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2 SHEETS--SHEET 1.

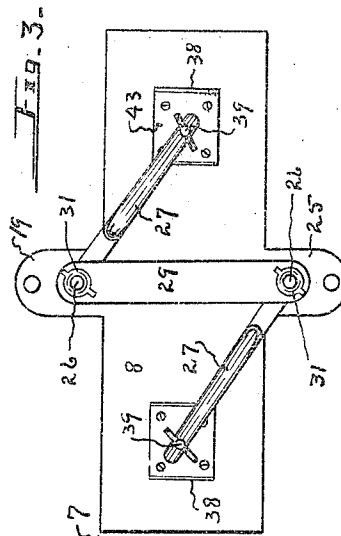
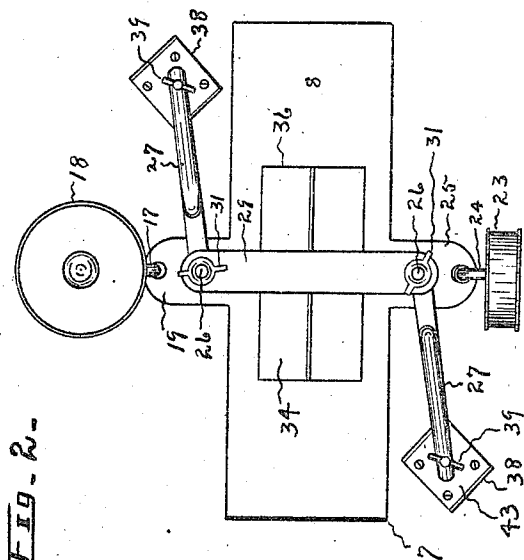


Fig. 2.

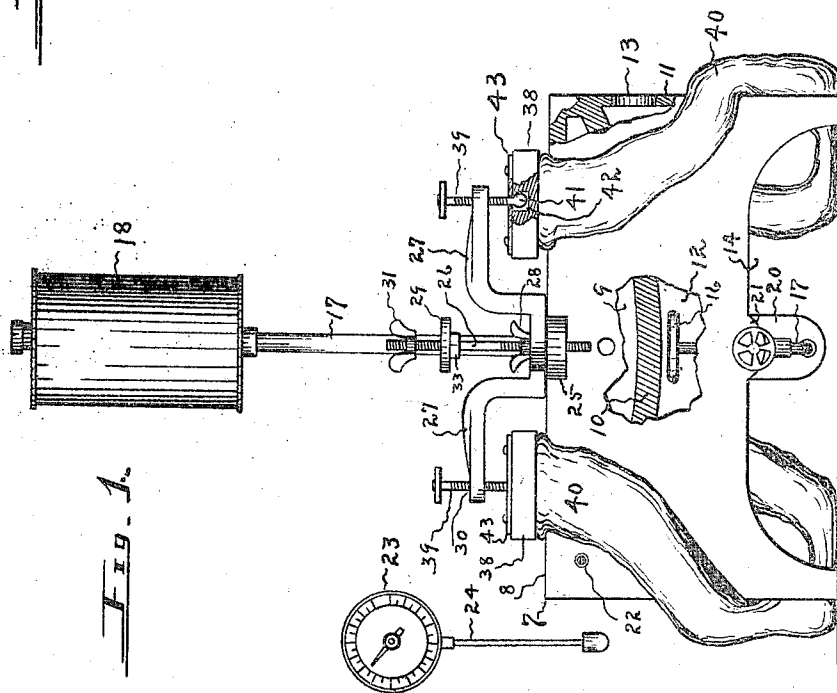


Fig. 1.

Witnesses

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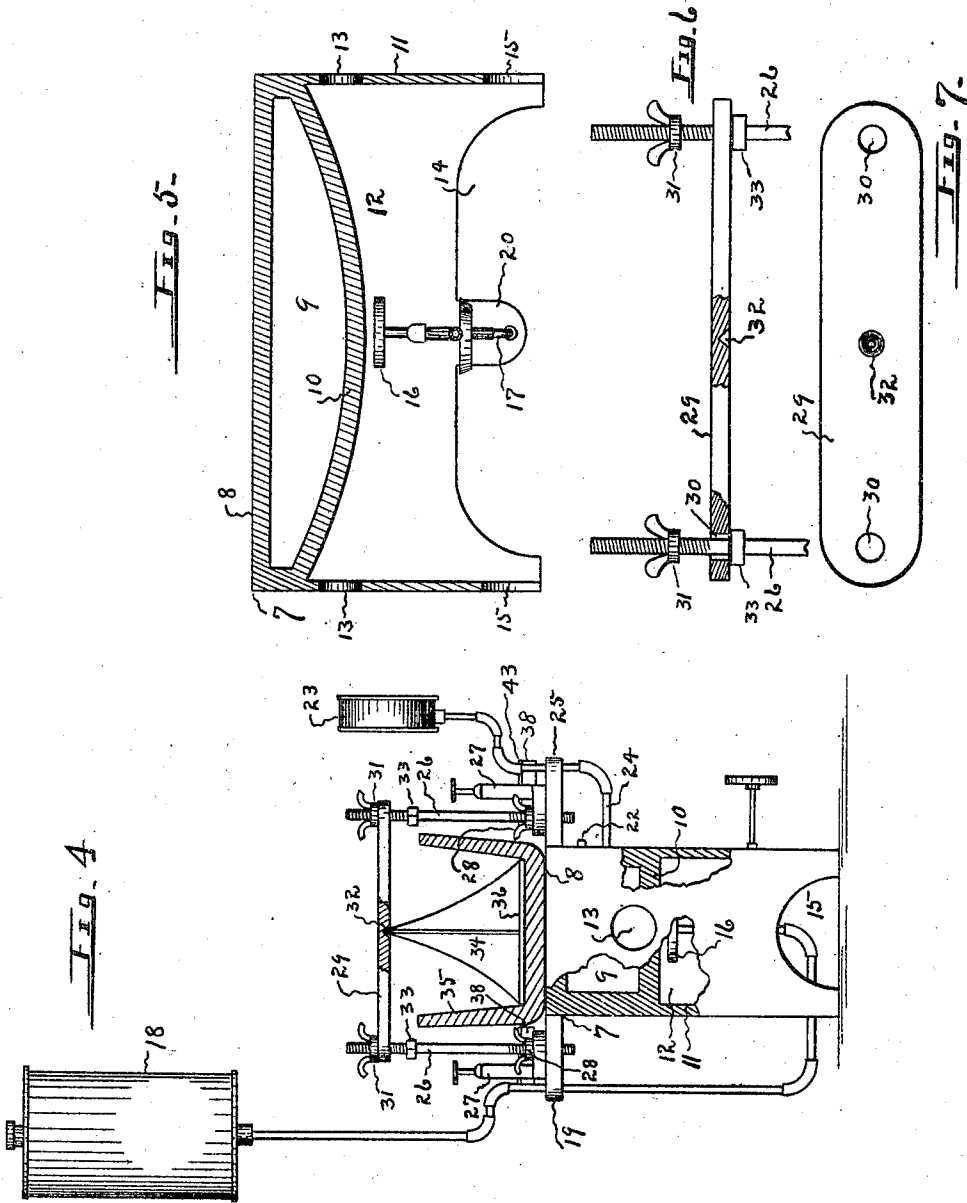
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STEAM VULCANIZER.
APPLICATION FILED MAY 22, 1911.

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Patented Sept. 17, 1912.

2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

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STEAM-VULCANIZER.

1,038,519.

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Application filed May 22, 1911. Serial No. 628,711.

To all whom it may concern:

Be it known that I, ANSEL M. BAUGH, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Steam-Vulcanizers, of which the following is a specification.

This invention relates to improvements in steam vulcanizers for use in repairing automobile tires or similar articles.

One of the objects of the invention is to provide a portable vulcanizer which may be used to advantage in mending both outer and inner rubber tires, the same to consist of few parts and of simple construction so that it may be used by any person of ordinary skill or experience for the purposes named.

Another object is the provision of an apparatus of this class which may be manufactured at slight expense, comparatively, and having its parts so arranged that heat may be generated quickly and with the least expenditure of fuel.

The apparatus includes, briefly, a flat vulcanizing platform, a boiler and a heating chamber, all of which may be formed to advantage as a single, metallic casting, and certain contact-blocks so arranged that they may be conveniently moved and depressed upon the platform for the purpose of vulcanizing the rubber.

With these objects in view the invention presents a novel construction, combination and arrangement of parts as described and claimed, and as illustrated in the drawing, wherein,—

Figure 1 is a vertical, side view of a vulcanizer embodying my invention, the gage being detached; in this view parts of the casing or jacket and a contact-block are partly broken away and in section to illustrate construction. Fig. 2 is a plan view of the device, showing the cone-shaped compression-block in operative position. Fig. 3 is a plan view showing the vulcanizing platform, and dogs or crane-arms with contact-blocks thereon. Fig. 4 is an end view of the vulcanizer, showing an article to be vulcanized and depressed by the cone-block, parts being broken away and in section. Fig. 5 is a view, in longitudinal section, of the body of the vulcanizer. Fig. 6 is an enlarged detail, partly in section, relating to Fig. 4. Fig. 7 is a plan view of the bottom of the compression-plate.

Referring now to the drawing for a more particular description, numeral 7 indicates the body of a vulcanizer which may be constructed to advantage as a single metallic casting to provide upon its upper face a flat, elongated, rectangular vulcanizing platform 8, a compartment 9 below and contiguous to said platform for containing water, said compartment having a longitudinal, concavo-convex bottom depressed at its middle; said casting also provides a jacket or casing 11 rectangular in plan and extending below compartment 9, the ends and sides of said jacket forming a heating chamber 12.

At 13, adjacent to the upwardly inclined end portions of the partition or bottom 10, are indicated exit ways or draft apertures, the same being formed in the ends of the jacket, and recesses 14 and 15 are formed to open upon the lower terminals of the respective sides and ends of the jacket, to provide air-intakes. A gasoline burner 16 is disposed below the middle of the depressed bottom, and it may have a conducting-pipe 17 extending to the supply tank 18, said pipe being supported, in part, by bracket 19 disposed parallel with and projecting rearwardly from and midway between the ends of platform 8, the lower part of the conducting-pipe being supported by bracket 20 formed as a part of the rear side wall of the jacket and projecting downwardly within one of recesses 14; and a similar bracket 21 is formed upon the lower part of the front side wall of the jacket as a support for the valve-shaft of the burner. As thus described, bottom 10 of the water compartment or boiler has the form of an inverted arch to form an upwardly-inclined, longitudinal channel for the upper part of the heating chamber opening upon draft exit-ways 13. On account of this construction an adequate draft is provided for the gas burner, so that water may be quickly heated, said burner being located midway between the draft exit-ways, immediately below the lowest part of the longitudinally curved bottom of the boiler.

At 22 is indicated a screw-plug for the closure of a filling aperture for the boiler; and when chamber 9 has been filled, the water therein may be heated by use of the parts mentioned, the degree of heat being indicated by the steam pressure shown by a suitable pressure-gage 23 having a steam-

pipe 24 in communication with compartment 9, said pipe being supported by ledge or bracket 25, said bracket being disposed parallel with and projecting forwardly from and midway between the ends of platform 8.

At 26 are indicated upright screw-posts, preferably having threaded connections at their lower ends for mountings in ledges or brackets 19 and 25.

At 27 are indicated dogs or crane-arms, each being mounted at its base upon one of said posts and adapted, normally, to swing horizontally thereon.

At 28 are indicated screw-nuts mounted upon the lower, threaded part of the posts, and by means of said screw-nuts, the cranes, after they have been swung to either of the positions shown in Figs. 2 or 3, may be rigidly secured to the horizontal brackets 19 and 25. By this construction the posts are disposed outwardly of the sides and midway between the ends of the vulcanizing platform. At 29 is indicated a compression-plate having apertures 30 formed in its ends for a mounting upon the upper ends of posts 26. Said posts are threaded at their upper ends for a mounting thereon of screw-nuts 31, by means of which the compression-plate may be depressed. Midway between its ends and in its lower side the compression-plate is provided with an annular recess 32.

The posts are provided, between their ends, with shoulders or projections 33. As described they provide a mounting for the compression-plate and a pivotal mounting for the cranes. The apertures of the compression-plate are sufficiently large so that it may be readily elevated or lowered in the space between screw-nuts 31 and projections 33, the posts engaging within apertures 30, and operating as guides for the compression-plate.

At 34 is indicated a cone-shaped contact-block; and in the operation of vulcanizing or repairing an outer tire or other comparatively thick article of rubber material 35 (Fig. 4.), said article may be disposed with its lower surface upon platform 8, the flat base 36 of the contact-block bearing upon its upper surface. Compression of the rubber article between the vulcanizing platform and base of said contact-block may be effected by means of the screw-nuts 31, the apex of the cone-shaped block being seated in recess 32 of the compression-plate.

At 38 are indicated contact-blocks mounted upon the ends of the cranes, and vertically adjustable thereon since they may be depressed upon or elevated from platform 8 by operation of screw-bolts 39, each of said bolts having a threaded connection with the free end of a crane.

Comparatively thin articles of rubber material or the inner tires of automobiles, as indicated at 40 (Fig. 1), may be repaired by

compressing the same between platform 8 and blocks 38, when subjected to the action of heat. Blocks 38 are preferably constructed of wood or other suitable non conducting material, and they are pivotally mounted upon bolts 39, the enlarged ends or heads 41 of the bolts engaging within recesses 42 of the blocks, below caps 43 of said blocks.

It will be understood that, in operation, the outer rubber tire 35 is disposed longitudinally of platform 8. These tires are of U-shape, substantially, in cross-section, and the flat base of block 34 may make the required contact with the inner surface of the article, necessary for vulcanizing, and cuts or abrasions of considerable length or area may be repaired, the adjacent sides of the tire being disposed inwardly of the upright posts, as plainly shown in Fig. 4. When mending inner tires 40, they are disposed transversely of platform 8, as shown in Fig. 1.

By use of the herein described device it will be seen that both the outer and inner tires of automobiles may be repaired; and this may be accomplished without inflating or distending the tires, at the time of making the repairs.

The manner of applying the rubber plates or sheets, cements, &c., upon the outer and inner surface of the tires, at the time of repairing them, is so well known that a description thereof is not necessary.

The function discharged by recess 32 of the compression-plate, is to aid in adjusting the contact-block at a point midway between its ends and at the middle of platform 8.

The vulcanizer as described provides a comparatively inexpensive and convenient apparatus for the use of an automobile owner. Either of the cranes may be readily swung to carry its contact-blocks 38 to such parts of platform 8 as may be desired, where they may be rigidly secured temporarily while vulcanizing articles disposed transversely of said platform; and at that time the compression-plate may be supported upon projections 33, and it will not be obstructive to any of the other parts during the operation of vulcanizing. When it is desired to use the larger or cone-shaped contact-block, the cranes may be conveniently swung outwardly, as shown in Fig. 2.

It will be noted that ledges or brackets 19 and 25 operate for the double purpose of providing a support for the pipes mentioned and for a mounting of screw-posts 26. The parts are few and may be conveniently manufactured; and on account of the formation of the inclined channels, below the longitudinal boiler, opening upon the draft exit ways, the required degree of heat may be quickly generated, and, comparatively, only

a limited quantity of liquid fuel will be required.

Having fully described the several parts in detail, a further explanation relating to operation is not necessary.

What I claim as my invention and desire to secure by Letters Patent is,—

In a vulcanizer, the combination with a hollow casting comprising a water chamber and a flat top portion, a burner element for heating the water in the water chamber, swinging arms mounted to swing in a horizontal plane above the top and pivoted to said casting, vertical screws threaded into the extremities of said arms, contact blocks swiveled for universal movement upon the lower ends of said screws, upstanding rods disposed in transverse alinement with each

other centrally of the casting and upon which the arms have their pivotal mounting, a plate extending transversely of the casting and through which said rods pass, nuts threaded on said rods for forcing said plate downwardly, there being a bearing recess formed in the underface of said plate, and a cone like compression member, the apex of which has loose bearing in said recess and the lower face of which is formed to coact with said flat top portion.

In testimony whereof I have affixed my signature in presence of two witnesses.

ANSEL M. BAUGH.

Witnesses:

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