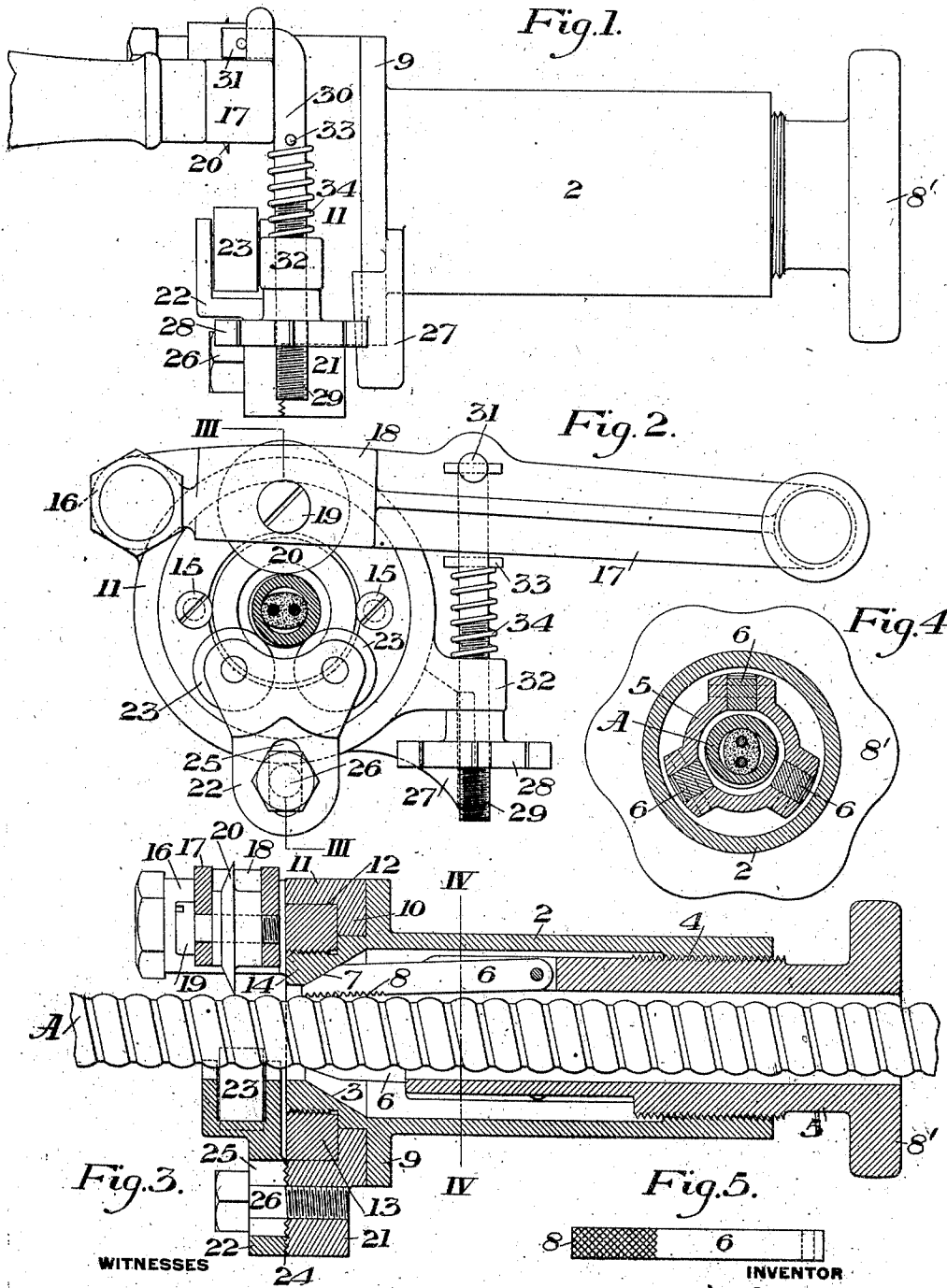


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 DEVICE FOR REMOVING METALLIC COVERINGS FROM INSULATED CONDUCTORS.
 APPLICATION FILED JULY 11, 1908.

967,636.

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UNITED STATES PATENT OFFICE.

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DEVICE FOR REMOVING METALLIC COVERINGS FROM INSULATED CONDUCTORS.

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Application filed July 11, 1908. Serial No. 443,150.

To all whom it may concern:

Be it known that I, WALLACE B. HEWITT, of West Pittsburg, Lawrence county, Pennsylvania, have invented a new and useful Device for Removing Metallic Coverings from Insulated Conductors, of which the following is a full, true, and exact description, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of one form of device embodying my invention; Fig. 2 is an end view of the same; Fig. 3 is a longitudinal section; Fig. 4 is a transverse section on the line IV—IV of Fig. 3; and Fig. 5 is a detail view of one of the chuck jaws.

My invention has relation to a hand tool, or hand-operated stripping device, which although useful for a variety of purposes, has been more especially designed for the purpose of removing metal coverings or sheaths from insulated conductors; and it is designed to provide a simple and efficient device of this character, which may be conveniently operated, and by means of which the metal covering or sheath of an electrical conductor can be cut at any desired point without injuring the insulation.

The precise nature of my invention will be best understood by reference to the accompanying drawing, in which I have shown one embodiment thereof, and which will now be described, it being premised, however, that various changes may be made in the construction and arrangement of the several parts by those skilled in the art, without departing from my invention as defined in the appended claims.

In these drawings, the numeral 2 designates a tubular holder, preferably circular in its cross-section, and having therein near one end a cone or cam surface 3. The opposite end portion of the member 2 is provided with an internal left-hand screw-thread 4, to receive a threaded chuck-carrier 5, in the inner end-portion of which are pivotally seated a plurality of longitudinally-extending jaws 6, the free end-portions of which are beveled at their outer sides, as indicated at 7 for engagement with the internal cone surface 3. The inner gripping faces of these jaws are preferably provided with two series of intersecting corrugations or teeth 8, as shown in Fig. 5, to enable them to obtain a secure grip upon the article to

be held and cut. The outer end portion of the chuck-carrier 5 is provided with a hand-portion 8', preferably of knurled contour, and by means of which the carrier can be screwed into and out of the holder 2 for the purpose of opening and closing the jaws 6.

A indicates a sheathed conductor, such as is adapted to be operated upon by the tool, and which is shown as consisting of one or more conductors embedded in insulation and surrounded by a ribbed or corrugated metallic sheath. The manner in which this conductor is engaged by the jaws 6 is clearly shown in Fig. 3.

The holder 2 is formed near its forward end with a circumferential flange 9, and in front of this flange with a cylindrical bearing-portion 10, around which and against the face of the flange 9 is rotatably seated a ring 11. This ring is bored out, or otherwise shaped, as indicated at 12, to receive a ring-nut 13, which is threaded upon the threaded end-portion 14 of the holder 2, and around which the ring 11 also rotates. The nut 13 is preferably secured in its proper adjustable position by suitable means, such as screws 15, which are seated partially in the inner surface of the nut and in the outer surface of the threaded end 14 of the holder 2. Pivoted to a projecting lug 16 of the ring 11 is a hand-lever 17, having a slotted portion 18 in which is journaled on a stud 19 a bevel-edge cutting-wheel 20. Secured to a second lug 21 of the ring 11 is a jaw-piece 22, in which are journaled two small rollers 23, which are adapted to bear against the opposite side of the article being cut, in the manner clearly shown in Fig. 2. In order to permit of the adjustment of this jaw-piece and of the rollers to articles of different diameters, the lug 21 is provided with a toothed upper surface 24, which is engaged by similar teeth or serrations on the jaw-piece, and the latter is also provided with an elongated slot 25, through which extends the securing screw-bolt 26. By loosening this screw-bolt, the jaw-piece and rollers can be readily adjusted toward or away from the central longitudinal axis of the tool.

For the purpose of feeding the cutter to the work automatically as it is rotated about the article to be cut, as hereinafter to be described, the flange 9 is provided with a cam-projection 27, which, as the ring 11 is ro-

tated, engages the teeth of a star-wheel 28 which is carried on the threaded end portion 29 of a rod 30, having a bent end 31 which is secured in the hand-lever 17. This rod passes loosely through a guide-rod 32 on the ring 11; and seated between this lug and a pin 33, or other projection of the rod, is a spring 34 which normally acts to hold the star-wheel 28 in contact with the opposite face of the lug 32.

The operation is as follows:—The tool having been applied to the conductor to be cut, in the manner shown in Fig. 3, the hand-lever 17 is rotated, thereby turning the ring 11 and the cutter-wheel 20 around the conductor, the cutter-wheel being given a feed-in movement at each rotation by the step-by-step rotation of the star-wheel 28. The machine is readily adapted to be adjusted to different sizes of conductors by turning the star-wheel 28 by hand to bring the cutter up to the work. After this adjustment is made, the tool will then operate without further adjustment, as long as the same size of conductor is being cut, the star-wheel being turned by hand in the reverse direction after the cutting operation is completed. The operator can readily determine the moment the metallic sheath or covering has been severed by the "feel" of the tool, so that the cutter will not come in contact with or in any way injure the insulation of the conductor. The beveled edge of the cutter insures the making of a clean sharp cut, without fins or burrs of a nature to abrade or cut the insulation in clipping off the severed piece.

The tool can be conveniently held in one hand, which grasps the member 2, while the lever 17 is rotated with the other hand, the flange 9 forming a protection for the hand from coming in contact with the rotating parts. The tool can be held at any desired angle to accommodate the work to be done; it can be readily applied to and withdrawn from the conductor, and forms a simple and convenient device for the purpose. Heretofore great difficulty has been experienced in doing this class of work without injuring the insulation of the conductors, but these difficulties are entirely obviated by the device described. The device is also an effective one for use in cutting metal pipes and other metal articles.

It will be apparent that many changes may be made in the construction and arrangement of the parts. Thus, any suitable form of chuck or holding device may be employed for grasping the work; the automatic feed for the cutter may be provided in any one of a number of different ways, and various other changes may be made in the details of the parts without affecting my invention.

By reason of the left-hand threaded engagement between the holder and chuck-

carrier, it will be noted that the operation of the tool, which takes place in the reverse or clock-wise direction, tends to constantly tighten the grip of the jaws 6 upon the work. This is a feature of great advantage, since it is impossible to properly operate the tool unless the work is at all times tightly gripped therein.

I claim:—

1. A hand tool of the character described, comprising a holder having a gripping chuck, means for setting and releasing the chuck, a member rotatably mounted on the holder, a hand-lever pivoted to the member, a cutting tool carried by said lever, and means for moving the hand lever and cutter to the work as the tool is operated, substantially as described.

2. A hand tool of the character described, comprising a holder, a movable chuck engaging the holder and having a plurality of movable jaws, and the holder having means to cooperate with the jaws, to close them upon the work, a ring rotatably mounted upon the holder, a hand lever pivoted to the ring and carrying a cutter, and means for automatically feeding the cutter to the work as the hand lever and ring are rotated, substantially as described.

3. A hand tool of the character described, comprising a holder having work-gripping jaws, a carrier for said jaws, means on the holder to cooperate with the jaws to close them upon the work when the carrier is moved in one direction, a ring rotatably mounted upon one end portion of the holder, a hand lever pivoted to the ring and carrying a cutter, and means for automatically feeding the cutter to the work as the hand lever and ring are rotated, the holder having a hand guard adjacent to the ring, substantially as described.

4. A hand tool of the character described, comprising a holder having a portion adapted to be grasped by the hand, a work-gripping chuck within the holder, a member rotatably mounted upon the holder, a hand lever pivoted to said member and carrying a cutter, and a holding and guiding jaw secured to the member and arranged to bear against the work at the side opposite the cutter, substantially as described.

5. In a tool of the character described, a holding member, a rotary cutting device mounted on said member, and a chuck threaded on to the said holder and having work-gripping jaws arranged to grip the work when the chuck moves in one direction, the threads of the chuck being of the proper hand, so that any relative movement of the holder and chuck caused by the cutting operations of the tool tends to tighten the grip of the chuck jaws upon the work, substantially as described.

6. In a hand-tool of the character de-

scribed, a holding member having chucks therein and formed at one end portion with an external cylindrical bearing portion and with a threaded extension beyond said bearing portion, a member rotatably mounted upon said bearing portion, a nut engaging said threaded portion and securing said member, and a hand-lever pivoted to said member and carrying a cutter; substantially as described.

7. In a hand-tool of the character described, a holder, a member rotatably mounted on the holder, a hand-lever pivoted to said member and carrying a cutter, and a jaw adjustably secured to said member and having means adapted to bear against the

work on the opposite side from the cutter; substantially as described.

8. In a hand-tool of the character described, a holder, a member rotatably mounted on the holder, a hand-lever pivoted to said member and carrying a cutter, a rod connected to the hand-lever, a feed-wheel mounted on the rod, and means engaged by the feed-wheel at each revolution of the holder; substantially as described.

In testimony whereof, I have hereunto set my hand.

WALLACE B. HEWITT.

Witnesses:

M. M. WATERMAN,
GEORGE F. CLARKE.