H. A. SILVERMAN.

HEATER UNIT.

APPLICATION FILED MAY 5, 1921.

1,423,742. Patented July 25, 1922.

Fig. 1

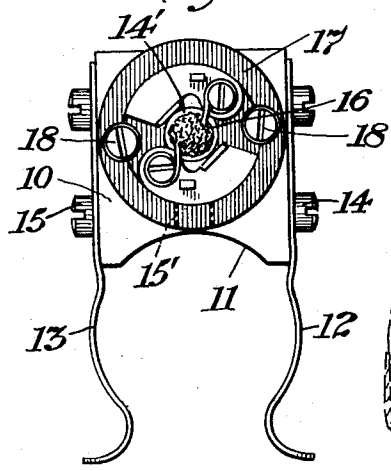


Fig. 2

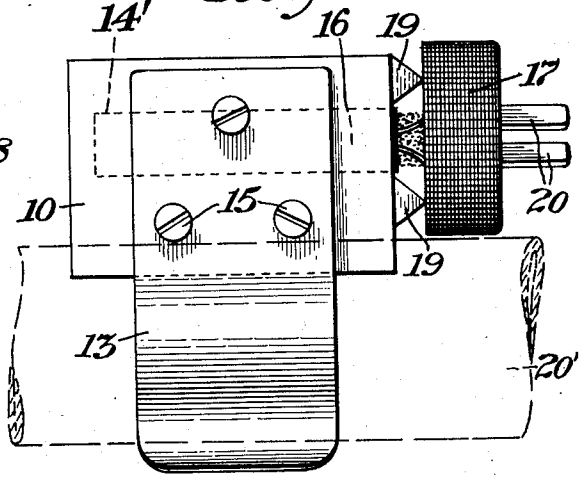


Fig. 3

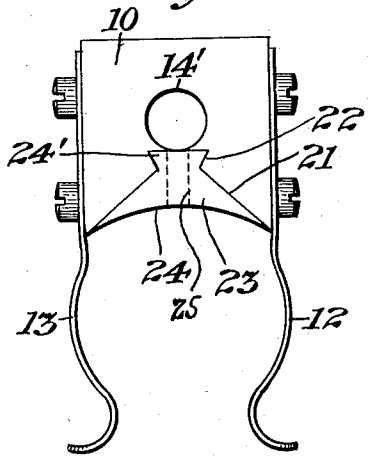


Fig. 4

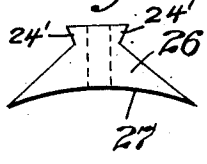


Fig. 6

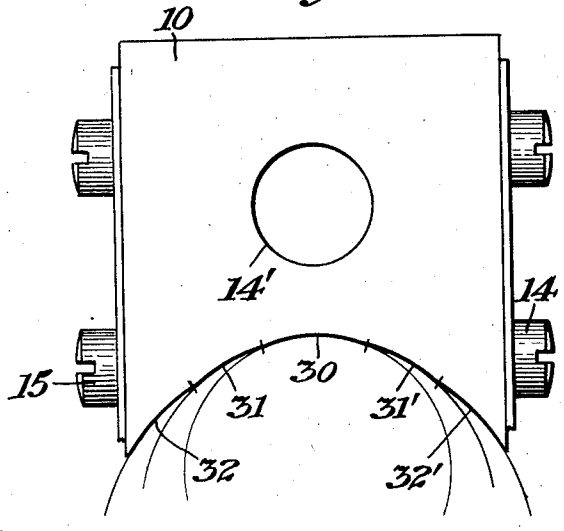
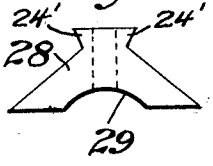


Fig. 5



INVENTOR

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UNITED STATES PATENT OFFICE.

HARRY A. SILVERMAN, OF NEW YORK, N. Y.

HEATER UNIT.

1,423,742. Specification of Letters Patent. Patented July 25, 1922.

Application filed May 5, 1921. Serial No. 467,069.

To all whom it may concern:

Be it known that I, HARRY A. SILVERMAN, a citizen of the United States, residing in the borough of Bronx, city and State of New York, have invented an Improvement in Heater Units, of which the following is a specification.

This invention relates to a heater unit and the object thereof is the provision of a heater unit particularly designed to be detachably connected to a circulating system of a motor car radiator to prevent the same from freezing, although, as will be understood, the use of the invention is in no way so limited, as obviously it may be employed for heating ordinary hot water radiators for thawing frozen water pipes and in numerous other ways without departing from the invention. The heater made in accordance with this invention preferably comprises a member provided with a detachably connected heat coil and means for detachably connecting the member to a body to be heated—for example, to a pipe forming a part of the circulating system of a motor vehicle radiator, and the construction is such that a predetermined surface or a part of the heating member of the unit is recessed or otherwise formed to conform with a portion of the pipe or other body which is to be heated by the unit. As hereinafter described that portion of the member of the unit so conforming to the body to be heated may be detachably connected to the member so that any one of a number of interchangeable parts may be employed, depending upon the surface to be fitted which, as will be understood, is governed by the nature of the device to be heated.

The heater unit made in accordance with this invention will be hereinafter more particularly described in conjunction with the accompanying drawings, in which:—

Figure 1 is an end elevation of my improved heater unit.

Fig. 2 is a side elevation of the same.

Fig. 3 is an end elevation of another form of the invention.

Figs. 4 and 5 are end elevations of the removable member employed in the form of the invention shown in Fig. 3, and

Fig. 6 is an end elevation of a third form of the invention.

Referring to the drawing, particularly to Figs. 1 and 2, the unit made in accordance with my invention comprises a heater member 10 made of any suitable metal or other material and of any desired configuration so as to have a face sufficient for the purposes to which the heater unit is employed. In one face of the member 10 there is a recess 11 running longitudinally thereof and of such a shape as to conform approximately, at least, to the suction pipe leading from the radiator to the distributing pump in the circulating system of a motor vehicle radiator. The heater member 10 is, as illustrated, provided with spring clips 12 and 13 connected to opposite sides thereof by screws 14, 15 or otherwise, and the spring clips 12 and 13 are adapted to snap over and engage the suction pipe in order to detachably connect the heater unit in position thereon and secure the same in place so long as its use may be necessary. In a centrally disposed position the unit member 10 is provided with a bore 14′ extending longitudinally from one end to a point adjacent the opposite end, and extending between the bore and the surface of the recessed portion I prefer to employ a plurality of holes or openings 15′, although the use of these openings is optional. The bore 14′ is adapted to receive a heat coil 16 of any suitable type which is connected to a plug block 17 by means of set screws 18 or otherwise so that the inner surface of the plug block rests against the outer edges of ribs 19 provided for this purpose on the end of the unit member 10 to space the plug block therefrom in order that as small an amount of heat as possible may be transferred from the unit member 10 to the plug block. The plug block, as usual, is provided with terminals 20 adapted to be received in any suitable form of socket connected to a source of electrical supply to furnish the same to the heat coil for heating the unit member 10 thereof to the required temperature so that the heat may be transferred from the unit member to the pipe 20′ for example, or to any other body that it is desired to heat.

Referring to Figs. 3, 4 and 5, it will be seen that the unit member 10 may be recessed as indicated at 21 and the recess terminating in an undercut portion 22 so as to receive an interchangeable member 23, the recessed face 24 thereof being adapted to conform to the surface of the body to be heated, it being understood that the inner portion of the interchangeable member 23 is provided with oppositely disposed ribs 24′

adapted to fit in the undercut recessed portion 22 of the unit member, and furthermore that this interchangeable member 23 may be provided with a series of holes 25 extending therethrough so as to assist in the transfer of the heat from the coil to the body to which it is desired to apply the heat. It will be furthermore understood that the recessed outer surface of the interchangeable member may assume any form and that any number of interchangeable members may be employed, as for example as indicated in Figs. 4 and 5 in which the interchangeable members are indicated at 26 and 28 and their respective recessed surfaces at 27 and 29, these recessed surfaces being of different configurations depending, of course, upon the contour of the body with which they are to contact for transferring the heat from the heater unit to this body which it is desired to heat.

By reference to Fig. 6 it will be seen that substantially the same effect as that obtained by the use of a series of interchangeable members, as described in connection with the form of the invention shown in Figs. 3, 4 and 5 may be obtained by the use of a unit member in which one face thereof is provided with a series of recesses of different configurations. As illustrated in Fig. 6, the central recess 30, for example, may be made on a given radius, while the next adjacent recesses 31 and 31′ may be made on the same or a different radius from the recess 30 and the recesses 32 and 32′ may be made on the same radius—that is, different to either radius of the recess 30 or the radius of the recesses 31, 31′ so that, for example, in use with a pipe of one diameter the contact will be brought about through the recess 30, whereas with another pipe the recesses 31, 31′ may be made to contact with the surface of the pipe, and in the use of a third pipe of still different diameter the recesses 32 and 32′ are made to contact with the surface of the pipe. Obviously, however, different forms of construction may be employed without departing from the nature and spirit of the invention, as hereinbefore specified.

I claim as my invention:

1. A heater unit comprising a block having a surface adapted to conform to a surface of a body to be heated, means for securing the block to the body to be heated, and a device for heating the block.

2. A heater unit comprising a block having a surface adapted to conform to a surface of a body to be heated, means for detachably connecting the said block to a body to be heated, and devices for heating the said block to a predetermined temperature.

3. A heater unit comprising a rectangular block, one surface of which is adapted to conform to a surface of a body to be heated, spring clips secured in oppositely disposed positions to opposite surfaces of the block for securing the same to a body to be heated, and devices for heating the said block to a predetermined temperature.

4. A heater unit comprising a block having a centrally disposed bore and a surface adapted to conform to a surface of a body to be heated, means for securing the block to a body to be heated, and a heat coil and plug secured to the said block with the heat coil lying in the bore and the plug spaced from the block.

5. A heater unit comprising a rectangular block having a surface adapted to conform to a surface of a body to be heated and a centrally disposed bore therein, means for securing the block to a body to be heated, ribs connected to one end of the block, and a heat coil and plug associated therewith and connected to the said block, with the heat coil lying in the bore of the block and the plug lying against the outer edges of the said ribs on the end of the block.

6. A heater unit comprising a rectangular block having one surface thereof recessed to conform to the outer surface of a water pipe, means for detachably securing the block to a water pipe, and devices for heating the said block to a predetermined temperature.

7. A heater unit comprising a rectangular block of metal having one surface recessed to conform to the outer surface of a heater pipe, spring clip members secured to the said block for detachably connecting the same to a water pipe, and a heater coil and plug connected to the said block with the coil lying in a bore in the block provided therefor and the plug spaced from the block at one end thereof.

Signed by me this 2nd day of May, 1921.

HARRY A. SILVERMAN.