

A. N. BENN.
FOOT WARMER.

APPLICATION FILED JAN. 5, 1916.

Patented Jan. 14, 1919.

1,290,882.

2 SHEETS—SHEET 1.

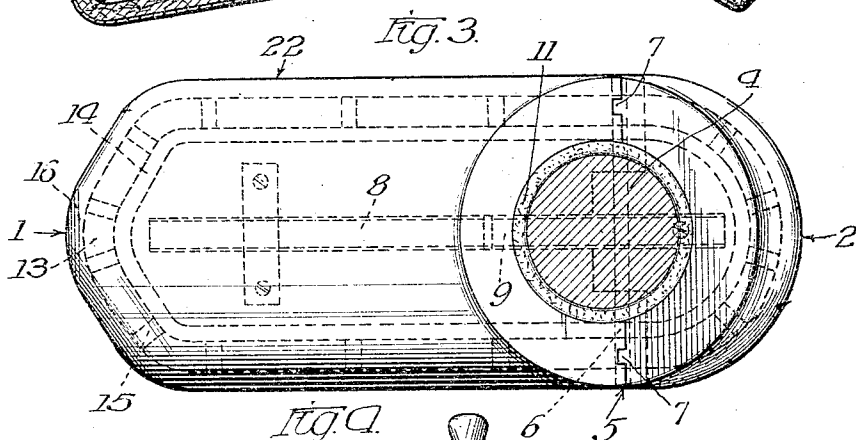
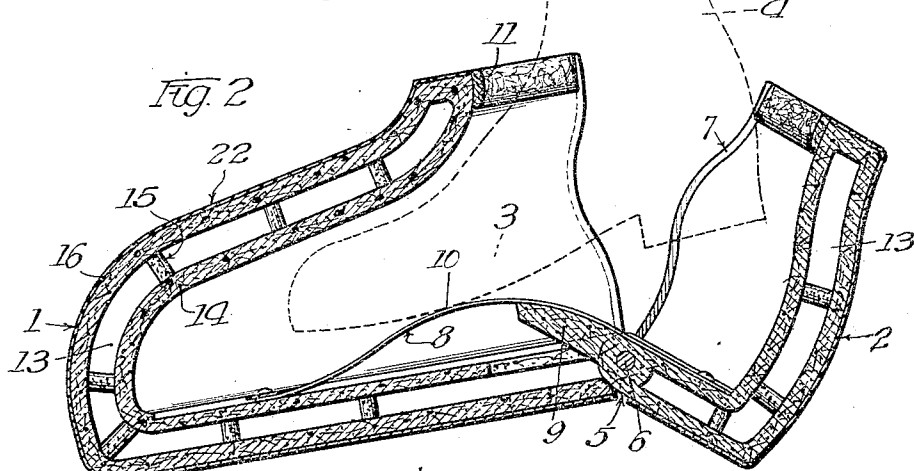
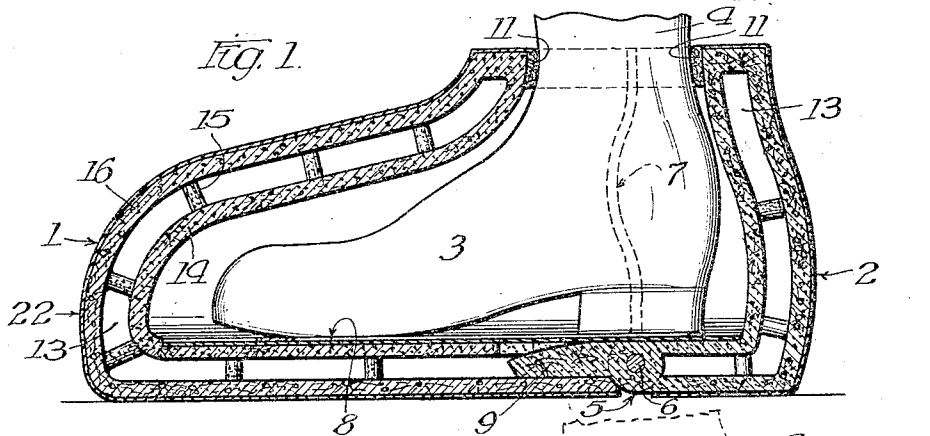
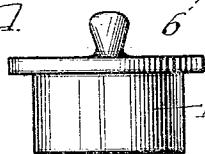


Fig. 4.



Witnesses:
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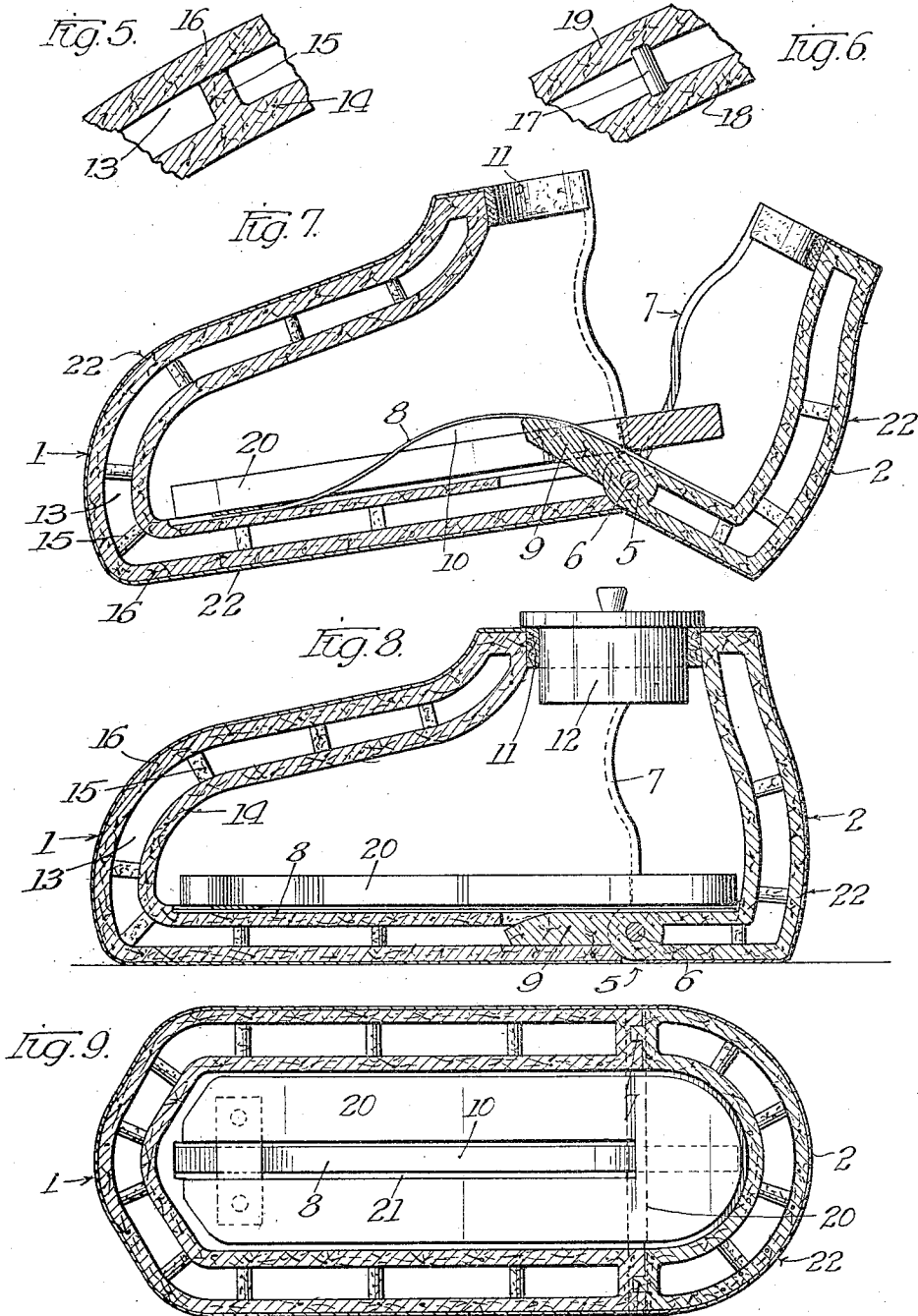
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UNITED STATES PATENT OFFICE.

ALONZO NEWTON BENN, OF CHICAGO, ILLINOIS.

FOOT-WARMER.

1,290,882.

Specification of Letters Patent.

Patented Jan. 14, 1919.

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To all whom it may concern:

Be it known that I, ALONZO NEWTON BENN, a citizen of the United States, residing at Chicago, county of Cook, State of Illinois, have invented a new and useful Improvement in Foot-Warmers, as set forth in the annexed specification.

The object of my invention is to produce a device that will keep a person's feet warm when they are riding in a vehicle or in other places where there is occasion for extra protection for the feet against cold more or less made necessary by the confinement of the person.

I make use of the air space insulation and also the use of material highly adapted for insulation as relates to heat, such as granulated cork, pulp, felt or other materials especially adapted for the purpose.

Out of the suitable material I make what might be described as a wooden shoe and so constructed that it opens and closes to allow free entrance and withdrawal of the foot, thus providing means for making a close fit around the ankle above the foot when the foot is within the shoe.

Reference will be had to the accompanying drawings in which:

Figure 1 is a sectional elevation through my warmer when the foot is contained therein.

Fig. 2 is a similar view to that of Fig. 1 with the warmer in an open position when the foot is either being entered or removed.

Fig. 3 is the plan view of Fig. 1.

Fig. 4 is an elevation of a stopper used to close the entrance to the warmer when the foot is out of it.

Fig. 5 is a sectional detail showing a wall construction used in the device.

Fig. 6 is a modified form of Fig. 5.

Fig. 7 is a similar view to that of Fig. 2 showing a heater in the form of a block of soap-stone or other suitable heater in the bottom of the warmer when the latter is in an open position.

Fig. 8 is a similar view to that of Fig. 7 when the warmer is closed.

Fig. 9 is a plan section showing a plan view of the warmer when in position.

The materials most desirable for my purpose cannot be made flexible in the same manner that felt or fabrics are made and hence I must provide a construction which is more or less solid in character and at the same time provide means that will permit

more or less a close fit to the foot. To this end I make my warmer in substantially two sections hinged together in such a way as to allow the warmer to open for the entrance and removal of the foot.

In the drawing 1 indicates the front and 2 the rear portion of the warmer and 3 indicates the foot of a person using the warmer. 4 indicates the ankle of the foot. The sections 1 and 2 are hinged together at 5 by hinge pin 6.

The junction lines between the front and heel sections are made to interlock like a tongue and groove as indicated by 7. Laying in the sole of the warmer there is embedded a spring 8 of any suitable form or construction adapted to hold the parts normally in the position of Fig. 1. However this spring is not a stiff spring, not strong enough to move the parts from position of Fig. 2 to that of Fig. 1 but only to hold them together in a position of tension to each other so that the warmer will stay in a desired position, when set that way for entering the foot. A projection 9 of the heel portion extends forward under the spring. When the foot is entered the pressure of the toe of the foot on entering the warmer pushes down at the point 10 on the spring and thus brings the warmer to position of Fig. 1 when the foot is home within the warmer.

Around the orifice of the warmer I provide a sealing means 11 in the form of a piece of soft felt, fur, wool or other suitable material which when the foot is home makes a closure around the ankle.

When the foot is removed from the warmer a stopper 12 shown in Fig. 4 made of similar construction to the body of the warmer is placed in the opening at the top of the warmer and thus keeps the interior closed while the warmer is not in use.

The walls of the warmer are made with the air spaces 13 in order to produce extra insulation and I prefer to make the walls out of granulated cork as indicated by Fig. 5 which is molded and secured together in any suitable manner.

In forming the walls of my warmer I prefer to make the inside portion 14 of the air-spaced walls first and provide on the outside of it the connecting projections 15 and then supply the outside portion 16 in sections secured together in any suitable manner.

Instead of making the connecting projec-

tions 15 out of the same materials of which the walls are made, I may make these projections out of any suitable material as is indicated by 17 and then connect them into the walls 18 and 19 as indicated by Fig. 6.

Granulated cork is more or less a fragile material and at the hinge of the sections of my warmer I prefer to construct the hinge portions out of compressed fiber or other suitable material and properly connect it into the mass out of which the body of the warmer is made.

When desired I provide a heater for the inside of my warmer and this heater may be of any suitable form of construction. I have shown in Figs. 7, 8 and 9 a block of soap-stone indicated by 20 as the heater. This stone is apertured as indicated by 21 to allow the spring 8 to project up through it.

An electrical heater pad or other suitable heater may be substituted for the soap-stone.

When the sections of my warmer are finally completed all but the outside finish, I dip the sections into a body of binding coating of some suitable material such as varnish or suitable pitch or mastic which not only gives a suitable finish but furnishes a sort of smooth armor for the outside to resist abrasion. This hard smooth exterior serves also as an added insulation. In the drawings 22 indicates this outside finish.

What I claim is:

1. A device of the class described made of sections having more or less rigid walls molded and pressed out of granulated cork, formed with hollow air spaces on the interior of the wall, the several sections hinged together at the base or in the sole region and provided with a spring extending lengthwise of the base and adapted to hold the sections in normal position.

2. A foot warmer composed of sections hinged together and adapted to form a complete inclosure for the foot, said sections made of insulating material molded and pressed together forming more or less rigid walls, a spring mounted in relation to the hinge and controlling the movements thereof when the parts are in a closed position.

3. A foot warmer composed of sections of material of rigid form and of an insulating character, said sections hinged together and forming a complete inclosure for the foot, a flat spring extending along the insole region of the warmer and adapted to assist in holding the sections in a closed position and adapted to offer slight resistance to the closure of the sections when the same are open to receive the foot.

4. A foot warmer composed of insulating

material formed in sections having more or less rigid walls, said sections hinged together at the base and adapted to form a complete inclosure for the foot, a flat spring extending along lengthwise of the insole region of the warmer and fixed to one section and having the other end free and held within a keeper in the sole region, which keeper holds the spring down and permits longitudinal movement of the end of the spring within the keeper.

5. A foot warmer made in sections and hinged together at the base, said sections having more or less rigid walls composed of suitable insulating material and joined together in a manner to form a complete inclosure for the foot, a spring adapted to hold the sections normally in a closed position; with a packing or seal around the ankle orifice of the warmer composed of soft and yielding material adapted to form a juncture with the ankle of the foot when inserted in the warmer.

6. A foot warmer composed of sections hinged together to form a complete inclosure for the foot and shaped more or less in general outline to the foot, the sections being made of suitable insulating material with more or less rigid walls; with a tongue and groove juncture of the sections along the parting line and a yielding seal or binding of soft material around the ankle orifice of the warmer.

7. In a device of the class described an inclosure for the foot made of rigid insulating material approximating the shape of the foot in outline and adapted to make a complete inclosure for the foot and made in sections hinged together at the heel region in combination with a rigid plate in the form of an insole adapted to be removed, heated and reinserted for the purpose of holding heat and warming the sole region.

8. A warmer for the foot adapted to inclose the normal boot or shoe of the foot and approximating the shape of the boot or shoe in outline and composed of granular material molded or pressed in shape and provided with air spaces on all sides for insulating purposes and made in sections and hinged together in the region of the heel and provided with a spring adapted to hold the sections normally closed over the foot.

Signed in Chicago, in the State of Illinois, and county of Cook, this 3d day of January, 1916.

ALONZO NEWTON BENN.

Witnesses:

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H. B. ROSS.