

C. J. WHITE.
 VULCANIZING TOOL.
 APPLICATION FILED JUNE 13, 1918.

1,298,612.

Patented Mar. 25, 1919.

Fig. 1,

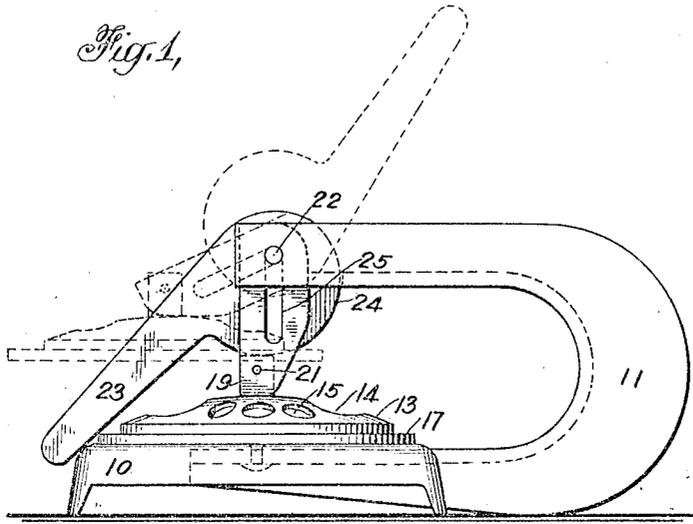


Fig. 2,

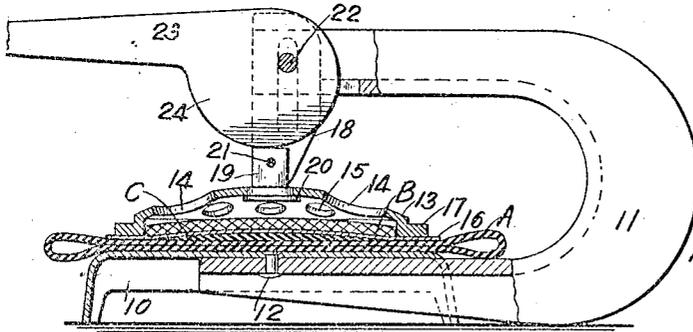


Fig. 3,

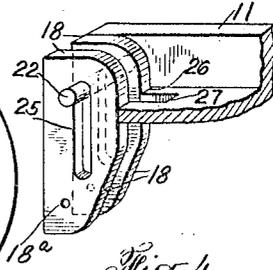


Fig. 4,

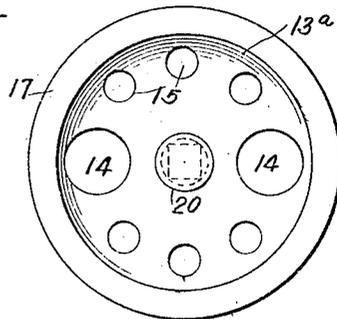
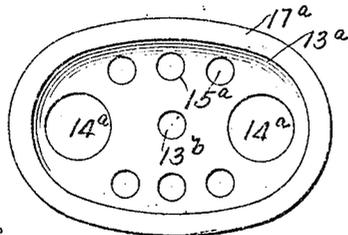


Fig. 5.



WITNESSES
H. H. Havers
J. L. H. H. H. H.

INVENTOR
 Charles T. White
 BY *Wm. Leo*
 ATTORNEYS

UNITED STATES PATENT OFFICE.

CHARLES T. WHITE, OF SANTA BARBARA, CALIFORNIA, ASSIGNOR OF ONE-THIRD TO
GEORGE E. WHITE, OF SANTA CRUZ COUNTY, CALIFORNIA, AND ONE-THIRD TO
WILLIAM E. MOUCK, OF SANTA BARBARA COUNTY, CALIFORNIA.

VULCANIZING-TOOL.

1,298,612.

Specification of Letters Patent. Patented Mar. 25, 1919.

Application filed June 13, 1918. Serial No. 239,758.

To all whom it may concern:

Be it known that I, CHARLES T. WHITE, a citizen of the United States, and a resident of Santa Barbara, in the county of Santa Barbara and State of California, have invented a new and Improved Vulcanizing-Tool, of which the following is a description.

My invention relates more particularly to a vulcanizing tool especially adapted for use in patching tires.

The invention has for its general object to provide a vulcanizer improved in various particulars, whereby certain advantages and new results are obtained, among which are the following: A pressure foot is so mounted relatively to the base of the vulcanizer as to accommodate itself to the varying thicknesses of material being vulcanized and is adapted to be swung away from the base for the ready placing and removal of the material being vulcanized; the pressure foot is so formed as to constitute a fuel chamber having openings through which the fuel material may be lighted, said openings and others providing for the entrance of air to support combustion; the fuel chamber at the bottom is closed by a separate disk which is clamped by the clamping zone of the pressure foot outside of the fuel chamber, the disk at the fuel chamber being yieldable to accommodate itself to the patch; a cam lever is adapted to exert its pressure in an effective manner on the pressure foot and connection between the pressure foot and a relatively fixed supporting arm is effected in a manner to loosely suspend the pressure foot and to permit of its being swung clear of the base for the placing and removal of the article being vulcanized as well as permitting the vertical or angular positioning of the vulcanizer to accord with the particular material being vulcanized.

Reference is to be had to the accompanying drawings forming a part of this specification, it being understood that the drawings are merely illustrative of one example of the invention.

Figure 1 is a side elevation of a vulcanizing tool embodying my invention;

Fig. 2 is a partly sectional side elevation thereof;

Fig. 3 is a fragmentary perspective view of the front end of the supporting arm and

the links carried thereby from which the pressure foot is suspended;

Fig. 4 is an inverted plan view of the pressure foot showing the head thereon by which the said foot is suspended;

Fig. 5 is a similar view of a slightly different form of the pressure foot.

In carrying out my invention in accordance with the illustrated example a base 10 is provided adapted to receive at the top thereof a tire tube A or other article to be vulcanized, to which base a U-shaped support 11 is secured presenting an upper arm overhanging the base. The lower arm of said U-shaped support 11 is suitably fastened to the base 10 as by a rivet 12.

The numeral 13 indicates a pressure foot which is generally of dome-shape to present a hollow interior constituting a fuel chamber which is adapted to accommodate fuel material indicated at B. The top of the pressure foot 13 is formed with a suitable number of holes whereby the fuel material B may be lighted and air supplied to support combustion within the pressure foot, there being shown two large openings 14, Fig. 4, and a plurality of small openings 15, the former serving for the entrance of a match and the latter forming additional openings for the entrance of air. The pressure foot shown in Fig. 4 is round and intended for the vulcanizing of a round patch C, while the pressure foot 13^a shown in Fig. 5, having openings 14^a, 15^a, is suitable for an oval patch. The pressure foot at its edge portion is in the form of a plane clamping zone 17, Fig. 4, or 17^a Fig. 5. In connection with the pressure foot I employ a disk 16 at the under side to bear upon the tire tube A, and patch C, said disk being of a size to be clamped by the clamping zone 17 or 17^a onto the tire tube. The disk thus constitutes a closure of the under side of the pressure foot and therefore a closure of the fuel chamber and it is sufficiently yieldable to accommodate itself to the contour of the patch C.

On the front end of the overhanging arm of the support 11 a pair of spaced links 18 are suspended and provided with transverse holes 18^a for receiving a pivot pin 21 extending through an upstanding head 19 or equivalent upstanding member associated with the pressure foot 13. In the illustrated example

the said member 19 is separate from the foot and projects through an opening 13^p in the pressure foot. Said head 19 has a flange 20 within the pressure foot at the under side of the top thereof, whereby said pressure foot is carried by said head 19 and suspended by the links 18, the pivot 21 permitting swinging movement of the pressure foot. A transverse pin 22 on the front end of the overhanging arm of the support 11 passes through vertical slots 25 in the links 18 and constitutes also a fulcrum for a lever 23 having a cam 24 accommodated between the links. The front end of the overhanging arm of the support 11 is notched and has a vertical slot 27, said slot accommodating the cam 24 of the lever while at each side of said slot forwardly facing shoulders 26 are presented to the backs of the links 18, thereby bracing the latter when under pressure. The lower ends of the links 18 are squared to lie close to the top surface of the pressure foot 13 and brace the same when the lever pressure is applied. The cam 24 of the lever is adapted to bear against the top of the head 19 when the lever is swung downwardly to the position shown in full lines in Fig. 1. Said lever may be swung upwardly to the dotted line position indicated in Fig. 1, to permit of the links 18 and the pressure foot 13 being swung upwardly to thereby swing the pressure foot 13 upwardly and outwardly. The pivotal suspended head 19, it will be seen, constitutes connecting means between the links and the pressure foot and said links and head jointly constitute a pressure column against which the lever acts in applying pressure to the foot, and with the pivot pin 21 the arrangement forms a pressure column of articulated members which flexes at the articulation and may have a sliding movement relatively to the supporting arm by reason of the slots 25.

By the described arrangement the pressure foot can accommodate itself to different thicknesses of material to be vulcanized, convenience is promoted in replacing and removing the article and an effective pressure can be conveniently applied, the pressure foot in the clamping position being effectively braced. The form and arrangement of the pressure foot also enables the minimum quantity of fuel to be employed and the disk 16 may be made quite thin to be inexpensive in addition to accommodating itself to the patch.

I would state in conclusion that while the illustrated example constitutes a practical embodiment of my invention, I do not limit myself strictly to the mechanical details

herein illustrated, since manifestly the same can be considerably varied without departure from the spirit of the invention as defined in the appended claims.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A vulcanizer including a base, a pressure foot, a support extending over the base, a cam lever fulcrumed on said support above the base, and means pivotally suspending the pressure foot, said means being swingably and slidably movable on the support when released by said cam lever, and adapted when in the clamping position to receive the pressure of said lever, to thereby exert a clamping action on the pressure foot after said foot is in clamping position.

2. A vulcanizer of the class described including a base, a support extending over the base, a pressure device adapted to clamp on the base an article to be vulcanized, means connecting the pressure foot with the support to be swung or moved vertically relatively to the base, and means on said support adapted to engage the pressure foot when in the clamping position to exert pressure on said pressure foot, said last mentioned means being swingable on said support independently of the pressure foot and independently of said connecting means.

3. A vulcanizer of the class described including a base, a support rigid with the base and extending over the same, a cam lever fulcrumed on said support, links at the sides of the lever, said links being slidably and swingable on the support independently of the cam lever, a head pivotally hung on said links at their lower ends, and a pressure foot carried by said head and adapted to be engaged by said lever for exerting pressure on the foot when the links are positioned depending from the support and the pressure head is in clamping position.

4. A vulcanizer of the class described including a base, a support rigid with the base and extending over the same, a cam lever, a fulcrum pin extending through said lever and support, links at the sides of the lever and formed with slots into which the fulcrum pin extends, so that the links normally hang pendent from the support, to be swingable or slidable thereon, said support having forwardly facing stop surfaces against which the backs of the links may bear, a head pivotally hung on the links at the lower ends and adapted when the links are pendent to receive the pressure of the lever, and a pressure foot carried by said head.

CHARLES T. WHITE.