

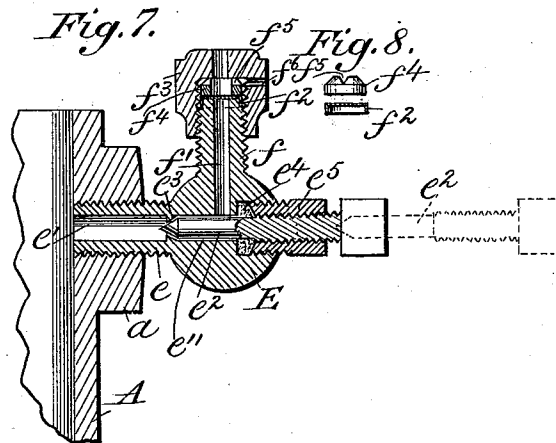
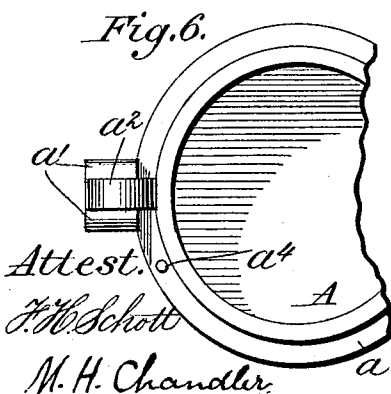
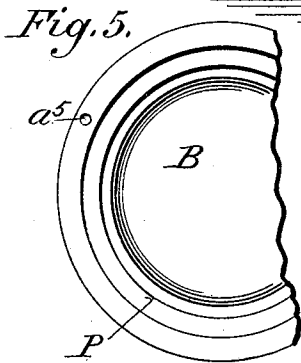
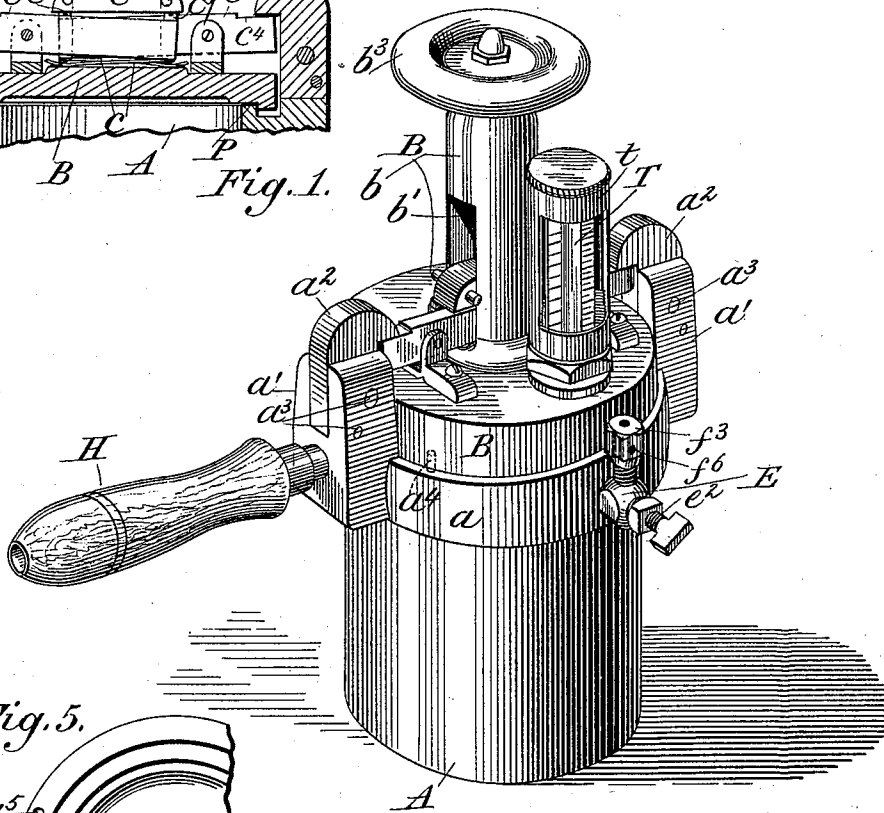
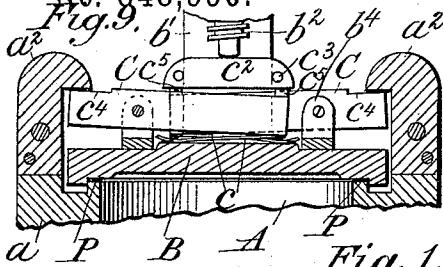
(No Model.)

2 Sheets—Sheet 1

J. HOOD & S. H. REYNOLDS.
VULCANIZING APPARATUS.

No. 548,990.

Patented Oct. 29, 1895.



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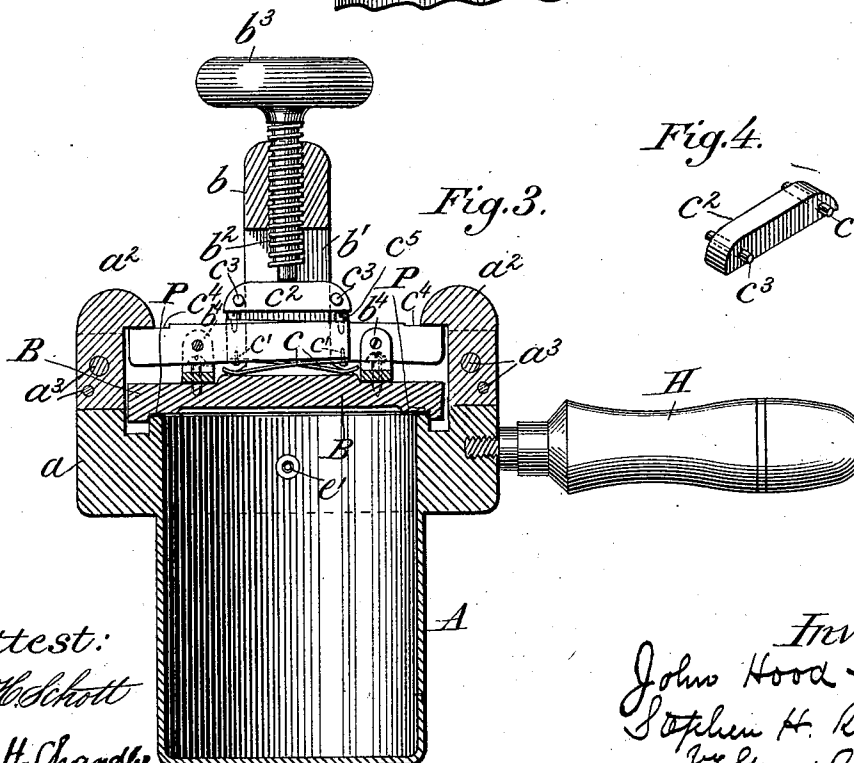
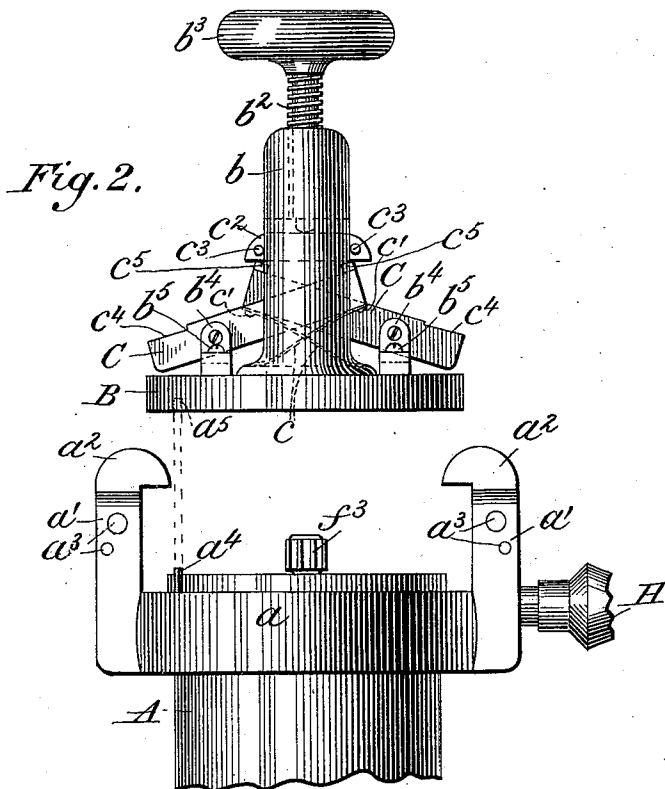
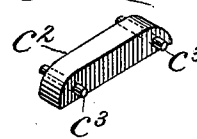


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN HOOD AND STEPHEN H. REYNOLDS, OF BOSTON, MASSACHUSETTS.

VULCANIZING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 548,990, dated October 29, 1895.

Application filed June 1, 1895. Serial No. 551,385. (No model.)

To all whom it may concern:

Be it known that we, JOHN HOOD and STEPHEN H. REYNOLDS, citizens of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Vulcanizing Apparatus, of which the following is a full, clear, and exact description, such as will enable those skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings.

This invention relates to improvements in vulcanizing apparatus of that class which is especially adapted to the use of dentists.

It has for its object the provision of a mechanism whereby the cover can be quickly secured in place on the receptacle, and which mechanism will at the same time have sufficient strength to resist any force that may be exerted by the pressure of the steam on the cover to displace the same.

The invention consists in the novel construction, combination, and arrangement of parts, such as will be hereinafter fully described, pointed out in the appended claims, and illustrated in the accompanying drawings.

In the accompanying drawings, in which similar letters of reference designate corresponding parts, Figure 1 is a perspective view of a vulcanizer embodying the invention. Fig. 2 is a side elevation of the same, the lower portion of the receptacle being broken away and the cover detached and elevated above the receptacle. Fig. 3 is a vertical sectional view of the same. Fig. 4 is a detail perspective view showing the rider. Fig. 5 is a detail view showing a portion of the under side of the cover. Fig. 6 is a similar view showing a portion of the upper edge of the receptacle. Fig. 7 is an enlarged detail sectional view showing the steam-escape mechanism. Fig. 8 is a detail view showing the safety-disk and the washer. Fig. 9 is a side elevation of the levers and the rider, the former being depressed below the horizontal.

Referring to the drawings by letter, A designates the receptacle in which the material to be treated is placed. Around the upper end of the receptacle an annular shoulder *a* is formed. This shoulder in the present instance is made integral with the receptacle.

It may be made separate, however, and secured to the receptacle in any manner suitable in the premises. On diametrically-opposite sides of the receptacle the lugs *a'* *a'*, bifurcated at their upper ends, project from the annular shoulder. Between the bifurcations of each lug a hook or catch *a²* is seated and is secured therein by the rivets *a³* *a³*. The ends of these hooks or catches project inwardly. It is obvious that they may be cast integrally with the receptacle. A suitable handle H is secured to the receptacle by having a screw projecting from its inner end turned into the shoulder *a*.

Upon the cover B in a central position the standard *b* is mounted and has formed in its lower end the slot *b'*. A vertical screw-threaded aperture extends through the top of the standard to the slot *b'* and has mounted therein the screw *b²*. The latter is provided with a hand-wheel *b³*. On opposite sides of the post and in line with the slot in the lower end of the same the bifurcated ears *b⁴* *b⁴* are respectively secured by the screws *b⁵* *b⁵* to the cover. The levers C C are respectively pivoted between the bifurcations of these ears. The inner ends of the levers project through the slot *b'* side by side. Each is normally held in an elevated position at its inner end by the spring *c*, interposed between the same and the cover, the spring being secured to the lever by the screw *c'*. Mounted in the slot *b'* and resting on the ends of the levers C C is the rider *c²*. The latter is provided with spurs *c³* *c³*, which serve to retain the same in its proper position. On this rider the lower end of the screw *b²* impinges.

The rider *c²* does not rest directly upon the upper faces of the levers C C, but rests upon lugs projecting from the upper faces of the levers. These lugs are in the present instance the screw-heads *c⁵* *c⁵*. They may be formed integral with the levers. If the rider rested directly on the upper faces of the levers, it is obvious that the depression of the inner ends of the latter would be limited. This limitation would be occasioned by the upper faces of the levers and the under face of the rider coming into substantially the same horizontal plane, so that the pressure of the rider would be distributed along the entire length of the levers where the rider con-

tacted with the same, and the pressure that would be exerted in consequence would not be so great as if the pressure should be confined to the ends of the levers. In the present instance the lugs formed by the screw-heads c^5 c^5 are the only parts of the levers that come in contact with the rider no matter how far the inner ends of the levers may be depressed. Consequently the pressure exerted by the rider will always be on the ends of the levers, and thereby secure the most powerful action of the latter.

The upper face of the shoulder a has projecting therefrom a pin a^4 , which is adapted to register with the socket a^5 , formed in the under face of the cover B. The object of this pin and socket is to insure the proper seating of the cover on the receptacle.

An annular groove is formed in the under face of the cover and has placed therein the soft-metal packing P. When the cover is secured in place, a steam-tight joint between the same and the receptacle is secured.

When it is desired to secure the cover on the receptacle, the screw b^2 is turned out of the standard to such an extent as to allow the springs c c to depress the outer ends of their respective levers. The cover is then placed on the receptacle. The proper relative positions of the two are insured by the registration of the pin a^4 with the socket a^5 . When so placed, the outer ends of the levers will be immediately under their respective catches a^2 a^2 . The screw b^2 is then turned down and by impinging on the rider c^2 forces the inner ends of the levers downward, and thereby raises their outer ends into engagement with their respective catches. It is to be observed that the outer ends of the levers are cut away at c^4 c^4 to provide proper bearing-surfaces of the same against their respective catches.

E designates a bulb having two arms or pipes e and f , which are externally screw-threaded. It is connected with the receptacle by having one of its arms e screwed through the shoulder a and the wall of the receptacle. Through these arms passages e' and f' respectively lead. The passage e' opens at its inner end into the receptacle. In the outer end of this passage a pin e^2 is mounted, which controls the same. The inner end of the pin is beveled and is adapted to be seated on the annular flange e^3 , projecting from the inner face of the passage e' . The outer end of the passage is enlarged and has seated therein around the pin the packing e^4 . The latter is held in place and compressed by the sleeve e^5 , screwed into the outer end of the passage. Through the sleeve the pin passes, being screwed therein, the outer end of the pin and the inner periphery of the sleeve being screw-threaded for the purpose.

The passage f' , leading through the arm f , connects with the passage e' at a point intermediate of the flange e^3 and the packing e^4 . Ordinarily the upper end of this passage is

closed by the safety-disk f^2 . The latter is held in place by the cap f^3 , mounted on the outer end of the arm f . Between the disk and the cap a washer f^4 is interposed. The latter has a transverse groove f^5 , formed in its upper face, which is adapted to register with the aperture f^6 , formed in the side of the cap.

In order to remove a ruptured disk, the cap f^3 is unscrewed. It often happens that the disk becomes jammed in the cap against the washer f^4 . If this should happen, the removal of the disk is facilitated by forcing a sharp-pointed instrument through the aperture f^6 in the cap into the groove f^5 between the cap and the washer, and the latter thereby displaced, and consequently the disk.

It is to be observed that the washer and the cap are provided with openings in alignment with the passage f' to allow a free egress of the steam should the disk be ruptured.

By turning the pin e^2 out of the passage e' the pressure of the steam in the receptacle can be regulated or allowed to escape altogether. When the pressure of the steam reaches a certain point, which has been determined to be the safety limit, the disk f^2 will be ruptured and the steam allowed to escape through the passage f' . The pressure which the disks, which are of a uniform structure, can sustain can be easily determined, and when one is ruptured it can be readily replaced.

A thermometer T is attached to the cover for obvious purposes. It is provided with a rotatable cover or jacket t , which serves to protect the same against injury and extraneous cooling.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a vulcanizing apparatus, the combination of the receptacle, the catches projecting therefrom, the cover, the slotted standard mounted thereon, the levers pivoted to the cover, adapted to engage with the said catches at their outer ends and having their inner ends projecting through the slot formed in the standard, and the mechanism for depressing the inner ends of the levers, substantially as described.

2. In a vulcanizing apparatus, the combination of the receptacle, the catches projecting therefrom, the cover, the slotted standard mounted thereon, the levers pivoted to the cover, adapted to engage with the said catches at their outer ends and having their inner ends projecting through the slot formed in the standard, the rider mounted in the said slot and resting on the inner ends of the levers, and the screw mounted in the standard and impinging on the said rider, substantially as described.

3. In a vulcanizing apparatus, the combination of the receptacle, the catches projecting therefrom, the cover, the slotted standard mounted thereon, the levers pivoted to the cover, adapted to engage with the said catches

at their outer ends and having their inner ends projecting through the slot formed in the standard, the lugs projecting from the upper faces of the inner ends of the levers, the rider mounted in the said slot and resting on the said lugs, and the screw mounted in the standard and impinging on the rider, substantially as described.

4. In a vulcanizing apparatus, the combination of the receptacle, the catches projecting therefrom, the cover, the bifurcated ears mounted thereon, the levers respectively pivoted between the bifurcations of the said ears and having their outer ends adapted to engage with the said catches, and the mechanism for depressing the inner ends of the said levers, substantially as described.

5. In a vulcanizing apparatus, the combination of the receptacle, the catches projecting therefrom, the cover, the bifurcated ears mounted thereon, the levers respectively pivoted between the bifurcations of the said ears, the springs interposed between the inner ends of the levers and the cover, and the

mechanism for depressing the inner ends of the said levers, substantially as described.

6. In a vulcanizing apparatus, the combination of the receptacle, the catches projecting therefrom, the cover, the standard centrally mounted thereon and slotted at its lower end, the bifurcated ears secured to the cover on opposite sides of the said standard, the levers respectively pivoted between the bifurcations of the said ears, their outer ends being adapted to engage with the said catches and their inner ends projecting through the slot formed in the standard, the rider mounted in the said slot and resting on the inner ends of the levers, and the screw mounted in the standard and impinging on the rider, substantially as described.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

JOHN HOOD.

STEPHEN H. REYNOLDS.

Witnesses:

GEO. L. RIDLEY,

O. H. BURLEIGH.