

R. P. HALL.
ELECTRO-MEDICAL PLASTER.

No. 175,974

Patented April 11, 1876.

Fig. 1.

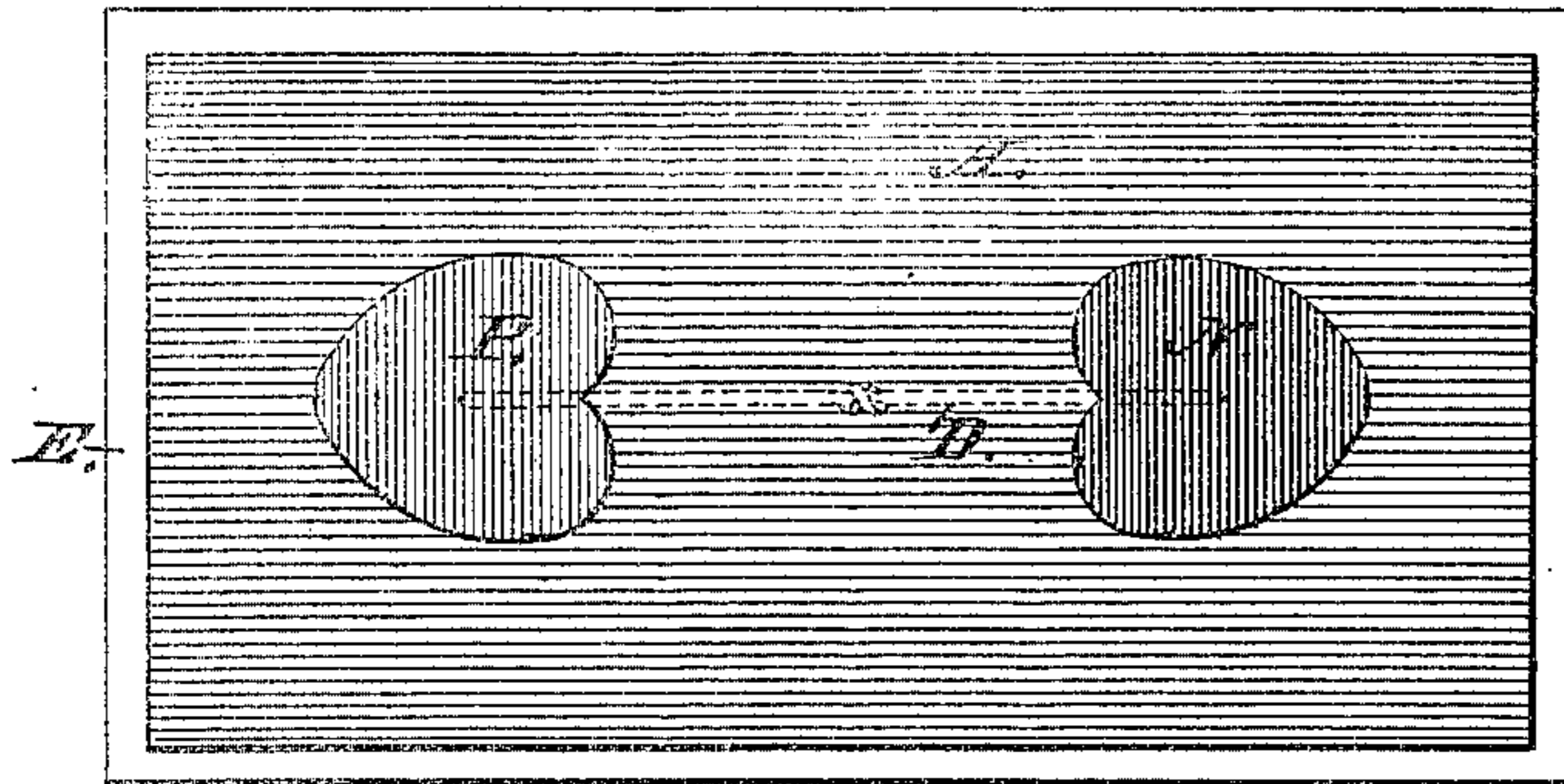


Fig. 2.

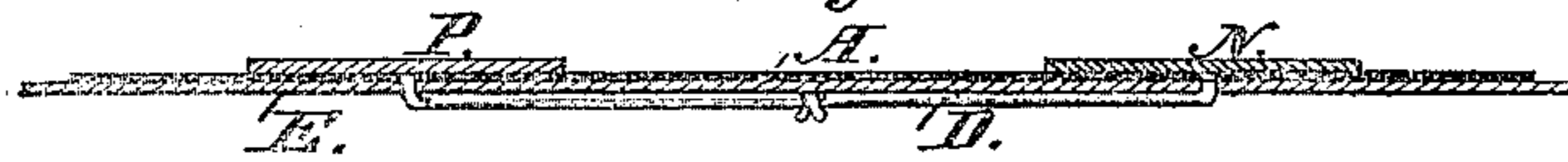


Fig. 3.

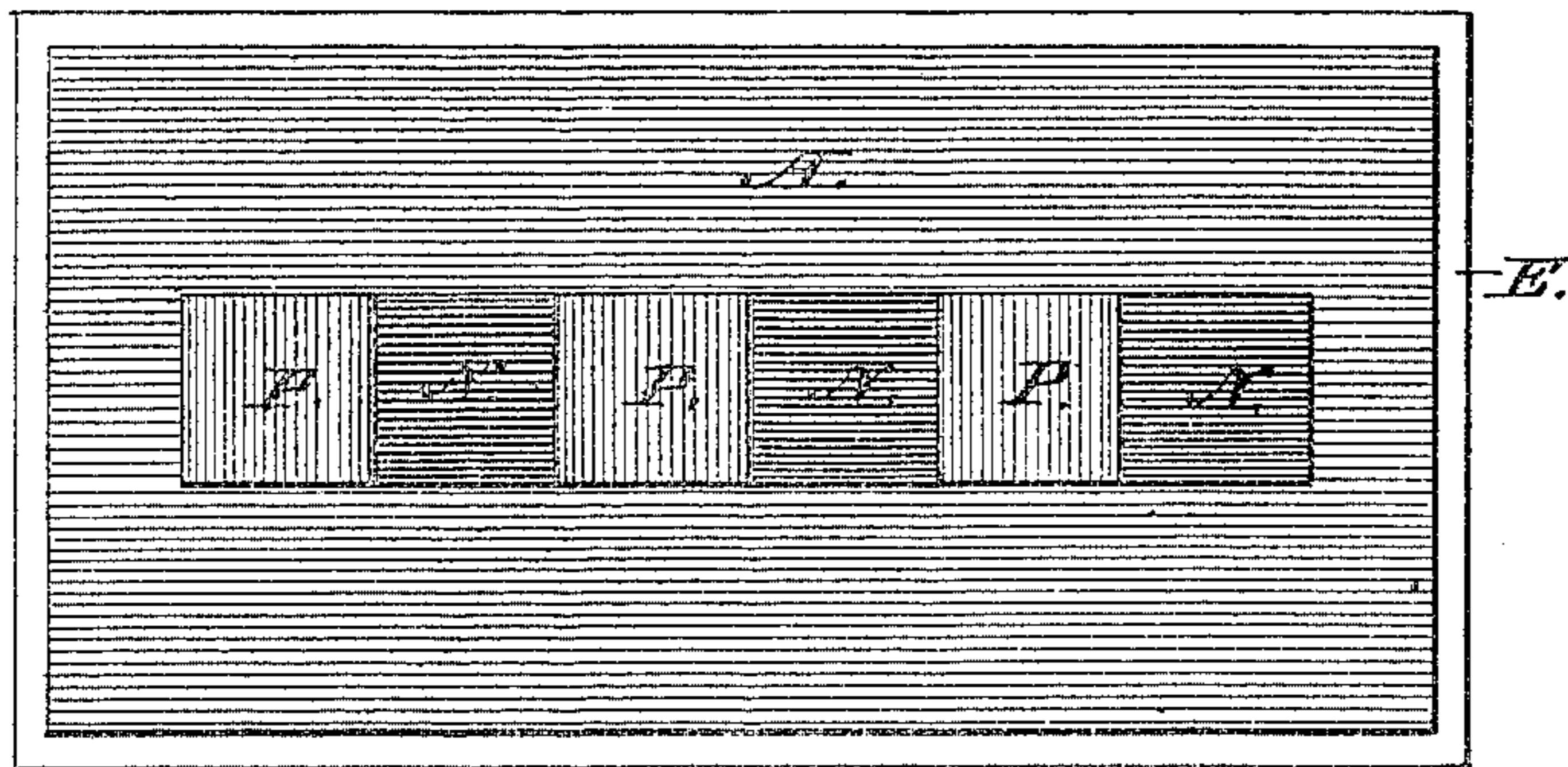


Fig. 4.

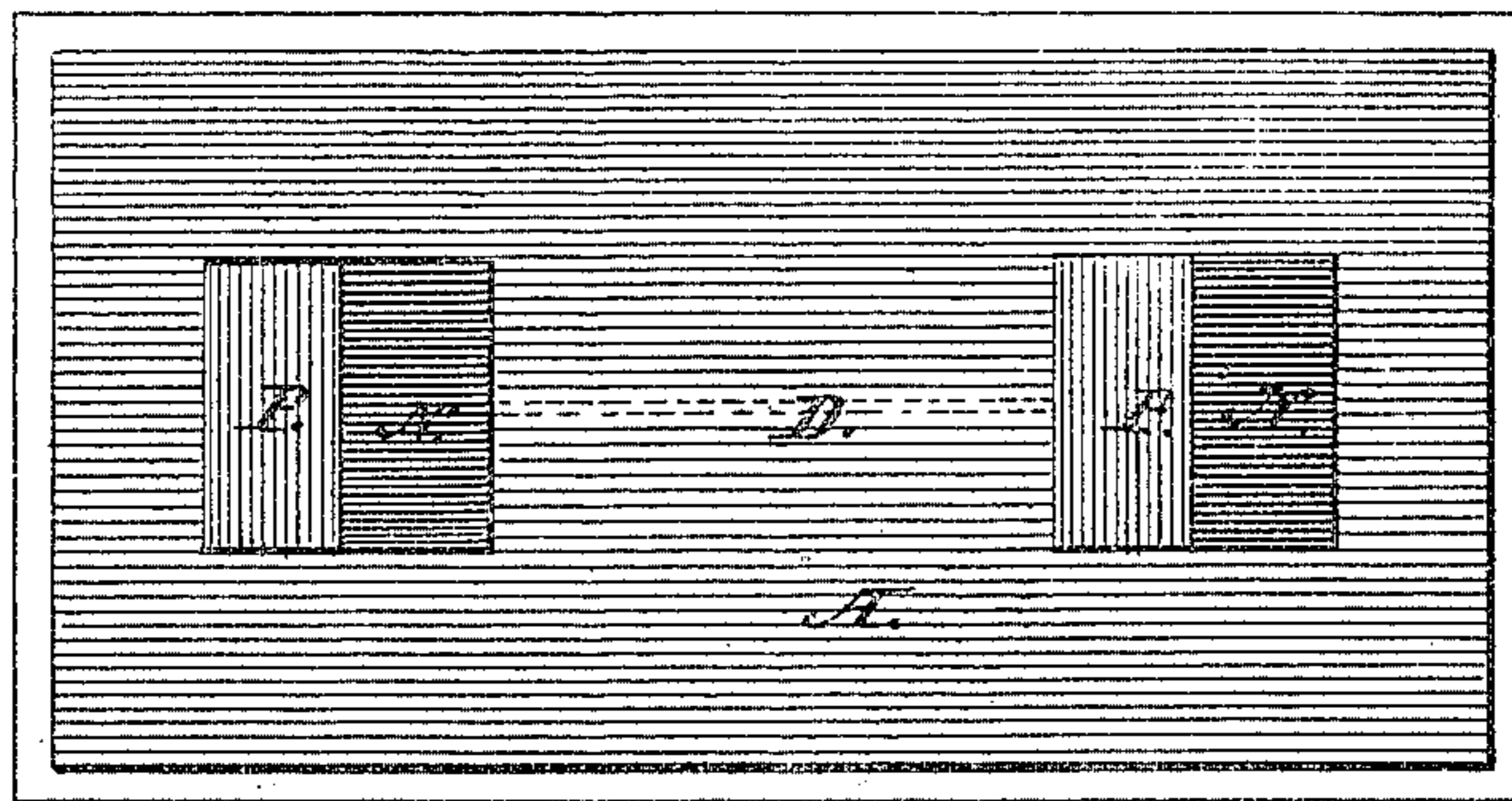
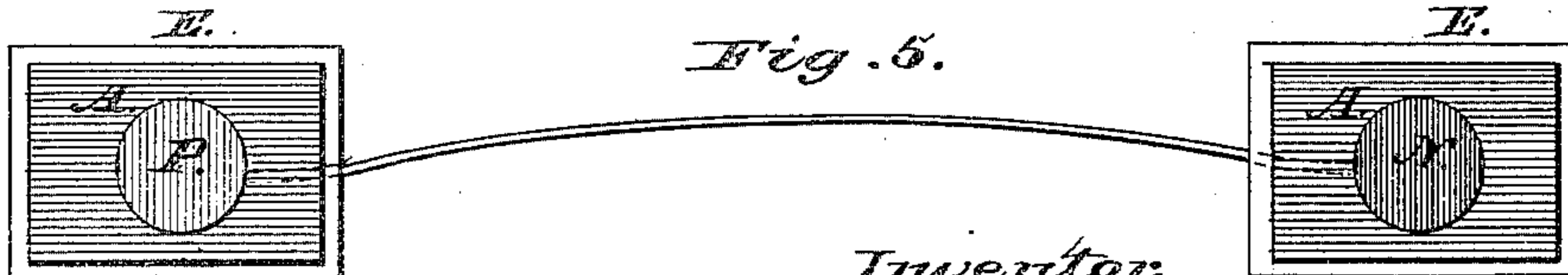


Fig. 5.



Attest:
W. L. Perrine
J. L. Cooney

Inventor:

Reuben P. Hall
By James L. Norris
att.

UNITED STATES PATENT OFFICE.

REUBEN P. HALL, OF VINELAND, NEW JERSEY.

IMPROVEMENT IN ELECTRO-MEDICAL PLASTERS.

Specification forming part of Letters Patent No. **175,974**, dated April 11, 1876; application filed March 9, 1876.

To all whom it may concern:

Be it known that I, REUBEN P. HALL, formerly of Nashua, New Hampshire, but now of Vineland, in the county of Cumberland and State of New Jersey, have invented certain new and useful Improvements in Galvanic Electric Plasters, of which the following is a specification:

Electric currents have long been used by the medical profession in the treatment of many diseases. They have been applied in many ways. Currents from batteries, induction apparatus, or frictional apparatus have been used, by means of wires and electrodes placed on designated parts of the body. In other cases, they have been applied through the medium of baths, and in still other, by voltaic belts, to be worn upon the body, the current being there both generated and applied. Their use has not been as extensive as it might have been, for the reason that while they were used the ordinary exterior local applications of medicine could not be used, as was often desirable.

In electric baths, this has been remedied to some extent by inclosing the bath, and supplying medicated air or vapor to the patient while under treatment. This involves a cumbersome and expensive apparatus, and can be used only for limited periods, and at intervals.

Now, the object of my invention is to supply an article which shall furnish electrical or galvanic and medical effects simultaneously, and which may be applied and worn continuously, or so long as needed.

To this end, my invention consists of a plaster, composed for local application, and a galvanic or voltaic pile for generating currents of electricity, the whole being prepared and put upon the market as an article of sale, ready for use, as more fully described in the following.

In the drawings, Figure 1 is a face view, and Fig. 2 a sectional view, of a plaster embodying my invention; and Figs. 3, 4, and 5 are modifications.

The same letters of reference refer to the same parts in all the drawings.

E is any suitable base or fabric, upon which

is spread any suitable medical compound, A. To the composition of this compound I make no claim, as it may be varied to suit various conditions or diagnoses. Upon this is also placed the two electrically-dissimilar galvanic elements P N. These are of such nature that they are readily acted on by human moisture to produce a current, as in ordinary voltaic armor. A wire, D, passes from one to the other at the back of the plaster, as shown. Hence, when applied, a current would be generated, circulating in a circuit, P D N, the body of the patient to P again. They may be made of any size, and the elements arranged so that the current shall flow only over a small portion of the body, or so that P and N shall be upon opposite sides of the body, or of a limb, causing the current to pass through the body or limb. As shown in Fig. 1, the pile is a simple one.

It is evident that this may be varied.

A compound pile, as in Fig. 3, may be used, giving a greater intensity of current, the current over or through the body being from the final N to the first P, or, for the same purpose, there may be two piles provided, as in Fig. 4, the two being connected by a wire, D, as in Figs. 1 and 2; or two plasters may be arranged, each having one element or set of elements, to form one compound plaster, as in Fig. 5.

Such a form may be useful when it is desired to pass the current over or through a large portion of the body, and yet not apply the plaster to all the intermediate surface. In this latter case, also, if it is desired to apply the local medical remedies to one spot only, one of the plasters A may be dispensed with, the element P or N thereof only being used.

It is evident that these and many other modifications may be made without departing from the spirit of my invention.

The operation of my invention is evident, and its efficiency depends, in part, upon a fact long known, but not hitherto availed of, viz: that electric currents hasten and help the introduction of remedial agents into the system. This fact gives electric vapor-baths their use-

fulness; but their application is limited to a few diseases, while this invention admits of universal application.

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

As a new article of manufacture, a combined galvanic, voltaic, or electric and therapeutic plaster, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

REUBEN P. HALL.

Witnesses:

FRANKLIN ROWELL,
W. T. VIRGIL.