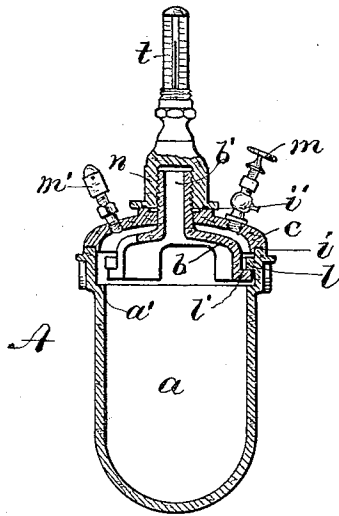


(No Model.)

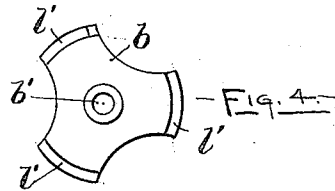
J. W. LYON.
VULCANIZING APPARATUS.

No. 511,629.

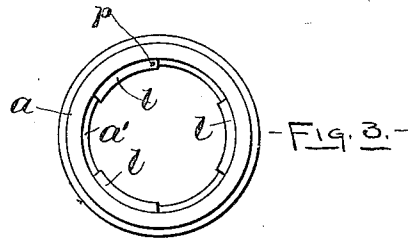
Patented Dec. 26, 1893,



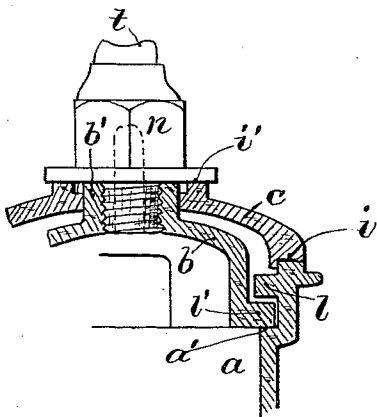
- Fig. 2 -



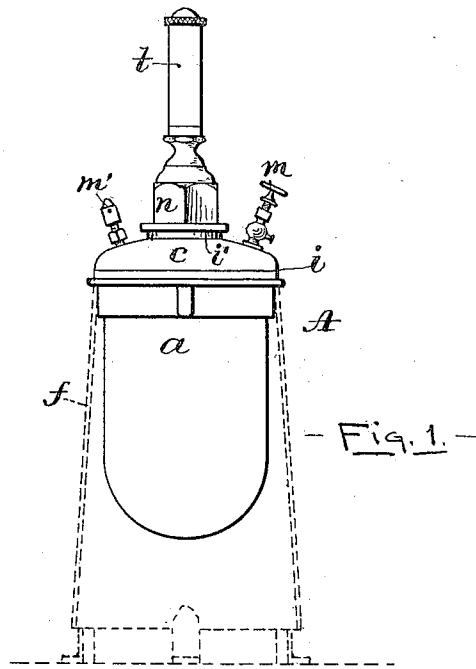
- Fig. 4 -



- Fig. 3 -



- Fig. 5 -



- Fig. 1 -

WITNESSES.

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UNITED STATES PATENT OFFICE.

JOHN W. LYON, OF PROVIDENCE, RHODE ISLAND.

VULCANIZING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 511,629, dated December 26, 1893.

Application filed September 19, 1893. Serial No. 485,866. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. LYON, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Vulcanizing Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to certain improvements in "vulcanizing apparatus," and of the class of vulcanizers more especially adapted for dentists' use, and it consists essentially in the novel construction and arrangement of the parts for producing a joint-fastening for the tops or covers of vulcanizer vessels.

Vulcanizers of the class referred to have usually been so constructed that the tops or covers thereof are removably secured to the vessel or body portion by means of a screw-thread formed on the rim of the cover and the adjacent part of the vessel; sometimes they are fastened down by a series of screws or bolts arranged to be tapped into or pass through a flange or rim projecting from the top of the vessel; in another arrangement the cover is held in place by means of a central clamping screw passing downwardly through a yoke hinged to the vessel's body.

The object I have in view is to produce a dental vulcanizer in which the cover-joint may be made with comparative ease and rapidity; the joint being perfectly tight and very strong. By means of my improvement the apparatus is provided with what may be termed a double-compression joint, both joints being acted upon simultaneously by the operator whenever the vulcanizer is to be opened or closed.

In the accompanying sheet of drawings, Figure 1 represents a side elevation of a dental vulcanizer provided with my improvement. Fig. 2 is a vertical sectional view, taken substantially through the center of the apparatus. Fig. 3 is a plan view of the vessel or chamber, having the cover removed. Fig. 4 is a plan view of the internal clamping

head, and Fig. 5 is a partial sectional view of the upper portion of the vulcanizer, showing a modified form of the clamping-head.

In the drawings A indicates my improved dental vulcanizer as a whole. The vessel or chambered body portion *a* is adapted to be heated and to hold flasks as common to vulcanizers of this class, and is supported by the usual casing *f*; the latter being indicated by dotted lines in Fig. 1. The upper portion of the vessel *a* is enlarged and provided internally, near the top, with a series of fixed lugs *l*. The top end is faced off or otherwise adapted to form a steam-tight joint *i* when combined with the cover *c* about to be described. The said faced portion may be recessed and filled with suitable packing material; for example packing metal having a greater degree of expansion, when heated, than the metal of the vessel *a* may be employed. The cover *c* is annular, its under side being trued off to engage the said faced portion, or packing of the vessel. The central part of the cover has an opening therein to freely receive the stem portion *b'* of the clamping-head *b*. The upper exterior surface of the cover surrounding said opening is adapted to form a steam-tight joint *i'*, substantially as just described with respect to the joint *i*. The cover may be provided with the usual blow-off valve *m* and safety fuse *m'*, tapped into the cover and communicating with the vulcanizer chamber as common.

The clamping-head *b* is mounted within the vessel *a* and provided with a bottom flange adapted to frictionally engage the under side of the lugs *l*. Practically I prefer to cut away portions of the flange, &c., so as to form a series of lugs *l'* corresponding with those of the vessel. The center or stem portion *b'* of the head is annular and screw-threaded and extends through the cover to receive the clamping-nut *n*, as shown in Fig. 2, or it may be made shorter and screw-threaded internally to receive the hollow shank of a bolt *n*, as represented in Fig. 5. The under side of the member *n* is faced off to engage the cover to form the joint *i'*. The upper portion of *n* is tapped to receive a thermometer *t*, the latter being employed to indicate the temperature or pressure of the steam in the vulcanizer as common.

It will be seen, referring to Figs. 3 and 4, that three clamping lugs are provided; it is obvious, however, that the number may be varied without departing from the spirit of the invention. As drawn, the distance between the lugs *l* is somewhat greater than the length, circumferentially, of the lugs *l'*. This is done in order that the head *b* may be readily introduced into the vessel, after which it is turned axially until the two series of lugs are brought contiguous to or opposite each other. One of the lugs *l* is provided with a downwardly extending pin *p*, the same being employed to arrest or stop the rotation of the head. The circular seat *a'*, Fig. 2, serves to prevent the head from falling too far when placed in the vessel.

In view of the foregoing the manner of opening and closing a vulcanizer provided with my improvement is clearly evident, therefore I deem it unnecessary to introduce a more detailed description of the same. I would state, however, that it is perfectly practicable to secure the cover in place by simply screwing the nut down with the fingers, and by means of a wrench fitting the nut the latter may be easily and quickly unscrewed.

I claim as my invention—

1. In a vulcanizing apparatus, the combination with a vessel provided with an internal

flange or lugs, of an annular cover arranged to engage the top of said vessel provided with oppositely facing packing surfaces, a removable clamping head adapted to engage or interlock with said internal lugs and a screw-threaded member adapted to secure said parts together, substantially as described.

2. In a vulcanizing apparatus, the combination with the vessel or body *a* having its top face adapted to form a steam-tight joint and provided with internal lugs *l*, of the clamping head *b* provided with a bottom flange or lugs *l'* arranged to engage with said lugs *l*, an annular cover *c* having its upper and lower faces adapted to form steam joints, and an external clamping member *n*, removably secured to said head and adapted to engage with the cover, for the purpose specified.

3. A vulcanizing apparatus having a body or vessel portion, a removable cover, an outer and a central joint forming, with said vessel, cover, &c., a double compression steam tight joint, and means for clamping the cover to the vessel, substantially as set forth.

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

JOHN W. LYON.

Witnesses:

GEO. H. REMINGTON,
IDA M. WARREN.