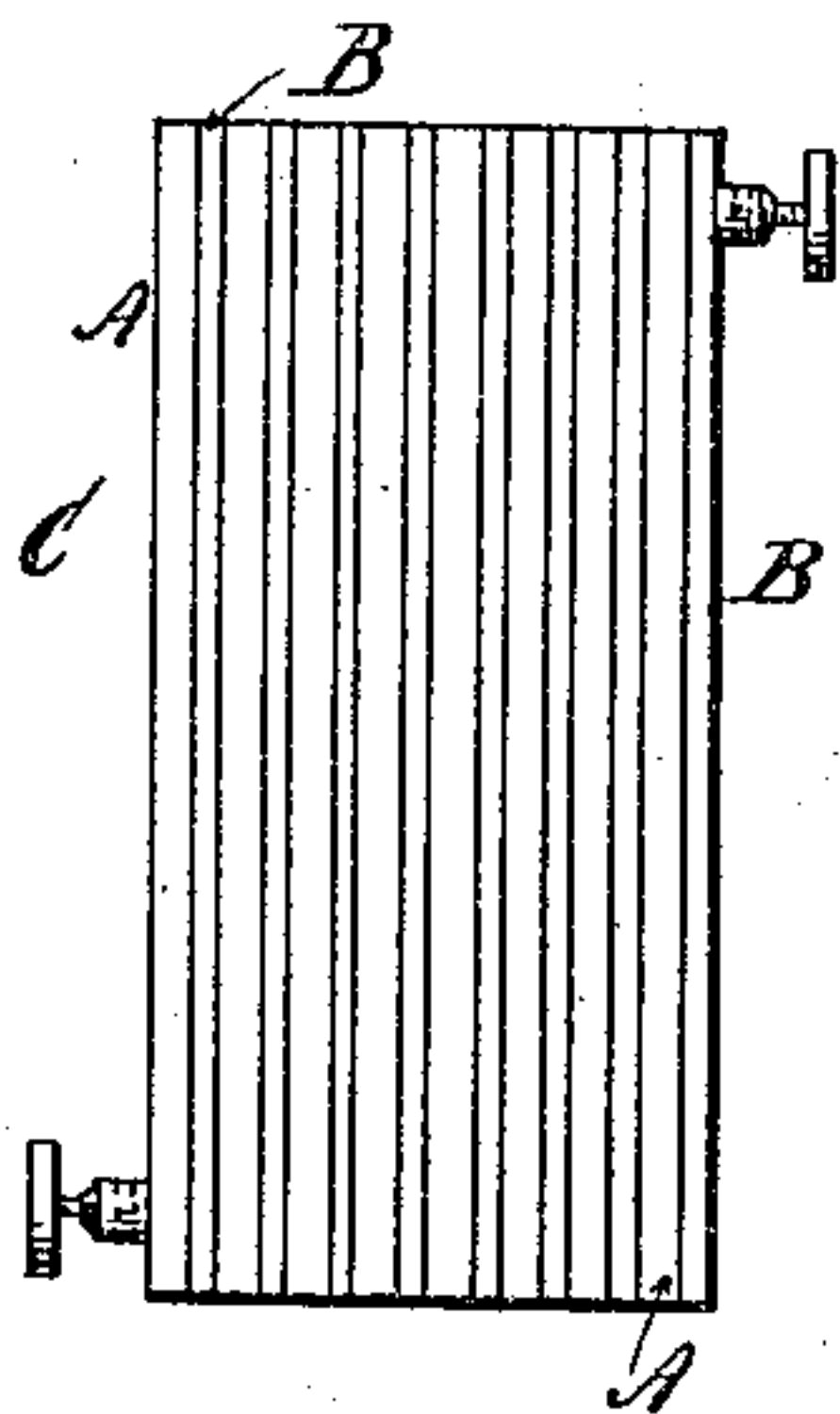


(No Model.)

E. N. DICKERSON.  
THERMO ELECTRIC ELEMENT.

No. 472,037.

Patented Apr. 5, 1892.



Witnesses:

Harry Cantant  
D. W. Gardner

Inventor:

E. N. Dickerson  
By his Attorneys,  
Foster & Freeman

# UNITED STATES PATENT OFFICE.

EDWARD N. DICKERSON, OF NEW YORK, N. Y., ASSIGNOR TO THE THERMO  
ELECTRIC COMPANY, OF WEST VIRGINIA.

## THERMO-ELECTRIC ELEMENT.

SPECIFICATION forming part of Letters Patent No. 472,037, dated April 5, 1892.

Application filed February 27, 1890. Serial No. 341,943. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD N. DICKERSON, 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 drawing.

This invention relates to an improvement in a thermo-electric element, in which a large voltage can be obtained in a comparatively small space without decreasing the amperage. Hitherto these elements have been made of considerable length; but I have discovered that by placing alternate plates of the generative metals in proximity to each other a high voltage can be obtained.

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

A represents one metal, and B the other, alternately arranged in a pile. By preference these metals are fused together at a temperature sufficient to melt that one of the metals which melts at the lowest temperature. They may, however, be clamped together with less

advantageous results. The metals I prefer to use are a combination of sixty parts of antimony and forty parts of zinc for the plates A and nickel plates for the plates B, for which the alloy known as "nickeline" may be substituted. The element is of course heated against the flat face of one of the laminæ, as at C, the opposite side of the combined element being maintained in a cooler condition. The passage of the heat across the planes of the laminæ seems to be the reason of the production of the electricity.

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

In a thermo-electric element, a series of parallel plates of different metals held firmly in contact with each other and adapted to be heated at one end, substantially as described.

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

E. N. DICKERSON.

Witnesses:

ANTHONY GREF,  
HARRY CONTANT.