March 29, 1938. R. F. SAMBLESON 2,112,680

ELECTRIC CORD TERMINAL

Filed Oct. 25, 1934

Fig. 1.

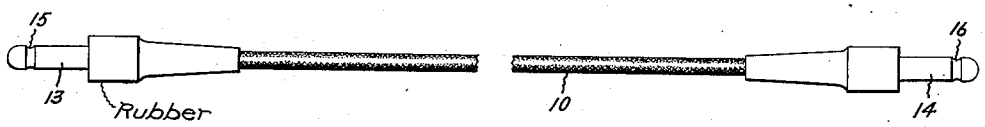



Fig. 2.

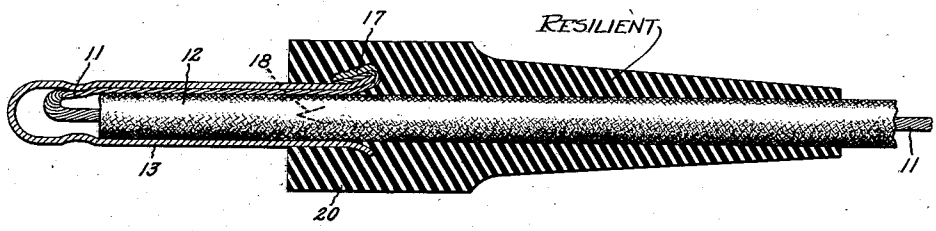
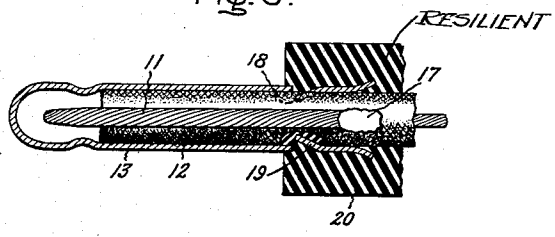



Fig. 3.




Inventor:
Robert F. Sambleson,
by Harry E. Dunham
His Attorney.

Patented Mar. 29, 1938 2,112,680

# UNITED STATES PATENT OFFICE

2,112,680

## ELECTRIC CORD TERMINAL

Robert F. Sambleson, Bridgeport, Conn., assignor to General Electric Company, a corporation of New York

Application October 25, 1934, Serial No. 749,935

1 Claim. (Cl. 173—269)

My invention relates to an improved electric cord terminal.

Tabulating machines and the like are provided with electric cords for interconnecting circuits. The circuit connections must be frequently changed and so it is necessary to disconnect the cords and reconnect them. Difficulty has been experienced with cords formerly used in the frequent breakage of the conductor at or adjacent to the plug terminal.

The object of my invention is to provide an improved cord which will withstand hard usage and which may be manufactured economically.

What I consider to be novel and my invention may be better understood by reference to the following specification and appended claim when considered in connection with accompanying drawing in which Fig. 1 is a plan view of my improved cord; Fig. 2 is an enlarged sectional view of one end of the cord, and Fig. 3 is an enlarged sectional view at right angles to Fig. 2.

Referring to the drawing, 10 indicates an electric cord having a stranded conductor 11 with a covering 12 of insulating material and terminals 13 and 14 connected to each end of the conductor 11. Terminals 13 and 14 are of the type used to connect conductors to telephone jacks and have annular depressions 15 and 16 respectively which are engaged by spring contact clips of the jacks, not shown. Terminals 13 and 14 may be removed from the jacks by a pull on the cord. The repeated strains placed on the cord frequently result in a breakage of the conductor. The conductor most often breaks at the point of its connection to the terminal where the strain is transmitted to the terminal. To relieve the conductor of any strain at this point a resilient connection is made between the conductor and terminal. Also the terminal is secured directly to the covering of insulation so that the strain is transmitted to the terminal through the covering instead of the conductor. As best indicated in Figs. 2 and 3, terminal 13 is a hollow metal tube closed at one end and open at the other end. Terminal 13 extends over the end of conductor 11 and covering 12. The bared end of conductor 11 is looped back over the end of covering 12 and extends out through the open end of terminal 13. Conductor 11 is connected to terminal 13 adjacent its open end as by means of solder 17. Terminal 13 is secured to covering 12 by projections 18 and 19 which are embedded in the covering 12. Projections 18 and 19 are formed by lancing the terminal 13 on opposite sides after it has been placed over the end of conductor 11 and covering 12. By this construction any strain produced by a pull on the cord is transmitted to the terminal directly by the covering of insulation and not by the conductor. In addition if the conductor 11 is moved within the covering 12 it is not placed under strain because of the looped connection of the conductor 11 to the terminal 13. In such a case the loop in the end of conductor 11 is merely shortened or lengthened depending on the direction of movement. To prevent breakage of the conductor 11 by a twisting or bending of the cord over the open end of terminal 13 a resilient strain relief 20 is provided, formed preferably of rubber and molded over the open end of terminal 13 and the adjacent portion of covering 12. Strain relief 20 is tapered away from terminal 13 to distribute the bending or twisting strain over a larger area.

From the foregoing it will be seen that an improved cord is provided which will have a longer life and one which may be expeditiously and economically manufactured.

What I claim as new and desire to secure by Letters Patent of the United States is:

In combination, a conductor, a covering of insulating material for said conductor, a hollow terminal surrounding the conductor and covering, said conductor having a bared end extending back over the adjacent end of the covering within the terminal to a point beyond the confines of said terminal with a portion thereof bent over the end of the terminal, means fixedly electrically connecting the bent-over portion of the conductor to the outer periphery of the terminal, a projection on said terminal embedded in the covering to secure the terminal to the conductor, and a flexible covering surrounding the end of the terminal, the connecting means and the adjacent portion of the conductor and covering.

ROBERT F. SAMBLESON.