O. STALEY.

PORTABLE VULCANIZER.

APPLICATION FILED MAR. 7, 1917.

1,254,166. Patented Jan. 22, 1918.

Fig. 1.

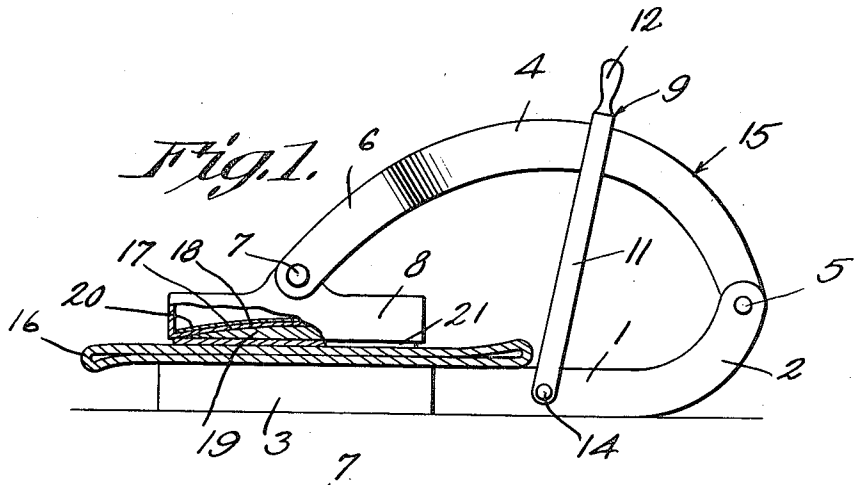


Fig. 2.

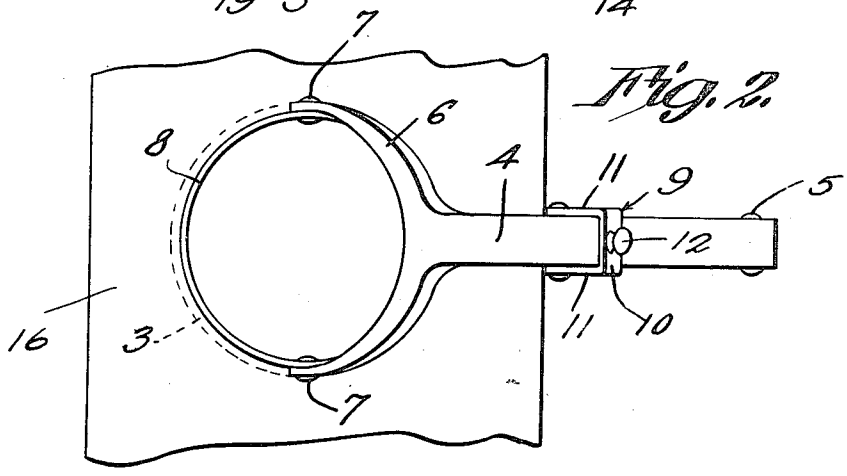


Fig. 3.

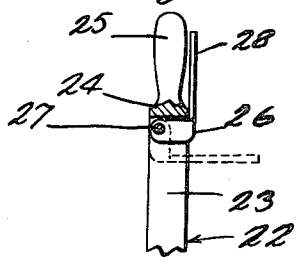
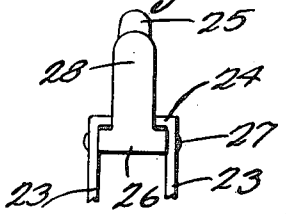


Fig. 4.



Witness

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PORTABLE VULCANIZER.

1,254,166. Specification of Letters Patent. Patented Jan. 22, 1918.

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To all whom it may concern:

Be it known that I, ORA STALEY, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Portable Vulcanizer, of which the following is a specification.

The device forming the subject matter of this application is adapted to be employed for vulcanizing inner tubes of tires and the like, and one object of the invention is to provide a structure of this kind wherein the vulcanization may be brought about, in a simple manner, by steam moderated heat.

Another object of the invention is to provide novel means for securing pressure between the coöperating compression members.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings:—

Figure 1 is a side elevation, parts being broken away;

Fig. 2 is a top plan;

Fig. 3 is a section showing a modified clamping lever; and

Fig. 4 is an elevation of the modified lever.

The device forming the subject matter of this application preferably is made of metal throughout and includes a base 1 provided at one extremity with an upturned end 2, and broadened at the other extremity to form a foot 3. The numeral 4 denotes an arm, one extremity of which is united by a pivot element 5 with the end 2 of the base 1. The other end of the arm 4 terminates in spreading bifurcations 6 united by means of pivot elements 7 with a pan 8, the pan constituting an upper compression member, and the foot 3 constituting a lower compression member. The bottom 17 of the pan preferably is concaved upwardly, as shown at 18.

The numeral 9 denotes a bifurcated lever including a head 10 and arms 11, the head 10 having a finger piece 12 whereby the lever may be swung, the lever straddling the arm 4 and the base 1, the lower ends of the arms 11 being united by means of a pivot element 14 with the base 1. The arm 4 is provided on its upper side and above and to the front of the pivot element 5, with a cam edge 15 wherewith the head 10 of the lever coacts, so as to press the compression members 8 and 4 on the patch and on the article to be vulcanized.

The tube or other article to be patched is denoted by the numeral 16 and rests on the foot 3. A patch 21 of vulcanizable material is placed on the tube 16. Under the concaved bottom 17 of the pan 8 is placed a layer of absorbent material 19, which may be blotting paper, if desired, although some other substance may be used, the absorbent member 19, whatever be its construction, being moistened preferably with water. Superposed on the bottom 17 of the pan is a mass of fuel 20. Any kind of fuel may be used, either liquid or solid. I prefer, however, to use a solid fuel, and in this connection, a piece of cardboard saturated in a solution of saltpeter may be found useful.

In practical operation, by swinging the lever 9 up into a substantially vertical position, the tube 16 or other article to be patched, and the patch 21 may be put in place and may then be clamped tightly between the pan 8 and the foot. The fuel 20 is ignited, and the absorbent member 19 is heated, the liquid therein contained being converted into steam, which moderates the heat from the pan. The absorbent member 19, being carried in the concavity 18 in the bottom 17 of the pan, is in direct contact with the patch 21, the patch being vulcanized to the tube 16 by steam moderated heat. In this way, an even heat is secured, an excessive heating is not likely, and a vulcanization is brought about by a moderated heat, all of which considerations are desirable.

In Figs. 3 and 4 of the drawings, a slightly modified form of the invention is shown. In the said figures, the lever appears at 22 and comprises arms 23 and a head 24 having a handle 25. A cam 26 is pivoted at 27 between the arms 23 and includes a finger 28 whereby the cam may be operated to engage

the arm 4 for the purpose of holding the lever in place against swinging movement, and to aid in applying pressure to the pan.

Having thus described the invention, what is claimed is:—

1. A vulcanizer comprising upper and lower compression members, the upper member being cup-shaped to retain fuel; and an absorbent element in direct contact with the lower face of the upper compression member.

2. A vulcanizer comprising first and second coöperating compression members, the first compression member being provided with fuel-holding means upon its exposed side, and with a cavity on its working side; and an absorbent element completely housed in the cavity, the second compression member being of sufficient size to press the material to be vulcanized against the periphery of the first compression member thereby to render the cavity air-tight.

3. A vulcanizer comprising a base and an arm pivoted to the base, the arm and the base being provided with coöperating compression members; and a lever pivoted to the base for swinging movement longitudinally of the arm, the arm being provided with a longitudinally convexed cam edge wherewith a portion of the lever coacts when the lever is swung, to secure a coöperation between the compression members.

4. A vulcanizer comprising a base and an arm pivoted to the base, the base and the arm being supplied with coöperating compression members, and the arm being provided with a convexed cam edge; a forked lever straddled on the arm and the base and having its extremities pivoted to the base, the lever including a head; and a movable holding device carried by the head and coacting with the cam edge to press the compression members together, the holding device constituting a means whereby the lever may be prevented from swinging with respect to the arm.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ORA STALEY.

Witnesses:
S. J. RENNARD,
F. E. CRAMER.