

No. 822,469.

PATENTED JUNE 5, 1906

J. OPITZ.  
TERMINAL CONNECTOR.  
APPLICATION FILED FEB. 23, 1904.

Fig. 5.

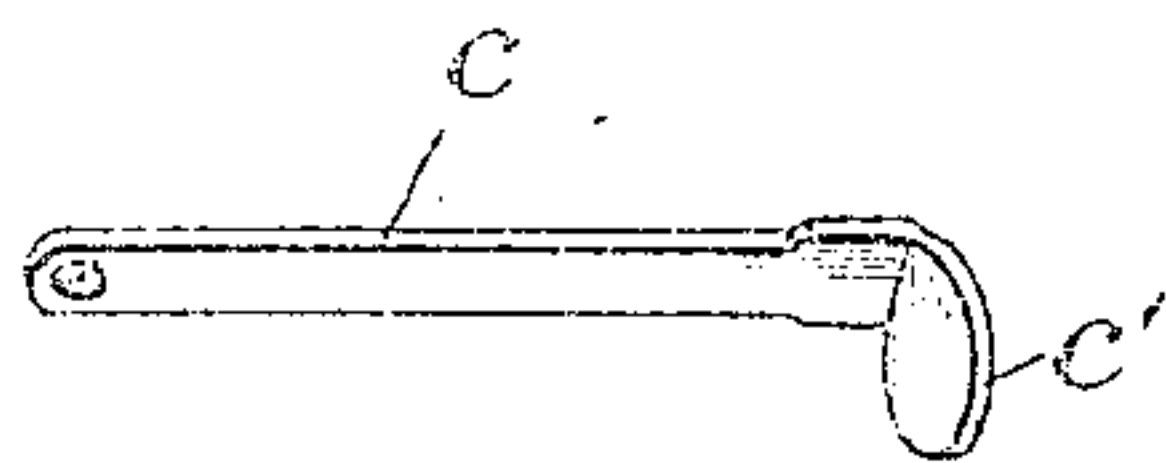


Fig. 3.

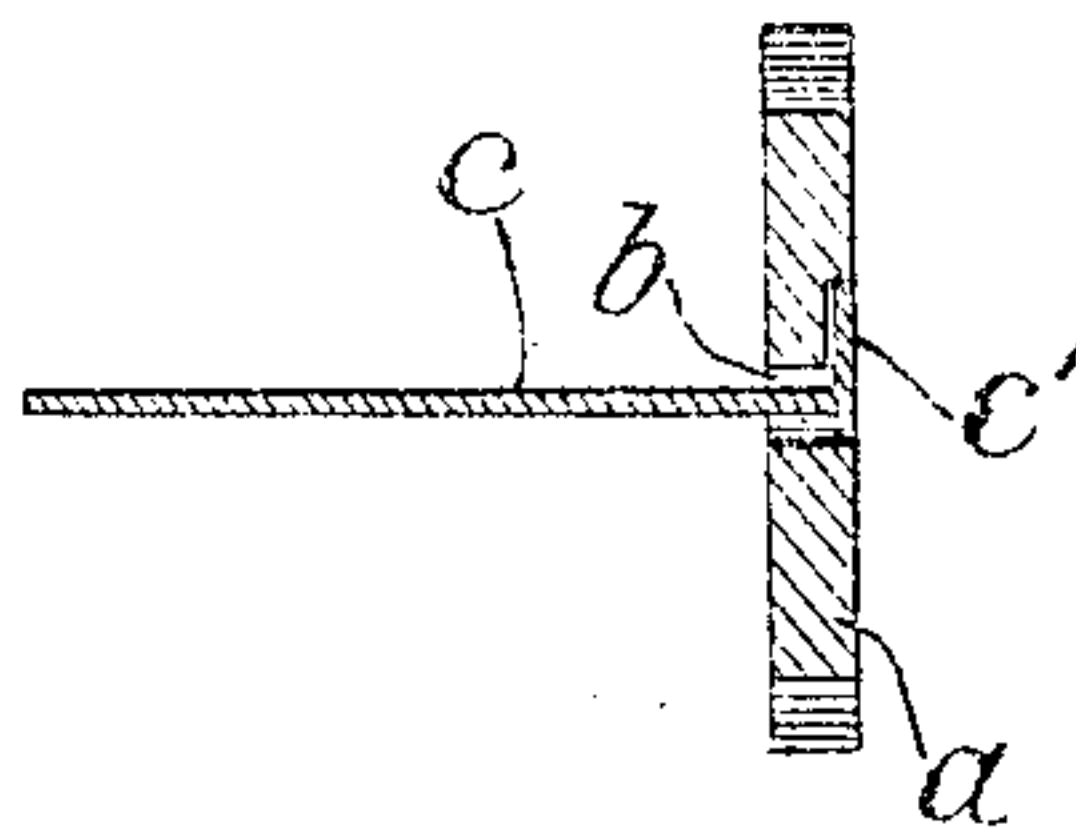


Fig. 1.

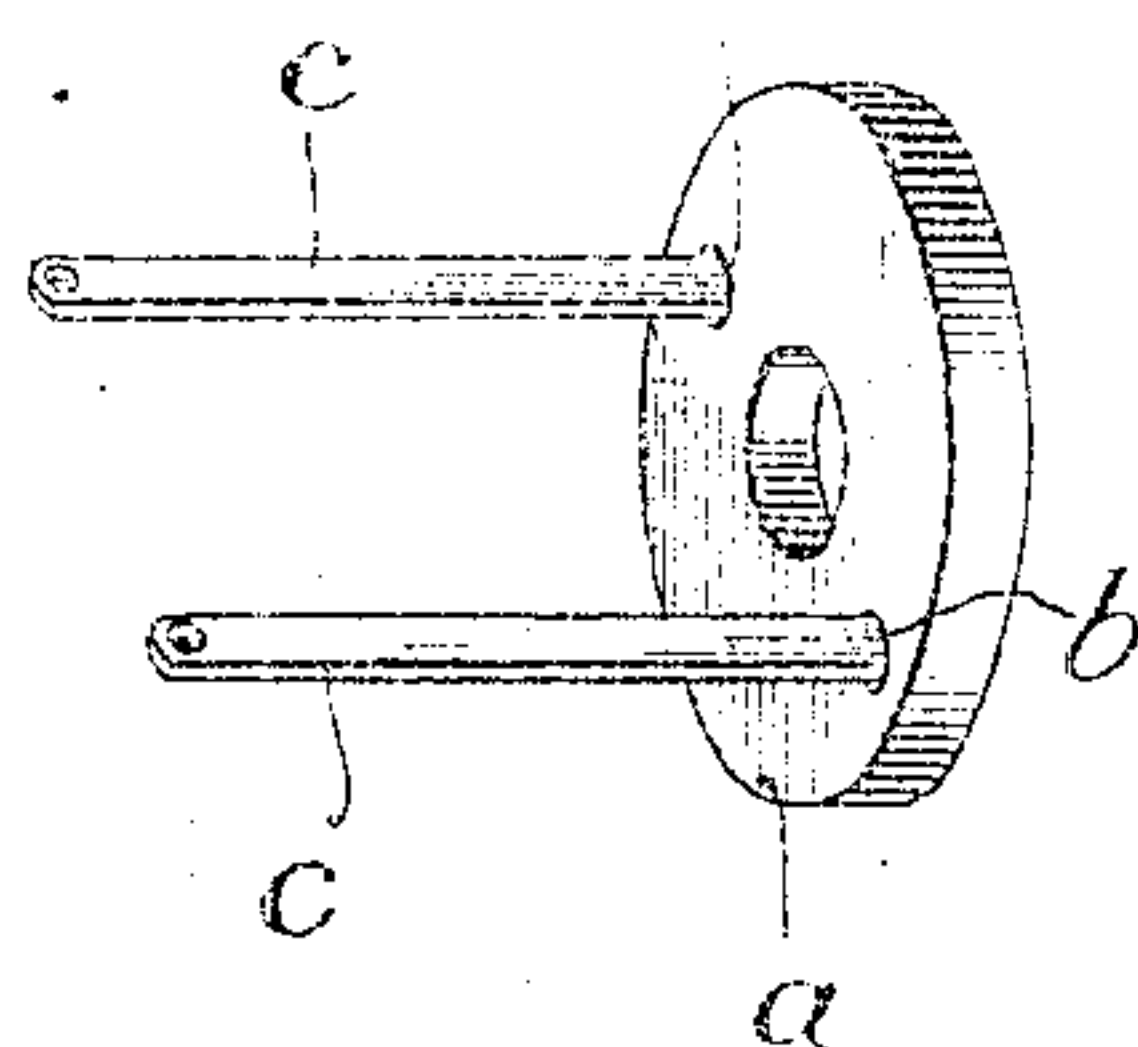


Fig. 2.

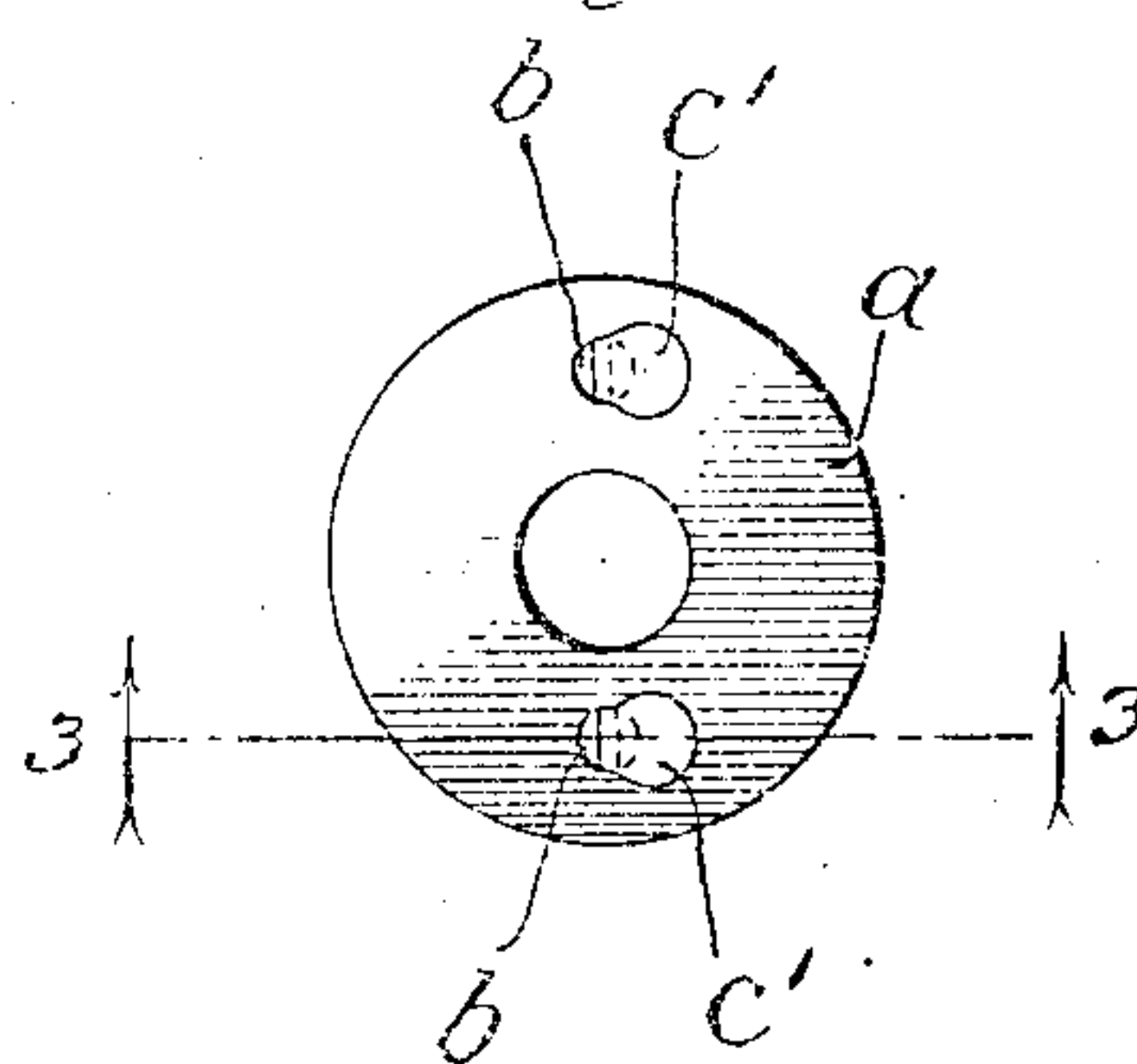
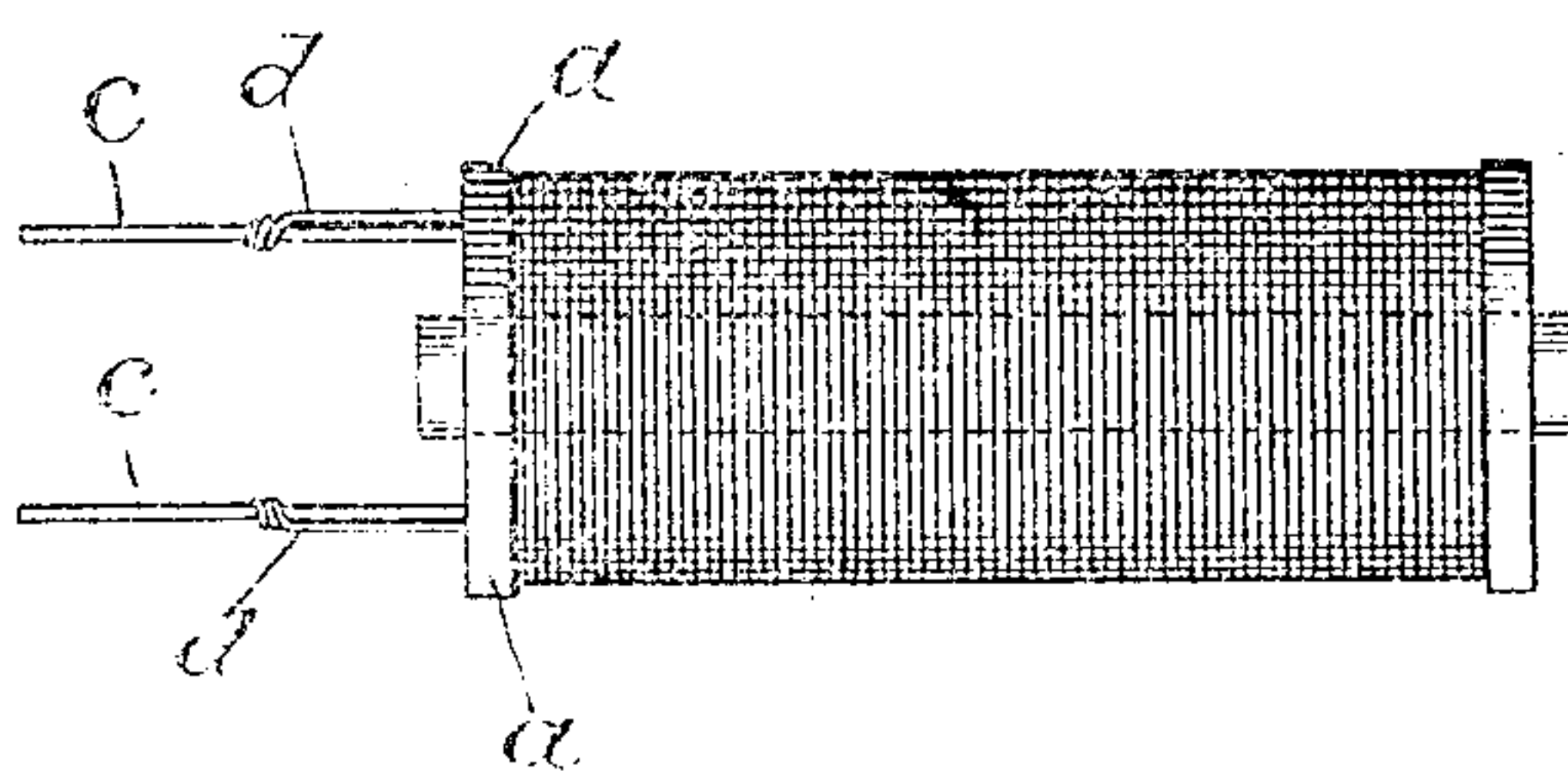


Fig. 4.



Witnesses:

Edw. Barrett  
Lute J. Alter

Inventor:

Joseph Opitz  
By Barton Sanner  
Attorneys



# UNITED STATES PATENT OFFICE.

JOSEPH OPITZ, OF NEW YORK, N. Y., ASSIGNOR TO WESTERN ELECTRIC COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

## TERMINAL-CONNECTOR.

No. 822,469.

Specification of Letters Patent.

Patented June 5, 1906.

Application filed February 23, 1904. Serial No. 194,836.

*To all whom it may concern:*

Be it known that I, JOSEPH OPITZ, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Terminal Connectors, of which the following is a full, clear, concise, and exact description.

My invention relates to a terminal connector for magnet-spools, resistance-coils, and the like; and its object is to provide an improved construction which will be simple, effective, and cheap to manufacture.

I will describe my invention particularly by reference to the accompanying drawings, and the parts, improvements, or combinations which I regard as novel will be pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a spool-head equipped with my improved terminal connecting-pieces. Fig. 2 is a rear view thereof, showing the manner of securing the terminal pieces to the spool-head or supporting-plate. Fig. 3 is a sectional view on line 3-3 of Fig. 2. Fig. 4 is a plan view of a magnet-coil equipped with my improved terminal connecting-pieces, and Fig. 5 is a detail view of one of the connecting-pieces taken out of its mounting.

The same letters of reference are used to designate the same parts in each of the figures of the drawings.

Magnet-spools and electrical coils in general are usually provided with end plates or heads of insulating material, and my improved terminal connectors are adapted to be fastened directly to such terminal heads. The terminal pieces are made of flat metal punchings of rectangular cross-section, adapted to be passed through holes *b b* in the head or plate *a*. The rear end *c'* of each terminal piece is turned at an angle to form a laterally-projecting ear, which is secured to the plate *a*, being embedded in a recess or socket in the rear face of said plate adjacent to the hole *b* in the plate. The recess or socket opens off the hole *b* at the rear of the plate *a* and is preferably made circular, so that it may be formed by drilling, and the ear or turned-over end *c'* of the terminal connector is preferably shaped to fit snugly into such circular recess.

The shank of the terminal piece is prefer-

ably widened at the rear where it passes through the hole *b* in the plate, so that while it may be inserted easily through the hole until it is nearly in place the enlarged portion will finally wedge tightly in the hole. The hole *b* is preferably round, such as would be formed by drilling, and the flat punching or connecting piece will not entirely plug up this hole, but will leave a space alongside the shank thereof through which the end of the wire of the helix may be passed.

When the terminal connector of my invention is applied to a coil, as illustrated in Fig. 4, the terminal wires *d d* of the helix are passed through the holes *b b* and secured in any suitable way, as by soldering, to the projecting shanks of the terminal pieces or punchings *c*. When the connector is thus placed upon the end of the spool, the presence of the coil-winding back of the ears *c' c'* assists in holding the terminal pieces in place.

I claim—

1. In a terminal connector for a wire-spool the combination with the insulating-head of the spool, of a metal punching passing through a hole in said head, the terminal wire of said spool passing through said hole and being secured to said punching, and an ear formed by the rear end of said punching and secured to the rear face of the insulating-head.

2. In a terminal connector, the combination with the insulating supporting-plate, of a flat metal punching passing through a hole therein, a recess in the rear face of said plate, and an ear formed by the rear end of said punching and forced into said recess.

3. In a terminal connector, the combination with the insulating supporting-plate, of a flat metal punching passing through a hole therein, said hole being of such size as to permit the passage of a conducting-wire there-through, the shank of the punching being widened where it passes through said hole, to wedge into the same, and an ear formed by the turned-over rear end of said punching, said ear being forced into a recess in the rear face of the supporting-plate.

4. The combination with a wire coil, of an insulating-plate forming one of the heads of the coil-spool, flat metal punchings or terminal pieces passing through round holes in said plate, the terminal wires of said coil also



passing through said holes and being secured to said metal punchings, and ears formed by the rear ends of said punchings and secured to the inner face of said plate, the pressure of the coil-winding assisting in holding said ears in place.

5. The combination with an insulating head-plate for coils, said plate having a round hole transversely through the same, and a circular recess in the rear face of said plate, opening from said transverse hole, of a terminal piece formed of a flat metal punching wedged in said hole from the rear, the rear end of said punching being rounded and bent angularly to form an ear fitting tightly in said circular recess.

6. In a terminal connector, the combination with an insulating supporting-plate, of a flat metal punching passing through a hole therein and extending away from said plate, said hole being of a size to permit the passage of a conducting-wire therethrough, and an

ear formed by the rear end of said punching and secured to said supporting-plate.

7. A terminal connector for a wire-spool comprising an insulating-head and a metal punching having an ear secured to the rear of said head, the shank of the punching projecting through a hole in said head.

8. The combination with a wire-spool, of an insulating-head therefor, and a pair of line-terminals for said spool comprising metal punchings passing through holes in said insulating-head and secured at their rear ends to the rear face of said head, the terminal wires of said spool passing through said holes and being secured to said punchings.

In witness whereof I hereunto subscribe my name this 11th day of January, A. D. 1904.

JOSEPH OPITZ.

Witnesses:

G. F. ATWOOD,  
FRANK H. GILCHREST.