C. B. HEIM.

TIRE VULCANIZER.

APPLICATION FILED APR. 5, 1918.

1,270,154. Patented June 18, 1918.

FIG. 1

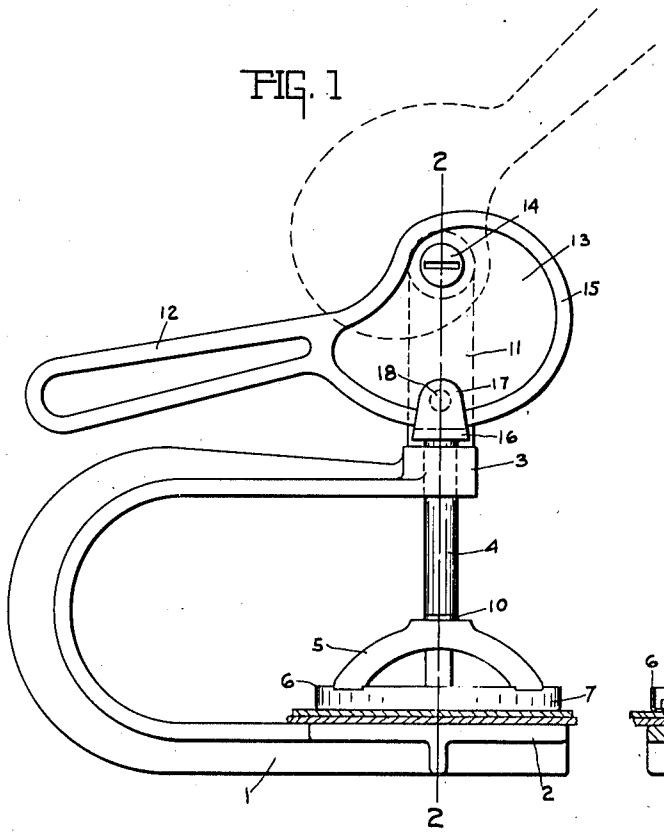


FIG. 2

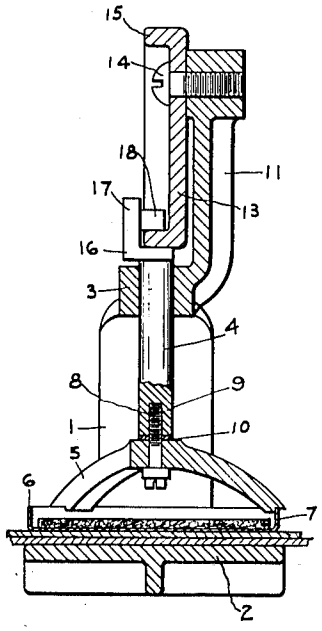
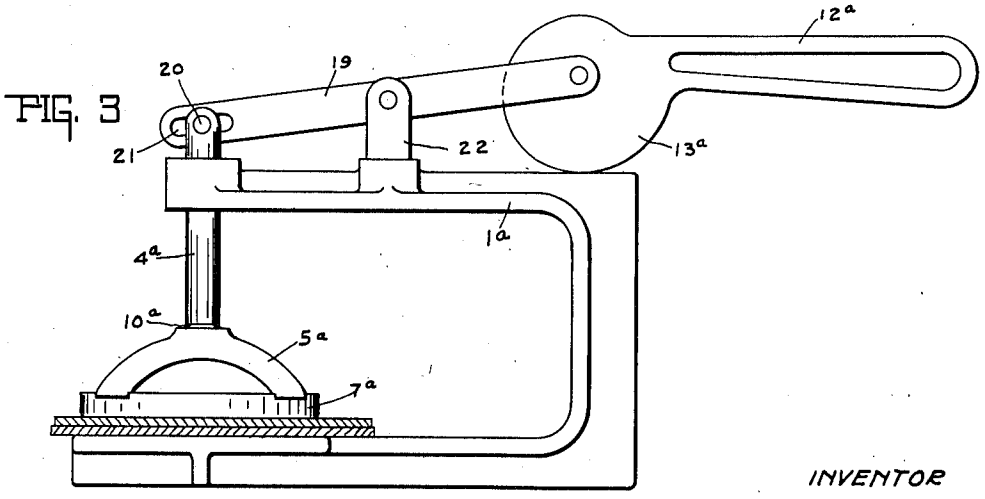


FIG. 3



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TIRE-VULCANIZER.

1,270,154. Specification of Letters Patent. Patented June 18, 1918.

Application filed April 5, 1918. Serial No. 226,845.

To all whom it may concern:

Be it known that I, CHARLES B. HEIM, a citizen of the United States, and a resident of Marco, county of Greene, and State of Indiana, have invented a certain new and useful Tire-Vulcanizer; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like numerals refer to like parts.

This invention relates to vulcanizing tools and is designed primarily for applying a patch to the inner tube of automobile tires. One feature of the invention is the provision, in connection with a work holding frame, of a clamping foot, and a cam lever for operating the clamping foot for raising and lowering the same. A further feature of the invention is the provision of a pin or roller on the shaft on the clamping foot for coöperation with the flange of the cam portion of the lever for raising and lowering the clamping foot and holding the same in lowered or elevated position.

A further feature of the invention is the provision of means for removably securing the clamping lever to the frame of the device to position the same directly over the upper end of the shaft and the clamping foot.

A further feature of the invention is the provision of means for adjusting the clamping foot with respect to the shaft carrying the same.

The full nature of the invention will be understood from the accompanying drawings and the following description and claims:—

Figure 1 is a side elevation of the vulcanizing device showing same in operation in full lines and the position of the lever in inoperative position by dotted lines. Fig. 2 is a sectional view as seen on line 2—2 of Fig. 1, and Fig. 3 is an elevation of a slightly modified form of device.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates a frame which is substantially U-shaped, one arm thereof having a base 2, while the opposite or upper arm is provided with a socket 3, said socket being positioned above and in line with the axial center of the base 2. Slidably mounted through the socket 3 is a shaft 4, to the lower end of which is adjustably secured a clamping foot 5, said foot being designed to engage the peripheral flange 6 of a fuel cup 7, and direct downward pressure thereon when desired. The clamping foot 5 is secured to the end of the shaft 4 by extending a screw 8 upwardly through the axial center of the clamping foot and into a threaded recess or socket 9 in the lower end of the shaft 4 and in order to increase or decrease the length of the shaft, the screw 8 is made of sufficient length that washers 10 may be introduced around the screw between the end of the shaft and the clamping foot. In this manner it will be seen that the greater the number of washers placed between the end of the shaft and clamping foot, the greater the length of the shaft, thereby obtaining a greater degree of pressure upon the shaft and clamping foot.

Extending upwardly from the frame 1 is a bracket 11, to which is pivotally attached a lever 12, said lever having a cammed head 13 through which extends a pivot pin 14, said pivot pin being threaded into the bracket 11, so that the lever can be quickly removed or attached. Extending laterally around the edge of the cammed head 13 is a flange 15 which is eccentric to the pivot pin 14, the outer face of said flange being designed to travel over and engage the upper end of the shaft 4 to direct downward pressure thereon when the lever is in its lowered or operative position.

In order to raise the shaft 4 and the clamping foot attached thereto through the medium of the lever 12, the upper end of the shaft 4 is provided with an angular extension 16, the vertical arm 17 of which projects above the inner face of the flange 15 and carries a pin or roller 18, said roller projecting over the flange so that when the lever is thrown upwardly to the position shown by dotted lines in Fig. 1, the shaft 4 and clamping foot 5 will be elevated, the curvature of the flange being such as to hold the shaft and clamping foot in elevated position when the lever is thrown upwardly its full distance.

The flange 15 is also so curved that when the lever is thrown downwardly or to the position shown in full lines in Fig. 1, the clamping foot will be pressed tightly against the fuel cup 7 and the material tightly im-

pinged between the cup and the base 2, the flange 15 locking the clamping foot and shaft in clamped position.

In Fig. 3 of the drawing a modified form of the device is shown, and in this instance the upper end of the shaft 4^a is pivotally attached to a walking beam structure 19, the pivot pin 20 for the shaft 4^a extending through an elongated slot 21 in the end of the walking beam 19, so as to permit swinging movement of the beam.

The walking beam is pivoted at its center to a standard 22 which projects upwardly from the upper arm of the frame 1^a, the opposite end of the walking beam from the end attached to the shaft 4^a having a lever 12^a pivotally attached thereto, said lever having a cammed head 13^a which coöperates with the frame 1^a for rocking the walking beam on its pivot. In this form of device, when the lever 12^a is thrown over to release the clamping foot 5^a from the fuel cup 7^a, the weight of said lever will hold the clamping foot in its elevated position. In this device washers 10^a are also provided for lengthening or shortening the shaft 4^a, the remaining parts of the modified form of device being the same as shown in the preferred form.

The invention claimed is:—

1. In a vulcanizing device, the combination with a frame having a base, and a socket, of a shaft vertically slidable through said socket, a clamping foot carried by the lower end of the shaft, means to adjustably attach the clamping foot to the shaft, a pivotally mounted lever, said lever having a cammed head, and means to connect the lever with the shaft whereby when the lever is moved in one direction the clamping foot and shaft will be lowered, and the shaft and clamping foot raised when the lever is swung in the opposite direction.

2. In a vulcanizing device, the combination with a frame having a socket, of a shaft vertically slidable through said socket, a clamping foot at the lower end of the shaft, a screw extending through said foot and into said shaft, washers adapted to be disposed between the shaft and clamping foot for increasing the length of the shaft, and means to raise and lower said shaft and clamping foot.

3. In a vulcanizing device, the combination with a frame having a socket, and a bracket extending upwardly from said socket, of a clamping foot, a shaft extending through said socket, means to adjustably attach the clamping foot to the lower end of the shaft, a lever pivotally attached to said bracket, a cammed head on said lever, a laterally extending flange around the edge of said head, an extension on the shaft, and means carried by the extension adapted to overlap said flange and ride thereon when the lever is operated to raise or lower the shaft and clamping foot.

4. In a vulcanizing device, the combination of a frame having a socket, and a bracket extending upwardly from said socket, of a shaft slidably mounted in said socket, a clamping foot carried by the lower end of the shaft, a lever removably pivoted to said bracket, a laterally extending flange on said lever adapted to extend over and direct pressure on said shaft, said flange being eccentrically disposed to the pivot of the lever, an angular extension on said shaft, and a pin carried by the vertical portion of said extension adapted to extend over said flange and cause the shaft to raise and lower as the lever is swung on its pivot.

In witness whereof, I have hereunto affixed my signature in the presence of the witnesses herein named.

CHARLES B. HEIM.

Witnesses:
CHAS. F. HEIM,
STELLA POPE.