

991,729.

O. C. KNIPE.
PORTABLE HEATER.
APPLICATION FILED OCT. 17, 1908.

Patented May 9, 1911.

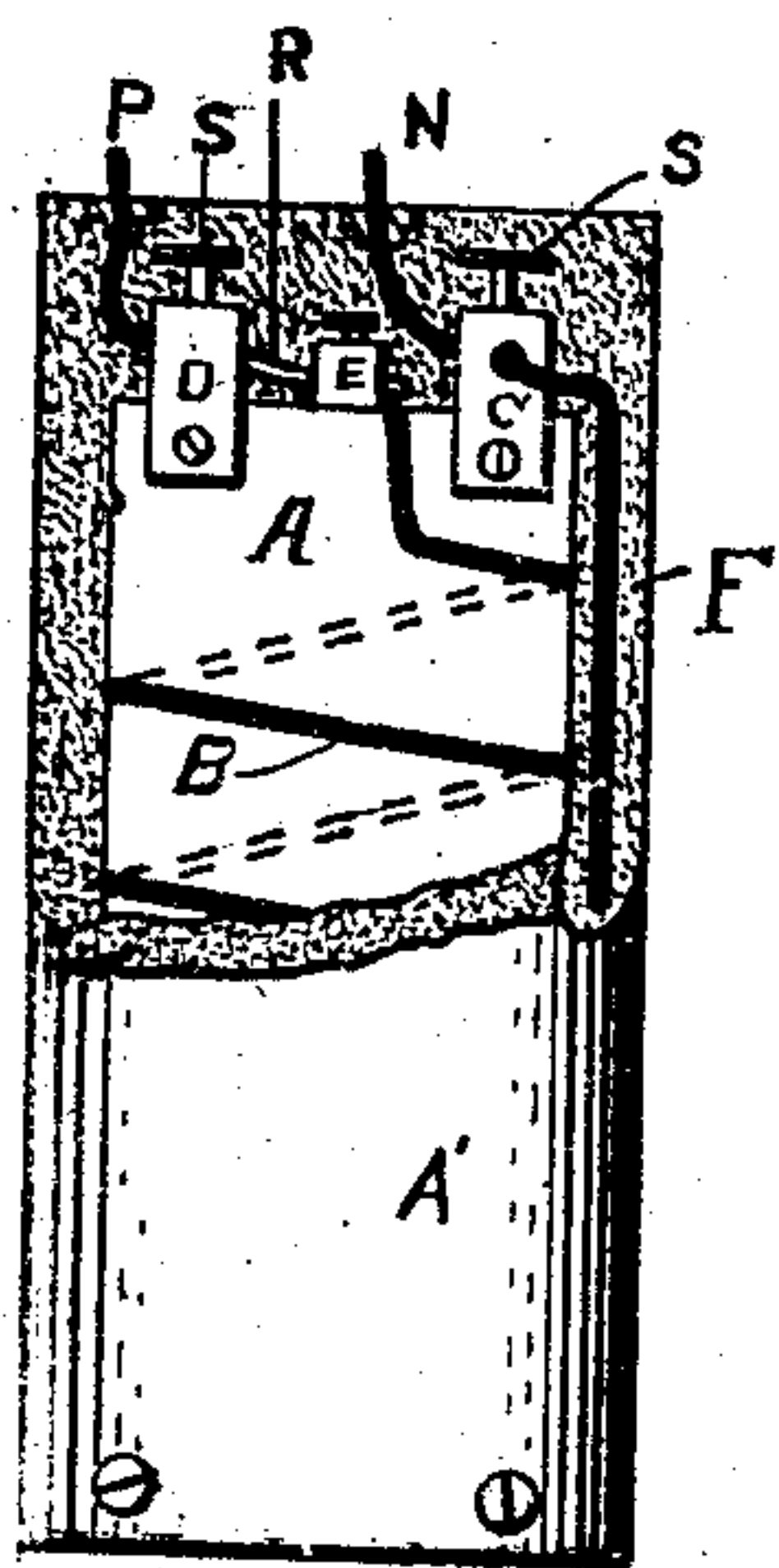


FIG. 1.

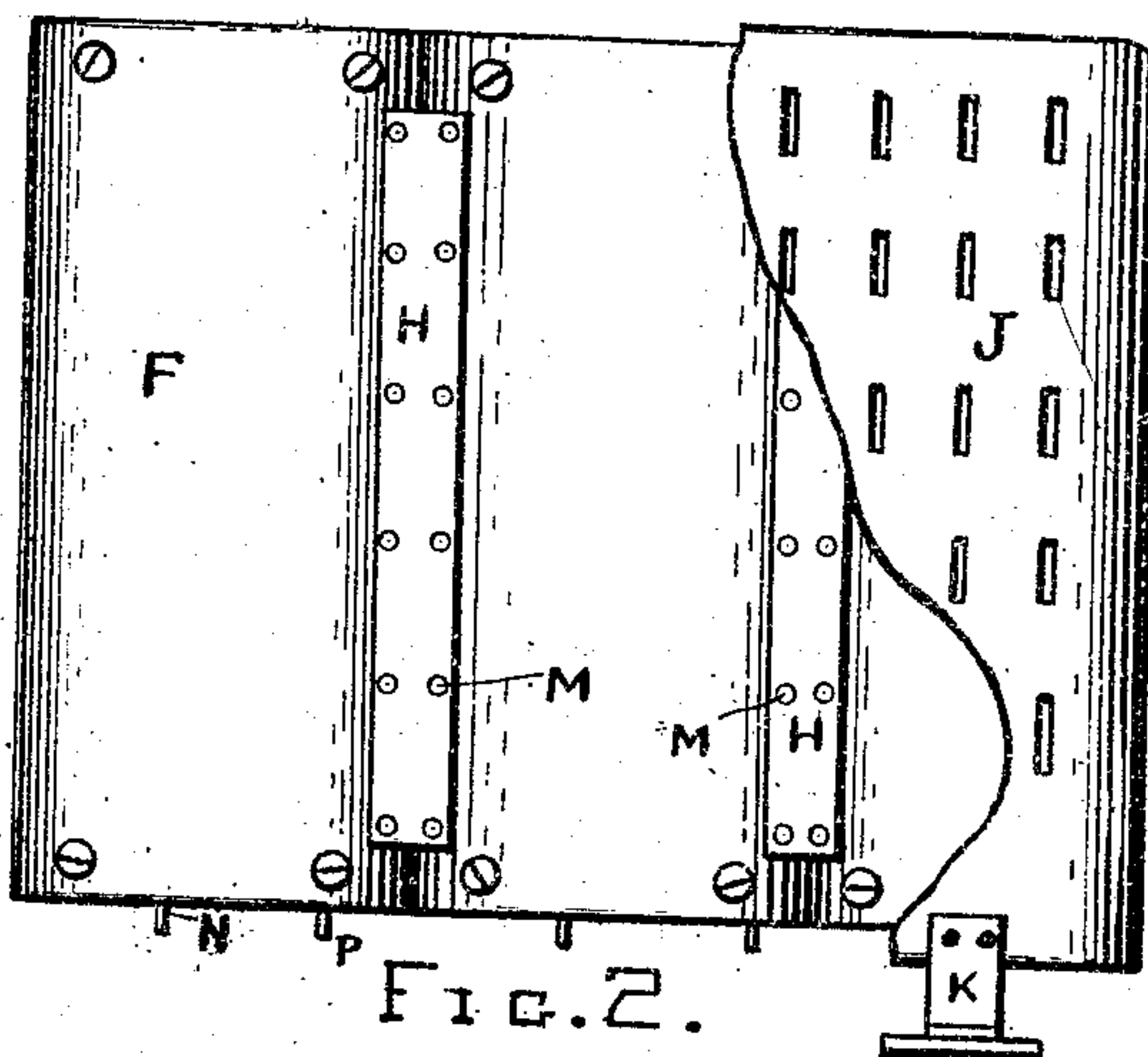


FIG. 2.

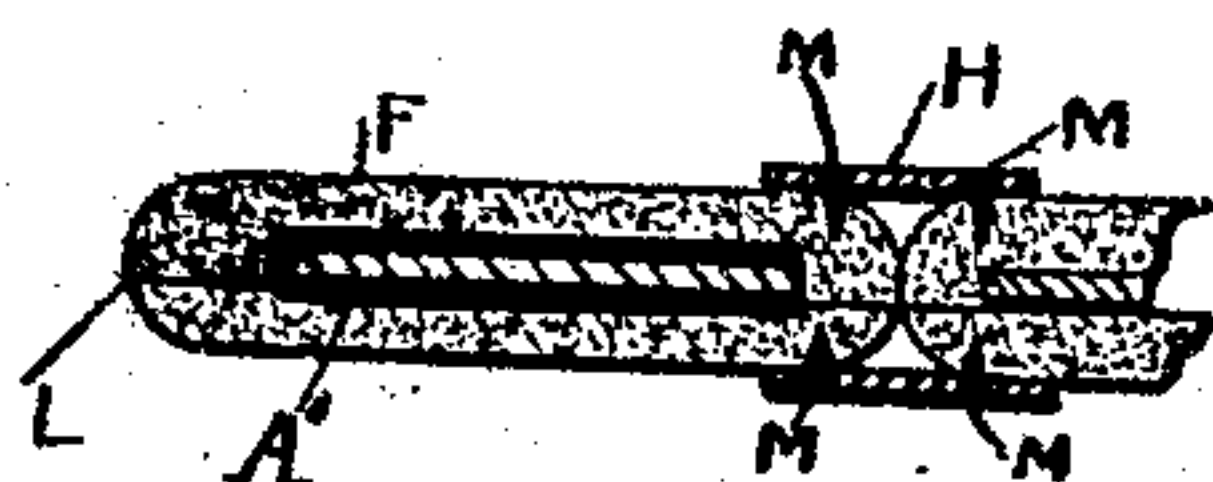


FIG. 3.

WITNESSES:

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INVENTOR.

OLIVER C. KNIPE.

BY

Medina and Griffin
ATTORNEYS.

UNITED STATES PATENT OFFICE.

OLIVER C. KNIPE, OF PALO ALTO, CALIFORNIA, ASSIGNOR TO ALF. HARRIS, OF
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PORTABLE HEATER.

991,729.

Specification of Letters Patent.

Patented May 9, 1911.

Application filed October 17, 1908. Serial No. 458,275.

To all whom it may concern:

Be it known that I, OLIVER C. KNIPE, a citizen of the United States, residing at Palo Alto, in the county of Santa Clara and State of California, have invented a new and useful Portable Heater, of which the following is a specification in such full and clear terms as will enable those skilled in the art to construct and use the same.

10 This invention relates to a heater used for the purpose of warming the hands or feet in bed, or in a sleigh or other place where it may be necessary.

15 An object of the invention is to produce a heater which will adapt itself to the shape of a person's body, and which may be made in such units as may be desired, as many being secured together as may be necessary for the given purpose.

20 Another object of the invention is to produce a heater which will be easily and cheaply constructed, and which will have no projecting wires, save the inlet wires, to catch on bedding, etc.

25 In the drawing, in which the same numeral is applied to the same portion throughout, Figure 1 is a vertical sectional view of one member of the heater; Fig. 2 is a view of several sections secured together and showing a cover used when it is not desired to have the heater conform to the shape of a person; Fig. 3 is a sectional view at right angles to that shown in Fig. 1 and showing the means for connecting two of the sections.

35 The heater is formed of the back portion F and the front portion A' which may be of any suitable material as mineral wool, the two parts being secured to each other in any suitable manner. The back F has a space in which is seated the non-conducting member A which is flat and has the heating element B wound thereon, binding posts at the upper end being used to make the proper connection with the heating element B, a fusible wire R being inserted between the posts S and E to prevent the element B from becoming too hot, or burning out. The core upon which the coil is wound

and the covering therefor are composed of suitably prepared asbestos. Wires N and P are connected with the posts S to lead the current to the heating coil.

When it is desired to use a number of the heaters shown all that is necessary is to connect them by means of the flexible flaps H, shown in Fig. 3, the tacks M holding the two sections together. If it is desired to use the heater out of doors, or in a place where persons would be liable to place their feet on it the metal cover J may be used to protect it from rough usage. If it is to be used in a bed, or when a person is lying down it may be made to conform to the shape of the back or arm or leg as the case may be.

When the heater is to be used it is connected with a source of current supply and the current is allowed to pass as long as may be wished. It may be used in this way as long as the current is turned on, but since the materials of which the heater is constructed are good absorbents of heat it will give off heat for a considerable time after the same has been taken away from the source of current, and in this way it may be used on a journey, the heat being retained for several hours.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is as follows:

A portable heater comprising a series of heating members each composed of a substantially flat body and a heating element passing around said flat body, a non-conducting cover for each of said flat bodies and the heating element around the same, flexible hinges secured at the edges of the several members and connecting them, and a metal protecting cover for the several heating members as set forth.

In testimony whereof I have set my hand this 10th day of October A. D. 1908, in the presence of the two subscribed witnesses.

OLIVER C. KNIPE.

Witnesses:

EDITH W. BURNHAM,
FRANK P. MEDINA.