

No. 608,527.

Patented Aug. 2, 1898.

D. ROSS.

DOOR FOR CLOSING STEAM RETORTS.

(Application filed Sept. 1, 1897.)

(No Model.)

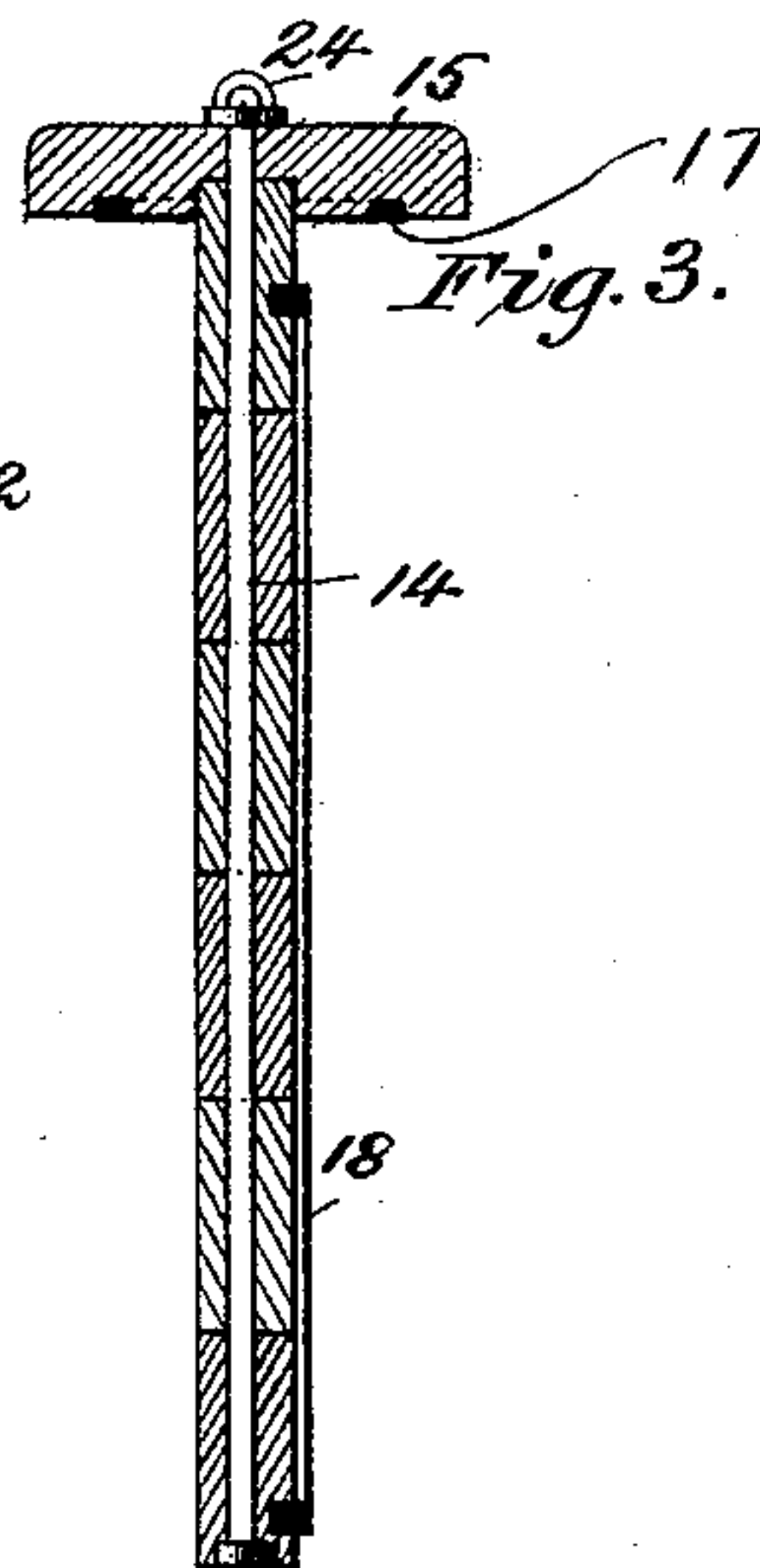
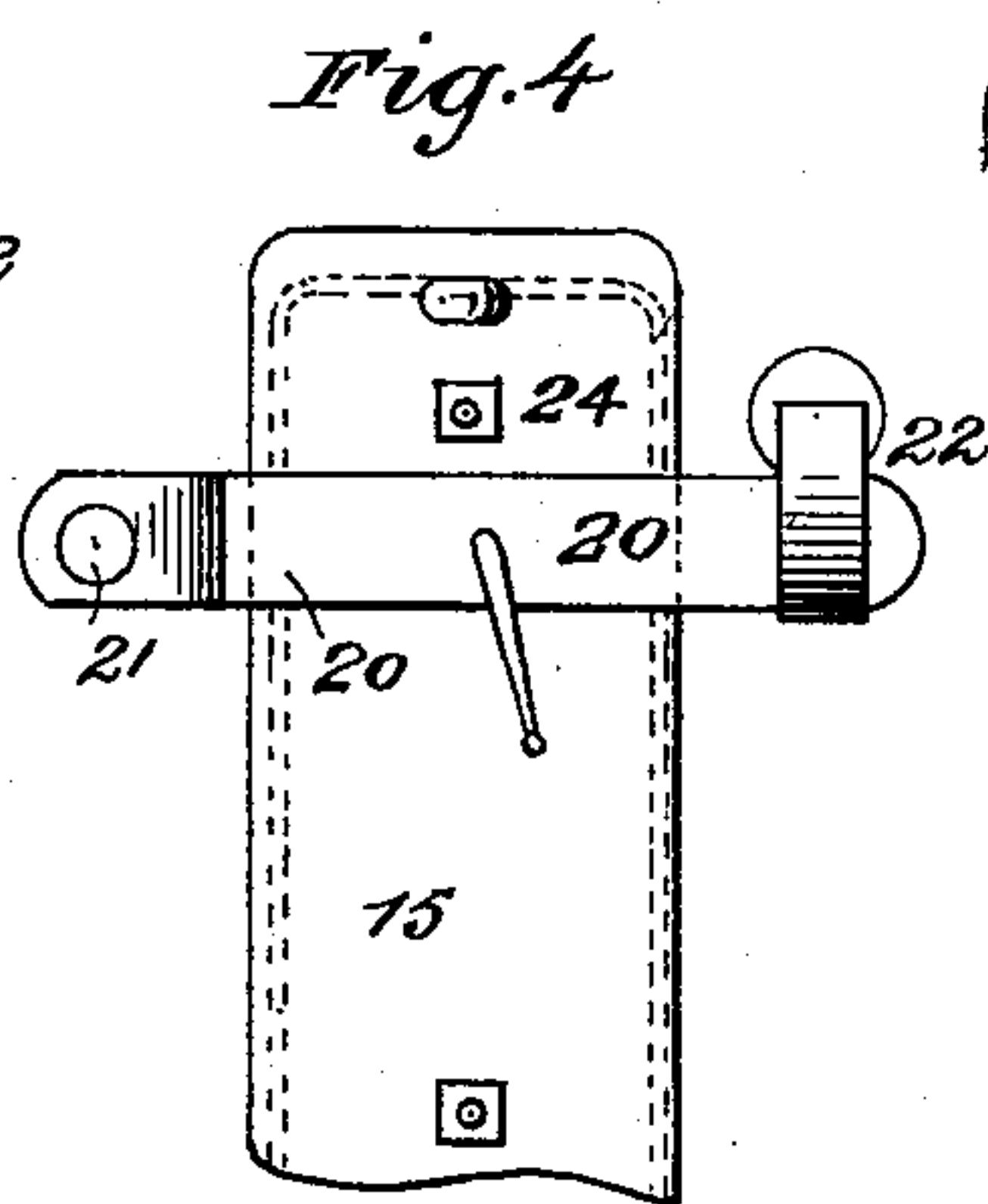
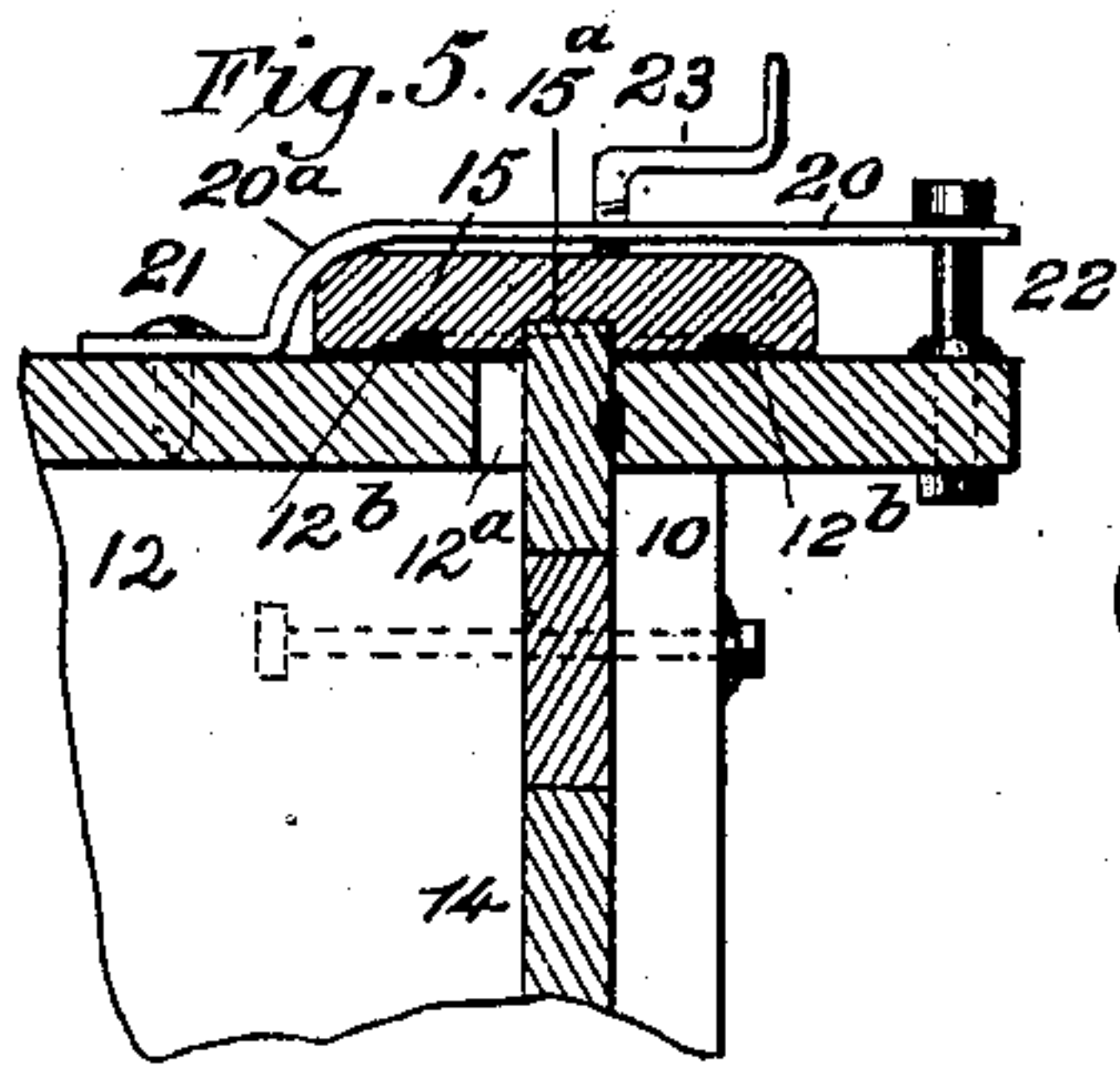
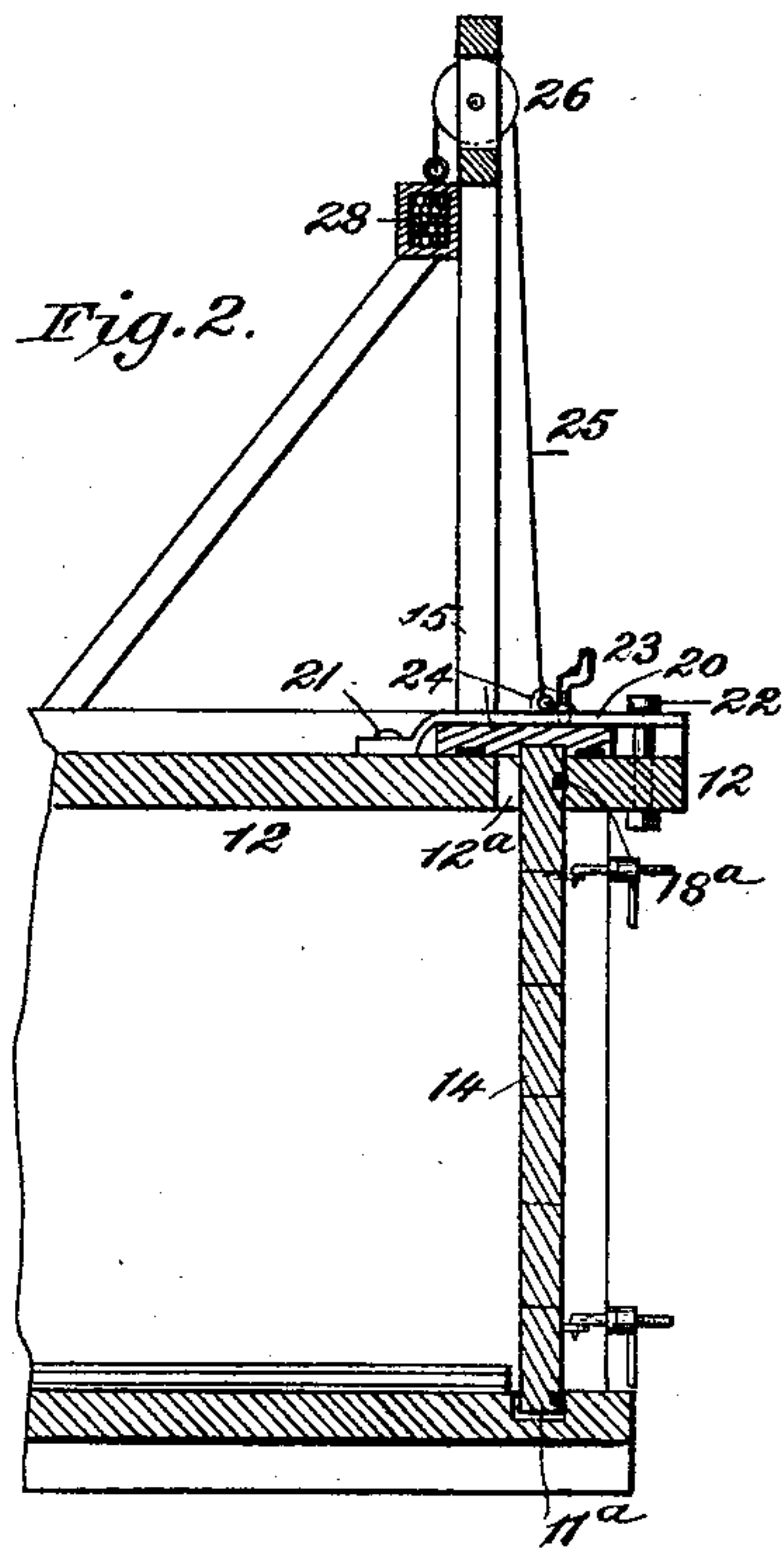
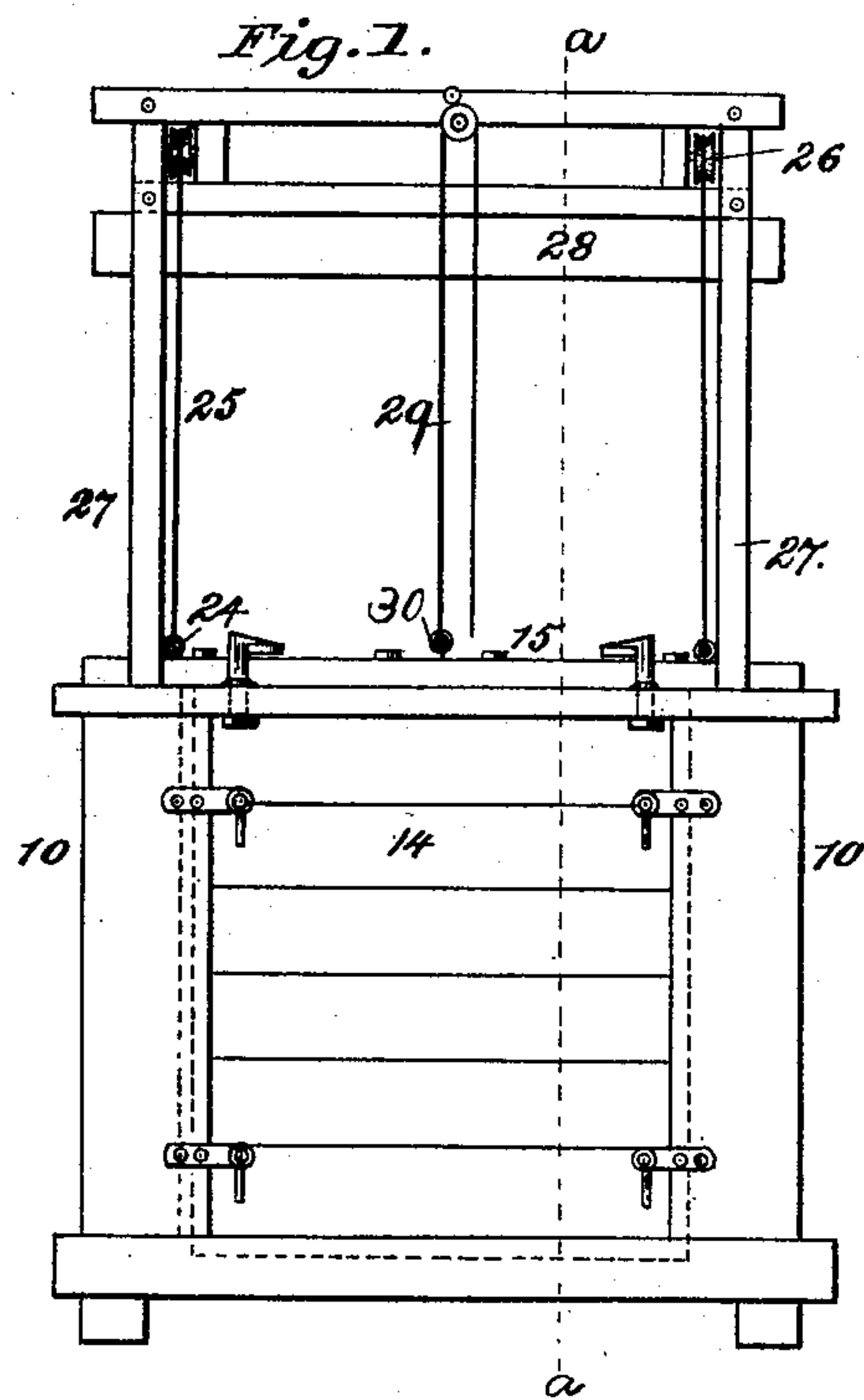


Fig. 6.

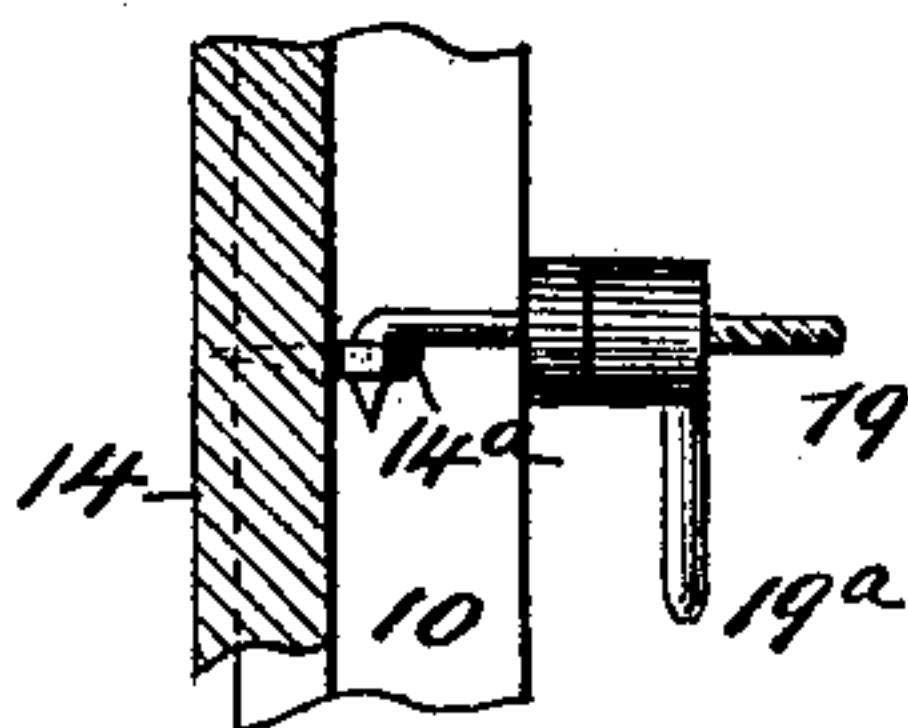
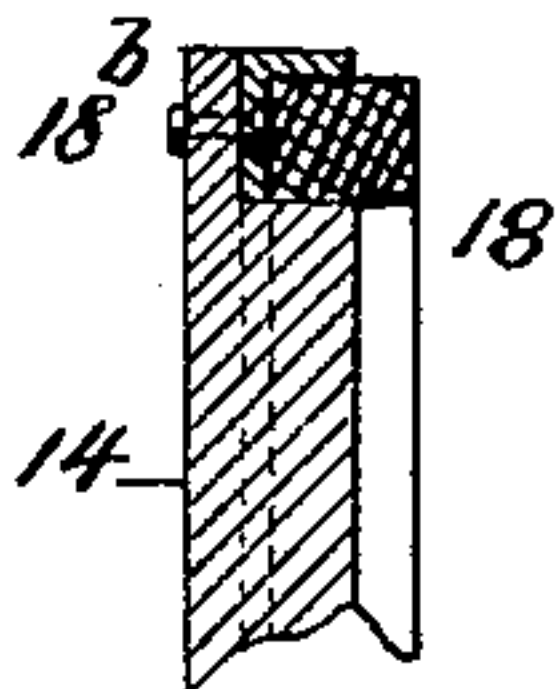


Fig. 7.



WITNESSES:

A. C. Dieterich
E. McCormick

INVENTOR

David Ross

BY

Fred G. Dieterich
ATTORNEY.

UNITED STATES PATENT OFFICE.

DAVID ROSS, OF VANCOUVER, CANADA.

DOOR FOR CLOSING STEAM-RETORTS.

SPECIFICATION forming part of Letters Patent No. 608,527, dated August 2, 1898.

Application filed September 1, 1897. Serial No. 650,248. (No model.)

To all whom it may concern:

Be it known that I, DAVID ROSS, a citizen of the Dominion of Canada, residing at Vancouver, in the Province of British Columbia, Canada, have invented a new and useful Door for Closing Steam-Retorts, of which the following is a specification.

My invention relates to improvements in slidable doors for steam reservoirs or retorts adapted to hold steam under a high pressure—as, for example, retorts in machines for bending wood—and it more particularly refers to doors of this character in which wood is the chief element employed.

The invention has for its object to provide a means for hermetically closing a steam box or retort of a very simple and inexpensive construction, having the several parts formed chiefly of wood and so arranged as to render it capable of withstanding a high pressure without danger of the steam forcing the joints apart and escaping. I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of my door shown in place and stopping the end of a steam-reservoir, composed of wood. Fig. 2 is a side elevation of the same, intersected at line *a a* of Fig. 1. Fig. 3 shows a vertical intersection of the door removed, illustrating its air-tight packing-strip. Fig. 4 is a sectional plan of the cap-piece of the door, showing its means of fastening. Fig. 5 is a vertical section of my door, also showing its means of fastening. Fig. 6 shows a detail of one of the front fastenings, and Fig. 7 is a section of the door 14, showing the means employed to secure the rubber packing-strip 18.

Similar numerals refer to similar parts throughout the several views.

14 indicates a door, which is preferably of rectangular form and is fitted into a recess in a metal cap-piece 15 and is rigidly secured thereto by suitable means.

In applying my door it is preferable that the reservoir should be of rectangular form and have its end casing rabbeted to receive the edges of the door. The orifice being smaller than the door, it will be seen that the edges of the same will rest within the rabbeted portion, of which 10 are the sides, and 11 and 12 the bottom and top, respectively. At the top

is an opening 12^a in the wall of the reservoir, through which the said door 14 slides, and the bottom wall or floor is provided with a recess 11^a to receive the lower edge of the door. This recess 11^a should extend slightly below the bottom of the door when in place, so that the cap-piece 15 will rest without the upper wall 12. Arranged around near the outer edge of the cap-piece 15 is a groove 16, into which is tightly fitted a rubber packing-strip 17, and similarly arranged around the outer wall of the door 14 is a packing-strip 18. The rubber strip 18 is employed to rest between the door 14 and its seat in the frame of the reservoir, and 18^a is an angle-iron strip which is secured in a rabbeted groove around the outer edge of the door by screws 18^b. This prevents the packing from becoming detached from its groove. The packing-strip 17 furnishes a rest for the cap-piece 15 on the outer side of the wall 12, around the opening 12^a, and by means of a metal strip or projection 12^b, arranged to overlap the outer side of the packing-strip 17 (see Fig. 5) when the said door is placed in a closed position, the open end of the reservoir is tightly sealed.

I provide a screw-hook 19, arranged in brackets which are secured to the standards 10. The said screw-hooks 19 pass loosely through the brackets in the standards and fix into eyebolts 14^a, which are secured to the door 14, as shown in Fig. 6, and when the wing-nuts 19^a, engaging the screw-hooks 19, are screwed up, the door 14 will be brought forward and the packing-strip 18 will be tightly pressed against the forward frame of the reservoir.

As better illustrated in Figs. 4 and 5, indicates clamp-straps which are pivotally fixed to the outer side of the wall 12 by bolts 21, and at some distance from the said bolts are raised deflections 20^a, which arrange the forward portion of the straps when they are swung over the cap-piece to lie upon the same with their outer ends resting beneath rigidly-fixed catches 22. When these straps 20 are swung parallel to each other and transverse to the cap-piece 15, their shoulders, formed by the deflections 20^a, engage the side of the said cap and force it forward, so that the forward wall of the door 14 will press against the front rabbeted portion of the reservoir, and when

the crank-screws 23 are turned down the door is prevented from moving until again released.

On the upper side and at opposite ends of the cap 15 are secured eyebolts 24, which receive cords 25, taking over sheaves 26, suitably arranged in a frame supported by standards 27, and to the opposite ends of the said cords 25 is attached a balance-box 28, which is weighted with scrap-iron or other weighty matter in proportion to the weight of the door 14, and by means of the cord 29, connecting with a third eyebolt 30 and the cap 15 and taking over a pulley secured at the top of the said frame, the door may be raised and lowered at pleasure.

The above frame described and shown is no part of my invention, but is employed to facilitate the working of my improved door.

In some respects I have specifically described and illustrated my improvement; but I do not wish to be understood as confining myself strictly to such arrangement, as modifications and improvements may be made without departing from the spirit of my invention.

Having thus described my improved door for retorts, what I claim is—

1. In a door for hermetically sealing a steam-reservoir, the combination of a slidable door having rubber packing-strips arranged around near its outer edge on an even plane, a rabbeted seat within the outer end of a suitable frame to receive the said packing on an even plane, a recessed cap-piece 15 sub-

stantially secured to the top of said door, a packing-strip 17 arranged on the under side around and near the outer edge to effectively close the opening through which the door is thrust, substantially as specified.

2. In a door for hermetically closing a steam reservoir or retort, a slidable door, a seat of even plane for the edges of the said door formed in the end of the reservoir and an opening in the upper side for the same to enter, packing arranged around the edges of the said door to intervene between the same and its seat, a metal cap-piece secured to the top of the said door having packing arranged around its under side to effectively close the said opening and means for securing the said door immovable before the pressure is turned on, substantially as set forth.

3. As an improvement in slidable doors for retorts, the combination with the steam box or retort, the opening of which has grooves to receive the sliding door, of a door vertically slidable in such grooves, a cap-piece adapted to fit over the upper edge of the door when in position, said cap-piece having a rabbet to receive the upper edge of the door and a lock mechanism adapted to engage such cap-piece to force the door outward against the die-groove and to hold it down to the locked position, substantially as shown and for the purposes described.

DAVID ROSS.

Witnesses:

W. G. TRETHEWEY,
GEORGE A. BESSELL.