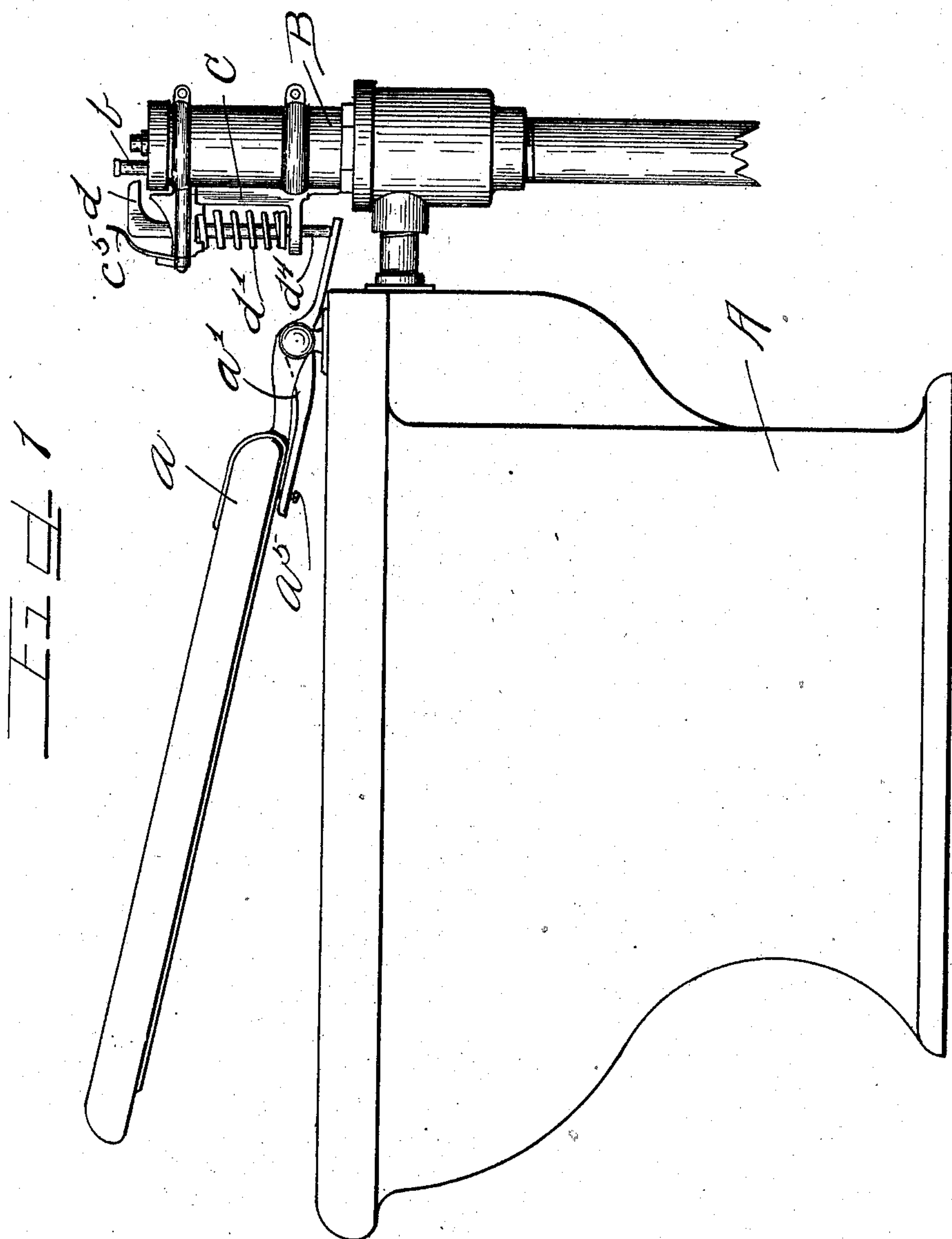


J. G. HODGSON.
SEAT OPERATED MECHANISM FOR ACTUATING FLUSHING DEVICES.
APPLICATION FILED NOV. 14, 1908.

963,440.

Patented July 5, 1910.

2 SHEETS—SHEET 1.



WITNESSES

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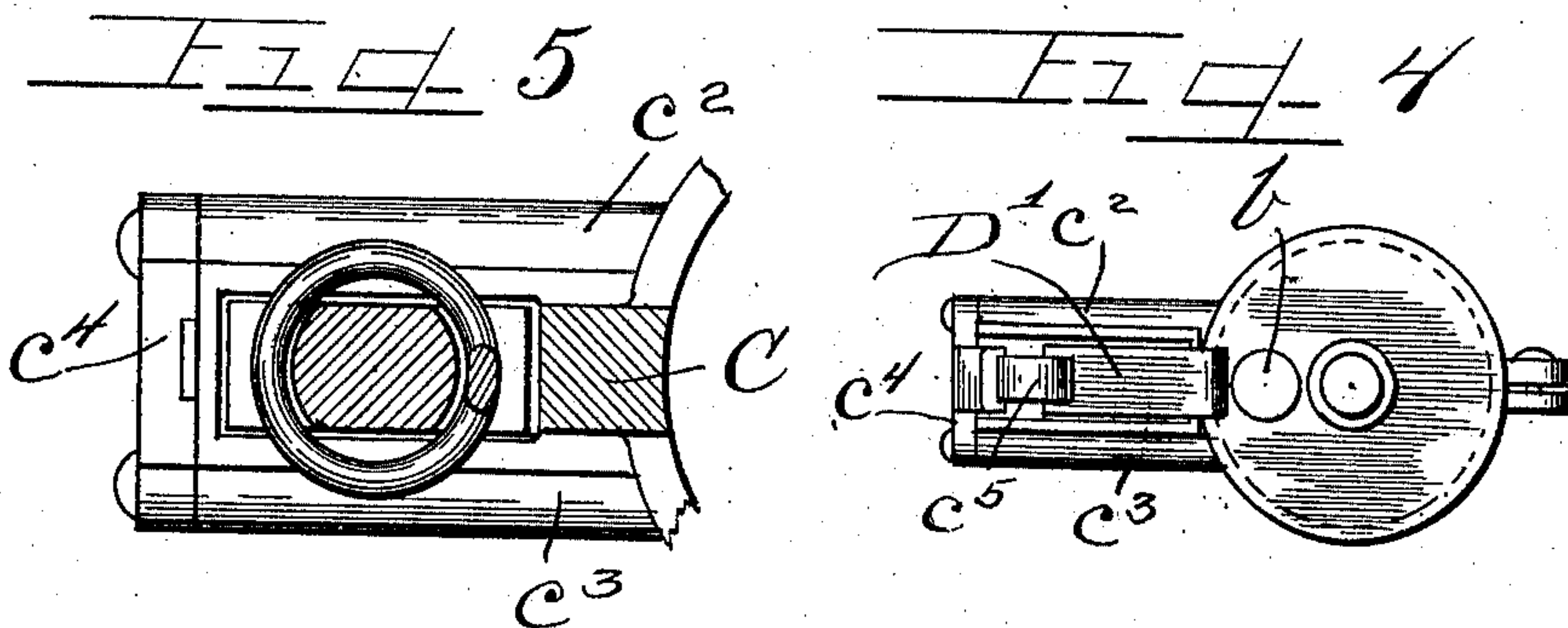
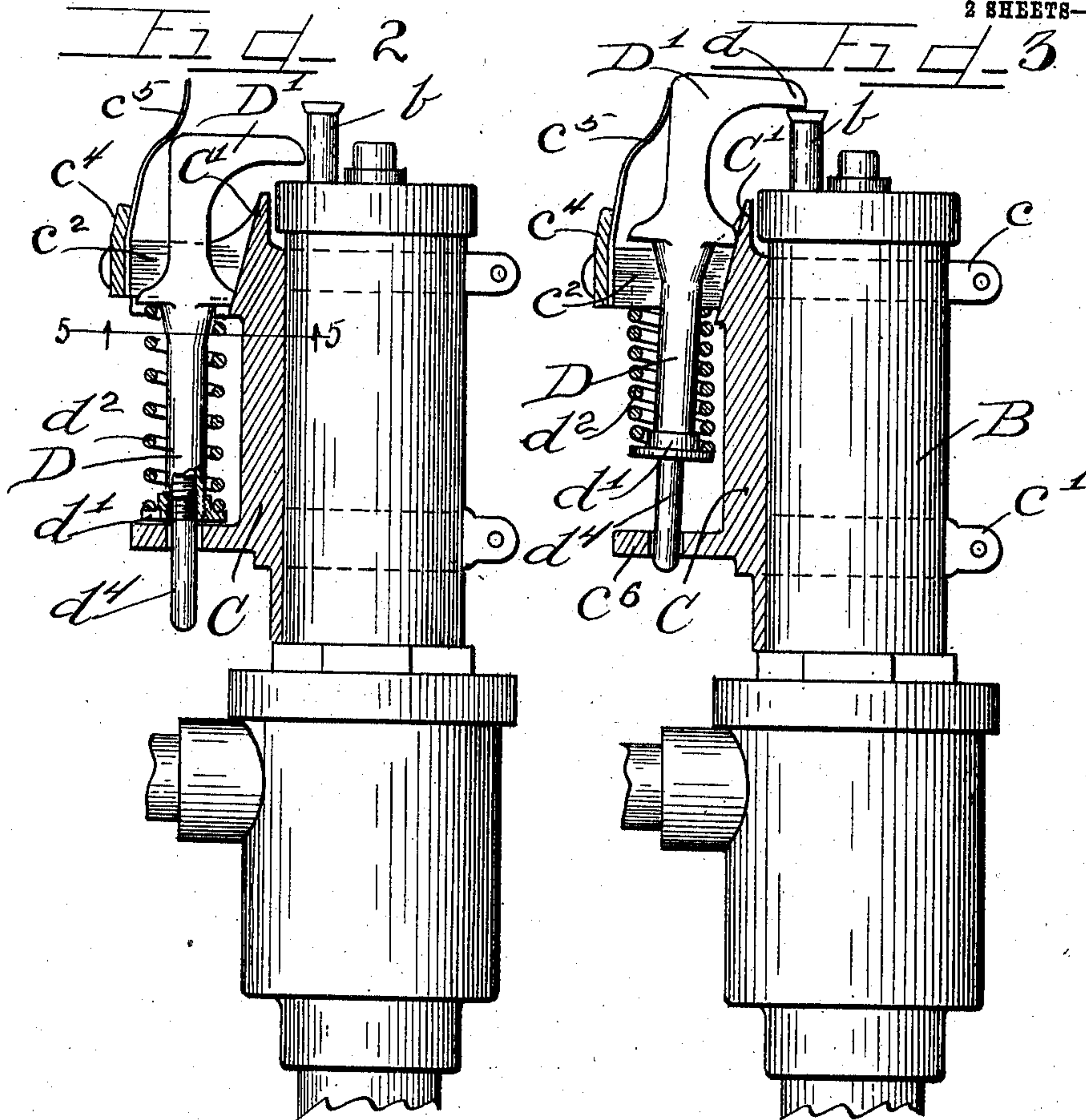
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Witnesses
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UNITED STATES PATENT OFFICE.

JOHN G. HODGSON, OF MAYWOOD, ILLINOIS.

SEAT-OPERATED MECHANISM FOR ACTUATING FLUSHING DEVICES.

963,440.

Specification of Letters Patent.

Patented July 5, 1910.

Application filed November 14, 1908. Serial No. 462,739.

To all whom it may concern:

Be it known that I, JOHN G. HODGSON, a citizen of the United States, and a resident of the village of Maywood, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Seat-Operated Mechanism for Actuating Flushing Devices; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

While various seat operated devices for actuating flushing tanks and valves have for some time been in existence, these have usually been quite complicated in construction, and consequently are likely to get out of order frequently, necessitating frequent, and sometimes expensive repairs, and furthermore, such devices are frequently operated in such a manner that when in bad repair they act to hold the flushing valve or other device open, thus resulting in the constant waste of water until repaired.

The object of this invention is to provide an actuating device for flushing tanks or valves so constructed as to render it practically impossible for the same to get out of order or fail to operate from any cause.

Furthermore, it is an object of the invention to provide a device of the class described adapted to be operated by a closet seat and which is entirely out of engagement with all parts of the operative mechanism of the flushing valve or tank except during the brief period the flushing device is being actuated.

It is also an object of the invention to provide a mechanism for the purpose specified adapted to release itself from the actuating means of the valve or other flushing device after the actuation of the same.

It is finally an object of the invention to afford an exceedingly cheap, simple and durable device of the class described adapted for use either in connection with flushing tanks, valves, or any other flushing means, and of such exceedingly simple construction as to render the same practically indestructible and sure and positive in operation.

The invention consists in the matters hereinafter described and more fully pointed out and defined in the appended claims.

In the drawings: Figure 1 is a side elevation showing a toilet closet and flushing

valve equipped with a device embodying my invention, and showing the device at neutral. Fig. 2 is an enlarged, vertical section of the seat operated means for actuating the valve, showing the valve in side elevation. Fig. 3 is a similar view showing the valve actuating means at the moment of engaging a part of the valve to actuate the same. Fig. 4 is a top plan view of the same. Fig. 5 is an enlarged section on line 5—5 of Fig. 2.

As shown in the drawings: A indicates a toilet closet of any preferred form provided with a hinged seat *a*, and having the flushing rim thereof operatively connected with a flushing valve, (sometimes termed a flushometer), indicated by B, for the purpose of flushing the bowl. Said valve, as shown, is provided with a push button *b*, or plunger extending into the top thereof, and adapted when pressed downwardly to open the valve to flush the bowl. Pivotally engaged, conveniently at a point between the hinges of the seat *a*, of the bowl, is a lever *a'*, one end of which extends beneath the seat *a*, and the other end of which extends to near the flushing valve B, as shown in Fig. 1, and mechanism is provided supported upon the flushing valve for depressing the end of the lever to elevate the seat, as shown in Fig. 1, and adapted to be raised when the seat is pressed down to the bowl. For this purpose, as shown, clips or clamping members *c—c'*, adapted to engage around the top of the valve to be rigidly secured thereto by means of bolts or other suitable means, are integrally connected with a bar or web C, of a length to extend from the upper end of said valve downwardly for a sufficient length to afford a firm bearing for the valve casing. Said bar at its upper end, is inclined obliquely forwardly and upwardly toward the top of the valve, as shown in Figs. 2 and 3, and parallel arms *c²—c³*, extend horizontally beyond said inclined portion of the bar to afford lateral guides, and are connected across the ends of the same by means of a bar or plate *c⁴*, which conveniently may extend somewhat above the upper edge of said arms, and may incline inwardly, as shown, to afford a back plate for a leaf spring *c⁵*, which is rigidly engaged to said back plate and near its lower edge, and is directed inwardly toward the valve. As shown also, an arm or web *c⁶*, integral with the lower end of said bar, extends horizontally outward beneath said arms, and is provided

with a central aperture therein corresponding with the aperture or seat between the arms, back plate and bar before described. Vertically movable in the guides thus formed, is a bolt D, which, at its upper end, is provided with a head D', which extends inwardly at its top to afford a finger d , adapted when said bolt is elevated, to extend over the push button or stem b , under the action of the leaf spring c^5 , and to engage said push button or stem to force the same inwardly as the bolt is moved downwardly. As shown, said bolt is provided at its lower end with a removable collar d' , adapted to serve as a stop for a strong spiral pushing spring d^2 , which engages thereon and beneath the arms c^2-c^3 , as shown, to force the bolt downwardly, and a guide stem d^4 , is threaded axially into said bolt at its lower end and extends through the aperture in the arm c^6 , said guide stem, as shown, when the bolt is at the limit of its downward movement engages on the outer end of the lever a' , to elevate the seat, as shown in Fig. 1, said spring being sufficiently strong to resist the upward movement of the bolt until the seat is positively depressed. As shown also, a set screw a^5 , may be provided on the inner end of the lever a' , to afford adjustment for said lever relatively the bolt. Of course, such an adjustment can also be afforded, if desired, by threading the guide stem d^4 , inwardly or outwardly in the bolt.

The operation is as follows: With the device adjusted as shown in Fig. 1, sufficient positive downward pressure on the seat serves to elevate the bolt to the position shown in Fig. 3, the head of the bolt sliding upwardly on the inclined face C', of the seat, permits the head to swing inwardly under the pressure from the spring c^5 , until the finger d , extends above the push pin or button b . Obviously, the bolt is thus supported so long as the seat is held depressed, and, inasmuch as the push pin or button b , has not been actuated in any manner, the valve will not operate. When, however, the seat is released, the spring d^2 , acts positively to force the bolt downwardly, the finger d , engaging the top of the push pin or button b , forces the same inwardly, such inward action opening the flushing valve. This inward movement continues until the inclination of the seat C', for the bolt forces the bolt head laterally against the action of the spring c^5 , sufficiently for the finger d , to clear the push pin b . This downward movement, of course, again elevates the seat to the position shown in Fig. 1, and the bolt having released the push pin, the valve having completed the normal period of flush, is closed as is usual with automatic flushing devices. The operating means for actuating the flushing valve are thus again set, and the seat is again elevated to serve as a lever

to flush the bowl after each use thereof. Should any breakage occur by any possibility or should the device get out of adjustment, the flushometer may be actuated by hand inasmuch as the seat operating mechanism at both limits of movement is wholly out of engagement with the push button for the flushometer. Of course, the height to which the bolt may be lifted and the consequent relative adjustment of the seat may be varied either by means of the set screw a^5 , or by means of the guide pin or stem d^4 . Of course, too, it is quite immaterial whether the flushing device be a tank provided with an automatically closing valve, or a flushing valve or flushometer, inasmuch as the finger of the actuating means may be made to engage the pull or push button for a tank valve as conveniently as to engage the actuating means for a flushometer. Furthermore, it is quite evident that notwithstanding the extreme simplicity of the invention, its operative principle may be embodied in numerous ways. I therefore do not purpose limiting this application for patent otherwise than necessitated by the prior art, as numerous details of construction and operation may be varied without departing from the principles of this invention.

I claim as my invention:

1. The combination with a flushing valve and the actuating element therefor, of a bolt movable obliquely with reference to said valve actuating means and adapted to engage the same at one limit of its movement, coacting cam faces adapted to release the bolt at the other limit of its movement, and a spring engaged on said bolt to force the same toward the valve actuating means.

2. The combination with a flushing valve and the actuating element therefor, of a bolt movable obliquely with reference to said valve actuating means and adapted to engage the same at one limit of its movement and to release the same at the other limit of its movement, a spring engaged on said bolt to actuate the same toward releasing position, and a spring acting on the bolt to force the head toward the valve actuating means.

3. The combination with a flushometer adapted to be actuated by a push pin or button, of a bolt slidably supported on the valve casing, and adapted when elevated to swing inwardly, an inwardly directed finger on the head of said bolt adapted to engage over the push pin for the valve, a spring engaged on said bolt and acting to force the same downwardly, carrying the push pin therewith to near the limit of the downward movement of the bolt, and operative connections between the bolt and seat whereby downward pressure on the seat elevates the bolt.

4. The combination with a flushometer

adapted to be actuated by a push pin or button, of a bolt slidably supported on the valve casing, an inwardly directed finger on the head of said bolt, a spring acting to force the same inwardly over the push pin for the valve, a spring acting to force the bolt downwardly, carrying the push pin therewith to near the limit of the downward movement of the bolt, and a rearward extension on the closet seat adapted to be engaged by the bolt to elevate the seat.

5. In a device of the class described the combination with the hinged seat of a toilet closet and a flushing valve connected to flush the bowl, of a lever extending beneath the seat and rearwardly from the bowl, a bolt slidably engaged on the valve casing, a spring thereon acting to force said bolt downwardly into engagement with the lever to elevate the seat, an inwardly directed finger on the head of said bolt adapted when the bolt is elevated to extend over the operating means for the valve, a spring acting to force said finger inwardly into engagement with said operating means and an inclined face against which said head slides to retract the same from the operating means as the bolt moves downwardly after actuating the valve.

6. In a device of the class described the combination with the hinged seat of a toilet closet and a flushing valve connected to flush the bowl, of a lever extending beneath the seat and rearwardly from the bowl, a bolt slidably engaged on the valve casing, a spring thereon acting to force said bolt downwardly into engagement with the lever to elevate the seat, an inwardly directed finger on the head of said bolt adapted when the bolt is elevated to extend over the operating means for the valve, a spring acting to force said finger inwardly into engagement with said operating means, an inclined face against which said head slides to retract the same from the operating means as the bolt moves downwardly after actuating the valve, and means adjusting the push pin and seat lever to vary the movement of the bolt.

7. In a device of the class described an attaching member provided with arms, an actuating member, a spring around the same bearing at one end against one of the arms, a member rigidly secured on the actuating member against which the opposite

end of the spring bears and coacting cam faces on said attachment and actuating member.

8. In a device of the class described an attaching member provided with arms, an actuating member, a spring around the same bearing at one end against one of the arms, a member rigidly secured on the actuating member against which the opposite end of the spring bears, yielding means for forcing the actuating member transversely and an adjustable extension secured to the actuating member.

9. In a device of the class described an actuating member, independent resilient means, one bearing against the actuating member and the other engaged on the actuating member for forcing the member oppositely and means secured to the member for limiting its movement.

10. In a device of the class described an actuating member, independent springs for forcing the member oppositely, means secured to the member for limiting its movement, means forcing the actuating member against the tension of one of the springs to position the member above the flushometer actuated, a member for attaching the device to the flushometer and coacting cam faces on the actuating member and attaching member for releasing the actuating member.

11. In a device of the class described the combination with a flushometer and actuating stem of a member for actuating the stem of the flushometer from above, a lever for elevating the same in a position to engage the top of the stem of the flushometer, means for adjusting the lever to vary the elevation of the actuating member, a resilient member for forcing the actuating member to engage the top of the actuating stem of the flushometer, means for automatically depressing the actuating member after it engages the top of the stem of the flushometer and means for releasing the actuating member from the actuating stem of the flushometer.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

JOHN G. HODGSON.

Witnesses:

K. E. HANNAH,
J. W. ANGELL.