(No Model.)

W. R. SINE & F. H. WARD.

VULCANIZING APPARATUS.

No. 541,694. Patented June 25, 1895.

Fig. 2.

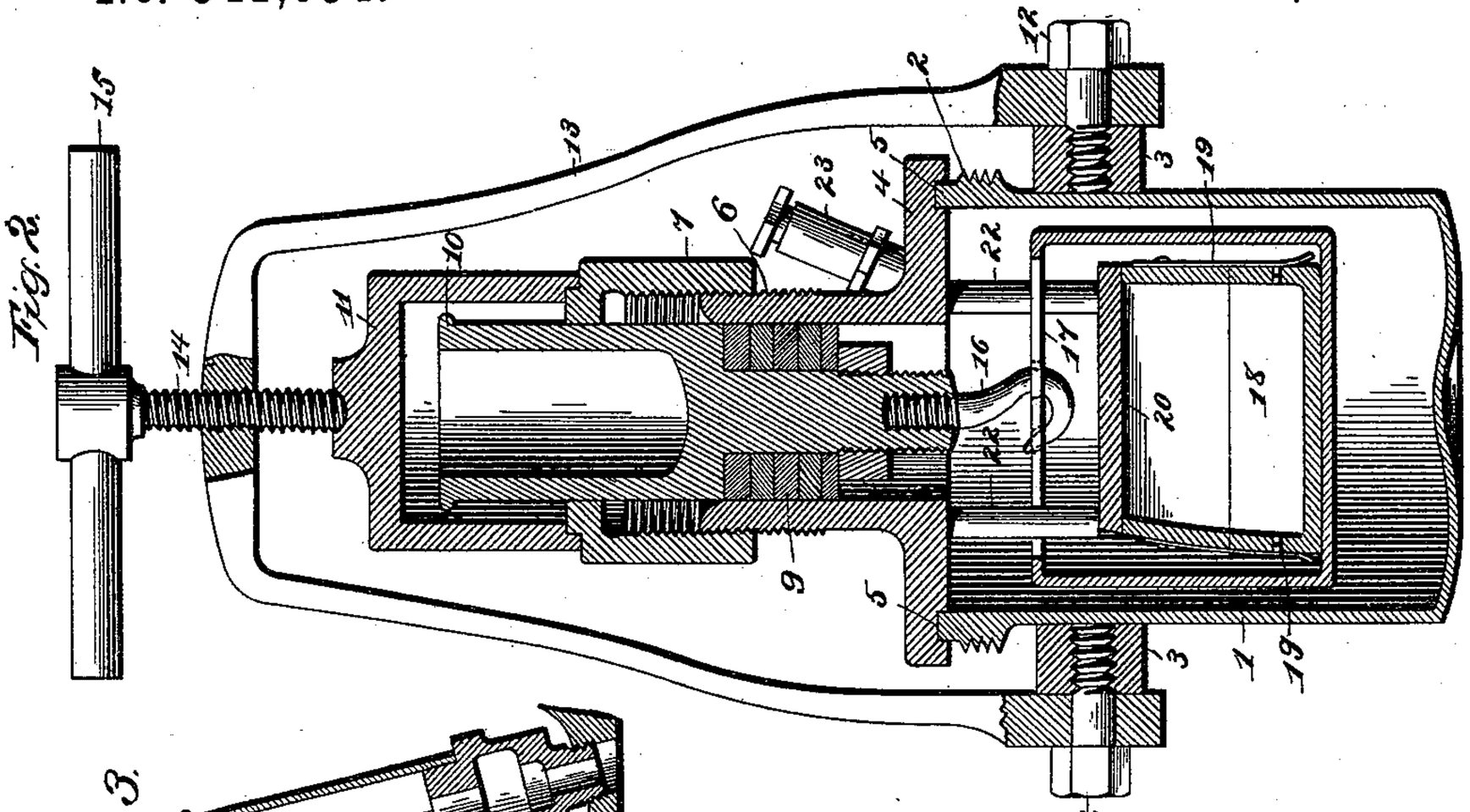


Fig. 3.

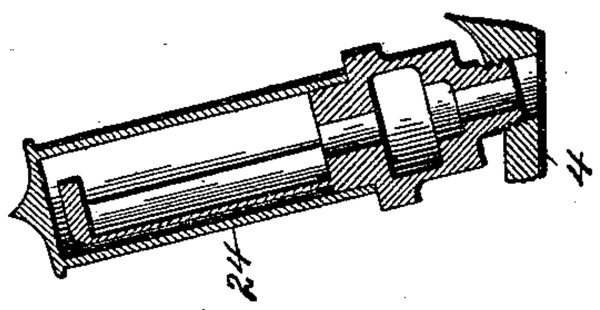


Fig. 1.

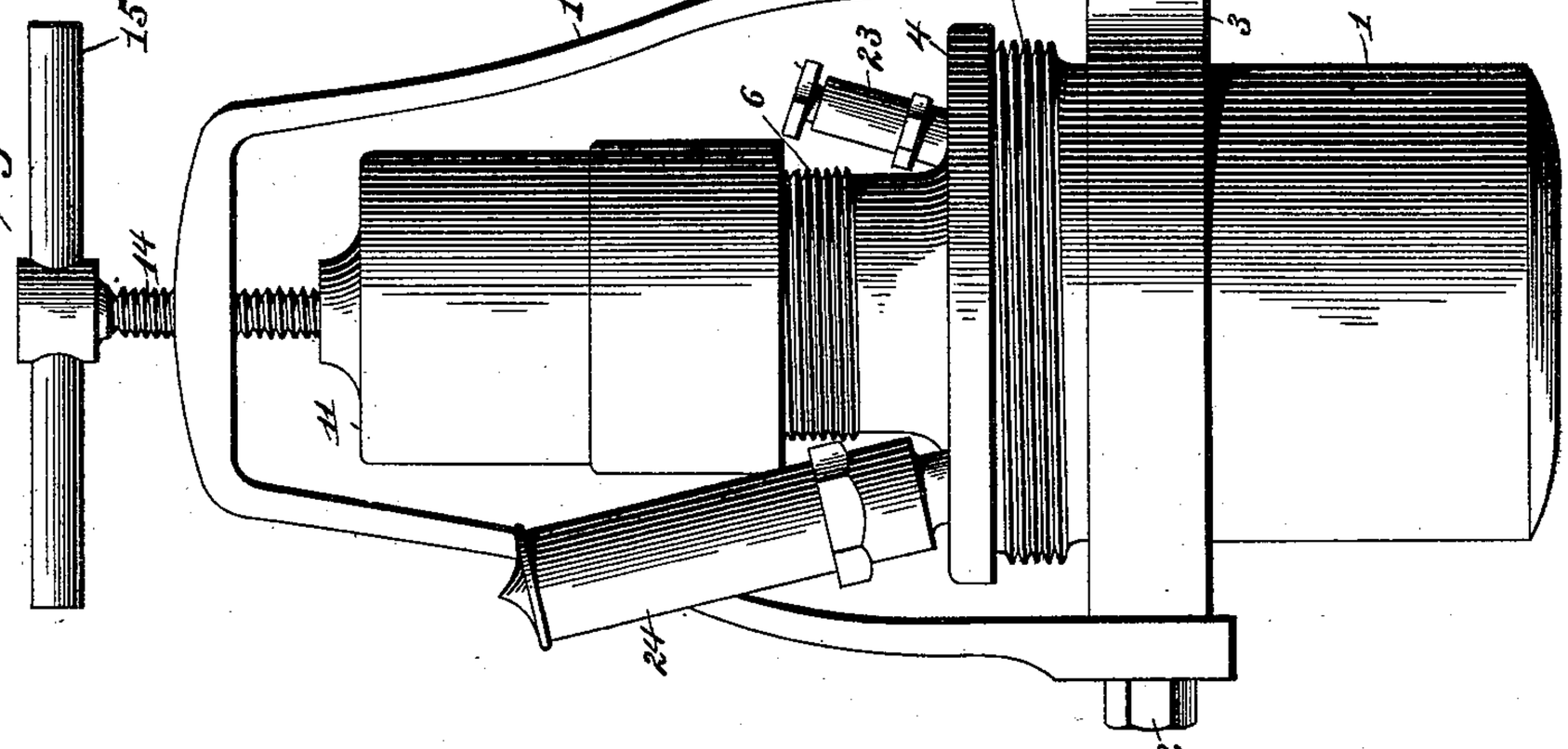
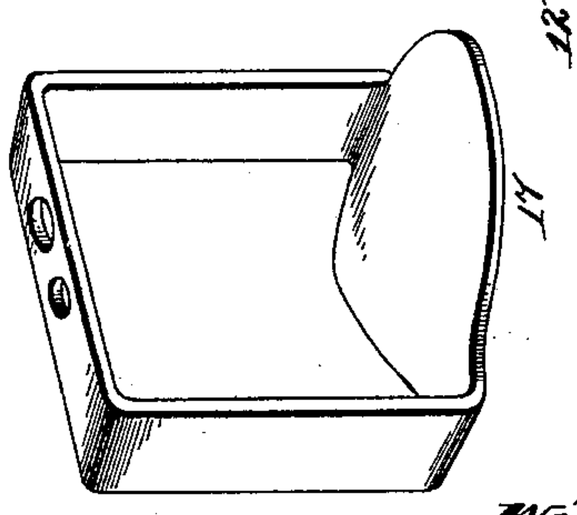


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM R. SINE AND FRED H. WARD, OF WILLIAMSPORT, PENNSYLVANIA.

VULCANIZING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 541,694, dated June 25, 1895.

Application filed February 23, 1895. Serial No. 539,474. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM R. SINE and FRED H. WARD, citizens of the United States, residing at Williamsport, in the county of Lycoming and State of Pennsylvania, have invented certain new and useful Improvements in Vulcanizing Apparatus, of which the following is a specification.

Our invention relates to certain new and useful improvements in vulcanizing apparatus, and especially to that class known as automatic mold closers, and has for its object, to provide such a device that will be simple in construction, easily operated and positive in its action.

With these ends in view, our invention consists in the details of construction and combination of parts hereinafter described, and then specifically designated by the claims.

In order that those skilled in the art to which our invention appertains, may understand how to make and use the same, we will proceed to describe it in detail, referring by figure to the accompanying drawings, in which—

Figure 1 is an elevation of the device embodying the improvements; Fig. 2, a central, vertical section thereof. Fig. 3 is a detail section of the thermometer case; and Fig. 4 is a detailed perspective of a stirrup.

Similar figures denote like parts in all the views of the drawings.

1, is a receptacle of the device, preferably of cylindrical shape, and provided with an external enlargement 2, near its top.

3, is a band, secured around the body of the receptacle, beneath the enlargement, so as to withstand strain exerted from above.

4, is the cap, having an annular groove 5, near its outer edge, adapted to fit over the upper edge of the receptacle, in such manner as to close the latter and form a steam tight joint.

The upper portion of the cap 4, is externally threaded at 6, and an adjusting ring 7, is run in this threaded portion, for a purpose presently explained. Through the center of the cap, is formed an opening 8, of a sufficient diameter to serve as a steam cylinder and within this cylinder is the piston 9, arranged to operate vertically.

Through the center of the adjusting ring 7, is formed an opening which corresponds in diameter and alignment with the cylinder 8, through which opening passes the upper end of the piston 9, which latter has a circular bead 10, of larger diameter than the opening in the adjusting ring, so that the withdrawal of the piston is facilitated by backing the adjusting ring off the threaded portion 6.

11, is a hollow pressure ring, adapted to receive the upper end of the piston and rest upon the adjusting ring. To the band 3, is pivoted, by means of bolts 12, the yoke 13, which is of sufficient size to be swung over the upper portion of the device. In the top of this yoke, is a threaded clamp-screw 14, with its end seated in a suitable recess in the pressure cap. 15, is a handle bar for operating this screw.

Threaded into the lower extremity of the piston, is a hook 16, adapted to support the stirrup 17, which latter is made to receive a flask 18. This stirrup is a rectangular frame, as shown in Fig. 4. The flask may be in halves, the upper secured to the lower half, by means of spring latches 19, and provided with a cover 20.

Projecting within the receptacle, from the under side of the cap, are two pins 22, the object of which will be hereinafter explained.

From the foregoing description, the operation of the improved device will be obviously as follows: The flask having been filled with the material to be treated, is placed within the stirrup, and the latter within the receptacle suspended from the hook. The cap is forced upon its seat by the hand-screw 14, and the device subjected to heat in the well-known manner. As the process of vulcanization proceeds, the steam generated within the receptacle will act upon the under side of the piston, to force the latter upward, thus elevating the stirrup and flask carried thereby, until the top of the latter comes in contact with the pins 22, when any further upward movement of the piston, stirrup and flask, will cause the top of said flask to be seated thereon, which will automatically compress the material within said flask.

When the vulcanization has been completed, to remove the flask from the receptacle, it is only necessary to back off the hand

screw, when the cap and the parts carried thereby may be readily removed and a new flask substituted, and the operation repeated.

23, is a steam vent of ordinary construction, and 24, is a thermometer case, whereby the temperature of the interior of the receptacle may be determined.

Having thus fully described our invention, what we claim as new is—

1. In an automatically operating vulcanizer, a receptacle provided with a steam-tight cap, the latter having a central opening or cylinder, in combination with a piston, adapted to work within said cylinder, its upper end extending above and without the cap, and a pressure ring, and adjusting ring, whereby the pressure of the hand-screw is brought to bear upon the cap without interfering with the movement of the piston, substantially as and for the purpose set forth.

2. In a vulcanizer, a receptacle having a collar and yoke attached thereto, with a screw in the center of the yoke for closing the cap, a cap having a cylinder formed therein, and a steam actuated piston operating in the cylinder, in combination with a stirrup attached to the piston and carrying a flask, whereby when steam is generated the piston will be raised, thereby drawing the stirrup upward and squeezing the flask between the bottom of the said stirrup and the cap substantially as described.

3. In a vulcanizer of the character described, the receptacle 1, cap 4, provided with cylinder 8, piston 9, operating therein, and pins 22, projecting from the underside of said cap, in combination with hook 16, stirrup 17, flask 18, and its top 20, adjusting ring 7, engaging the cylinder, pressure ring 11, engaging the ring, yoke 13, and hand-screw 14, arranged to operate as described.

In testimony whereof we have hereunto affixed our signatures in the presence of two subscribing witnesses.

WILLIAM R. SINE.
FRED H. WARD.

Witnesses:
J. S. WARD,
J. W. HAYS.