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W. R. WOOD

1,744,941

VULCANIZER

Filed March 18, 1927

Fig. 1.

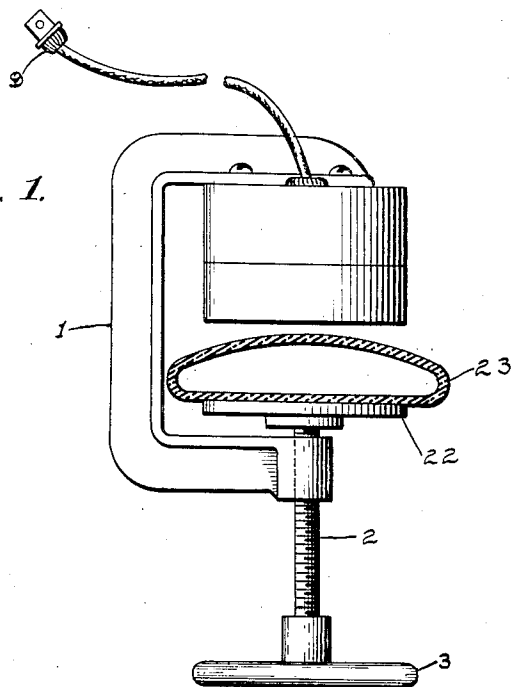


Fig. 3.

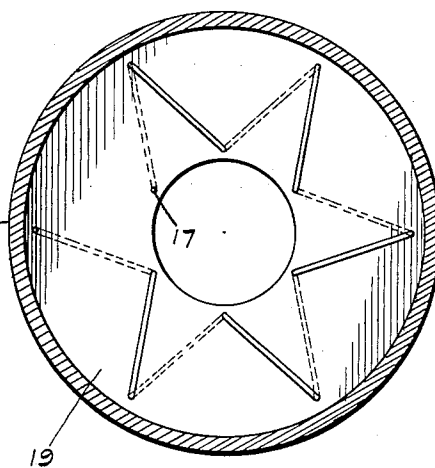
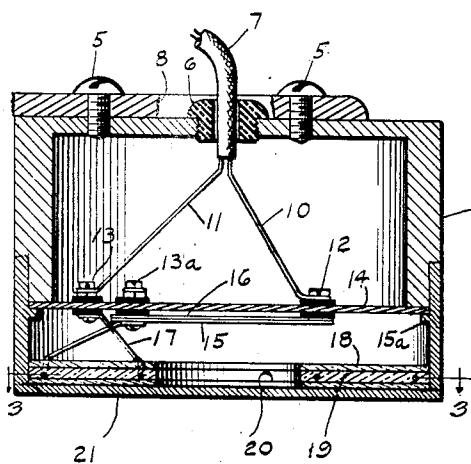


Fig. 2

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UNITED STATES PATENT OFFICE

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VULCANIZER

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This invention relates to improvements in vulcanizers and more particularly to electric vulcanizers. One object is to provide a small, efficient vulcanizer that is cheap to manufacture.

With the foregoing and other objects in view the invention consists in the combination and arrangement of parts to be hereinafter fully described, pointed out in the appended claim and illustrated in the accompanying drawing which forms a part of this application and in which—

Fig. 1 is a view of the vulcanizer in elevation illustrating its application.

Fig. 2 is an enlarged sectional view of the vulcanizer.

Fig. 3 is a cross section on line 3—3 of Fig. 2.

Like reference characters denote corresponding parts throughout.

The present invention contemplates a vulcanizer for use in vulcanizing automobile tires, chiefly, on the road, in an emergency, although it can be employed in shop use. It is of small size so that it will fit readily in the repair kit and so that it can be made to sell at a very reasonable price. It is provided with heat control means whereby burning of the work is avoided and it is adapted to run on either a six or twelve volt storage battery and in no event will it require a current of more than two amperes.

The vulcanizer is conveniently secured to an ordinary screw clamp in a position instantly ready for use. The reference numeral 1 denotes the clamp frame having the threaded shaft 2 and hand wheel 3. The vulcanizer comprises the sectional metal case 4 circular in cross section, the top portion being secured by screws 5 to the clamp head, said top having a central perforation to receive the insulation plug 6 through which the cord 7 extends through a perforation 8 in the clamp head which perforation forms clearance for the said plug 6.

The cord 7 at its outer end is provided with the plug 9 adapted for insertion in a lamp socket of the automobile. Electric wires 10, 11 extending through the cord 7 are secured, respectively, to the binding posts 12, 13 car-

ried in the metal top plate 14 that rests upon an annular shoulder 15^a formed in the wall of the case, said plate 14 dividing the interior of the case transversely.

The wires 10, 11 are insulated from the plate 14 upon one side thereof and the tiny superimposed metal bars 15, 16 having different coefficients of expansion are arranged upon the opposite side of said plate 14, insulated therefrom and secured to a binding post 13^a and normally in contact with the binding post 12. From the binding post 13 beneath the plate 14 a strand of German silver wire 17 extends through a centrally perforate mica disc 18 to, and then back and forth through, another disc 19 perforated centrally in alignment with the mica disc 18, and then back through said disc 18 to the binding post 13^a. The disc 19 receives the disc 18 and lies upon a mica disc 20 formed with an aligned central perforation, said discs being positively supported in the bottom of the case by the bottom or base 21.

When the vulcanizer is plugged into the electric circuit of the automobile and the switch turned on the current comes in through the wires 10, 11, through posts 12, 13, wire 17 and bars 16, 15. The screw shaft 2 carrying the disc 22, upon which the tube 23 is disposed with its patch opposite the perforations in the mica discs is moved up until the patch is moved into a position contiguous to the base plate 21 and in this position it is held while heat is radiated all about the patch until the raw rubber is vulcanized. When a certain temperature is attained the bar 16 will curl or creep out of contact with the binding post 12 thereby breaking the electric circuit to cause a fall of temperature before the tube is burned.

What is claimed is:—

In a vulcanizer of the class described, a substantially cylindrical casing composed of two interfitting sections, the lowermost section being provided with an annular shoulder on the inner peripheral wall, a metal top plate of disc-like formation supported on said shoulder and held in place thereon by the lower peripheral edge of the upper section of said casing, a pair of binding posts carried in

said disc-like plate, conductors leading through the top wall of the upper section of said casing and having connection with said binding posts, an additional binding post supported in said top plate, electrical connecting means between the additional binding post and one of the aforesaid pair of binding posts, a plurality of mica discs supported on the bottom wall of the lowermost section of said casing, said mica discs being provided with enlarged central registering openings and also having orifices located in various portions of the area thereof, and a wire connected with the other of the pair of binding posts aforesaid woven through the aforesaid orifices of said discs and finally connected with said additional binding post, as and for the purposes described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature.

WILLIAM RUBEN WOOD.

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