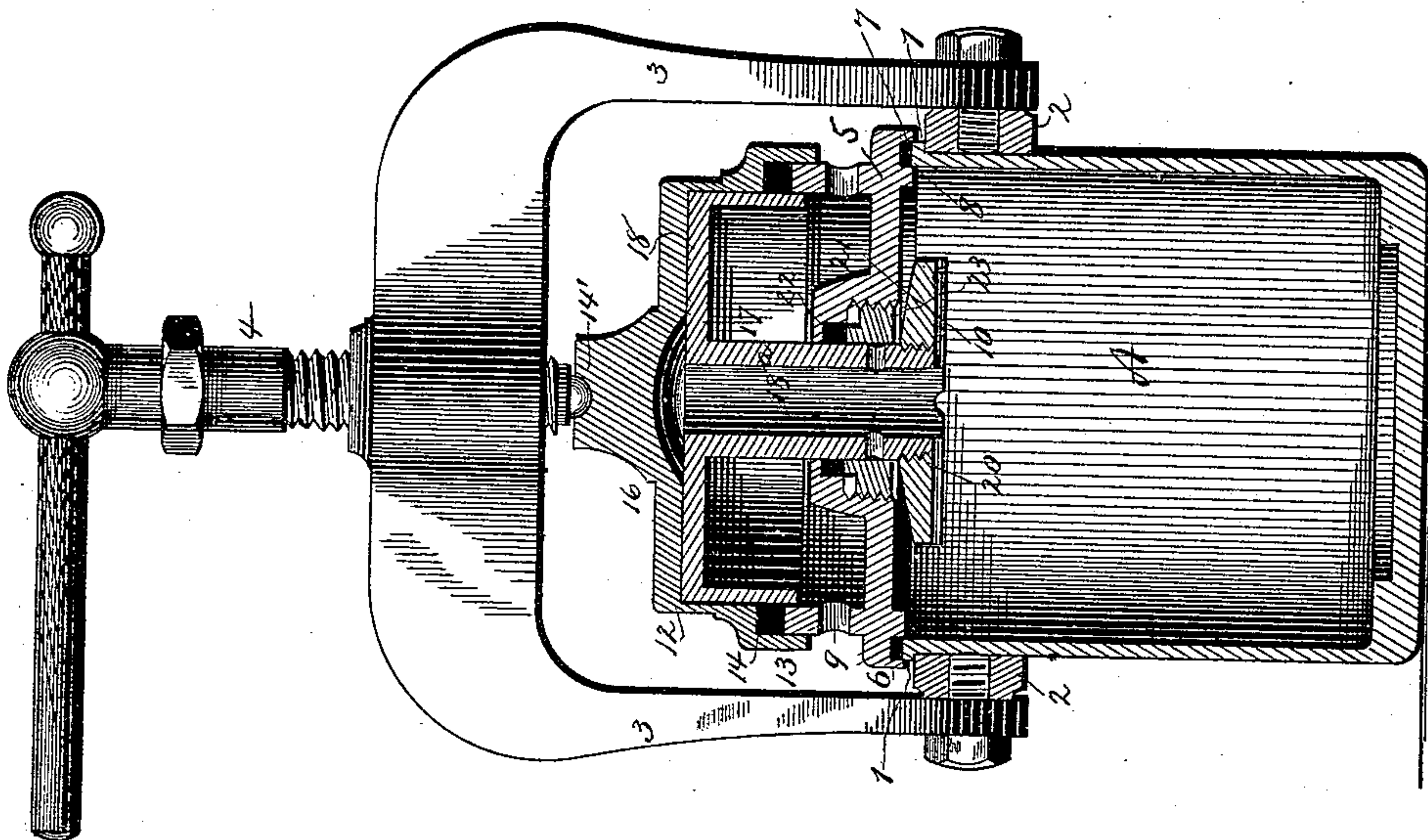
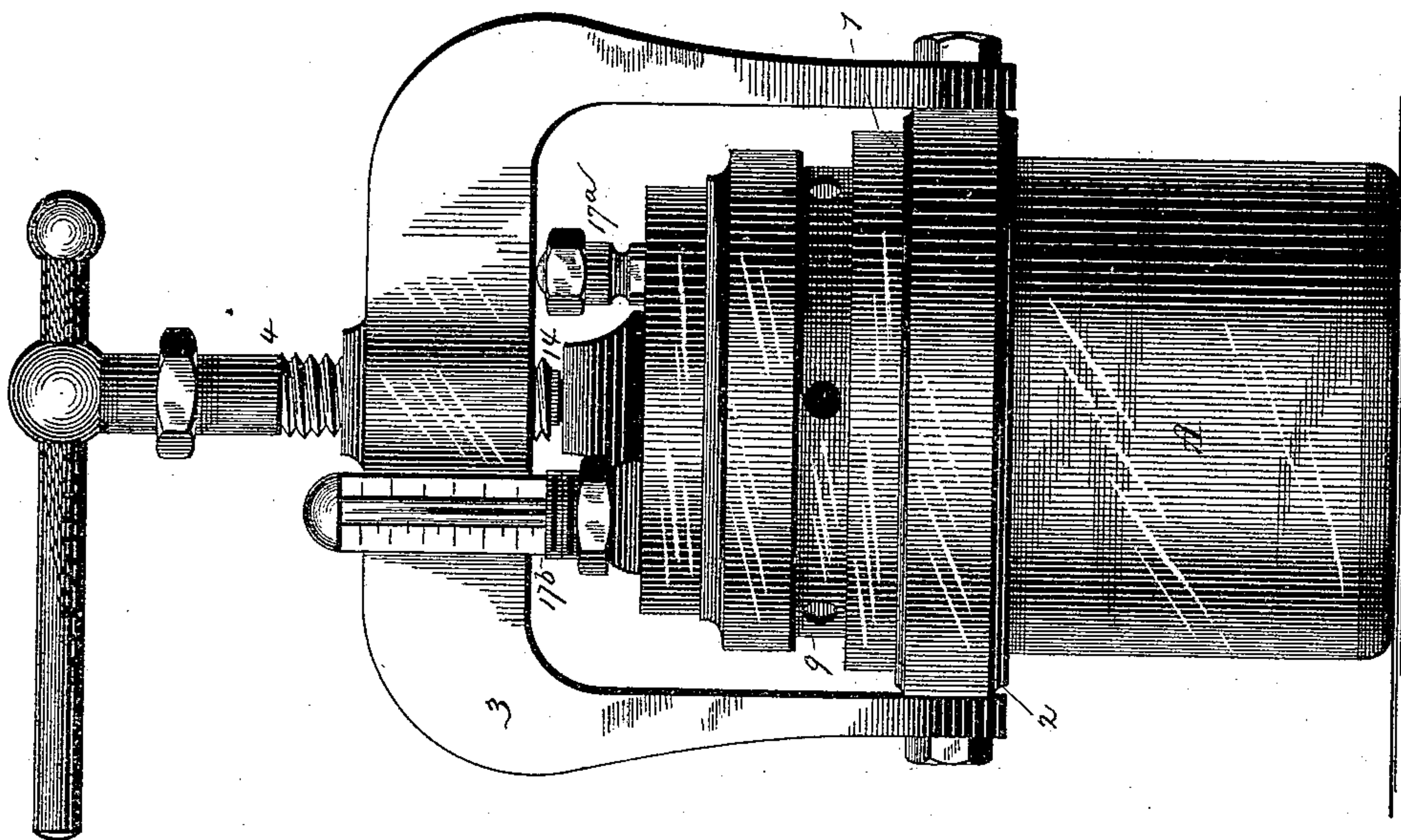


(No Model.)

R. W. BARNEY.
VULCANIZING APPARATUS.

No. 446,216.

Patented Feb. 10, 1891.



Witnesses
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UNITED STATES PATENT OFFICE.

RICHARD W. BARNEY, OF HORNELLSVILLE, NEW YORK.

VULCANIZING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 446,216, dated February 10, 1891.

Application filed April 7, 1890. Serial No. 346,967. (No model.)

To all whom it may concern:

Be it known that I, RICHARD W. BARNEY, of Hornellsville, in the county of Steuben and State of New York, 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.

My invention relates to an improvement in vulcanizing apparatus, the object being to provide a simple and effective appliance for automatically closing the flasks which contain the caoutchouc or other material under the process of vulcanization by the pressure of the steam generated in the flasks during the process of vulcanization.

With this end in view my invention consists in certain novel features of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in elevation of my improved vulcanizer, and Fig. 2 is a vertical section.

A represents the body or receptacle of the vulcanizer, in which the flasks containing the material to be treated are placed in the accustomed manner. This receptacle is provided with an annular boss 1 at its upper edge, and a band 2, surrounding the receptacle, abuts against this boss, by which it is retained on the receptacle. A bail 3 is pivoted to this band 2, and it is adapted to swing over the other parts of the vulcanizer. At its upper end the bail is furnished with a screw 4, which is designed to hold the parts of the vulcanizer together when screwed down or release them when unscrewed, as will be more fully explained hereinafter.

The cover 5 is fitted over the top of the receptacle A, and in order to form a steam-tight joint it has an offset lower edge 6, in which a recess 7 is formed to receive the packing 8. Above the offset 6 a cylinder 9 is formed integral with the cover, and the space 10 within this cylinder admits of the free downward action of the piston. Cap 12, having an offset lower edge 13, in which the packing 14 is contained, rests upon the cylinder 9, with the packing 14 between the two to form a steam-tight joint and also to pack the piston.

The inner wall of the portion of the cap adjacent to the cylinder is in alignment with that of the cylinder, so that the two, in effect, constitute continuations of each other; or, in other words, one cylinder with a packing-ring between them. When the parts described are assembled, assuming the positions shown, the bail 3 is swung over the center of the cap, and to make the joints air-tight the screw is turned down into the seat 14' formed for it in the boss or projection 16 of the cap until the packings are properly compressed to prevent the escape of steam. A valve 17^a on the cap provides for the escape of steam, if desired, and a thermometer 17^b determines the temperature. Within the cylinder a piston 17 is fitted. This piston has a hollow head 18, leaving sufficient of the outer surface of the piston-head to have continual bearing-contact upon the packing 14. The stem or rod 18^a, of the piston extends down through an opening formed for it in the center of the cover into the receptacle below, where it is provided with a nut or washer 20, which is screwed onto its lower end. This nut or washer not only holds the parts together when the cover is taken from the receptacle, but it also gives increased surface for contact with the flasks. An enlargement 21, formed in the center of the cover, is milled or hollowed out, and a packing 22 is held therein to form a steam and air tight joint at this point. This packing is held in place by a follower 23, which is screwed back of it.

To remove the cover and operate the machine, the screw is turned back and the bail swung back. The cover with the cap as though in one piece is then removed, and the flasks containing the material being treated are placed in the receptacle. The parts are then assembled in reverse order from which they are taken apart and heat is applied. A portion of the steam generated passes up through the piston stem or rod of the piston in the dome in the cap and derives a purchase on the piston at this point. The piston then descends, and the flasks are thus automatically closed when sufficient steam has been generated.

It is evident that slight changes might be resorted to in the form and arrangement of the several parts described without departing

from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact construction herein set forth; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a vulcanizing apparatus, the combination, with a receptacle, a cover, a cap loosely seated on the cover, and a piston passing through the cover with its head resting in the space between the cover and cap, of a bail connected with the receptacle and having a screw or other device adapted to turn in the bail and bear upon the cap, substantially as set forth.

2. In a vulcanizing apparatus, the combination, with a receptacle having an annular boss at or near its open end, a band encircling the receptacle beneath the boss, and a bail hinged to this band and having a screw therein, of a cover fitted on the top of the receptacle, a cap loosely seated on the cover and having a centrally-located bearing for the screw, and which is held down by the screw, and a piston fitted inside the cover and cap, substantially as set forth.

3. In a vulcanizing apparatus, the combination, with a receptacle, a bail having hinged connection with the receptacle, and a screw in the bail, of a cover fitted on the upper edge of the receptacle and having a steam-tight joint formed between them, a cap loosely

mounted on this cover, against which the screw is turned, and a piston fitted inside the cover and cap and having a hollow stem which extends through the hole in the center of the cover, and packing around the head and stem of the piston, substantially as set forth.

4. The combination, with a receptacle having an annular boss at or near its upper or open end, a band encircling the receptacle beneath the boss, and a bail hinged to this band and provided with a screw for forcing the parts of the vulcanizing apparatus together, of a cover having an offset on its lower edge, with a packing therein adapted to form a steam-tight joint between the cover and receptacle, a cylinder on this cover, a cap loosely mounted on the cover, which forms a continuation of the cylinder and has a packing between it and the cover, a piston fitted within the space formed between the cap and cover, said piston having a hollow stem, a packing around the stem, and a follower for retaining the packing, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

RICHARD W. BARNEY.

Witnesses:

A. B. WOODARD,
E. H. MINER.