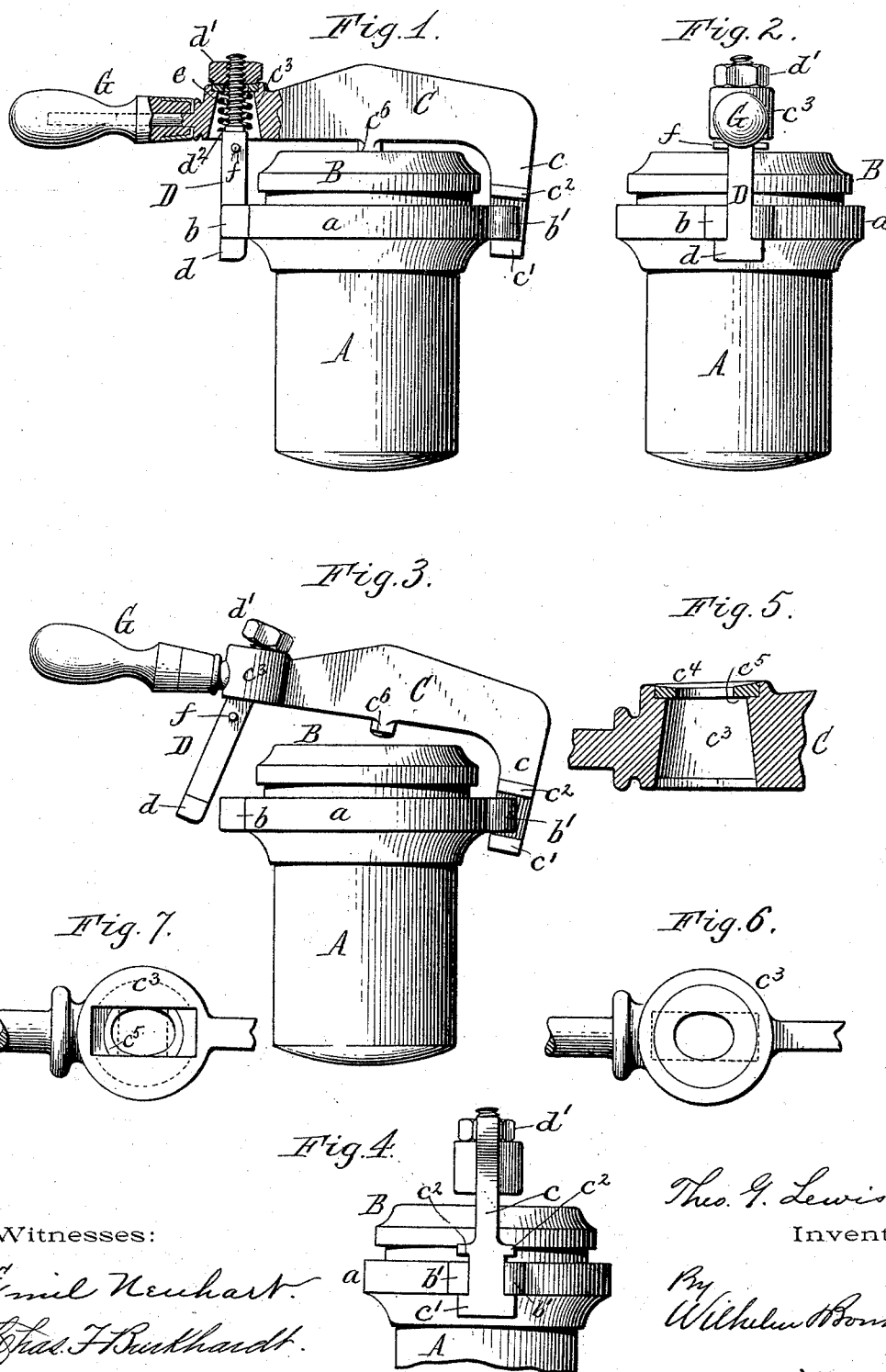


(No Model.)

T. G. LEWIS.  
DENTAL VULCANIZER.

No. 526,785.

Patented Oct. 2, 1894.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## DENTAL VULCANIZER.

SPECIFICATION forming part of Letters Patent No. 526,785, dated October 2, 1894.

Application filed May 3, 1894. Serial No. 509,873. (No model.)

*To all whom it may concern:*

Be it known that I, THEODORE G. LEWIS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Dental Vulcanizers, of which the following is a specification.

This invention relates to that class of dental vulcanizers in which the cover is clamped upon the vulcanizing pot by a detachable yoke or cross bar.

My invention has for its object to provide a construction of the yoke and vulcanizer which avoids the use of parts that interfere with the convenient manipulation of the pot, and which, while affording a reliable connection of the yoke with the vulcanizer pot, enables the yoke to be readily applied and removed.

In the accompanying drawings:—Figure 1 is a sectional side elevation of a dental vulcanizer containing my improvement, showing the cover clamped upon the pot. Fig. 2 is a front view thereof. Fig. 3 is a side elevation, showing the bolt of the yoke released, preparatory to removing the yoke from the vulcanizing pot. Fig. 4 is a fragmentary rear view of the vulcanizer. Fig. 5 is a vertical longitudinal section of the socket at the front end of the yoke. Fig. 6 is a top plan view of said socket. Fig. 7 is a bottom plan view thereof with the bolt shown in section.

Like letters of reference refer to like parts in the several figures.

A represents the vulcanizing pot, and B is the cover having the usual depending rim which overlaps the upper end of the pot. The latter is provided near its upper end with a collar or flange *a* having laterally projecting lugs *b b'* on diametrically opposite portions thereof, the lugs being arranged in pairs, and those of each pair being separated by an intervening space, as shown in Figs. 2 and 4.

C represents the yoke or cross bar whereby the cover is clamped upon the pot. This yoke is provided at its rear end with a rigid depending arm *c* which fits between the rear lugs *b'* of the pot, and is formed at its lower end with a T-head or transverse lug *c'* which bears against the under side of such rear lugs when the yoke is tightened.

*c*<sup>2</sup> represents lateral projections or lugs

formed on the depending yoke arm above the transverse end lugs *c'* and adapted to rest upon the upper side of the rear lugs of the pot for supporting the rear portion of the yoke, in attaching it to the pot.

D is a laterally swinging clamping bolt carried by the front portion of the yoke and adapted to interlock with the lugs *b* on the front side of the vulcanizing pot. The lower portion of this bolt engages between the lugs *b*, and its lower end terminates in a transverse head *d*, similar to the head *c'*, which bears against the under side of said lugs. The upper portion of the clamping bolt passes through a socket or perforated enlargement *c*<sup>3</sup> formed at the front end of the yoke, and carries at its projecting upper end a clamping nut *d'* which bears upon the upper end of said socket. The socket or opening *c*<sup>3</sup> is elongated lengthwise of the yoke at its upper end and flared downward, as shown in Fig. 5, to permit the lower end of the bolt to swing outward sufficiently to become disengaged from the front lugs of the pot. The body of the bolt is flat-sided and the lower end of the yoke socket is contracted in the form of a slot or oblong opening, as shown in Fig. 7, to prevent the bolt from turning in the socket.

The upper end of the yoke socket is made concave, as shown at *c*<sup>4</sup>, in Fig. 5, to form a seat for the clamping nut, and this seat is preferably inclined or deepened toward the front end of the yoke, to give the lower end of the bolt a tendency to swing toward the body of the vulcanizer in tightening it, and thus remain reliably in engagement with the lugs of the pot. The under side of the nut is rounded as shown, to fit its concave seat.

*e* is a spiral spring surrounding the contracted upper portion of the bolt and bearing at its upper end against a stop or shoulder *e*<sup>5</sup> arranged within the upper portion of the socket *c*<sup>3</sup>, and at its lower end against the shoulder *d*<sup>2</sup> of the bolt. This spring is compressed when the clamping nut is tightened, and upon loosening the nut, the spring depresses the bolt, thus facilitating its disengagement from the lugs of the pot. The stop of the spring preferably consists of a ring secured in a recess at the upper end of the yoke-socket, and having a somewhat smaller bore than the socket.

*f* is a stop pin or projection arranged on the clamping bolt adjacent to the under side of the yoke and serving to limit the upward movement of the bolt in its socket, when loose, thereby preventing displacement of the same. This stop pin is arranged so far below the under side of the yoke as to permit the necessary longitudinal movement of the bolt for tightening the yoke.

G is a laterally projecting handle secured to the front end of the yoke for manipulating the same and for lifting and carrying the vulcanizing pot when the yoke is attached thereto.

The yoke is provided on its under side with a central projection *c*<sup>6</sup> which bears upon the pot cover.

In applying the yoke to the vulcanizer its rigid arm is interlocked with the rear lugs of the pot by inclining the yoke rearwardly, the yoke being raised at its front end sufficiently to bring the head of the spring bolt above the front lugs of the pot, and the lateral projections *c*<sup>2</sup> of the rigid yoke arm resting during this operation upon the rear lug of the pot, preventing downward displacement of the yoke. At the same time that the yoke is thus interlocked with the rear lugs of the pot the head of the spring bolt is swung outward by pressing the thumb against the nut of the bolt, whereby the spring of the bolt is compressed on its outer side. Upon not lowering the yoke and releasing the bolt the latter rides with its rounded head over the front lugs of the pot and is sprung inward between such lugs by the reaction of its spring. The yoke is next locked by tightening the nut of the bolt. The yoke is released by loosening the clamping nut and swinging the bolt out of engagement with the front lugs, as shown in Fig. 3, whereupon the yoke can be detached. In unscrewing the nut, the spring, which has been previously compressed in tightening the bolt, expands downward and forces the bolt in the same direction, thereby assisting in releasing the bolt from the front lugs in case it should bind. Only a few turns of the nut are required to loosen the bolt, and as the bolt is disengaged from the lugs of the pot by a swinging movement, which is rapidly and conveniently accomplished, the cover is readily released.

When the yoke is removed, no loose or swinging parts remain upon the vulcanizing pot, and the latter can, therefore, be manipulated without inconvenience.

I claim as my invention—

1. The combination with a vulcanizing pot having lugs on opposite sides, of a cover, a clamping yoke for the cover engaging at one end with the lugs on one side of the pot, and a clamping bolt arranged on the opposite side of the pot and passing through an opening in the yoke, elongated in the longitudinal direction of said yoke, said bolt having at its lower end a head adapted to engage under the adjacent lugs and at its upper end a screw

nut bearing upon the yoke, whereby the bolt is engaged with or disengaged from said lugs by a movement toward and from the side of the pot and is tightened or released by a vertical movement in the yoke, substantially as set forth.

2. The combination with a vulcanizing pot having lugs on opposite sides thereof, of a cover, a clamping yoke for the cover provided at one end with a depending arm adapted to interlock with the lugs on one side of the vulcanizing pot, and at its opposite end with a socket or opening, having at its upper end a nut-seat inclined toward the front end of the yoke, a laterally-swinging bolt carried by the yoke, passing through the opening of the latter, and provided at its lower end with a head interlocking with the lugs on the adjacent side of the vulcanizing pot and at its upper end with a clamping nut bearing upon the inclined seat of the yoke-opening, substantially as set forth.

3. The combination with a vulcanizing pot having lugs on opposite sides thereof, of a cover, a clamping yoke for the cover provided at one end with a depending arm adapted to interlock with the lugs on one side of the vulcanizing pot, and at its opposite end with an opening or socket, a clamping bolt capable of moving lengthwise in said opening or socket and adapted to interlock with the adjacent lugs of the vulcanizing pot, and a spring applied to said clamping bolt, substantially as set forth.

4. The combination with a vulcanizing pot having lugs on opposite sides thereof, of a cover, a clamping yoke for the cover provided at one end with a depending arm adapted to interlock with the lugs on one side of the vulcanizing pot, and at its opposite end with an opening or socket having an internal stop, a shouldered bolt capable of moving lengthwise in said opening or socket and adapted to interlock with the adjacent lugs of the vulcanizing pot, a clamping nut arranged at the upper end of said bolt, and a spring applied to the bolt between its shoulder and the stop of said socket, substantially as set forth.

5. The combination with the vulcanizing pot having lugs on opposite sides thereof, of a cover, a clamping yoke for the cover, having at one end a depending arm provided with a lug adapted to interlock with the lugs on one side of the vulcanizing pot and above its locking lug with a lateral projection adapted to rest upon the lugs of the vulcanizing pot, and a clamping bolt attached to the opposite end of the yoke and interlocking with the lugs on the adjacent side of the vulcanizing pot, substantially as set forth.

Witness my hand this 26th day of April, 1894.

THEODORE G. LEWIS.

Witnesses:

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ELLA R. DEAN.