

No. 751,493.

PATENTED FEB. 9, 1904.

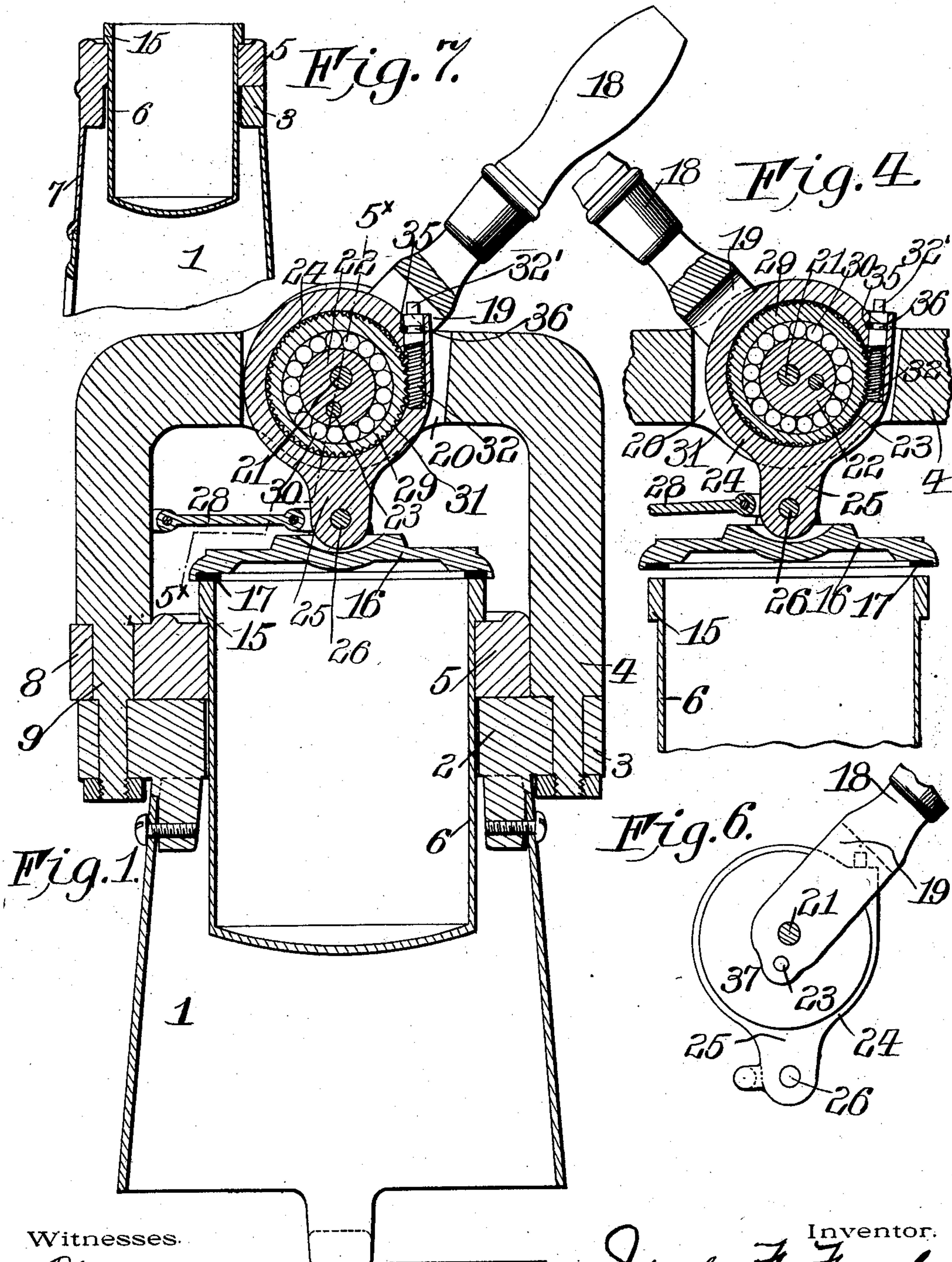
J. F. FUNCK.

VULCANIZER.

APPLICATION FILED SEPT. 17, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses.

Walter B. Payne.
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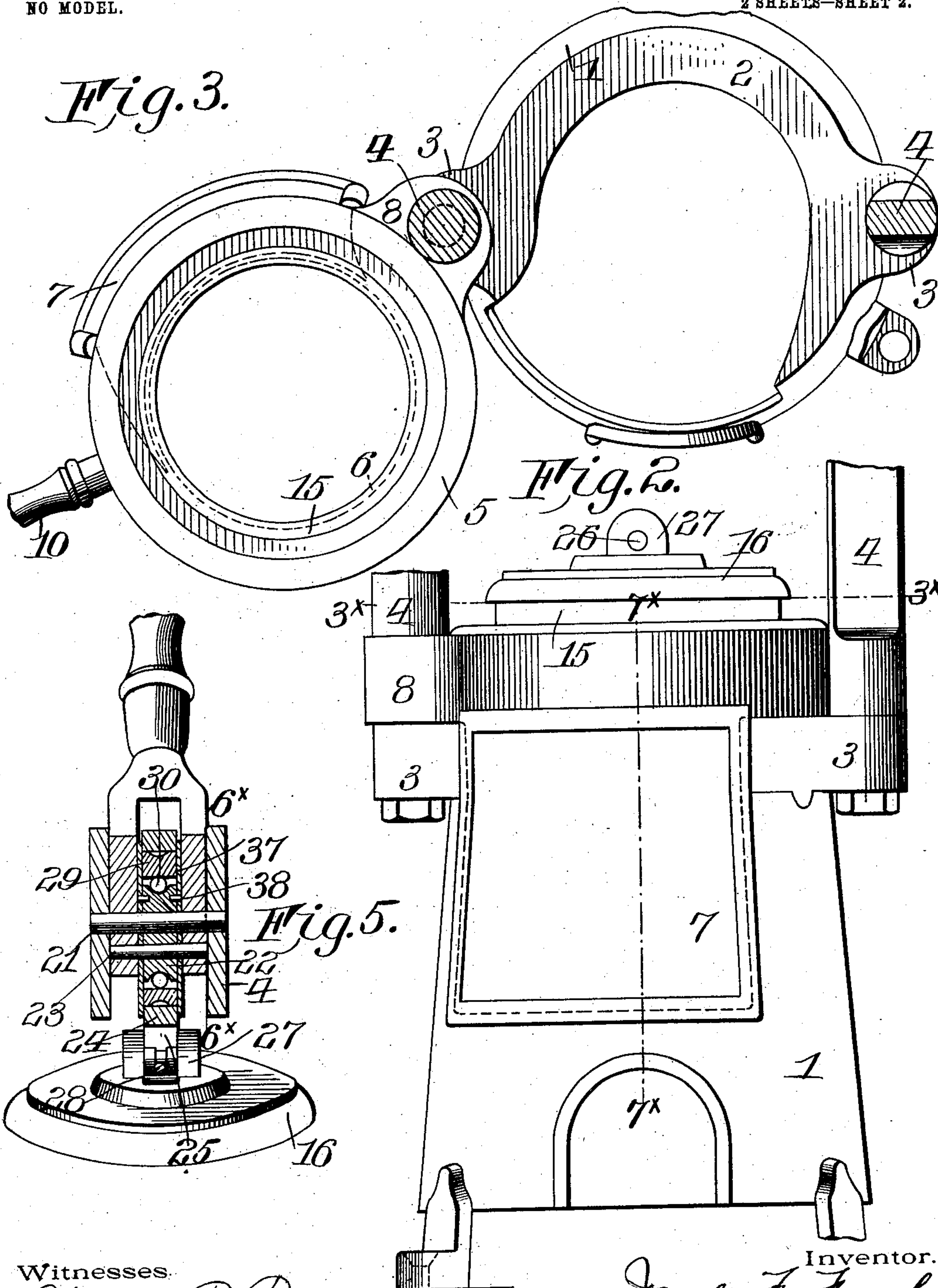
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UNITED STATES PATENT OFFICE.

JACOB F. FUNCK, OF ROCHESTER, NEW YORK, ASSIGNOR OF ONE-HALF
TO PHILIPP FUNCK, OF ROCHESTER, NEW YORK.

VULCANIZER.

SPECIFICATION forming part of Letters Patent No. 751,493, dated February 9, 1904.

Application filed September 17, 1902. Serial No. 123,674. (No model.)

To all whom it may concern:

Be it known that I, JACOB F. FUNCK, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Vulcanizers; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention has for its object to provide a vulcanizer in which the retort may be easily and quickly removed and also one in which a closure for said retort may be moved into engagement therewith by suitable mechanism that is easily operated, the parts being so arranged that they may be conveniently adjusted to regulate the pressure by which the closure and retort are held in contact either to prevent leakage between them or to take up any wear occurring between the parts; and to these and other ends the invention consists in certain improvements in construction and combination of parts, all as will be hereinafter fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings, Figure 1 is a longitudinal sectional view of a vulcanizer constructed in accordance with my invention. Fig. 2 is a side view thereof in which the yoke and operating mechanism for the closure have been broken away. Fig. 3 is a sectional view on the line 3^x 3^x of Fig. 2, illustrating the operation of the support for the retort. Fig. 4 is a detail view of the closure-operating devices. Fig. 5 is a cross-sectional view thereof on the line 5^x 5^x of Fig. 1. Fig. 6 is a side elevation of said devices on the line 6^x 6^x of Fig. 5. Fig. 7 is a detail sectional view on the line 7^x 7^x of Fig. 2.

Similar reference-numerals in the several figures indicate similar parts.

A vulcanizer embodying my invention consists of a hollow supporting-frame or base 1, having the upper or top portion 2 open upon the forward side, as shown in Fig. 3, and provided at opposite sides of said opening with

bosses or lugs 3, to which are secured the arms of a yoke 4, extending above the frame. Mounted upon the latter is a support in the form of a ring 5, resting upon the top portion 2 of the frame and pivoted thereto, so that the retort 6, which is removably supported therein, may be moved outwardly through the aperture in the side of the frame, the latter being normally closed by an apron 7, depending from the ring. This pivotal connection between the frame and ring is conveniently formed by means of a projection or lug 8, provided with a perforation through which extends a journal portion 9 on one of the legs of yoke 4, as shown in Figs. 1 and 3. A suitable handle 10, projecting from the side of the ring, forms a convenient means for rotating the frame to move the retort into or out of the frame.

The retort 6 is supported in the ring by the usual outer rim or flange 15 engaging therewith, and when it is in its normal position the retort lies directly beneath the yoke 4 and is adapted to be closed by means of the cover or closure 16, provided upon its lower surface with an elastic facing or packing 17 and adapted to be held forcibly in engagement with the closure by suitable operating mechanism arranged upon the yoke, as will be further described.

18 indicates an operating-handle, which in the present construction is provided with the bifurcated end forming the arms 19, extending into a recess or aperture 20 in the yoke and journaled upon a pin 21, arranged in the latter. Located between the arms 19 is an eccentric or cam 22, which is arranged eccentrically to the journal-pin 21 and is secured to the arms 19 of the operating-handle by means of a key or pin 23, whereby it constitutes an eccentric on said handle.

24 indicates an eccentric-strap provided upon its lower end with a projection or short arm 25, which may be simply arranged to bear upon the closure 16 to compress it upon the retort when the handle 18 is operated; but for convenience in operation I have connected the closure to said strap by means

of a pin 26, passing through the arm 25 and also through lugs 27 on the closure. The latter is guided in its vertical movement so that it is always supported relatively to the retort 5 6 by means of a link 28, pivoted to the yoke and to the eccentric-strap, as shown in Fig. 1.

In order to adjust the parts either for the purpose of taking up the wear or to obtain a greater or less amount of compression between the retort and closure, I provide means 10 for regulating the amount of throw of the eccentric 22.

29 indicates a ring journaled in the eccentric-strap and provided with the inner and 15 outer annular surfaces arranged eccentrically to each other and constituting an eccentric-ring surrounding the cam or eccentric 22, between which latter parts are provided a series of antifriction-balls 30. The outer annular 20 surface of the eccentric-ring is provided with gear-teeth, (indicated by 31,) with which co-operates a worm gear-wheel 32, operating in a recess at one side of the strap 24. This worm-gear is secured in operative position in 25 any suitable manner, the one illustrated being a pin 35, extending transversely of the worm-gear and projecting into an annular recess or channel 36. At its upper end the worm-gear is provided with an angular head 32', to which 30 a wrench may be applied when it is desired to adjust the ring to change or vary the extent of movement of the eccentric-strap. In the present construction the movement of the operating-handle on opposite sides of the journal-pin 21 is limited by its engagement with 35 the yoke at the edges of the recess 20, and while the particular location of the worm-gear 32 in the strap 24 is not essential to its operation I prefer to arrange it as shown, so that 40 when the handle 18 is moved to the operative position, as in Fig. 1, it will cover the nut or head 32' and prevent the adjustment of the worm-gear. In this way a careless operator is prevented from injuring the latter by attempting to apply a wrench to adjust the 45 eccentric-ring when the parts are under pressure.

As a convenient means for mounting the eccentric-ring, the strap 24, and the antifriction-balls 30 I employ two annular plates 37, which 50 fit over opposite sides of said parts, as shown in Figs. 5 and 6, which are provided with small dowel-pins 38, engaging the eccentric. The parts being arranged in their relative positions and the plates located upon either side thereof, they may all be secured to the operating-handle by means of the pin 23 extending 55 through the arms 19 and the latter applied to the yoke and the journal-pin 21 inserted to secure the parts in their proper position.

60 The operation of the device will be readily understood. When the operating-handle 18 is moved to the position shown in Fig. 4 and the closure elevated from the retort, the latter may be swung outwardly upon the support

or ring 5, as shown in Fig. 3, affording convenient access thereto, and upon being returned to its normal position the closure 16 may be applied thereto by moving the operating-handle to the position shown in Fig. 1. If it is desired to either increase or decrease 70 the pressure between the retort and closure, the eccentric-ring 29 may be adjusted by means of the worm-gear 32, as before explained. Vulcanizers constructed in accordance with my invention are simple, consist of few parts, 75 which are compact and easily arranged, and the closure-operating mechanism is such that a great leverage is obtained with only a short operating-handle, and the parts being capable of delicate adjustment a perfectly-tight fit in 80 the joint formed between the closure and retort may be obtained.

I claim as my invention—

1. In a vulcanizer, the combination with a frame, a retort therein and a yoke, of an eccentric journaled thereon, an eccentric-strap 85 and an eccentric-ring arranged between the eccentric and the strap and means on the strap for revolving the ring independently thereof, a closure for the retort operated upon by the 90 strap and connections between the closure and frame for centering the former on the retort.

2. In a vulcanizer, the combination with a frame, a retort therein and a yoke, of an eccentric, a ring having the inner and outer annular surfaces arranged eccentric to each other, and located between the strap and eccentric, the teeth on the ring, a gear-wheel on the strap engaging therewith to move the ring 95 independently of the eccentric and a closure 100 for the retort adapted to be engaged by the eccentric-strap.

3. In a vulcanizer, the combination with a frame, a retort therein, and a yoke extending above the latter, of an operating-handle journaled on the yoke and provided with an eccentric, an eccentric-ring mounted on the latter and a strap surrounding the ring, means for 105 adjusting the latter in the former, a closure for the retort attached to the strap and means 110 arranged between the frame and closure for centering the latter on the retort.

4. In a vulcanizer, the combination with a frame, a retort therein, and a yoke extending above the latter, of an operating-handle, a journal-pin securing it on the yoke, an eccentric supported by said pin and locking connections between the eccentric and handle, a ring surrounding the eccentric having the inner and outer annular surfaces arranged eccentric to each other and antifriction-balls located between the ring and eccentric, a strap surrounding the ring, means for adjusting the 120 latter therein and a closure for the retort operated upon by the strap when the operating-handle is moved in one direction. 125

5. In a vulcanizer, the combination with a frame provided with an open side, a support

5 journaled on the frame and a retort mounted in the support, of a yoke extending over the frame, a closure for the retort and means for holding said closure and retort in operative engagement.

10 6. In a vulcanizer, the combination with a frame having an opening at one side thereof, a removable support mounted on the frame and a retort held in the support, of a yoke extending over the frame, a closure for the retort and means on the yoke for operating the closure into engagement with the retort.

15 7. In a vulcanizer, the combination with a frame having an opening at one side, and a yoke extending above the frame having the legs connected thereto, of a support on the frame journaled to one of the said legs, a retort mounted on the support a closure for the retort and means for holding said parts in en-
20 gagement.

8. In a vulcanizer, the combination with a

frame open at one side, a support normally resting on the frame and movable laterally thereof and an apron adapted to close the opening in the frame, of a retort held on the 25 support, a closure therefor and means for holding the closure and retort in engagement.

9. In a vulcanizer, the combination with a frame, a retort therein, and a yoke extending above the latter, of an operating-handle hav- 30 ing two arms, a journal-pin extending through the arms and an eccentric arranged between the arms and supported on the pin, of cover-plates arranged at opposite sides of the eccentric, a pin extending through the arms and 35 eccentric, a strap surrounding the latter and arranged between the plates and a closure for the retort attached to the strap.

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