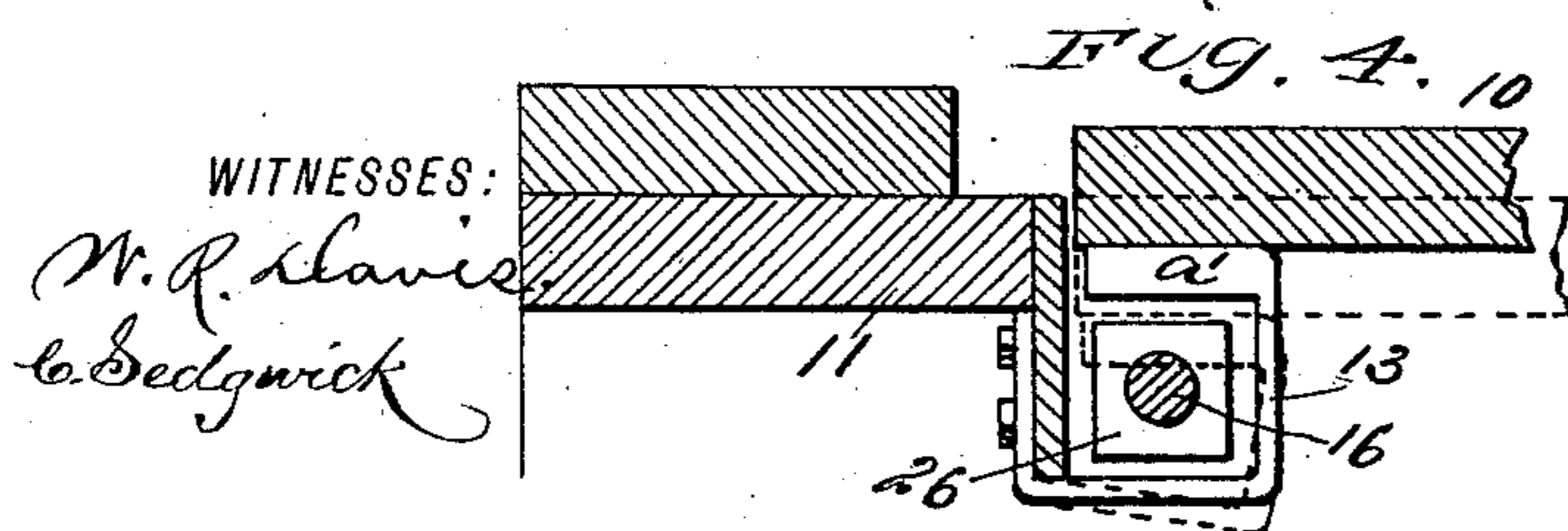
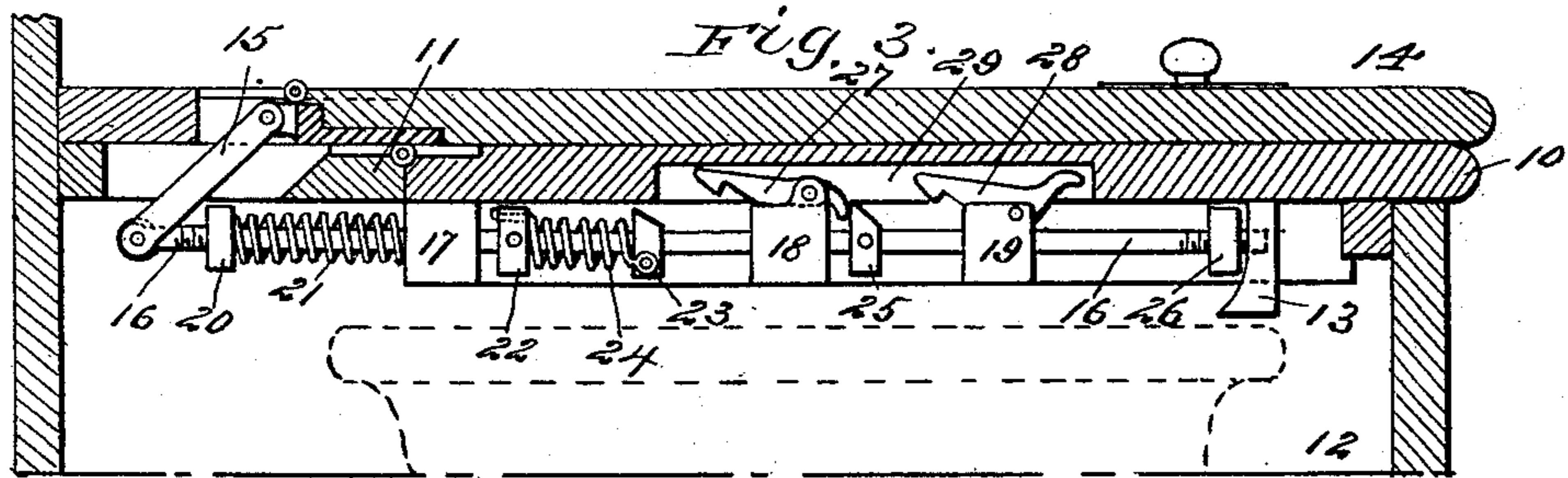
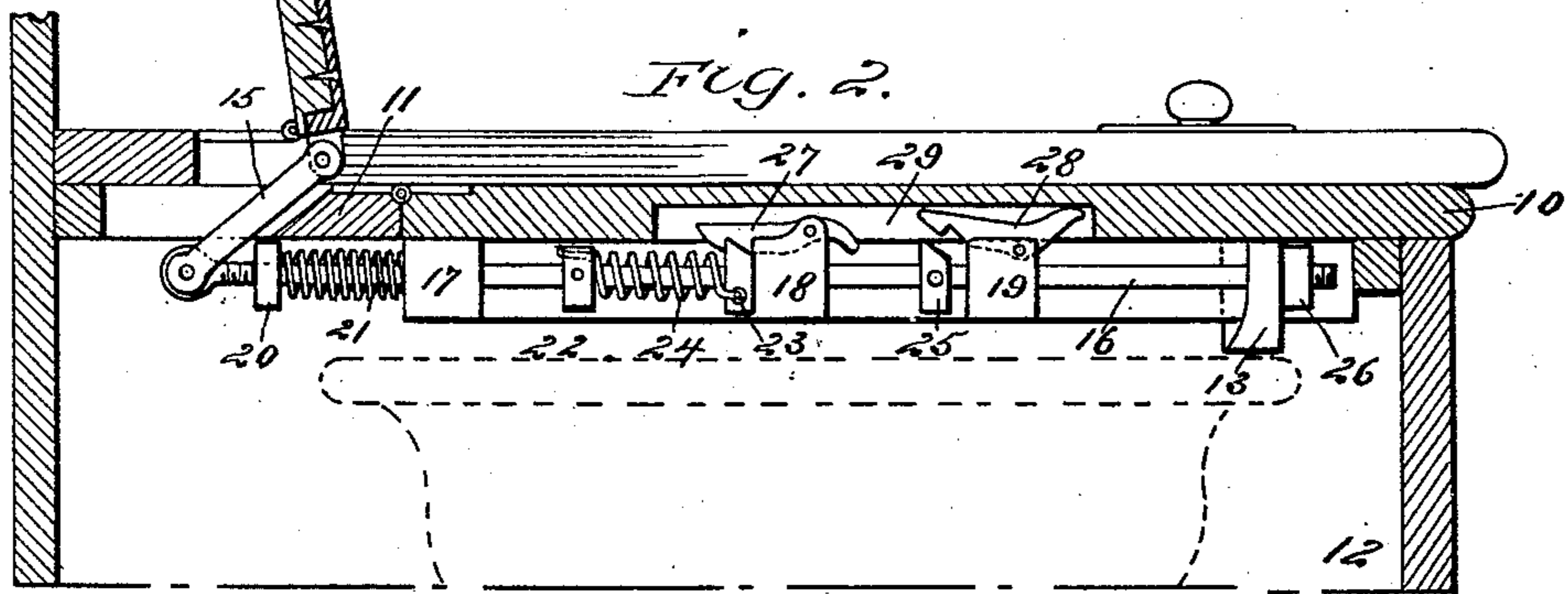
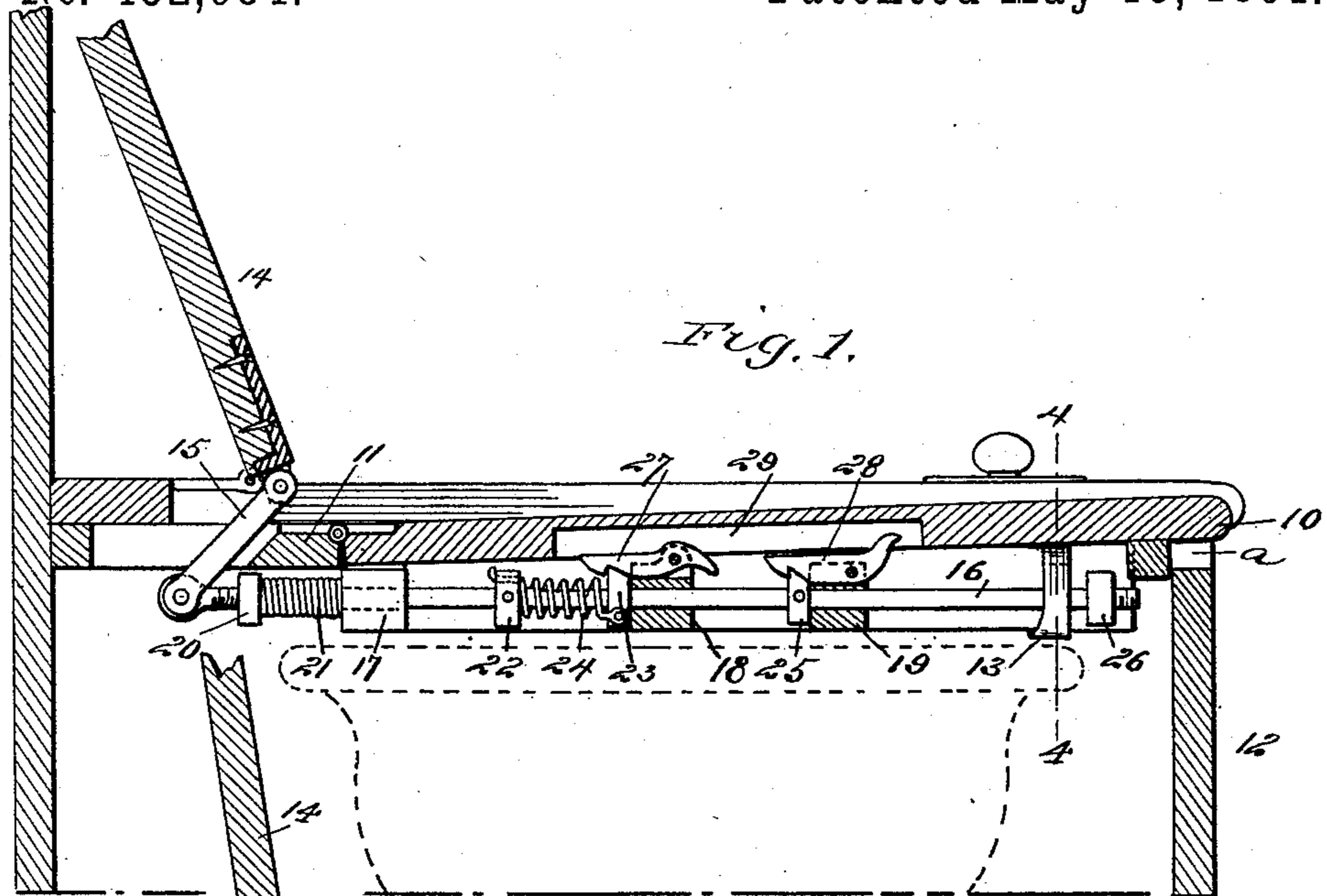


(No Model.)

W. R. WEBSTER.
CLOSING DEVICE FOR WATER CLOSET LIDS.

No. 452,684.

Patented May 19, 1891.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WALTER R. WEBSTER, OF PINE GROVE, CALIFORNIA.

CLOSING DEVICE FOR WATER-CLOSET LIDS.

SPECIFICATION forming part of Letters Patent No. 452,684, dated May 19, 1891.

Application filed August 29, 1890. Serial No. 363,408. (No model.)

To all whom it may concern:

Be it known that I, WALTER R. WEBSTER, of Pine Grove, in the county of Amador and State of California, have invented a new and Improved Device for Automatically Closing the Lids of Water-Closets, of which the following is a full, clear, and exact description.

My invention relates to a device for automatically closing the lids of water-closets and retaining the lids in a closed position the moment the seat is unoccupied, and has for its object to provide a simple and durable device capable of attachment to the seat and cover of any form of closet; and the invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a vertical section through the lid and seat of a closet, illustrating the application of the device and the lid opened to its full extent. Fig. 2 is a similar section to Fig. 1, illustrating another position of the device. Fig. 3 is a like section, illustrating the position of the device when the lid is closed; and Fig. 4 is a transverse section on line 4 4 of Fig. 1.

The seat 10 of the closet is hinged to the frame 11 in any suitable or approved manner, and is normally held a slight distance above the front board 12 of the frame, as shown at *a* in Fig. 1, by engagement with a strap-spring 13, which spring is illustrated in side elevation in Fig. 4. The spring is secured to the frame of the closet and is practically rectangular, comprising two sides, a bottom, and an upper horizontal member *a'*, which member is adapted for engagement with the seat and is thicker than the other portions of the spring. The lid-cover 14 is also hinged to the frame over the seat in any manner that may be found desirable, and to a rearwardly-extending lug near each end of the lower or hinge side of the lid the upper end of a link 15 is pivoted, which links extend downward below the upper portion of the closet-casing, and the lower end of each link is pivotally

connected with the rear end of a horizontal rod 16. Thus two rods are located beneath the seat, one at each side of the same, and in connection with each rod a spring 13 is employed. The rods 16 pass loosely through bearings 17, 18, and 19, secured to the inner faces of the casing or to any other convenient support.

A collar 20 is secured upon each rod near its rear end, and between the collar and the bearing 17 a spring 21 may be coiled around each of the rods. The spring 13 and bearings 17, 18, and 19 are preferably attached to the casing through the medium of a plate integral with them.

Between the bearings 17 and 18 a second collar 22 is rigidly fastened to the rod, and in front of the fixed collar 22 a third collar 23 is loosely mounted upon the rod, the upper end of which collar is preferably beveled, as illustrated. The fixed collar 22 and the loose collar 23 are connected, preferably, by a coil-spring 24.

Between the bearings 18 and 19, nearer the latter than the former, a fourth and fixed collar 25 is secured to the rod, the upper surface of which collar is also beveled. The forward end of the rod, passing through the space between the members of the spring 13, is threaded and provided with a nut 26, which nut is sufficiently small to pass through the space between the members of the spring 13 when said spring is in its normal position. Above the bearing 18 a gravity-latch 27 is fulcrumed, and above the bearing 19 a similar latch 28 is pivoted, the latch 27 being adapted to engage with the upper beveled surface of the loose collar 23, and the latch 28 is purposed to engage with the forward fixed collar 25. Above the latches 27 and 28 a recess 29 is produced in the under surface of the seat.

As heretofore stated, when the spring 13 is in its normal position the seat is elevated at its forward end some little distance above the front of the casing 12, and therefore the upper walls of the seat-recesses 29 are removed some distance from the gravity-latches 27 and 28. The seat is in the position just indicated only when the lid or cover 14 has been thrown backward, as when the cover is closed the

weight of the cover causes the seat to engage with the closet-casing around the side and front margins thereof.

When the lid or cover is thrown upward to
 5 a fully-open position, as indicated in Fig. 1, through the medium of the links 15, the rods 16 are forced forward, the springs 21 are compressed, the loose collars 23 engage with and are caught by the latches 27, the fixed collars
 10 25 are engaged in similar manner with the latches 28, and the nuts at the forward ends of the rods 16 are passed through the space between the members of the spring 13, which spring is at this time in its normal position.
 15 As soon as the seat is pressed downward by being occupied the upper walls of the recesses 29 in the seat are brought in engagement with the forward ends of the latches 28, which are curved, and the said ends are
 20 forced down, thereby releasing the fixed collars 25 from engagement with the heads of the latches, and at the same moment the springs 13 are pressed downward until their upper thicker members assume the position
 25 shown in dotted lines, Fig. 4. The moment that the rods 16 are released from the latches 28 the springs 21 at the rear of the rods act to draw the rods rearward, and the rearward movement of the rods is limited by the nuts
 30 26 coming into engagement with the thick depressed members a' of the springs 13, which members stand in the path of the nuts. The position of the parts at this time is illustrated in Fig. 2, in which it will be ob-
 35 served that the slight rearward movement of the rods 16 has caused the lid to assume more of a vertical position. The moment the seat is relieved from pressure the spring 13 assumes its normal position, (shown in posi-
 40 tive lines, Fig. 4,) and the springs 21, acting again, draw the rods 16 sufficiently rearward to carry the nuts through the space between the members of the springs 13 and to the rear thereof, as shown in Fig. 3. This decided
 45 rear movement of the rods 16 causes the forward fixed collars 25 to engage with the forward ends of the gravity-latches 27 and disengage said latches from the loose collars 23, whereupon, through the medium of the link
 50 connection between the spring-controlled rods 16 and the cover, the said cover is caused to quickly fall to its horizontal or closed position. (Shown in Fig. 3.) The springs 24 of the rods 16 act as a cushion to prevent the
 55 lid from striking the seat violently in its fall, and this cushion effect is produced at the moment the seat is occupied, and at the first rearward movement of the rods, which expands the springs 24, as the fixed collars move with
 60 the rods and before the loose collars 23 are disengaged from the latches, the springs 24 act oppositely to the springs 21, thus causing

the cover to fall gradually after having passed the perpendicular. The loose collars 23 are not disengaged until the cover is almost closed, 65 and after they are disengaged the springs 24 move toward the fixed collars 22 and are at rest.

Having thus described my invention, I claim as new and desire to secure by Letters 70 Patent—

1. The combination, with a closet-seat and gravity-latches located beneath the seat, of spring-controlled rods provided with collars having offsets for engagement with the latches, 75 a lid, and a link connection between the lid and the rods.

2. The combination, with a spring-supported seat and gravity-latches located beneath the seat, of spring-controlled rods pro- 80 vided with a stop at their outer ends capable of passing through and also of engagement with the supporting-spring of the seat, offsets upon the rods adapted for engagement with the latches, a lid, and a link connection be- 85 tween the spring-rods and the lid, substantially as and for the purpose specified.

3. The combination, with a seat, an essentially U-shaped spring supporting the seat and having one member carried horizontally 90 inward, and gravity-latches fulcrumed beneath the seat, of spring-controlled horizontal bars located beneath the seat, provided with stops at their outer ends adapted to pass between the members of the spring and for en- 95 gagement with the upper member thereof, a fixed and a loose collar secured to the rods and adapted for engagement with the latches, a cover hinged above the seat, and a link connection between the rods and the cover. 100

4. The combination, with a hinged seat provided with recesses in its under face, a spring adapted to support one end of the seat, and gravity-latches fulcrumed beneath the re- 105 cessed portions of the seat, of horizontal spring-controlled bars held to slide beneath the seat and provided with stops at their forward ends adapted to pass beyond and en- 110 gage with the said supporting-springs, fixed collars secured to the rods near their rear ends, loose collars located upon the rods and adapted for engagement with one of the latches, springs connecting the fixed and loose collars oppositely coiled to the rod-act- 115 uating springs, a fixed collar near the forward end of the rods adapted for engagement with the forward latches, a cover hinged above the seat, and a link connection between the cover and the rods, substantially as described.

WALTER R. WEBSTER.

Witnesses:

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 H. C. ADAMS.