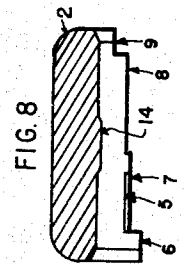
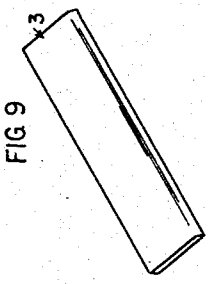
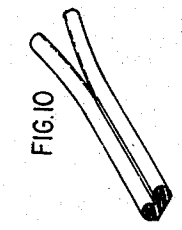
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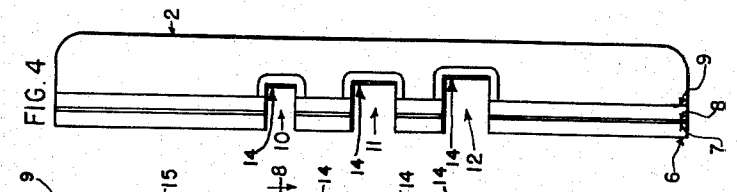
DUPLEX WIRE CABLE SLITTING DEVICE

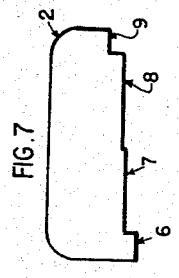
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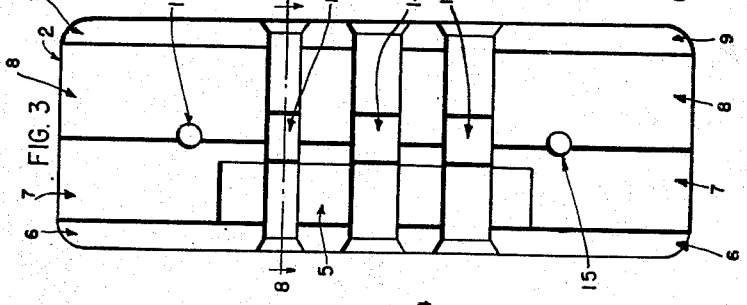


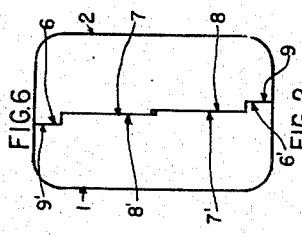


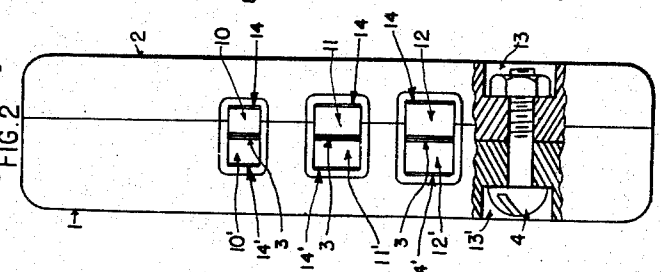


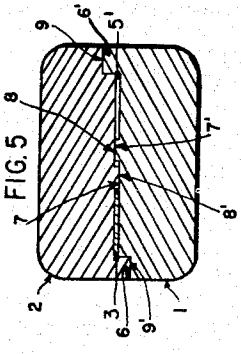


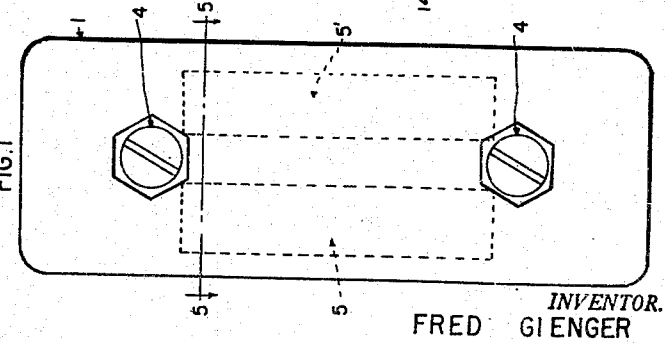












INVENTOR.
FRED GIENGER

BY

Chas. Fr. Comly.

ATTORNEY

Patented Dec. 15, 1953

2,662,283

UNITED STATES PATENT OFFICE

2,662,283

DUPLEX WIRE CABLE SLITTING DEVICE

Fred Gienger, Highland Park, Ill., assignor to Automatic Electric Laboratories, Inc., Chicago, Ill., a corporation of Delaware

Application June 2, 1948, Serial No. 30,665

3 Claims. (Cl. 30—91)

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The present invention relates in general to a cable slitting device and, more particularly, to a device capable of slitting, or bisecting, cable such as telephone drop wire, in which the drop wire supplied by the present day market consists of a duplex drop wire having a pair of parallel conductors separated by insulation.

It has been found that in previous methods of slitting drop wire, great care must be taken to centrally cut the insulation between the conductors so as to avoid damage to the conductors. The present invention discloses means for positioning the wire so that the cutting blade is centrally located between the conductors of the wire, with the relative position of the blade remaining unchanged between the conductors during the slitting operation.

It is an object of the present invention to provide a device for slitting wire that is simple to construct, assemble and operate, and economical to manufacture.

A feature of the present invention resides in the provision of a device of the above-named type containing no movable parts, thereby providing ease and maintenance of adjustment.

Another feature of the present invention is the provision of a frame comprising two identical complementary frame pieces which affords economy in manufacturing and ease in assembling of the device.

Still another feature resides in the cutting blade which may be replaced as often and whenever necessary by a common and well-known razor blade of the safety razor type.

A further feature is the provision of a slitting device which includes means for slitting various sizes and types of drop wire.

Another feature includes means for securely locking the cutting blade within the device, thereby providing safety of operation.

Other objects and features of the invention will become apparent upon a further perusal of the specification taken in conjunction with the accompanying drawings in which:

Figure 1 shows a top view of the slitting device.

Figure 2 is a side view of the device showing the location of the cutting blade with respect to the plurality of differently sized openings. A lower portion of the figure is broken away showing the relative position of one of the frame assembling bolts.

Figure 3 shows the bottom half of the frame piece with the top half removed.

Figure 4 is a side view of Figure 3.

Figure 5 is a cross-sectional view through the device along the lines 5—5 of Figure 1.

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Figure 6 is an end view of Figure 2.

Figure 7 is an end view of Figure 3.

Figure 8 is a cross-sectional view of the frame piece along the lines 8—8 of Figure 3.

Figure 9 shows the cutting blade.

Figure 10 shows the type of duplex parallel conductor drop wire to be slit.

Referring now to the drawings, and in particular to Figs. 2, 5, 6 and 8, it will be seen that the device consists mainly of the two frame-pieces 1 and 2, a cutting blade 3, and two frame assembling bolts 4. The frame-pieces 1 and 2 may consist of any suitable material such as metal or composition, and can be formed by any suitable method such as die-casting, moulding or pressing. Upon viewing the frame pieces from the end (Figs. 6 and 7) it will be seen that their adjoining faces are constructed to contain four different levels or steps such as 6, 7, 8 and 9, and 6', 7', 8', and 9' each having the same depth and width. It will also be seen that each frame-piece contains an indented cutting blade pocket such as 5 and 5' located on the levels 7 and 7' of frame-pieces 2 and 1 respectively, and positioned as shown in the dotted lines of the assembly of Fig. 1 and in bold lines of Fig. 3. The cross-sectional assembly of Fig. 5 shows the cutting blade 3 located in the blade pocket 5 of frame-piece 2, while the pocket 5' of frame-piece 1 is shown as empty. Each frame-piece also contains a plurality (3 as shown) of differently sized wire grooves such as 10, 11 and 12, and 10', 11' and 12'. Each frame-piece 1 and 2 contains two holes 15 through which the frame assembling bolts 4 may be inserted and tightened down, thereby rigidly holding the frame-pieces in position. The outer end of each hole has been enlarged, thereby enabling the bolts to be counter-sunk.

It will be noted (Figs. 3 and 8) that centrally located between the two ends of each of the wire grooves in each frame-piece is a small upraised portion such as 14, or 14', which is parallel to but in different planes than the blade 3 and is located just forward of the cutting edge of the blade. These grooves centrally position the wire at the cutting point, thereby enabling the wire to be slit, or bisected, through its approximate center. Referring in particular to Figs. 8 and 3, the shape of the upraised portion such as 14 and its position with respect to the cutting edge of blade 3 may readily be seen. It will be noted that each pocket 5' and 5 are located on the step-cut levels 7' and 7 of frame pieces 1 and 2 respectively. Assuming that the cutting blade 3 is placed in the blade pocket 5 of the frame-piece 2 (Fig. 3) so that the cutting edge faces toward the right, or

the middle, of the frame-piece 2 it will be seen that the cutting edge of the blade 3 is parallel to and directly over the lower left-hand edge of the upraised portion 14, but in a different plane. Also, the drop wire such as shown in Fig. 10 is inserted into the groove such as 10, 10' of Fig. 2, each upraised portion such as 14 of each groove will bear lightly against the outer edges of the drop wire and will centrally position the wire so that the blade 3 will bisect the insulation between the two conductors.

From the above description, it will be observed that frame-pieces 1 and 2 are identical in all respects and that the only apparent difference resides in their assembly. Upon viewing Figure 5 in particular, it will become apparent that regardless of which blade pocket of either frame-piece that the cutting blade is inserted therein, the cutting blade will be accurately positioned with respect to the center of the wire passageways.

The slitting device will now be assembled in the proposed following manner: the cutting blade is placed into the cutting blade pocket, such as 5 of the frame-piece 2, with the blunt or rear edge of the blade resting against the highest raised portion 6. The other frame-piece 1 is then placed over the frame-piece 2 so that the two frame-pieces mesh together as shown in Figs. 5 and 6 in which level 9' bears against level 6, level 8' bears against level 7, level 7' bears against level 8 and level 6' bears against level 9. It will be noted that the wire grooves 10', 11' and 12' of frame-piece 1 coincides respectively with the wire grooves 10, 11 and 12 of frame-piece 2. The two assembly bolt holes of frame-piece 1 are positioned to match those of the frame-piece 2, at which time the assembly bolts 4 are then inserted into the bolt holes and tightened down, thereby completing the assembly.

In operation, the drop wire to be slit is pushed into the opening of the groove that corresponds to the size of the wire. It will be remembered that each of the openings, as shown (Fig. 3), include 10' and 10, 11' and 11 and 12' and 12. The wire is pushed along the groove toward the sharp edge of the cutting blade and as the wire comes in contact with the blade, only a slight additional force is required to cause the wire to be slit. The wire may be slit to any desired length and then removed from the device simply by pulling the wire backwards through the grooves.

As previously stated, the upraised portion such as 14, or 14', accurately positions the drop wire so as to cut the insulation in the center of the cable to form two independent insulated wires. It will also be noted that the cutting edge of the cutting blade is located at the edge, or side, of the raised portion 14 which thereby makes an allowance for the thickness of the blade and prevents binding of the individual insulated wires in the passageways during the cutting operation.

While one embodiment of the invention has been disclosed, it will be understood that various modifications may be made therein, which are within the true spirit and scope of the invention.

Having described the invention, what is considered new and desired to have protected by Letters Patent will be pointed out in the appended claims.

What is claimed is:

1. A device for slitting drop-wire having a pair of parallel conductors separated by insulation, comprising a single cutting blade for bisecting the insulation between said parallel conductors of said drop-wire, a single pair of similar frame-pieces, a groove having a predetermined depth and width extending through each of said frame-pieces for providing a wire passageway when said frame-pieces are assembled one over the other with said grooves in alignment, an indented cutting blade pocket in one of said frame-pieces to securely hold said cutting blade in one position for said bisecting operation in case said wire is to be moved through said passageway in one direction, an indented cutting blade pocket in the other of said frame-pieces to securely hold said cutting blade in another position in said passageway for said bisecting operation, in case it is desired to move said wire through said passageway in the opposite direction, and means for clamping said single pair of frame-pieces together after the blade is inserted in one of said pockets to form a complete slitting unit.

2. A device comprising only two similar rectangular members one placed over the other and including a single cutting blade held between the engaged surfaces of said members for slitting a plurality of different sized duplex drop-wires each having a pair of parallel conductors separated by insulation, a plurality of corresponding parallel and longitudinally extending surfaces each in a different plane on each of said engaged surfaces for interlocking said members against transverse movement, a plurality of transverse grooves of different depth and width in each of said members, a plurality of different sized transverse passageways being formed by said transverse grooves of different depth and width in each of said members when said rectangular members are placed one over the other, a pocket in one of said members for centrally mounting said cutting blade transversely across all of said plurality of passageways for bisecting the insulation between the parallel conductors of said drop-wire when said wire is forced through a corresponding one of said passageways, and means for locking said two members together when said blade has been placed in said pocket to form a complete slitting unit.

3. A device for slitting the insulation between a pair of parallel conductors of duplex drop-wire, comprising only a single pair of similar rectangular shaped members each having one side thereof arranged in stepped plane surfaces and registering with identical surfaces on the other member when the two members are clamped together, the highest plane surfaces of each registering with the lowest plane surfaces of the other to lock the members against transverse movement, a series of transverse grooves in each member forming openings for insertion of different size conductors therethrough when the members are together, a longitudinal slot in one plane surface of each member each registering with a plane surface of the other member, a cutting blade mounted in one of said longitudinal slots to bisect all the transverse openings and slit the insulation between the conductors of a wire inserted in one direction therein and also bisecting all of said transverse openings when mounted in the other of said longitudinal slots to slit the insulation between the conductors of a wire when inserted therein in the other direction, and means for clamping said single pair of members together when said blade has been placed in one of said slots to form a complete unit for slitting the insulation between the conductors of the different sizes of wires.

FRED GIENGER.

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