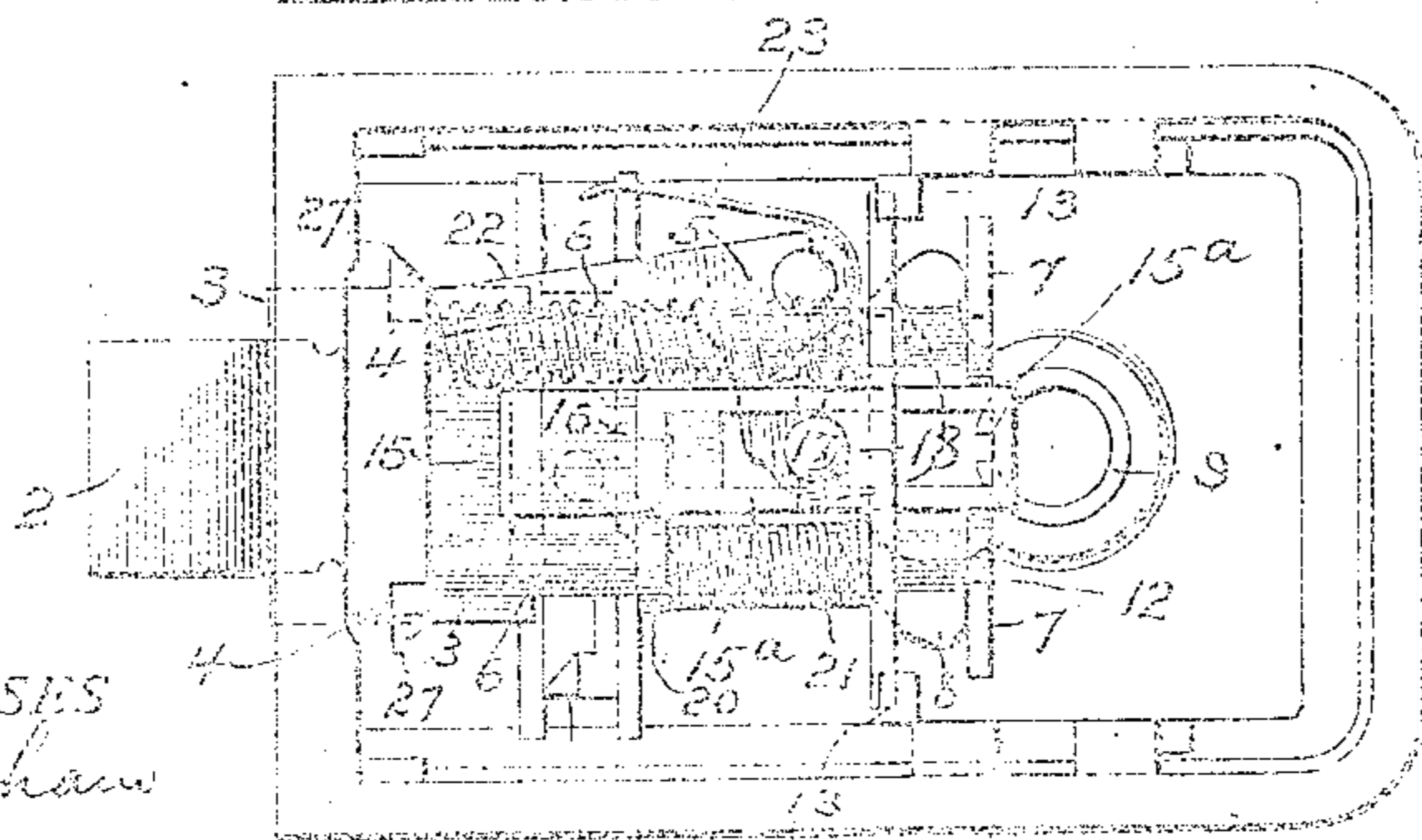
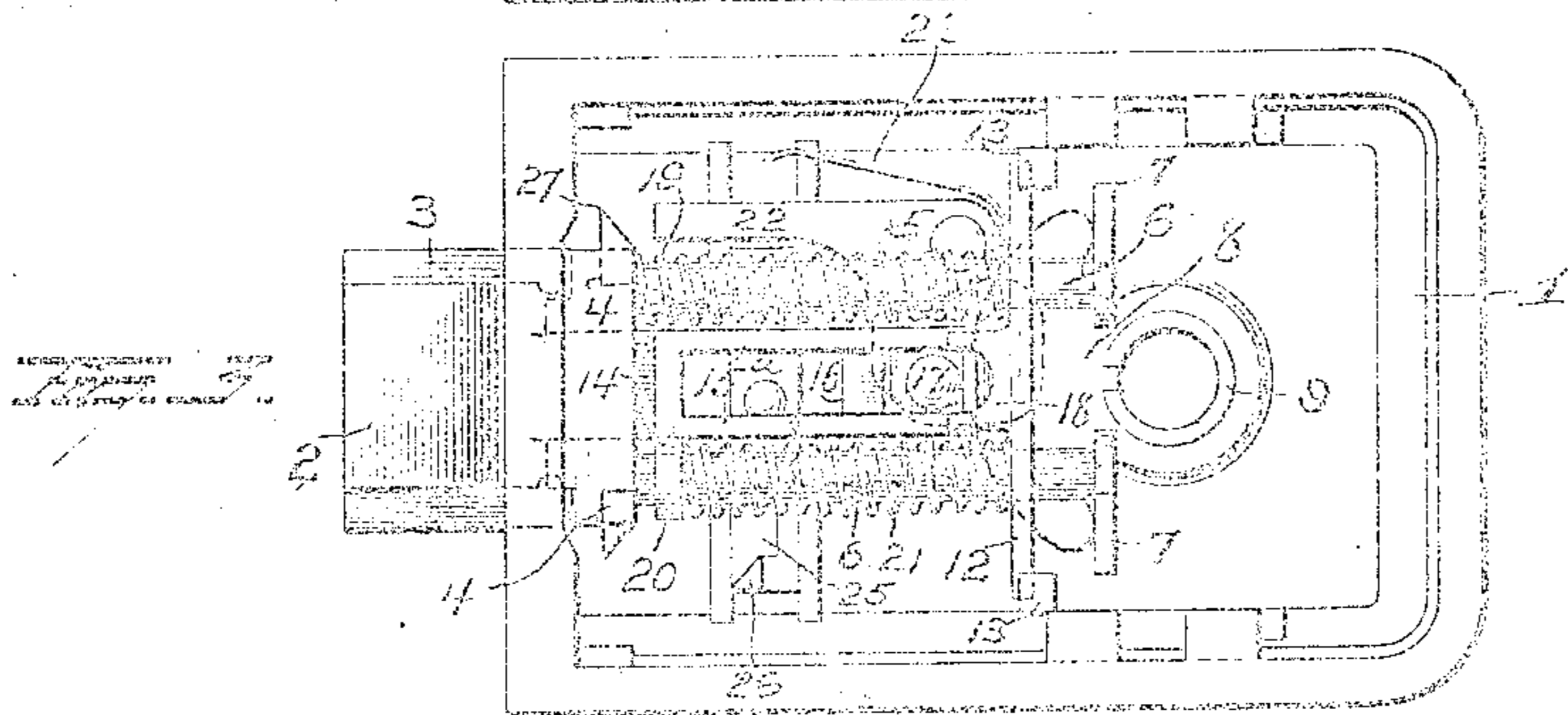
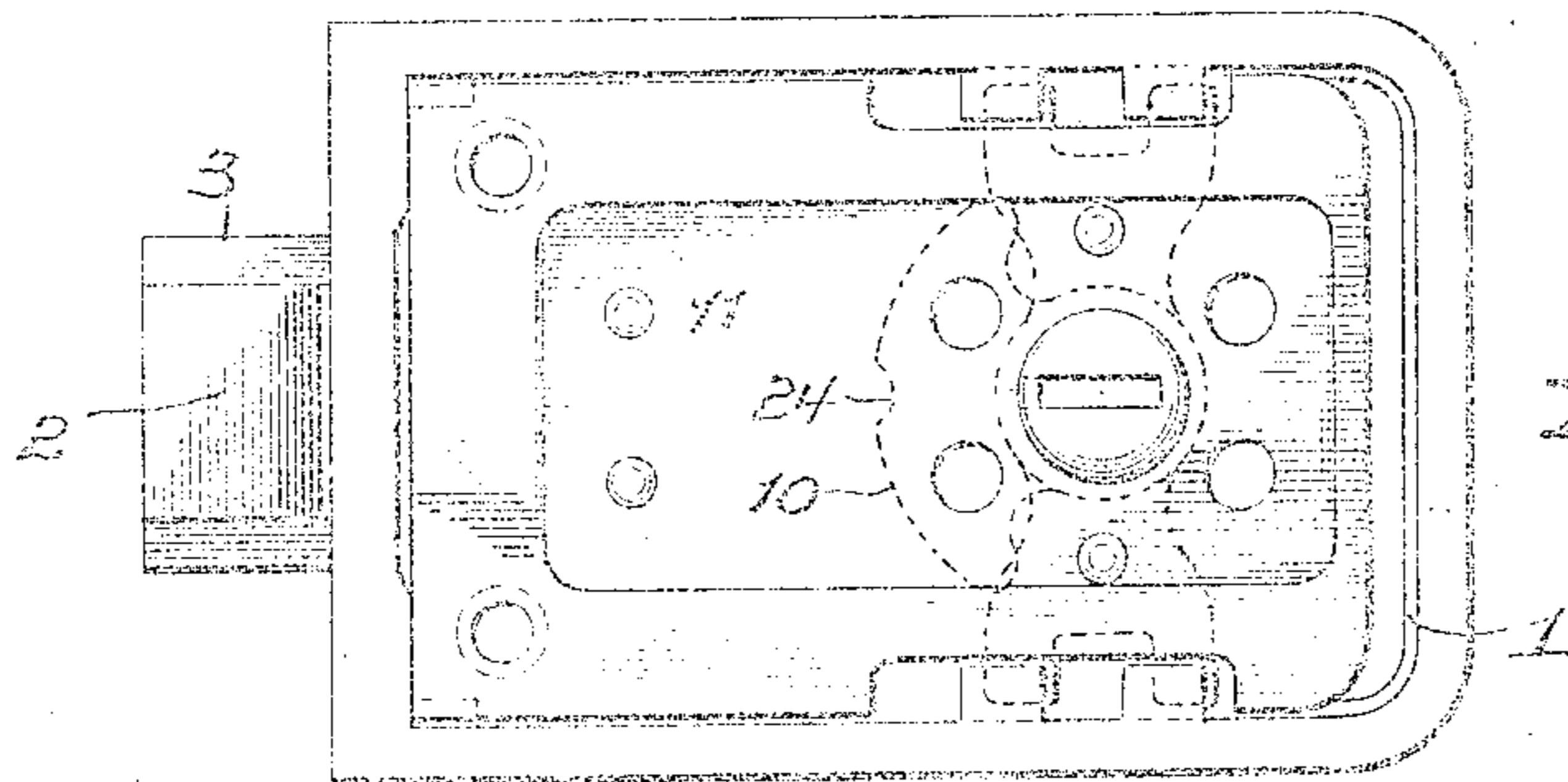
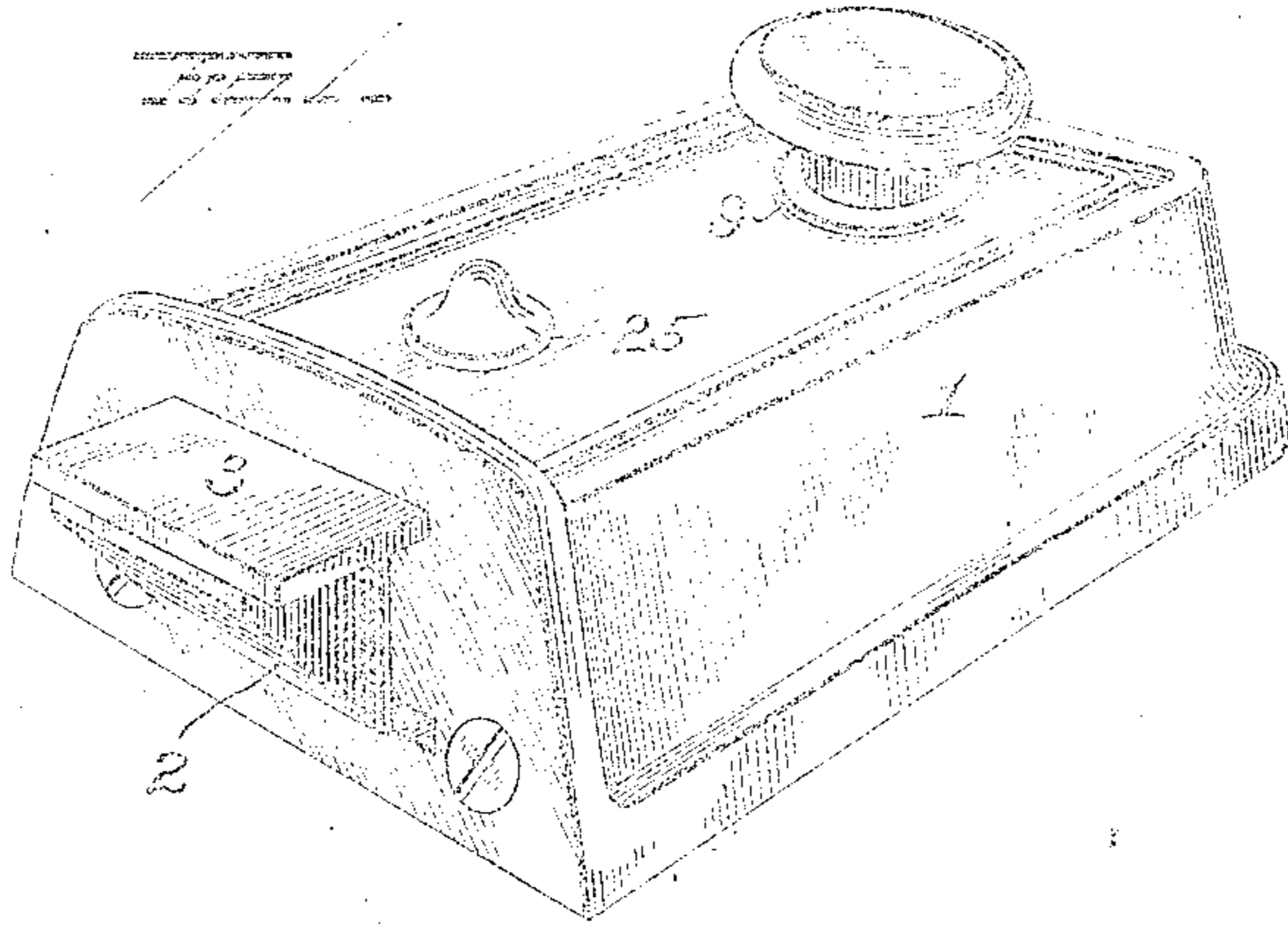


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APPLICATION FILED JAN. 8, 1908.

917,398.

Patented Apr. 6, 1909.  
2 SHEETS—SHEET 1.



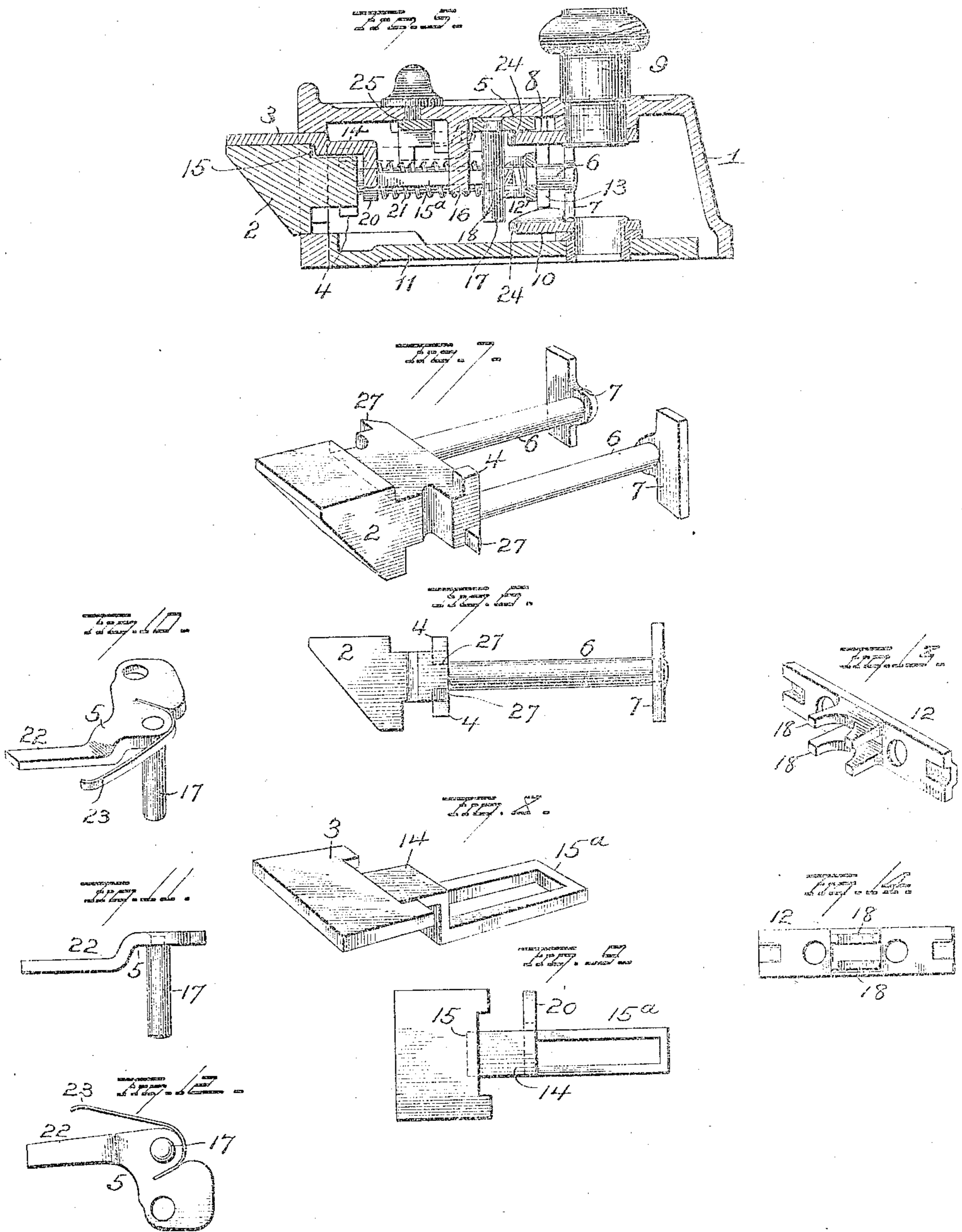
WITNESSES  
E. J. Nottingham  
G. J. Downing

INVENTOR  
P. F. Augenbraun  
O. H. Seymour  
Attorney

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G. J. Downing.

INVENTOR  
P. F. Augenbraun  
By H. A. Seymour  
Attorney

# UNITED STATES PATENT OFFICE.

PETER F. AUGENBRAUN, OF STAMFORD, CONNECTICUT, ASSIGNOR TO THE YALE & TOWNE MANUFACTURING COMPANY, OF STAMFORD, CONNECTICUT.

## RIM NIGHT-LATCH

No. 917,398.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed January 8, 1908. Serial No. 409,821.

*To all whom it may concern:*

Be it known that I, PETER F. AUGENBRAUN, of Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Rim Night-Latches; 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 rim night latches, the object being to provide means for positively dead-locking the latch bolt against forcible retraction by a tool entered between the inclined face of the bolt and the stop plate, and it consists in the parts and combinations of parts as will be more fully described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of my improved lock, looking toward the exposed latch bolt, and the dead-locking slide. Fig. 2 is a rear face view of the lock. Fig. 3 is a similar view with the rear plate removed, showing the latch bolt and deadlocking slide in their outer positions. Fig. 4 is a similar view showing the bolt in its locking position and the dead locking slide in its normal position when the bolt is dead-locked. Fig. 5 is a view in longitudinal section of the lock. Fig. 6 is a view in side elevation and Fig. 7 a view in perspective of the latch bolt. Figs. 8 and 9 are similar views of the dead locking slide. Figs. 10, 11 and 12 are views of the dead locking lever and Figs. 13 and 14 are views of the cross head which supports and guides the stems of the latch bolt and dead locking slide.

1 represents the latch casing open on its inner face only, and provided at one end with an opening for the passage of the latch bolt 2, and with wider openings on opposite sides of the latch opening for the passage of the dead-locking slide 3.

The latch bolt 2 is reversible, and is provided at its inner end, within the casing 1, and at diametrically opposite corners, with the projecting lugs 4, one of which rests in the plane of the dead locking lever 5, when the latter is in dead-locking position.

As above stated the latch is reversible, that is to say, it may be placed with its inclined edge toward the rear face of the lock,

as shown in the drawing, for a door opening inwardly, and with its inclined face toward the outer face of the case for use on a door opening outwardly, hence in either position one of the lugs 4 will be so located as to be engaged by the dead locking lever, as will be hereinafter more fully referred to.

When the latch bolt is reversed the dead locking slide must also be reversed, hence the front face of the lock is slotted on both sides of the latch bolt opening, for the reception of the dead locking slide 3.

Projecting inwardly from latch bolt 2, are the parallel rods or stems 6, each of which is provided on its rear end with a head 7 projecting on both sides of the stems, and engaged on one side by the roll back 8 on the knob stem, 9, and on the other side by roll back 10 journaled in the removable back plate 11, and actuated by a Yale & Towne key cylinder mechanism secured to the door, and connected in the usual manner with the roll back 10.

The two stems 6 are located centrally with relation to the bolt head and also to the casing and pass through the cross head 12 mounted between lugs 13 to the sides of case 1, and forming supports and guides in which the latch stems 6 rest and move.

The dead locking slide 3 comprises a flat plate, wider than the latch bolt so as to project on opposite sides thereof. This slide is provided at its rear end with an offset, forming a shoulder 15 which latter abuts against the rear face of the latch bolt and normally holds the outer end of the latter flush with the outer end of the bolt.

Projecting rearwardly from the offset 14, is the integral stem 15<sup>a</sup> which latter rests centrally within the lock case 1, between and in the plane of the stems 6 of the bolt 2, so as to permit of the reversal of the dead locking slide. This stem 15<sup>a</sup> is slotted for the reception of the guiding stud 16 integral with the locking casing, and also for the pin 17 of the dead locking lever 5; it passes through a slot formed in the cross head 12 and is supported at its rear end between the slotted shoulders 18 projecting forwardly from the cross head.

Mounted on one stem 6 intermediate the cross head 12 and the rear end of the latch bolt, is the spring 19 which tends to hold the latch bolt in its locking position, and

mounted on the other stem 6 intermediate the cross head 12 and the sleeve 20 integral with the stem of the dead locking slide, is the spring 21. This sleeve 20 embraces the stem of the bolt, hence it will be seen that one spring operates always to force the bolt outwardly and the other operates to force the bolt outwardly through the medium of the dead locking slide, while both yieldingly hold the cross head in its seat between the lugs 13.

The dead locking lever 5 which is in form of a bell crank, is pivoted to the inner face of the lock casing to one side of the center of the latter, with its longer arm 22 projecting forwardly toward the bolt, and its shorter arm projecting inwardly and provided with a pin 17 which projects within the slot in the stem of the dead locking slide. When the dead locking slide is in its normal projected position, the rear wall of the slot in the stem 15<sup>a</sup> engages the pin 17 and forces the latter forwardly thus turning the lever 5, and carrying the longer arm 22 out of the path of the projecting tongue 4 on the latch bolt. When however the dead locking slide is forced inwardly, the pin 17 will be released, thus permitting the spring 23 to turn the lever 5 until its longer arm is in the path of tongue 4 and thereby positively dead lock the bolt against movement against any pressure or force exerted against the outer end of the latch bolt.

From the construction described, it will be seen, that, as the rear end of the bolt engages the shoulder 15 on the dead locking slide, when the latch bolt is forced inwardly, the dead-locking slide must also move inwardly therewith, but the bolt can move outwardly to its locking position independently of the slide, hence in closing the door, the contact of the bolt with the strike plate or keeper forces the bolt and dead locking slide inwardly. As the door reaches its closed position the bolt drops into the slot in the keeper thus locking the door, while the dead locking slide engages the strike plate or keeper at the sides of bolt recess and is held in its retracted position thus releasing the dead locking lever and permitting same to move into the path of movement of tongue 4 on the rear end of latch bolt, and thus dog the latter. The parts are so constructed that as the bolt is forced or drawn inwardly, it moves sufficiently before releasing the dead locking lever, to carry the tongue 4 into the path of movement of the long arm 22 of the dead locking lever, thereby preventing the latter from moving to a position in rear of the tongue. When however the door reaches its closed position and the bolt enters the opening in the strike plate, the long arm of the dead locking lever moves to its dogging position in rear of the tongue 4, and positively prevents a retrac-

tion of the bolt except by the knob or the proper key.

The roll backs 8 and 10 are each provided centrally with a recess 24 in which the pin 17 on the dead locking lever normally rests, the sides of the roll backs on opposite sides of the recess forming cams, which, when turned, force the pin 17 forwardly, thus turning the longer arm 22 of the dead locking lever 5 out of the path of the bolt.

The bolt 2 is normally in its projected or locking position, but may be held in its retracted position by the lug 26 on slide 25 engaging a laterally projecting ear 27 on the side of the bolt. The slide is held in its two positions by a spring pressed friction pin and the lug 26 thereon is beveled on its front plate, so that in the event the slide is in a position where its lug 26 would obstruct the free inward movement of the bolt, the beveled rear face of ear 27 on bolt 2, will engage the beveled front face of the lug 26 and move the slide longitudinally.

The rear plate 11 of the lock carries the roll back 10 of the key mechanism and is connected to the key cylinder mechanism in the usual manner. With this latch, when the door is closed, it is impossible to throw the latch bolt from the outside, except by the use of a proper key.

In other night latches the bolt can be retracted by the insertion of a knife blade between the strike plate and beveled face of the bolt, but with my improvement it is impossible to force the bolt by any pressure exerted against the outer exposed face of the latter.

It is evident that many slight changes might be made in the relative arrangement of parts shown and described without departing from the spirit and scope of my invention hence I would have it understood that I do not wish to confine myself to the exact construction and arrangement of parts shown and described, but,

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

1. The combination with a latch bolt, a deadlocking slide adapted to be forced inwardly by the bolt and be retained in such position by the keeper, and means for deadlocking the bolt, of knob and key mechanism each having independent connection with the bolt, and each also operatively connected with the deadlocking means whereby the latter will be actuated to release the bolt by the proper movement of either of said mechanisms.

2. In a latch the combination with a latch bolt and a deadlocking slide normally projecting from the face of the latch and adapted to engage the strike plate or keeper and be held inwardly thereby, of a lever for deadlocking the bolt, a spring normally tending

to hold said lever in the path of the bolt, knob and key mechanism each having independent connection with the bolt, and each operatively connected with the deadlocking lever, whereby the latter will be moved in a direction to release the bolt by the movement of either the knob or key mechanisms.

3. In a latch, the combination with a latch bolt, of a pivoted lever, a spring tending to hold one end of said lever in the path of the bolt for deadlocking the latter, a deadlocking slide adapted when projected to engage the lever and move it out of the path of the bolt, and two independent roll backs each having independent connection with the bolt and with the dead locking lever.

4. In a latch the combination with a bolt and knob and key actuated mechanism each having independent connection with said bolt for retracting same, of a dead locking device normally resting in the path of the bolt, and engaged by both the key and knob actuated mechanisms, whereby said deadlocking device will be moved out of the path of the bolt by said key and knob actuated devices prior to the retraction of the bolt by the latter.

5. In a latch the combination with a casing having a slot for the bolt and a wider slot on each side of the bolt slot, of a reversible deadlocking slide, and bolt dead locking means actuated by the slide.

6. The combination with a bolt, parallel stems projecting rearwardly therefrom, and a cross head through which the stems pass, of a dead locking slide resting on the bolt and movable inwardly therewith, a slotted stem on the rear end of the slide, a spring embracing one stem of the bolt and bearing against the bolt, a spring embracing the other stem of the bolt and bearing against a projection on the dead locking slide, and a dead locking lever actuated in one direction by the slide and in the other direction by a spring.

7. In a latch, the combination with a bolt, a deadlocking slide, and a dead locking lever,

of knob and key roll backs each having a centrally located recess for the reception of a pin on the dead locking lever, and adapted when turned to move the dead locking lever out of the path of the bolt.

8. The combination with a bolt and its stem, a deadlocking slide and its stem, the said slide having a bearing on the stem of the bolt and adapted to be held in its retracted position by the strike plate or keeper, and springs one of which tends to hold the bolt and the other the slide and bolt projected, of a deadlocking lever actuated by the dead locking slide to release the bolt, a spring tending to hold said lever in its deadlocking position and bolt retracting means for moving the dead locking lever out of the path of the bolt.

9. In a latch, the combination with a bolt, a dead-locking slide, and a dead locking lever, of a roll back having a centrally located recess for the reception of a pin on the dead locking lever, and adapted when turned to move the dead locking lever out of the path of the bolt.

10. In a rim night latch the combination with a casing having a slot for the bolt and a slot on each side of the bolt slot, of a reversible deadlocking slide, and bolt deadlocking means actuated by the slide.

11. The combination with a bolt, a deadlocking device for same, and a dead locking slide wider than the bolt so as to project beyond the edges of the latter, and engaging means whereby the slide is moved inwardly with the bolt, of knob mechanism adapted when actuated to first disengage the deadlocking device from the bolt and then retract the bolt.

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

PETER F. AUGENBRAUN.

Witnesses:

WARREN H. TAYLOR,  
WILLIAM E. WESSON.