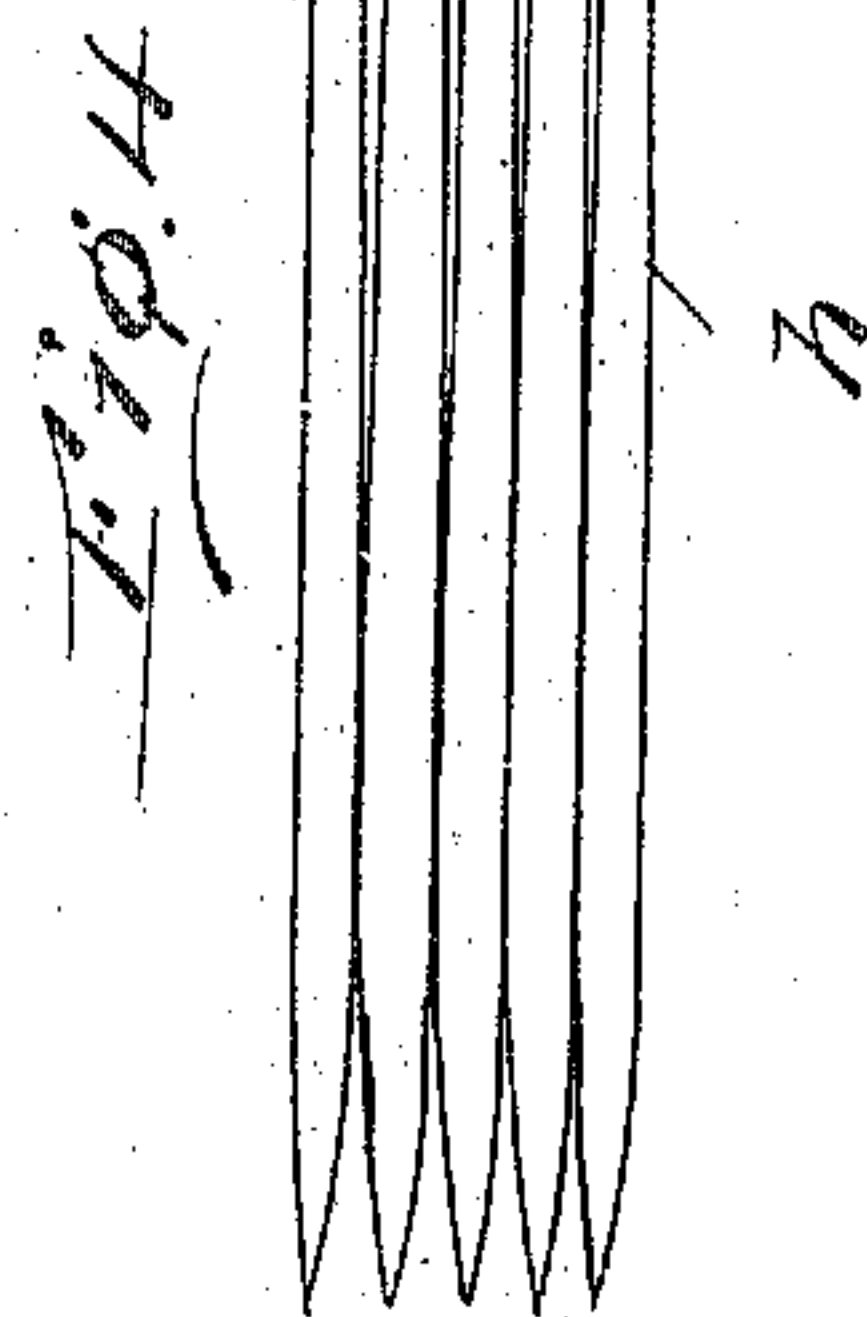
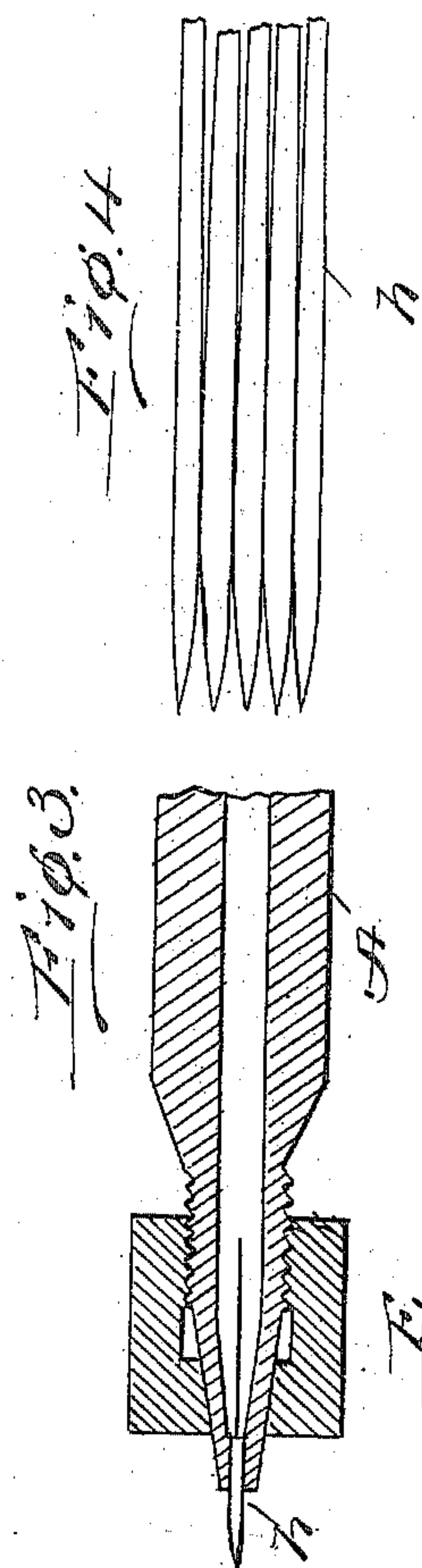
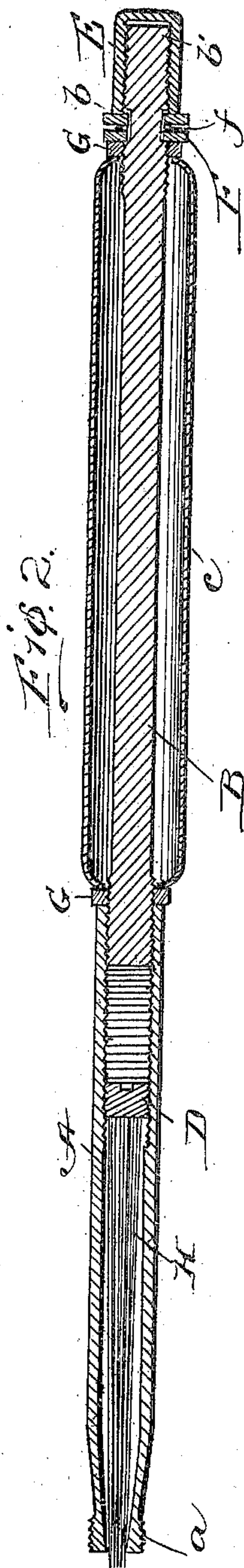
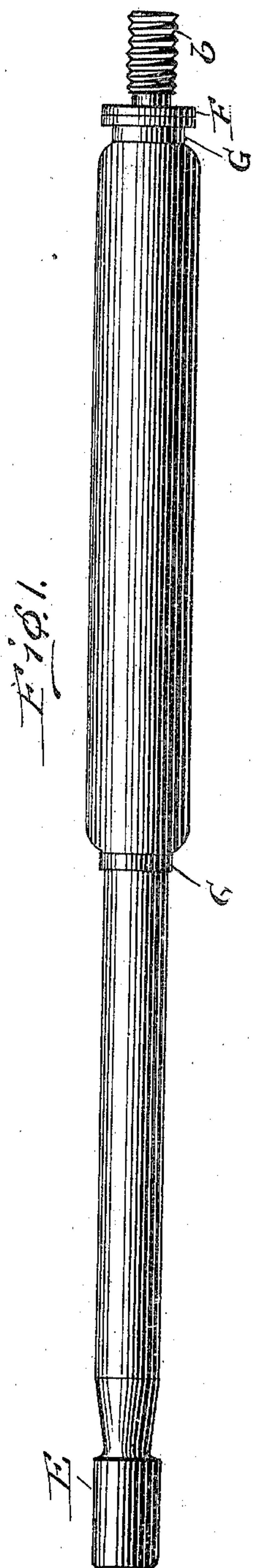


V. H. DAKE.  
ELECTRICAL TEST IMPLEMENT.  
APPLICATION FILED NOV. 19, 1908.

951,631.

Patented Mar. 8, 1910.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## ELECTRICAL TEST IMPLEMENT.

951,631.

Specification of Letters Patent.

Patented Mar. 8, 1910.

Application filed November 19, 1908. Serial No. 463,383.

*To all whom it may concern:*

Be it known that I, VIRGIL H. DAKE, a citizen of the United States of America, and a resident of the city of Buffalo, county of Erie, and State of New York, have invented certain new and useful Improvements in Electrical Test Implements, of which the following is a specification.

My invention relates to certain improvements in electrical test implements designed for determining the electrical condition of insulated cables, by providing means whereby electrical contact may be made with conducting portions of such cables. In such devices it is of course desirable that the contacting area be as great as possible and in cases where the cable is composed of a plurality of stranded conductors that contact may be made with any one of them without destroying the integrity of its covering.

For these purposes my invention consists in a suitable holder having a plurality of contact points thereon, each of said points being adjacent to but supported from each of the other points, whereby a comparatively large contact area is provided without necessitating the formation of a single perforation in the cover, each point passing through the cover independently and separately from the other points, and it further consists in a construction of handle adapted to receive such points and in the construction of the points themselves whereby the above described deposition of their ends is obtained.

It further consists in the construction, arrangement and combination of the several parts of which it is composed as will be hereinafter more fully described and claimed.

Referring to the accompanying drawings, in which corresponding parts are designated by like letters of reference: Figure 1 is a side elevation of a test implement constructed in accordance with my invention. Fig. 2 is a central longitudinal view thereof. Fig. 3 is a perspective view illustrating a modification of my invention. Fig. 4 is an enlarged detail view illustrating the manner in which the needles are assembled.

Referring to the drawings, A is a hollow metallic cylinder having in one end an internal thread in which screws a threaded plug D and which receives one end of a conducting stem B, the opposite end of the cylinder being slightly restricted, and such end has an external thread *a*.

The central part of the stem B is surrounded by an insulating cover C held in place by nuts G, G. The rear end of the stem projects beyond the cover and is provided at *b'* with a screw thread which is a companion of that at *a*, a groove *b*, being formed in the stem at the base of the thread *b'*, which groove receives a pair of washers F, slipped over the end of the stem and then contracted to lock them in place.

E is an internally threaded metallic cap, which may be screwed on A at *a* for the protection of the needles H, when the implement is not in use. When the implement is in use it may be used as shown in Fig. 2 as a nut to compress the washers F, between which the conducting wire *f* will be placed thereby forming a binding post for an electrical connection.

Within the cylinder A is contained a plurality or bunch of needles H or suitable pins having cylindrical body portions with tapered ends. The ordinary sewing needle is an example of this and can be used to advantage, the needles being pressed toward the constricted mouth by the plug D, the expanding of the needles toward their middle causing them to be firmly clamped together and within the cylinder, insuring good electrical connections, not only from needle to needle but between the needles and the case. By this construction a plurality of points is provided, each point being slightly separated from the adjacent ones and these can be pressed through into the conducting coating by a relative slight pressure, each point making its own aperture, pressing the material of the coating laterally to a slight degree. Thus, while a large contacting surface with the metallic part of the cable is provided, large apertures therein are avoided.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In an electrical test implement, the combination with an inclosing case, of a plurality of independently movable points therein, each point having a cylindrical body portion and a tapered end, by which a plurality of slightly separated contact points will be obtained.

2. In an electrical test implement, the combination with an inclosing cylinder having a restricted mouth, of a bundle of points



contained within the cylinder and means contained within the cylinder for pressing the points toward the restricted end thereof.

3. In an electrical test implement, the combination with an inclosing cylinder having a restricted mouth, of a bundle of points contained within the cylinder and means contained within the cylinder for pressing the points toward the restricted end thereof, a handle for the cylinder and a binding post on the handle.

4. In an electrical test implement, the combination with an inclosing cylinder and its handle, the cylinder and handle hav-

ing their opposite ends correspondingly threaded, washers upon the handle adjacent to the thread thereon, contact points in the cylinder, and a cap fitting the threads upon the cylinder, and handle, and serving as a protection for the points or a nut for the washers.

Signed at Buffalo this 7th day of Nov. 1908.

VIRGIL H. DAKE.

Witnesses:

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