April 13, 1954 J. P. LA POINT 2,675,528

UNIVERSAL TEST PROBE

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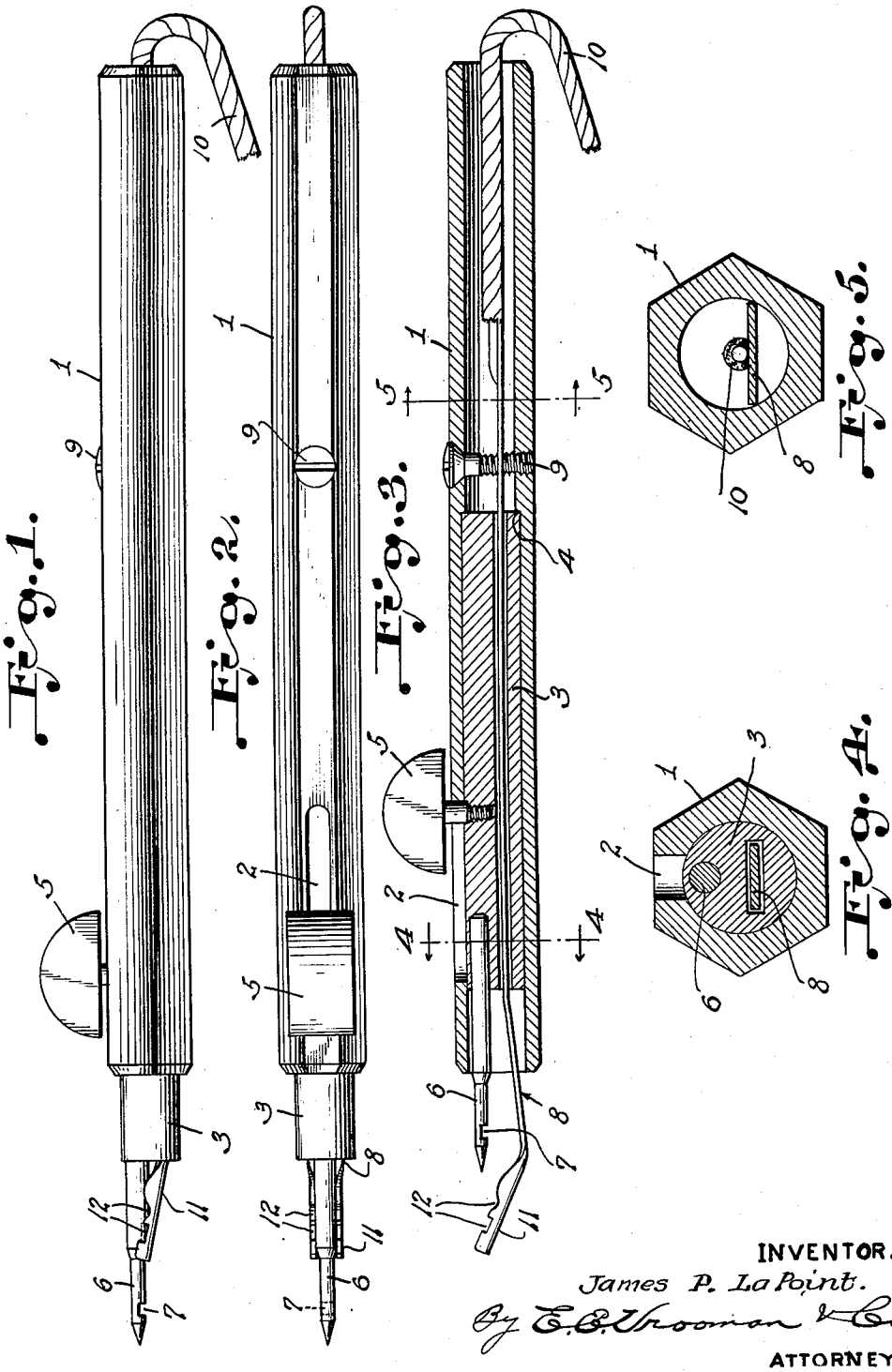


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 5.

Fig. 4.

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UNIVERSAL TEST PROBE

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2 Claims. (Cl. 339—31)

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This invention relates to a universal test probe.

An object of this invention is to provde a device which will grasp and hold small wires that usually are tedious to contact.

Another object of this invention is to provide a device which will effectively grasp pin connectors, etc., in recessed and crowded installations.

A still further object is to provide a device in which the clamp and point are both operated by the same thumb button whereby the user does not have to shift his hand position in changing from one action to another, so as to save time.

With the foregoing and other objects in view, this invention comprises certain novel constructions, combinations, and arrangements of parts as will be hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims.

In the drawings:

Figure 1 is a view in side elevation of a device constructed in accordance with this invention.

Figure 2 is a top plan view of the device.

Figure 3 is a vertical, longitudinal, sectional view of the device.

Figure 4 is a transverse sectional view of the device taken on line 4—4, Fig. 3, and looking in the direction of the arrows.

Figure 5 is a transverse sectional view of the device, taken on line 5—5, Fig. 3, and looking in the direction of the arrows.

Referring to the drawings, in which the preferred embodiment of this invention is illustrated, 1 designates a cylindrical casing which is preferably of insulating material. This casing 1 is provided with an elongated slot 2. The ends of the casing 1 are open. Slidably mounted in casing 1 is a core 3. The core 3 is limited in its rearward movement at 4, Fig. 3. A button 5 is positioned in slot 2 and is threaded into the core 3, Fig. 3. A penetrating point 6 has its inner end extending into the outer end of the core 3, as clearly shown in Fig. 3. This point 6 is provided with a notch 7.

A flat spring contact 8 extends through the core 3 and a screw 9 is on the cylinder 1 and this screw extends through a portion of the flat spring contact, holding said spring contact securely within the casing 1. On the inner end of the flat spring contact is suitably secured an insulated wire 10. This wire 10 may be connected to any desired instrument.

On the outer end of the spring contact 8 is formed a gripping jaw 11; said jaw extending normally in an upward position to better co-

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operate with the penetrating point 6. This gripping jaw 11 is provided with different sized holding notches 12.

The spring contact is comparatively wide, as shown in Figures 4 and 5. This permits the screw 9 to be placed through without any weakening of the spring contact 8.

This device is intended for use by service men and other electrical workmen, etc. It is very convenient, as one hand can control the operation of the device.

When the thumb-operated button 5 is fully advanced, as shown in Figures 1 and 2, the point 6 is in position for normal probing. When the point 6 is retracted, as shown in Fig. 3, the probe is then ready for clipping. In clipping to an object, the spring contact 8 is pressed against one side of the object, and the sliding assembly is advanced over the object. The design of the clipping elements (2) is such that a wide range of objects of varied sizes can be easily contacted. Also, recessed terminals, with pin connectors, such as Army-Navy plugs and sockets, can be clipped onto easily.

While I have described the preferred embodiment of the invention and illustrated the same in the accompanying drawings, certain minor changes or alterations may appear to one skilled in the art to which this invention relates during the extensive manufacture of the same, and I, therefore, reserve the right to make such changes or alterations as shall fairly fall within the scope of the appended claims.

What I claim is:

1. In a device of the class described, the combination of an insulating tubular casing, a cylindrical core slidably mounted in said casing and having an opening extending from end to end thereof, said opening being a cross-section of flat rectangular form, said casing having a longitudinal slot adjacent its forward end, a button extending through said slot and having threaded engagement with said core, a piercing point fixed in the forward end of the core parallel to said rectangular opening, said piercing point projecting forwardly of the casing, a leaf spring member extending through the longitudinal opening in the core, means for fixedly holding said spring member from longitudinal movement within the casing and an extension at the forward end of said spring member provided with a gripping jaw at its free extremity, the free extremity being of substantially U-shaped in cross section to partially surround and receive the point, the edges of said free extremity being notched to provide

gripping means on an article being probed for and the point having a notch confronting said free extremity.

2. In a device of the class described, the combination of an insulating tubular casing, a cylindrical core slidably mounted in said casing and having an opening extending from end to end thereof, said opening being a cross-section of flat rectangular form, said casing having a longitudinal slot adjacent its forward end, a button extending through said slot and having threaded engagement with said core, a piercing point fixed in the forward end of the core parallel to said rectangular opening, said piercing point projecting forwardly of the casing, a leaf spring member extending through the longitudinal opening in the core, means for fixedly holding said spring member from longitudinal movement within the casing and an extension at the forward end of said spring member provided with a gripping jaw at its free extremity, said extension being inclined away from the piercing point, and the gripping jaw being inclined upwardly from the extension to lie in the path of the piercing point, the free extremity being of substantially U-shaped in cross section to partially surround and receive the point, the edges of said free extremity being notched to provide gripping means on an article being probed for and the point having a notch confronting said free extremity.

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