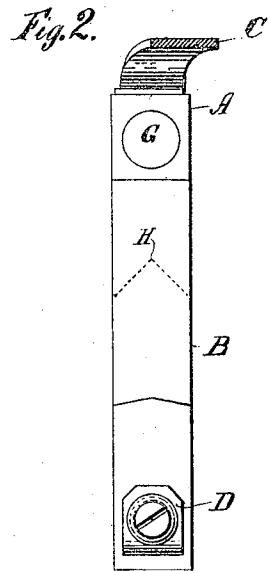
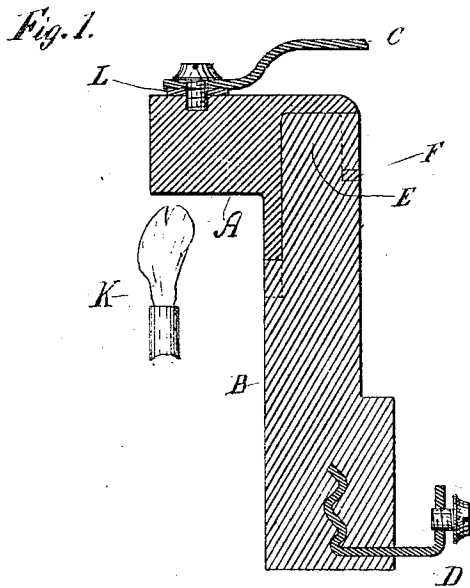


(No Model.)

C. W. IDEN.
THERMO ELECTRIC ELEMENT.

No. 461,437.

Patented Oct. 20, 1891.



WITNESSES:

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CHARLES W. IDEN, OF NEW YORK, N. Y. ASSIGNOR TO THE THERMO
ELECTRIC COMPANY, OF WEST VIRGINIA.

THERMO-ELECTRIC ELEMENT.

SPECIFICATION forming part of Letters Patent No. 461,437, dated October 20, 1891.

Application filed May 13, 1891. Serial No. 392,582. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. IDEN, of the city, county, and State of New York, have invented a new and useful Improvement in Thermo-Electric Elements, of which the following is a full, true, and exact description, reference being had to the accompanying drawings.

This invention relates to an improved thermo-electric element which is practically indestructible under ordinary conditions of use, and which likewise gives a higher electro-motive force.

My invention will be readily understood from the accompanying drawings, in which—

Figure 1 represents a transverse section, and Fig. 2 an end elevation, of my improved element.

My element consists, generally, of two parts—the head A and the body B. The two connecting-conductors are shown at C D. The body B is composed of a metallic body having the power when heated of generating an electric current. I prefer to make it of sixty parts antimony and forty parts zinc. The head A I prefer to make of copper, while the conductors C D are well made of nickel or an alloy of nickel.

The element in practice is arranged as shown and heated under the projecting arm by burner K. The head A is cast with a pocket, as shown at E. One part of the head, projecting downward, as at F, may be pro-

vided with a hole G, through which the body may project. The inner surface of the head may be cut at an angle, as shown at H. A plug L, of nickel or similar material, is preferably soldered upon the copper, so that no oxidation of the joint between the connector C and the copper head may occur.

The element is formed by casting the body B into the head A, and the connector D, which may have a corrugated end, as shown, should also be cast in it.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A thermo-electric element provided with an extension projecting from the body of the element and composed of a different material from the element itself and a source of heat supplied beneath said extension, substantially as described.

2. The combination of the copper head A and the body B, cast into a pocket in the head A, substantially as described.

3. The combination of the copper projection A, the body B, cast therein, and connections C D, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES W. IDEN.

Witnesses:

ANTHONY GREF,
WILLIAM M. ILEFF.