

C. CUNO.  
 TERMINAL CONNECTOR.  
 APPLICATION FILED MAR. 28, 1908.

916,390.

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Fig. 1.

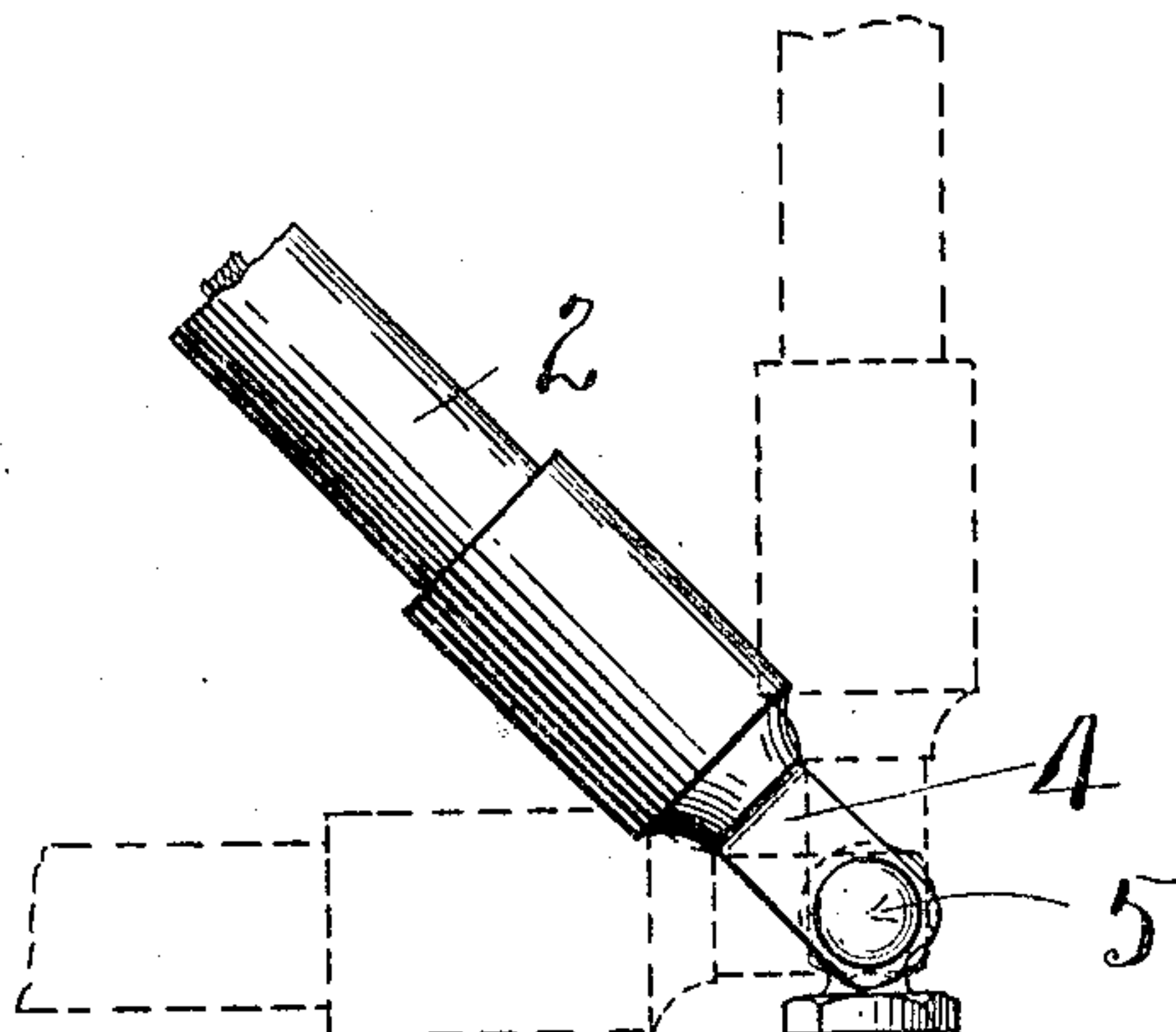


Fig. 2.

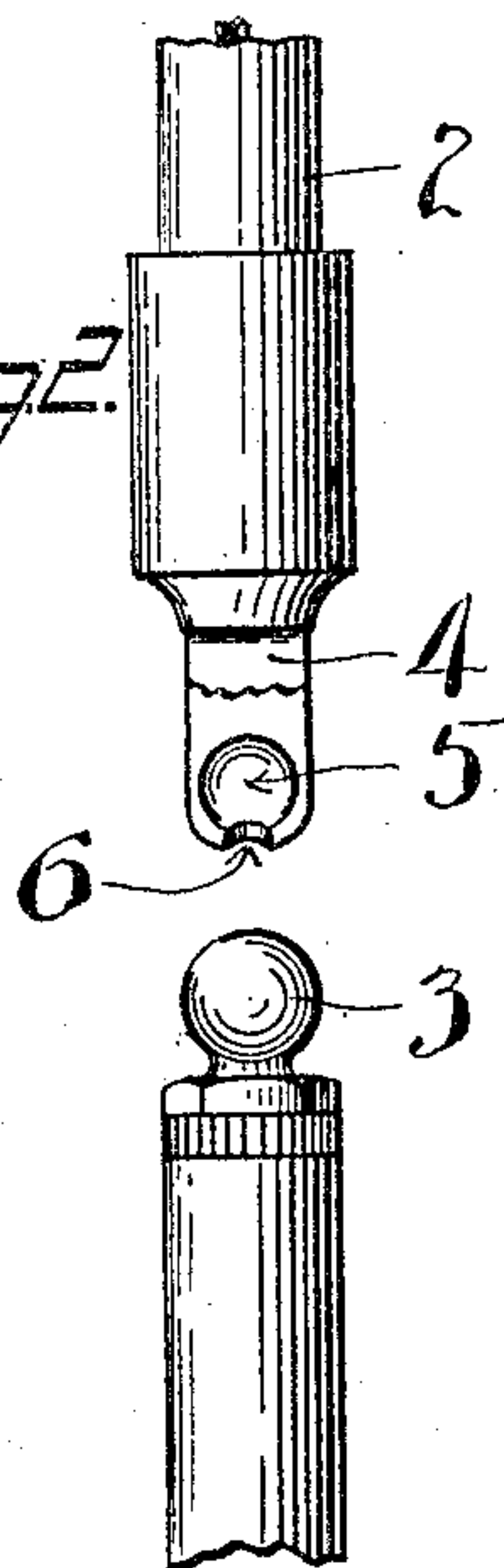


Fig. 3.

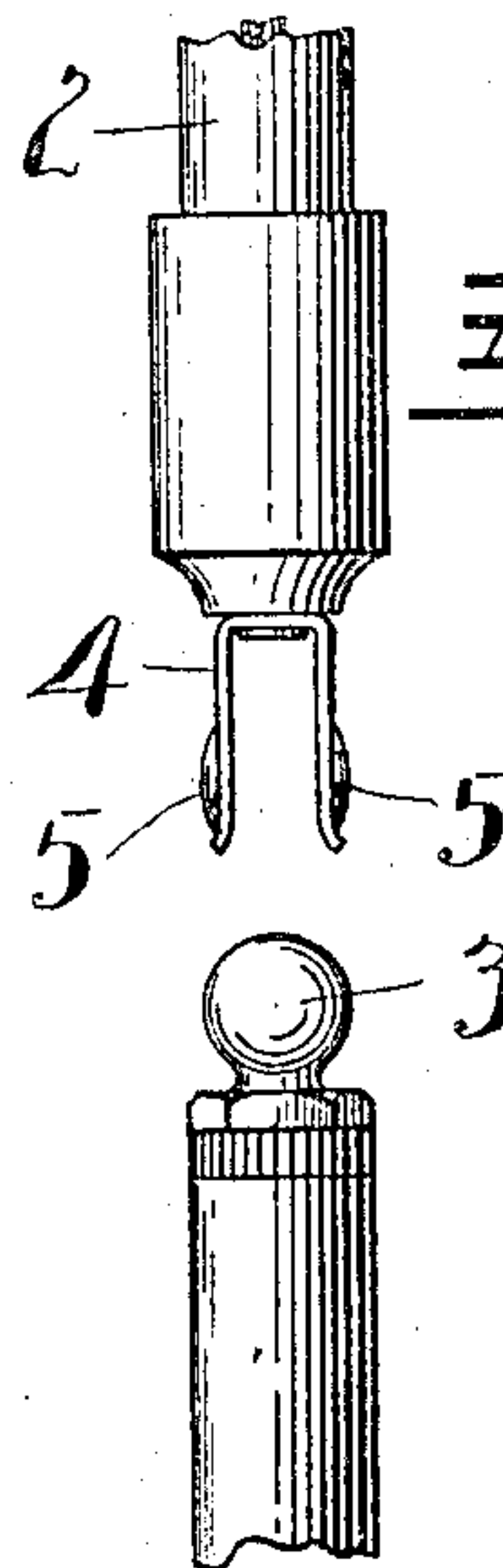
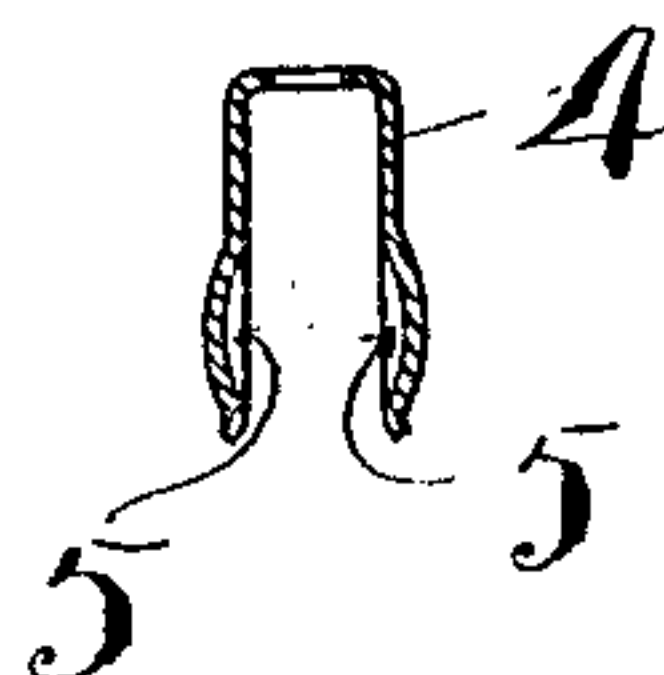


Fig. 4.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## TERMINAL CONNECTOR.

No. 916,390.

Specification of Letters Patent.

Patented March 2, 1909.

Application filed March 28, 1908. Serial No. 423,957.

*To all whom it may concern:*

Be it known that I, CHARLES CUNO, a citizen of the United States, residing at Meriden, New Haven county, Connecticut, have invented certain new and useful Improvements in Terminal Connectors, of which the following is a full, clear, and exact description.

My invention relates to improvements in terminal connectors, the same being particularly useful wherever it is desired to effect a quick and positive electrical connection, for example, on an automobile driven by an engine of the internal combustion type.

The terminal connection is adapted to the primary and secondary circuits and is adjustable or self-adjusting in use, whereby all undue strains upon wire connections are avoided. In the preferred form, which will be shown herein, the construction is such that a very wide range of universal adjustability is afforded.

In the drawings, Figure 1 is a side elevation of my invention as applied to a spark-plug connection; Fig. 2 is a similar view of certain parts shown in Fig. 1 but detached, one of said parts being broken away; Fig. 3 is a view similar to Fig. 2, but showing one of said parts turned at an angle of 90°; Fig. 4 is a sectional view of a detail detached.

It should be understood that the electrical connector may be used for various purposes, but a disclosure of the same as applied to a single use will be sufficient to disclose the principle of operation and the preferred construction.

1—2 represent the elements to be connected, in this instance, 1 being a spark-plug and 2 being a cable or insulated wire. One of these elements, for example, 1 is provided with a head 3, while the other element, in this instance, element 2 is provided with a bifurcated spring-clip 4. One of these elements, in this instance, the bifurcated spring-clip 4 is provided with a recessed portion adapted to partially embrace the head 3. In the preferred form the head 3 is spherical, while the forks of the clip 4 have the oppositely recessed portions 5—5 arranged to partially embrace the spherical head 3 on opposite sides. At a convenient point in one or both edges of the bifurcated

clip 4 are entrance or centering notches, one of which is illustrated at 6 (Fig. 2). The bifurcated ends of the spring-clip 4 are preferably rounded off, as indicated, to permit said clip to swing freely on the head 3.

By referring to Fig. 1, it will be seen that the cable 2 may lead toward the part 1 from any direction without the necessity of bending the cable 2 or clip 4. This is a great advantage. By providing the centering or entrance notch or notches 6, the attachment of the clip 4 to the head 3 is expedited, said notches preventing the clip from slipping to one side or the other during the act of connecting the parts.

The wire of the cable 2 may be connected to the clip in any well-known manner and the head 3 may be connected to the spark-plug terminal in any well-known manner, so that the mere act of attaching the parts 3 and 4 will complete the electrical connection between said wire and terminal.

I have purposely explained that I have disclosed herein the preferred construction, because I am aware that many changes may be made without departing from the spirit and scope of the invention.

What I claim is:

1. In a terminal connector for electrical apparatus, two elements adapted for detachable connection, including a rounded head, a clip of flat spring material bent to form two yielding side arms connected at the base, one of said arms having a retaining socket formed therein for receiving the ball element, and a guide groove in one of said spring arms leading from the entrance end of the clip toward the said ball retaining recess of the clip.

2. In a terminal connector for electrical apparatus, two elements adapted for detachable connection, including a rounded head, a clip of flat spring material bent to form two yielding side arms connected at the base, each of said arms having a retaining socket formed therein for receiving the ball element, and a guide groove in one of said spring arms leading from the entrance end of the clip toward the said ball retaining recess of said clip.

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Witnesses:

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