

Feb. 2, 1960

W. H. GOLDER

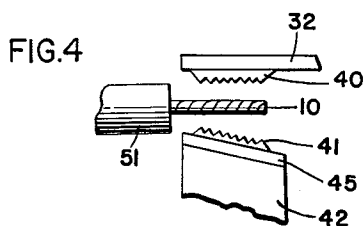
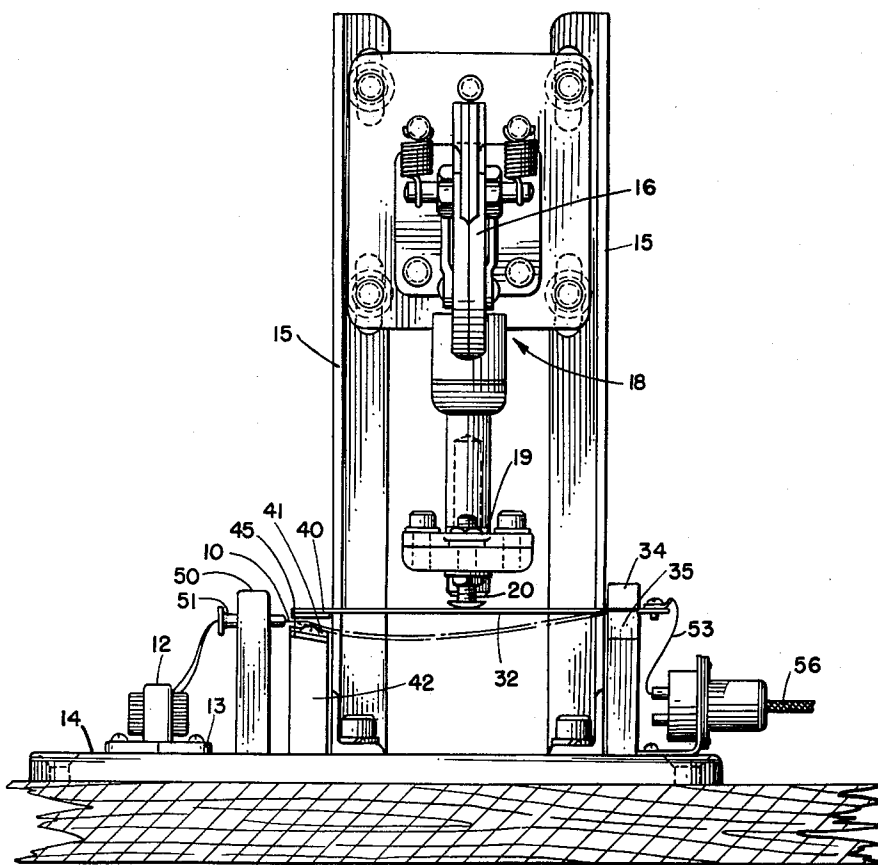
2,923,910

ABRASIVE ELECTRICAL CONNECTORS

Filed June 21, 1954

2 Sheets-Sheet 1

FIG. 1



INVENTOR:
W. H. GOLDER
BY
C. B. Hamilton
ATTORNEY

Feb. 2, 1960

W. H. GOLDER

2,923,910

ABRASIVE ELECTRICAL CONNECTORS

Filed June 21, 1954

2 Sheets-Sheet 2

FIG. 2

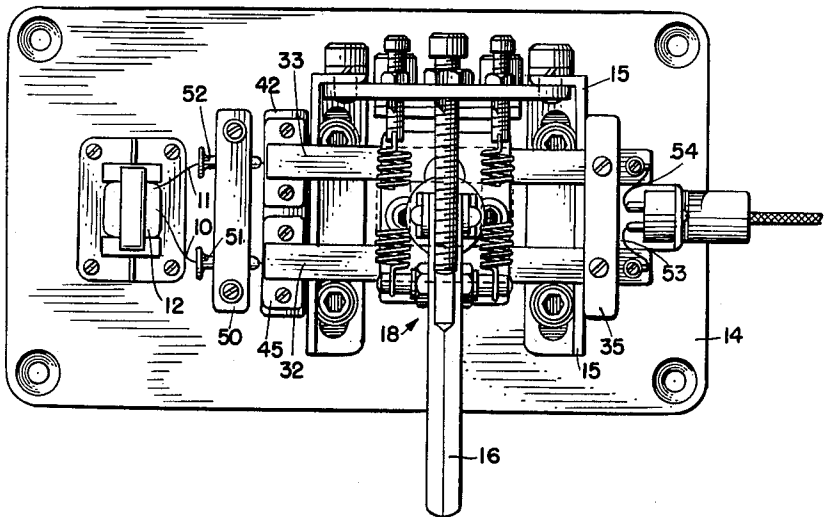
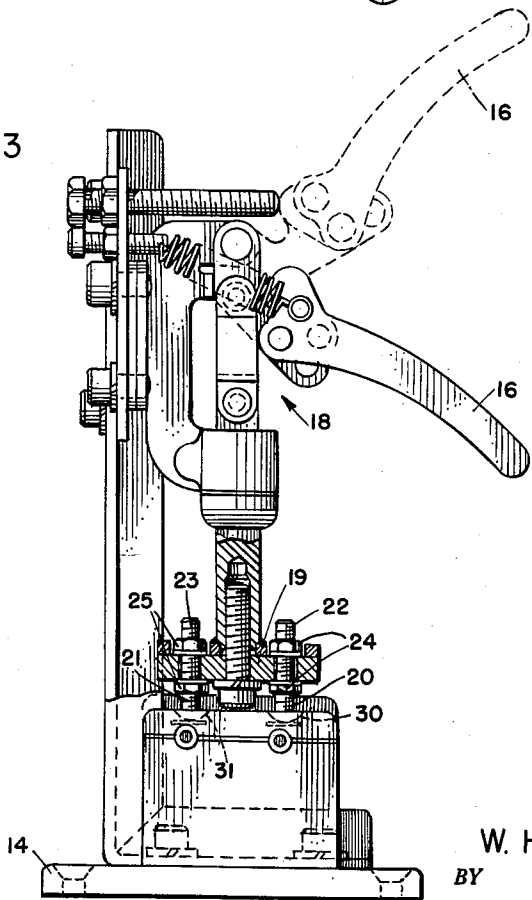


FIG. 3



INVENTOR:
W. H. GOLDER
BY
C. B. Hamilton
ATTORNEY

1

2,923,910

ABRASIVE ELECTRICAL CONNECTORS

Wayne H. Golder, Indianapolis, Ind., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Application June 21, 1954, Serial No. 438,217

2 Claims. (Cl. 339—99)

This invention relates to electrical connectors, and more particularly to electrical connectors for test sets.

An object of the invention is to provide new and improved electrical connectors for engaging conductors.

Another object of the invention is to provide electrical connectors which make good contact with electrical conductors.

A further object of the invention is to provide electrical connectors having abrasive contacting surfaces for scraping electrical conductors as the connectors are applied thereto.

An electrical connector illustrating certain features of the invention may include a pair of conductor engaging elements provided with conductive abrasive surfaces, and means may be provided for sliding the surfaces relative to one another as they are closed on a conductor so that good electrical contact between the elements and the conductor is effected.

A complete understanding of the invention may be obtained from the following detailed description of an electrical connector forming a specific embodiment thereof, when read in conjunction with the appended drawings, in which:

Fig. 1 is a side elevation of a connector forming a specific embodiment of the invention;

Fig. 2 is a top plan view of the connector shown in Fig. 1;

Fig. 3 is a fragmentary front elevation of the connector, and

Fig. 4 is an enlarged fragmental view showing a pair of the conductor engaging elements.

Referring now in detail to the drawings, there is shown therein a connector which serves to cut through insulation on enameled conductors 10 and 11 of a coil 12 to be tested, mounted on an insulation support 13. The connector includes a base 14 to which are secured up-rights 15 mounting a pressing mechanism 18 of a well known type, which serves to move a pressing head 19 upwardly or downwardly as desired when a handle 16 is actuated manually. The pressing head 19 carries pressers 20 and 21 having threaded shanks 22 and 23 by which nuts 24 and 25 adjustably secure the pressers 20 and 21 to the head 19.

When the handle 16 is actuated to move the head 19 downwardly, heads 30 and 31 of the pressers 20 and 21, respectively, engage leaf springs 32 and 33 which are mounted in insulating clamps 34 and 35 mounted on the base 14, and press file segments 40 secured to the leaf springs 32 downwardly toward file segments 41 mounted on the electrical insulating block 42. As the segments 40 approach the segments 41, the conductors 10 and 11 are pressed therebetween and on further downward movement of the head 19 and the pressers 20 and 21, the segments 40 are slid downwardly relative to the inclined segments 41 until they are parallel therewith, and in so doing, scrape the insulation off the conductors 10 and 11 and make excellent electrical contacts therewith. Mounting plates 45 mount the file segments 41 on the insulating block 42. A standard 50 supports funnel-shaped guides 51 and 52 for supporting the conductors 10 and 11. The

2

conductive leaf springs 32 and 33 are connected by conductors 53 and 54 at their righthand ends, as viewed in Figs. 1 and 2, to a cable 56 leading to a test set (not shown) for testing the coil 12.

The pressers 20 and 21 may be so adjusted on the head 19 that one projects substantially further downwardly than the other if it is desired to make a sequential connection between the connector and the conductors 10 and 11, and, in this instance, the head may be moved downwardly until one of the file segments 40 engages one of the conductors and may be left in that position while one test is made, and then on further downward movement of the head 19, the other segment 41 engages the other conductor to make both connections.

The above-described connector serves to make excellent connections between conductors even though the conductors may be contaminated or covered with grease or oil. It also makes excellent connection with enameled wires, the end portions of which still have the enamel thereon, the segments 40 and 41 cutting through the enamel and making good contact with a new conductor.

It is to be understood that the above-described arrangements are simply illustrative of the application of the principles of the invention. Numerous other arrangements may be readily devised by those skilled in the art which will embody the principles of the invention and fall within the spirit and scope thereof.

What is claimed is:

1. A connector, which comprises a pair of fixed abrasive conductive elements extending in a predetermined direction, a second pair of abrasive conductive elements, a pair of leaf springs mounting the second abrasive conductive elements on one end of each, insulating means supporting the other end of the leaf springs in such positions that the second abrasive elements face the first abrasive elements, are inclined with respect to the first abrasive elements and are spaced from the first conductive elements, means for flexing the leaf springs in directions such as to cause the second conductive elements to move toward the first conductive elements and slide relative thereto whereby the conductive elements engage and abrade conductors positioned therebetween and means for adjusting said pressing means to engage and move the second abrasive conductive elements in a desired sequence and amount to control the abrading of the conductors.

2. A connector, which comprises a pair of abrasive conductive elements, a second pair of abrasive conductive elements, a pair of leaf springs mounting the second abrasive conductive elements on one end thereof, means clamping the other end of the springs, means mounting the first abrasive conductive elements in positions facing the second abrasive conductive elements and inclined with respect to the second elements, means for positioning conductors between the pairs of elements, and individually adjustable means for pressing the leaf springs in a direction such as to cause the second conductive elements to move toward the first conductive elements and slide relative thereto, whereby the conductive elements engage and abrade the conductors.

References Cited in the file of this patent

UNITED STATES PATENTS

65	1,625,485	Maurer	Apr. 19, 1927
	2,111,118	Lake	Mar. 15, 1938
	2,238,386	Frank	Apr. 15, 1941
	2,295,367	Sulzer	Sept. 8, 1942
	2,359,541	Bancroft	Oct. 3, 1944
70	2,569,972	Benner et al.	Oct. 2, 1951
	2,655,639	Benander	Oct. 13, 1953
	2,768,363	Haynes	Oct. 23, 1956