

E. C. McGRAW.
VULCANIZER.
APPLICATION FILED AUG. 9, 1912.

1,039,309.

Patented Sept. 24, 1912.

Fig. 1.

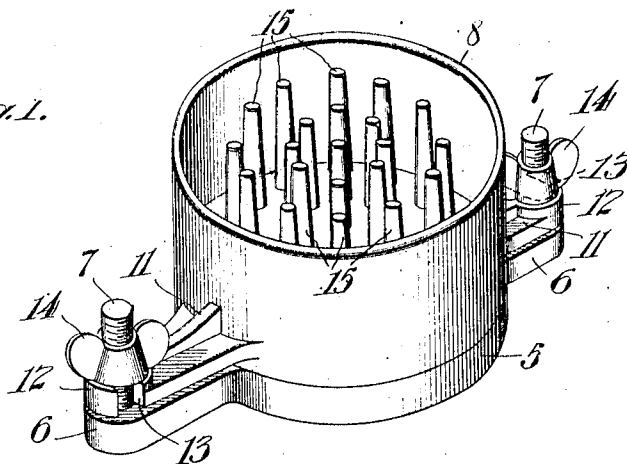


Fig. 2.

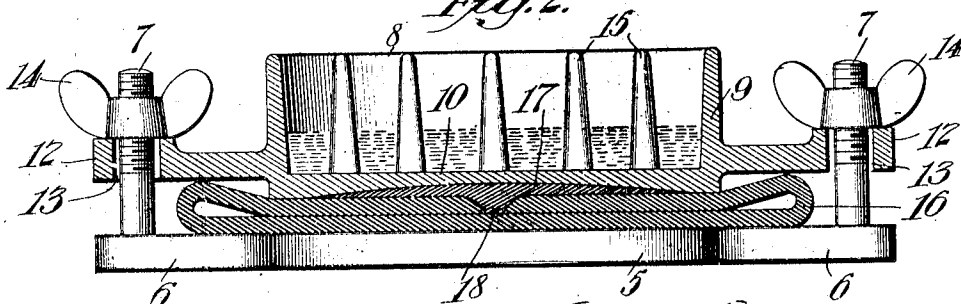


Fig. 3.

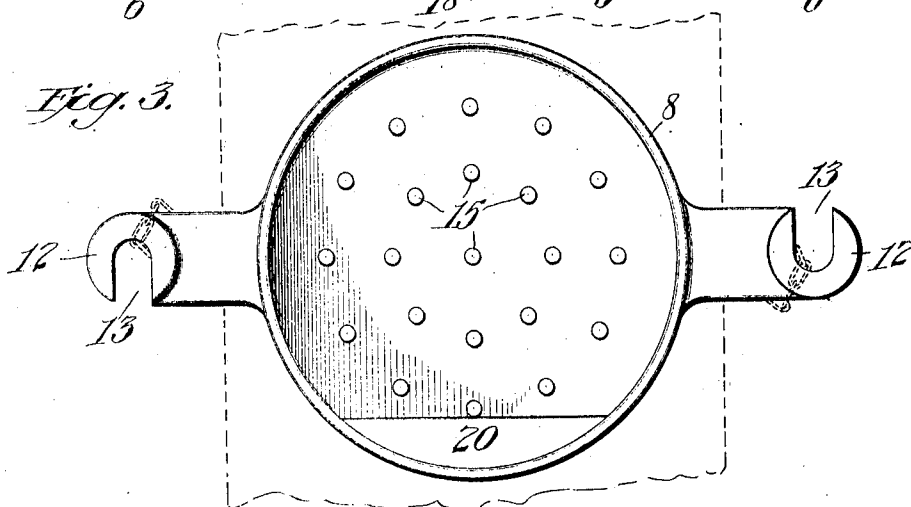
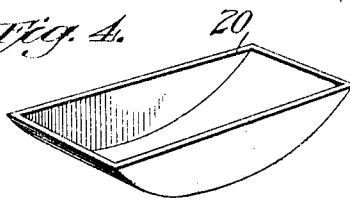


Fig. 4.



WITNESSES

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VULCANIZER.

1,039,309.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWIN C. MCGRAW, a citizen of the United States, residing at East Palestine, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Vulcanizers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a vulcanizing apparatus especially adapted for applying patches to rubber tires or tubes. Its object is to provide a simple and cheap apparatus suitable either for the road or the shop, and which will require no skill to use and involve no regulation beyond the simple indication of the amount of fuel to be consumed. To accomplish this object I have invented what is, in effect, an open self-regulated liquid fuel heater, comprising substantially a receptacle for fluent fuel, heat distributing members within the receptacle to communicate the heat of the fuel to the bottom of the receptacle, means for clamping the object to be treated against the bottom of the receptacle, and a cup adapted to be placed in the receptacle and itself serve as a receptacle for a fluent fuel when the vulcanizer is to be applied in a substantially vertical position.

In the accompanying drawings, Figure 1 is a perspective view of a vulcanizer in a form especially adapted for repairing punctures or similar tears or cuts in a tube or tire; Fig. 2 is a central sectional view taken through Fig. 1 and showing a patch being applied; Fig. 3 is a plan view showing the removable cup in place, the vulcanizer being indicated as applied to the tread of a tire; Fig. 4 is a perspective detail of the removable cup.

In the drawings 5 represents a base, in the form illustrated a circular-shaped plate with extending wings 6 on each side. From each of these wings rises a threaded post 7.

8 is a basin or receptacle preferably somewhat heavier at the bottom of the outer wall than at the top, as indicated at 9, in Fig. 2, and having the bottom slightly concaved on the lower surface for the purpose of fitting a patch as illustrated in Fig. 2.

11 represents a web-strengthened wing ex-

tending from each side of the receptacle 8, each wing having at the end a knuckle 12 with a recess 13 which permits each knuckle to embrace a post 7, the receptacle being clamped upon the base in an obvious manner by means of thumb-nuts 14. I have shown the knuckles as reversed on opposite sides so that the receptacle may be swung about readily on the base. This and other details of construction are, however, merely preferred forms, it being obvious that there may be many variations in the form, shape and size of such incidental parts.

Within the receptacle 8 and secured to or integral with the bottom 10 of the receptacle are a series of conical radiator pins 15, this being a preferred form of heat-distributing member to provide for the uniform distribution through the bottom of the receptacle of the heat imparted by the flames of the liquid fuel which is indicated by dotted lines on the bottom of the receptacle 8, as shown in Fig. 2.

16 represents a tire tube clamped against the bottom of the receptacle 8.

17 represents a rubber patch in place and 18 represents the puncture or the center of a cut in the tire. In this case an additional amount of soft or quick-curing rubber such as is used in this repair work is indicated at the point 18.

In Figs. 3 and 4 I have illustrated a removable segmental-shaped cup 20, preferably of copper or some suitable metal, which I may put in place anywhere in the space between the pins and the walls of the receptacle. I have shown the cup as of comparatively small size. It will be readily understood that I may put the rows of pins closer together to make more room, or at the top and bottom and sides, if desired, I may put a single pin closer to the center so as to make room for a larger cup, it being understood that the cup shown is merely by way of illustration. This cup is to be used when the vulcanizer is applied to a tire on the wheel, for example, or when the vulcanizer is used in any other than a substantially horizontal position. It may, of course, remain in the vulcanizer but it is intended that it shall be removed and used only when desired for the especial purposes indicated.

When the cup 20 is used the flames will act upon the heat distributing members car-

rying the heat down through the bottom of the receptacle. In both cases, that is whether the cup is used or not, the burning of the gasoline makes a self-regulating heater because the flames from the burning gasoline as they rise in furious burning serve to permit the air to enter under the flames and thus lower the temperature so that the furious burning does not unduly heat the receptacle. Then as the receptacle cools the point is reached where the flames are again burning at the lower levels and are again more effectively heating the bottom of the receptacle through the multiple points of contact within the receptacle.

I claim,—

1. In a vulcanizer, the combination with a receptacle for a fluent fuel having heat-distributing members communicating with the bottom of the receptacle, of a separate receptacle adapted to be placed in the main receptacle and to hold a fluent fuel when

the vulcanizer is used in positions other than substantially horizontal.

2. In a vulcanizer a receptacle for fluent fuel, heat-distributing pins rising from the bottom of the receptacle, and a removable segmental-shaped cup adapted to fit against the wall of the receptacle and to lie below the pins when in operative position.

3. In a vulcanizer, a receptacle for fluent fuel, rows of heat-distributing pins and a removable cup adapted to fit in the space between the pins and the wall of the receptacle and to hold a fluent fuel when the vulcanizer is in positions other than substantially horizontal.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

EDWIN C. MCGRAW.

Witnesses:

L. M. KYES,
SADIE ATCHISON.