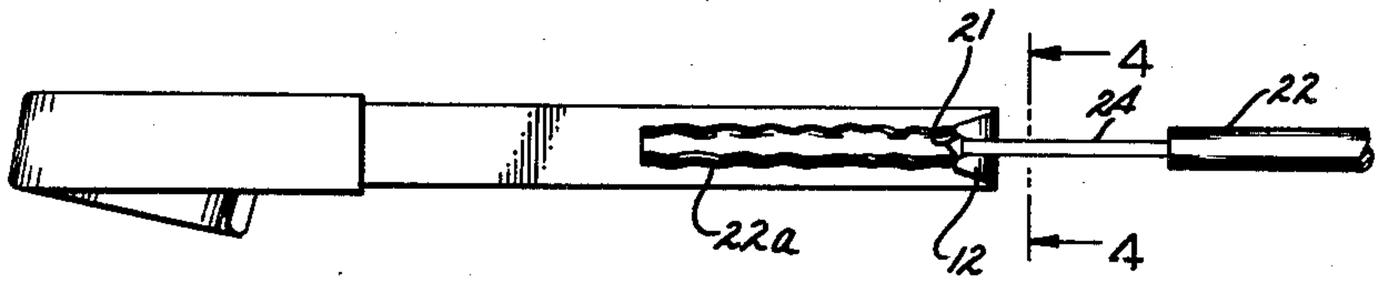
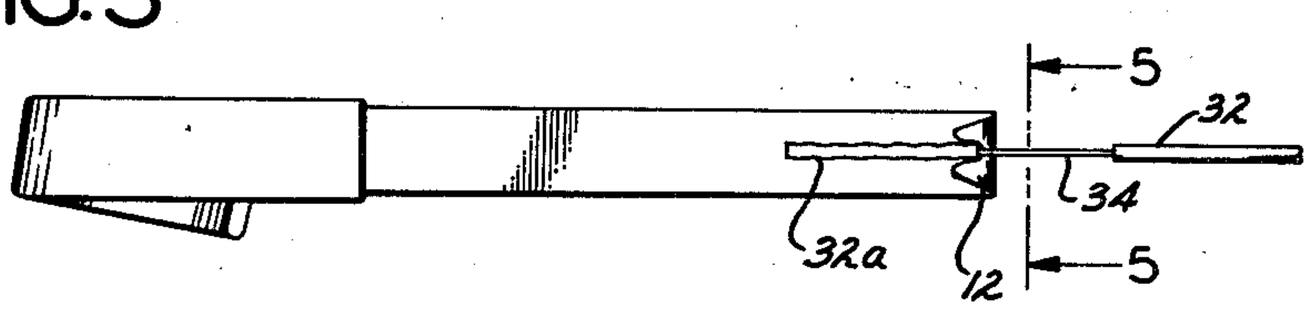


FIG. 3



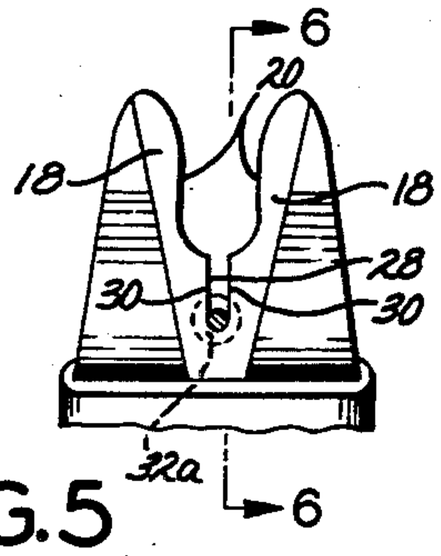


FIG. 5

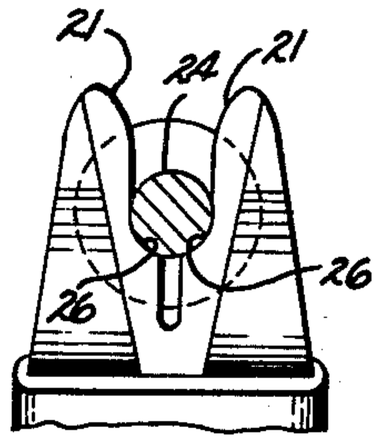


FIG. 4

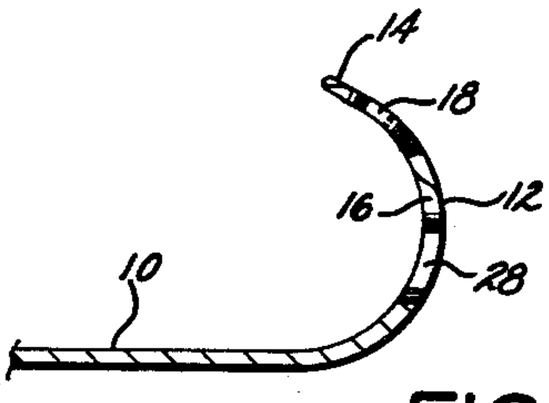


FIG. 6

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1

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WIRE INSULATION STRIPPER

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1 Claim. (Cl. 81—9.5)

The present invention relates generally to insulation strippers, and more particularly to an improved stripper for removing insulation from wires of relatively large transverse cross-sectional area, as well as from wires of substantially smaller cross section.

The present invention is an improvement on the device disclosed and claimed in United States Letters Patent No. 2,978,934 entitled Wire Stripping Device that issued April 11, 1961. While the invention disclosed in this patent has been found to operate very satisfactorily in practical application by applicant as well as numerous industrial users, the present invention provides greater versatility over the prior stripping device in that it permits the use thereof on insulated wire of a wider range in gauge.

A major object of the present invention is to provide a wire stripper having both first and second cutting edges, the first of which are adapted to remove insulation from wire of relatively large cross sectional area, while the second cutting edges are adapted to remove insulation from wire of substantially smaller cross section.

Another object of the invention is to furnish a wire stripper that is capable of removing insulation from wires of both large and small transverse cross-sectional area, with the removal of this insulation being carried out without scratching, nicking, or otherwise defacing the exterior surface of the wire conductors encased in insulation.

Another object of the invention is to supply an improved wire insulation stripper having an extremely simple mechanical structure which can be fabricated from standard, commercially available materials without the use of specialized equipment, and accordingly, can be sold at a sufficiently low retail price as to encourage its widespread use.

These and other objects and advantages of the invention will become apparent from the following description of a preferred form thereof, and from the accompanying drawing illustrating that form, in which:

FIGURE 1 is a perspective view of the stripper;

FIGURE 2 is a top plan view of the stripper shown being used to strip insulation from an electrical conductor of a relatively large transverse cross-sectional area;

FIGURE 3 is a top plan view of the stripper shown being used to strip electrical insulation from a conductor of a relatively small transverse cross-sectional area;

FIGURE 4 is a combined vertical, cross-sectional and front elevational view of the conductor and stripper, taken on the line 4—4 of FIGURE 2;

FIGURE 5 is a combined vertical, cross-sectional and front elevational view of the conductor and stripper, taken on the line 5—5 of FIGURE 3; and

FIGURE 6 is a fragmentary, longitudinal cross-sectional view of the stripper, taken on the line 6—6 of FIGURE 5.

Referring now to FIGURE 1 for the general arrangement of the invention, it will be seen to include an elongate body 10 having a gripping member 11 at the rear end thereof. The forward part of body 10 develops into a cutter member 12 that extends upwardly and rearwardly, as may best be seen in FIGURE 6. The elongate body 10 is preferably an elongate strip of rigid metal such as stainless steel, or the like, and the ends thereof are bent to form the gripping member 11 and the cutter member 12.

2

In the embodiment of the invention shown in FIGURES 1–3 inclusive, the gripping member is angularly disposed relative to the longitudinal axis of the body 10, and is of curved configuration. The gripping member 11 preferably extends through a 270° arc to provide comfortable gripping thereof by the user (not shown). The present invention is gripped and used in the same manner as the wire stripping device disclosed in said Patent No. 2,978,934.

The cutter member 12 is formed by bending the forward part of the elongate body 10 upwardly and rearwardly, preferably through an arc of more than 90°. In this manner the upper end 14 of the cutter member 12 extends upwardly and rearwardly. A first cutting groove 16 is formed in the cutter member 12 and extends downwardly therein from the upper end 14, substantially along the longitudinal axis of the body 10.

Two downwardly converging and rearwardly extending beveled surfaces 18 are formed on the forward portion of the cutting member 12 on opposing sides of the first cutting groove 16, as best shown in FIGURES 2 and 4. The beveled surfaces 18 extend rearwardly to intersect rear surfaces of the cutter member 12, with these surfaces cooperatively defining two transversely spaced cutting edges 20. The upper extremities of cutting edges 20 flare outwardly in opposite directions to provide an opening 21 in which the insulation 22 on a first conductor 24 may be easily inserted prior to severance and stripping from the conductor.

The cutting edges 20 below the opening 21 are substantially parallel and then develop into inwardly extending curved portions 26. The transverse spacing between the cutting edges 20 below opening 21 is slightly greater than the diameter of the largest first conductor 24 from which the insulation 22 will be stripped by use of the present invention.

Insulation 22 is stripped from conductor 24 by placing the conductor in the first groove 16 and moving it downwardly from the cutting edges 20 to thereby sever side portions of the insulation. A force is then exerted on the insulated conductor 24 in a direction away from the cutter member 12 (FIGURE 2) whereby a segment 22*a* of insulation 22 is severed from the conductor due to the forward edge of the segment being in abutting contact with the rear face of the cutter member. As a force is exerted on the insulation 22 in a direction away from the cutter member 12, the uncut portions of the insulation break, due to the strain imposed thereon, and separate from the portion 22*a*.

A second groove 28 is formed in the cutter member 12 which extends downwardly from the lower curved portions 26 of the cutting groove 16. Groove 28 is defined by two transversely spaced cutting edges 30 that are formed at the intersection of the rearwardly extending beveled surfaces 18, and the rear surfaces of the cutter member 16 are to the rear thereof.

The second groove 28 is used by stripping insulation 32 from an electrical conductor 34. The diameter of insulation 32 is less than the diameter of the smallest conductor 24 from which insulation 22 will be stripped when drawn through the first groove 16. Groove 28 is used by passing conductor 34 downwardly through the first groove 16 to enter this groove, as shown in FIGURE 5. If conductor 34 so enters groove 28, the insulation 32 thereon is cut along the sides thereof with a segment 32*a* of the insulation being positioned rearwardly of the cutter member 12 (FIGURE 3). When a force is exerted on conductor 34 to the right, as illustrated in FIGURE 2, the insulation segment 32*a* is severed due to the forward surface thereof abutting against the rear faces of the

cutter member 12 on each side of groove 28, as best seen in phantom line in FIGURE 5.

The use and operation of the invention have been described in detail herein, and need not be repeated.

Although the present invention is fully capable of achieving the objects and providing the advantages hereinbefore mentioned, it is to be understood that it is merely illustrative of the presently preferred embodiment thereof and I do not means to be limited to the details of construction herein shown and described, other than as defined in the appended claim.

I claim:

A device for stripping insulation sheathing from a first wire, as well as insulation sheathing from a second wire of smaller transverse diameter than that of said first wire, which device comprises an elongate rigid body, the forward end of which develops into a curved, upwardly and rearwardly extending cutter member, and is characterized by a first cutting groove formed in said cutting member extending downwardly from an opening formed in the upper end thereof located substantially along the longitudinal axis of said body, and a second cutting groove formed in said cutting member extending downwardly therein from the lower end of said first groove and in axial alignment therewith, which first and second

grooves are defined by downwardly extending, rearwardly beveled first and second side walls that terminate in first and second cutting edges respectively, with the transverse spacing between at least a lower portion of said first cutting edges being slightly greater than the diameter of said first wire, and with the transverse spacing between said second cutting edges being slightly greater than the diameter of said second wire, to permit said first cutting edges to sever and strip insulation sheathing from said first wire when said body is moved towards an appropriate end thereof, with said first groove also serving as a guide to direct said second wire into said second groove to permit said second cutting edges to strip said insulation sheathing therefrom in the same manner effected by said first cutting edges in stripping said insulation sheathing from said first wire.

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WILLIAM FELDMAN, *Primary Examiner.*