

(No Model.)

A. I. SCOTT.
VOLTAIC ARMOR.

No. 428,420.

Patented May 20, 1890.

Fig. 1.

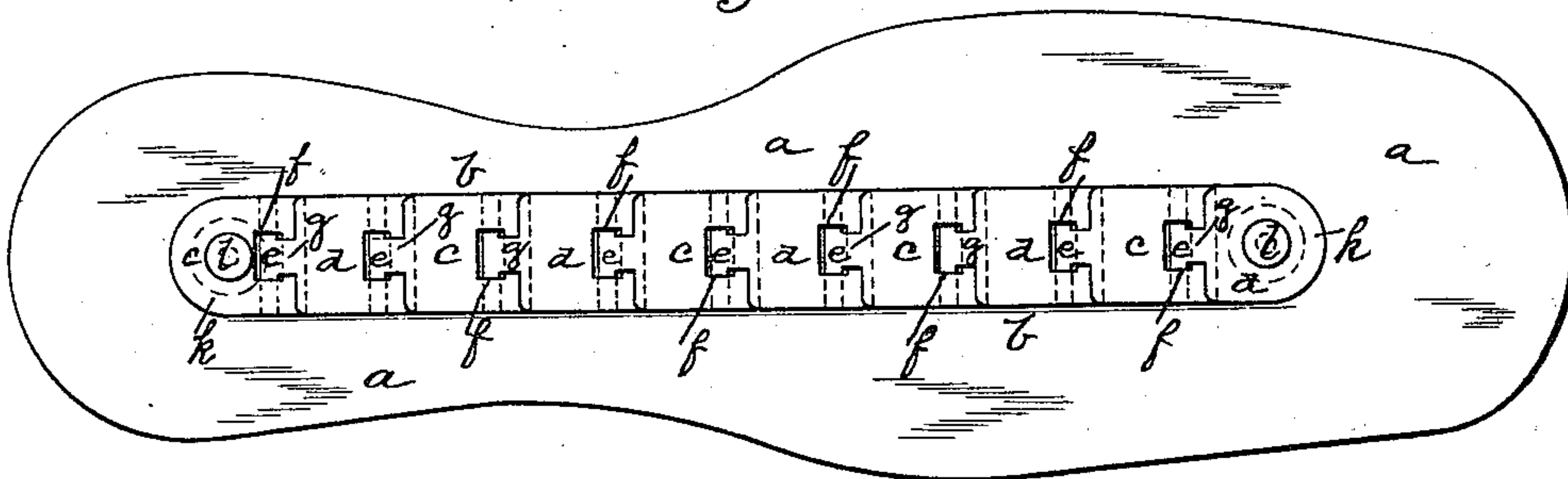


Fig. 2.

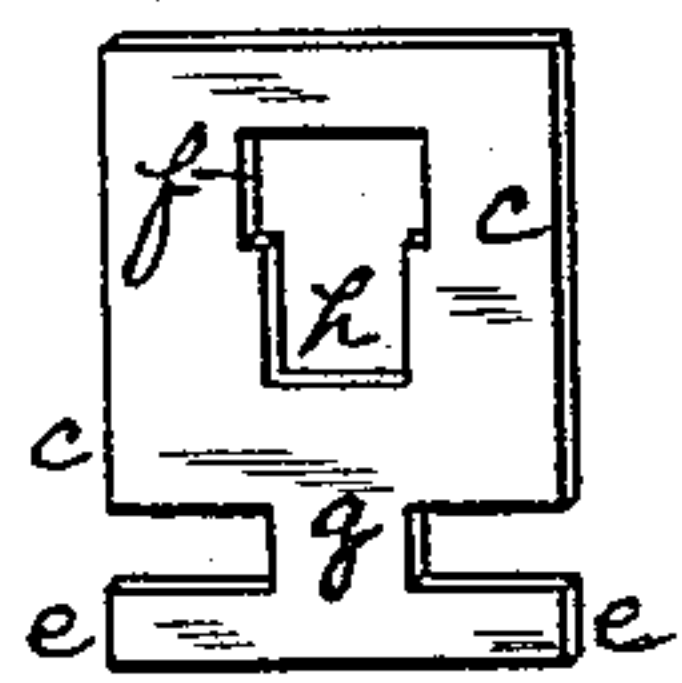
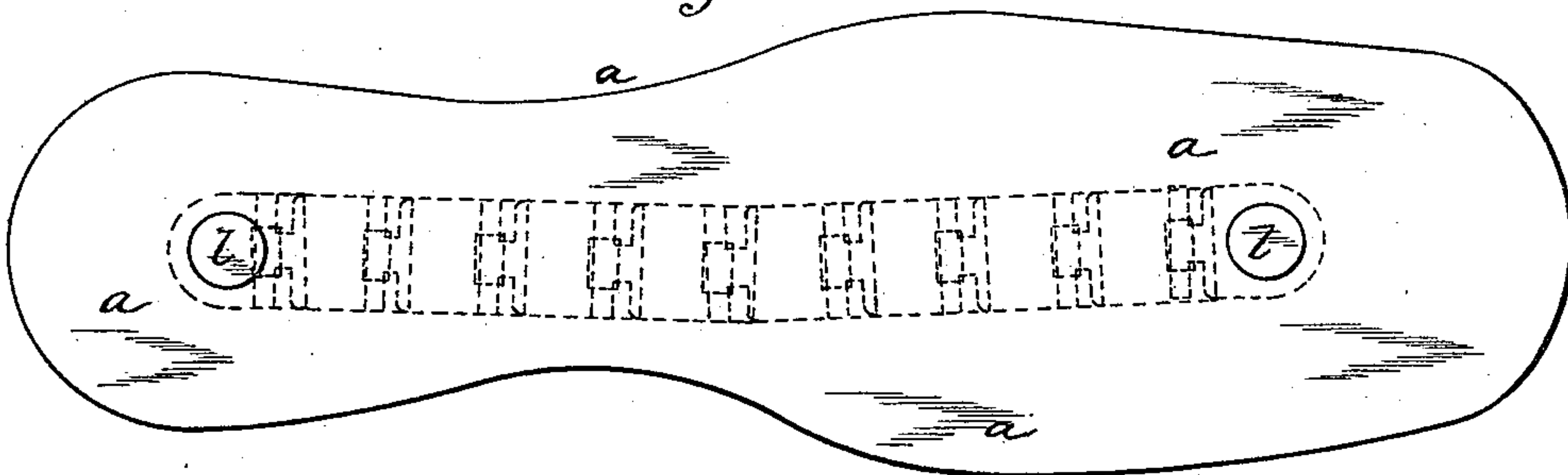


Fig. 4.

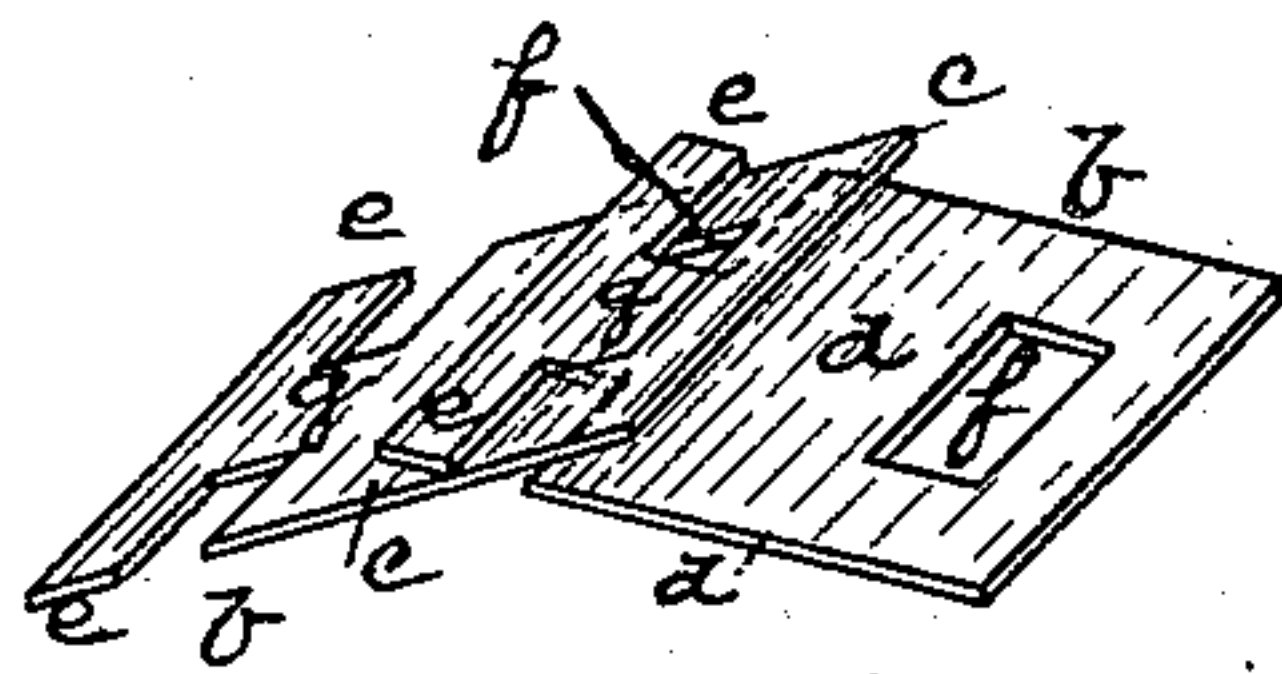


Fig. 5.

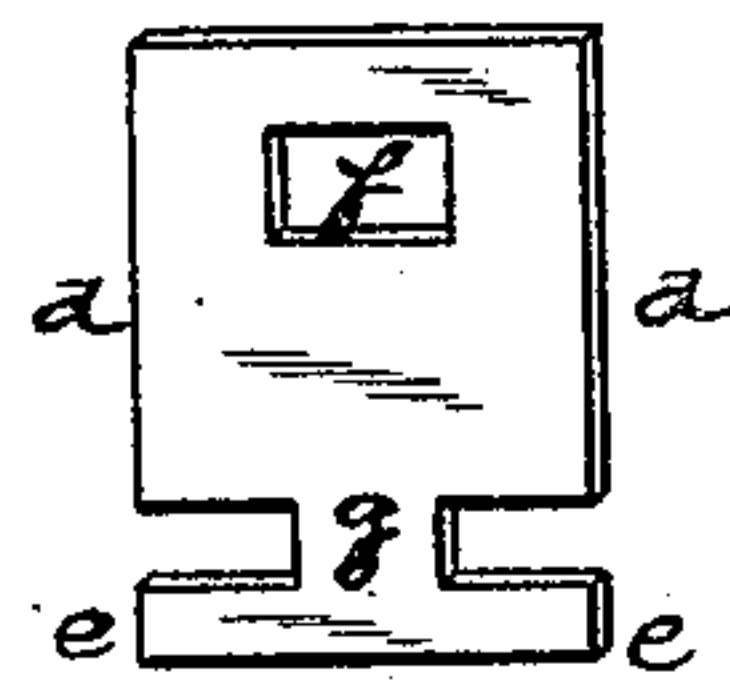


Fig. 3.

Witnesses:

J. H. Cootey.
Chas. L. Warner.

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UNITED STATES PATENT OFFICE.

ALBERT I. SCOTT, OF ALLEGHENY, PENNSYLVANIA.

VOLTAIC ARMOR.

SPECIFICATION forming part of Letters Patent No. 428,420, dated May 20, 1890.

Application filed February 20, 1890. Serial No. 341,232. (No model.)

To all whom it may concern:

Be it known that I, ALBERT I. SCOTT, a resident of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Voltaic Armor; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to what is termed "voltaic armor" or "voltaic piles" for medicinal purposes, its object being to provide a voltaic armor which can be quickly and cheaply constructed, is adapted for use in connection with the ordinary shoe-soles, belts, or bands in which such armor is employed, and which has special advantages both as to the formation of the current, the connecting together of the elements, and the maintaining of the same in a bright or unoxidized condition, such as is found desirable in maintaining the electric current within the same.

In my improved armor the several plates or elements are connected together by means of a head on the one plate engaging with a slot on the other, the several plates being thus connected together, so as to form a flexible strip composed of the different element-plates, and such strips being connected to the supporting-body, either the belt or insole, at the ends thereof.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a bottom view of an insole having my invention applied to it. Fig. 2 is a top or face view thereof. Fig. 3 is a view of the separate plates or elements employed. Fig. 4 is a view of another form of plate embodying the invention, as will be hereinafter described; and Fig. 5 is an under face perspective view of two of the element-plates, showing the method of connecting the plates together.

Like letters of reference indicate like parts in each.

I may employ my invention in connection with any voltaic armor—such as insoles, belts, hat-bands, &c.—the invention being illustrated in connection with insoles. The inner sole or supporting-body *a* can be formed of any suitable material, and attached to it is the

flexible strip *b*, forming the battery or pile. This strip is formed of the different elements arranged alternately—for example, the elements *c* being of copper while the elements *d* are of zinc. The several element-plates are connected together, so as to form the flexible strip or pile, each plate having at one end thereof a T-shaped head *e*, and having therein a slot or hole *f*, into which this head enters. The elements are made of thin sheets, which can be easily bent, and the slot *f* can be made simply to correspond with the neck *g* of each T-head, one arm of the head being bent down and the other end being inserted sidewise into the slot, while the bent arm is passed directly into the same, and is then bent straight, so securing the two element-plates together. The plates may be secured together in another simple way, such as shown in Fig. 4, the slot being elongated in the direction of the length of the plate, as at *h*, and in connecting together the two plates, the one plate being turned at right angles to the other, one arm of the T-head being inserted lengthwise into the slot and the other passing into the slot through the elongated portion *h* thereof, and the plates being then turned into line with each other, when the arms of the T-head will lie across the slot. The end plates *k* of the flexible strip are secured directly to the insole, this being done by rivets extending through the same, as at *l*, and in case the flexible strip forming the pile is employed on the under surface of the sole these rivets *l* form contact-points for the foot of the wearer, so forming a continuous circuit through the body of the foot.

When the voltaic armor is in use, the flexible strip formed of the several element-plates, as above described, will conform to the movement of the foot or other portion of the body and the several plates composing the same will be rubbed over each other, the flexible-strip pile being capable of movement in any direction. Consequently the surfaces of the element-plates composing the same will be kept bright and clean and practically free from any oxide, while at the same time the several plates being exposed to the moisture from the body or other source will act when forming the circuit to generate a gentle current of electricity and will act more positively

to produce the same on account of the capability of the flexibility or sliding or frictional movement upon and over each other of the several element-plates composing the pile.

5 At the same time the rivets *l*, passing up through the sole or support of the armor, provide for a positive contact with the foot or other part of the body, so insuring the formation of the current through the portion of the
10 body desired, even though the flexible strip forming the battery is not in contact therewith.

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

15 1. In voltaic armor, a combination of the series of element-plates, each having T-shaped heads and slots into which the T-shaped heads of the adjoining plates enter, so as to connect

the element-plates together, substantially as and for the purposes set forth.

2. In voltaic armor, the combination of the 20 series of element-plates, each having the T-shaped head *e*, and having the slot *f*, provided with the elongation *h* extending longitudinally of the plate, so that the plates may be secured together by passing the T-shaped head of one 25 plate through the elongated portion of the slot in the adjoining plate, substantially as and for the purposes set forth.

In testimony whereof I, the said ALBERT I. SCOTT, have hereunto set my hand.

ALBERT I. SCOTT.

Witnesses:

M. C. WARNER,
J. N. COOKE.