

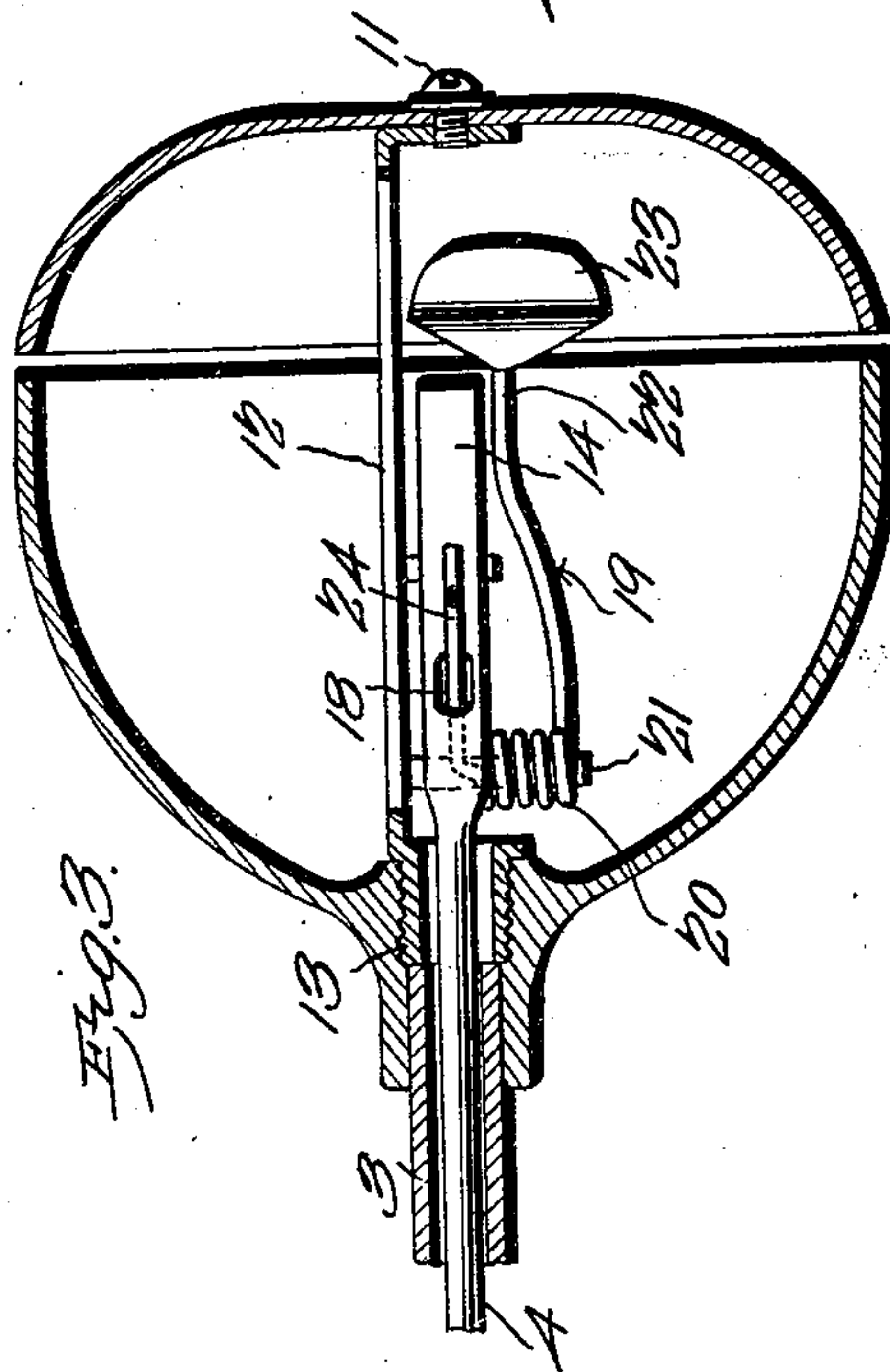
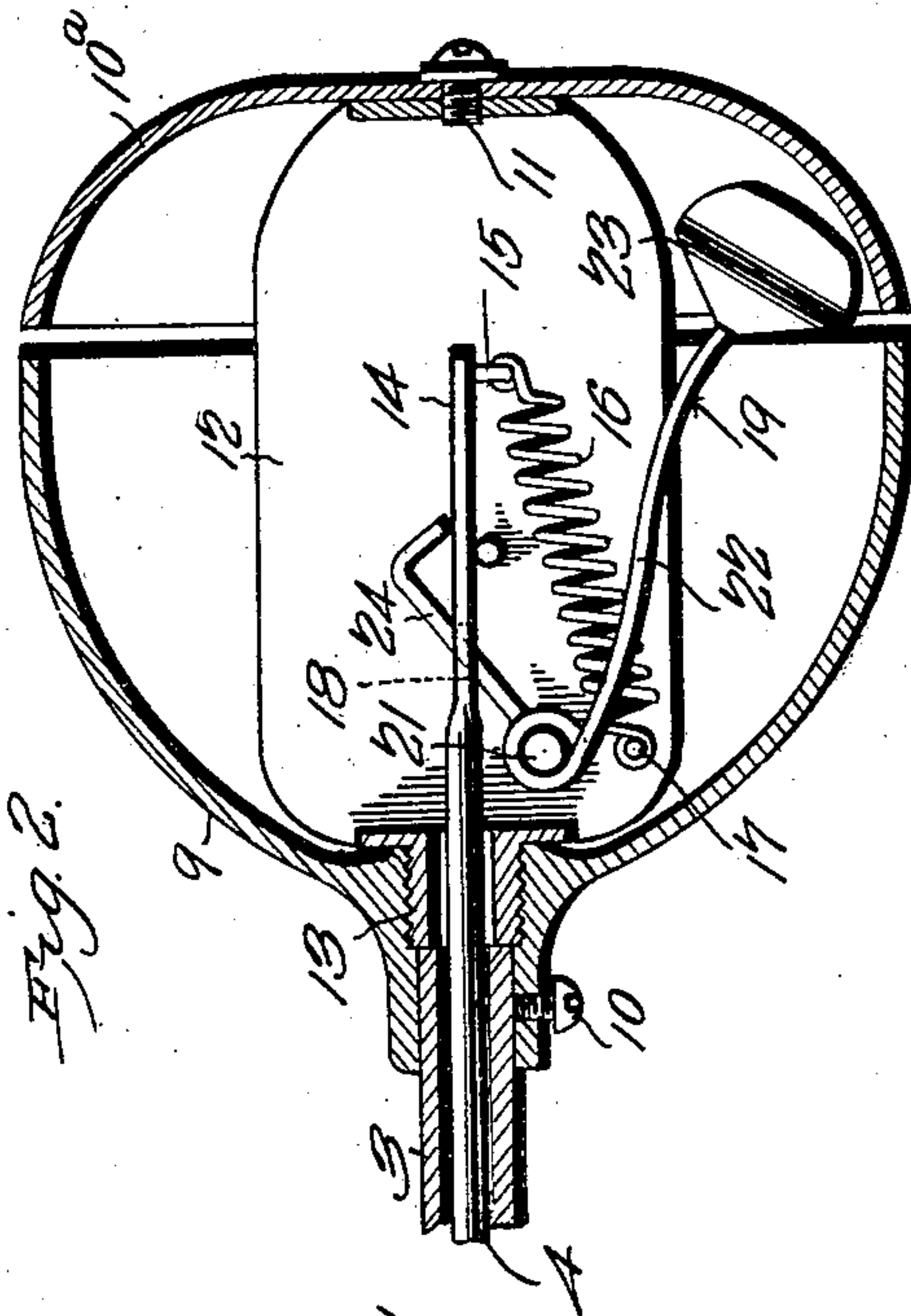
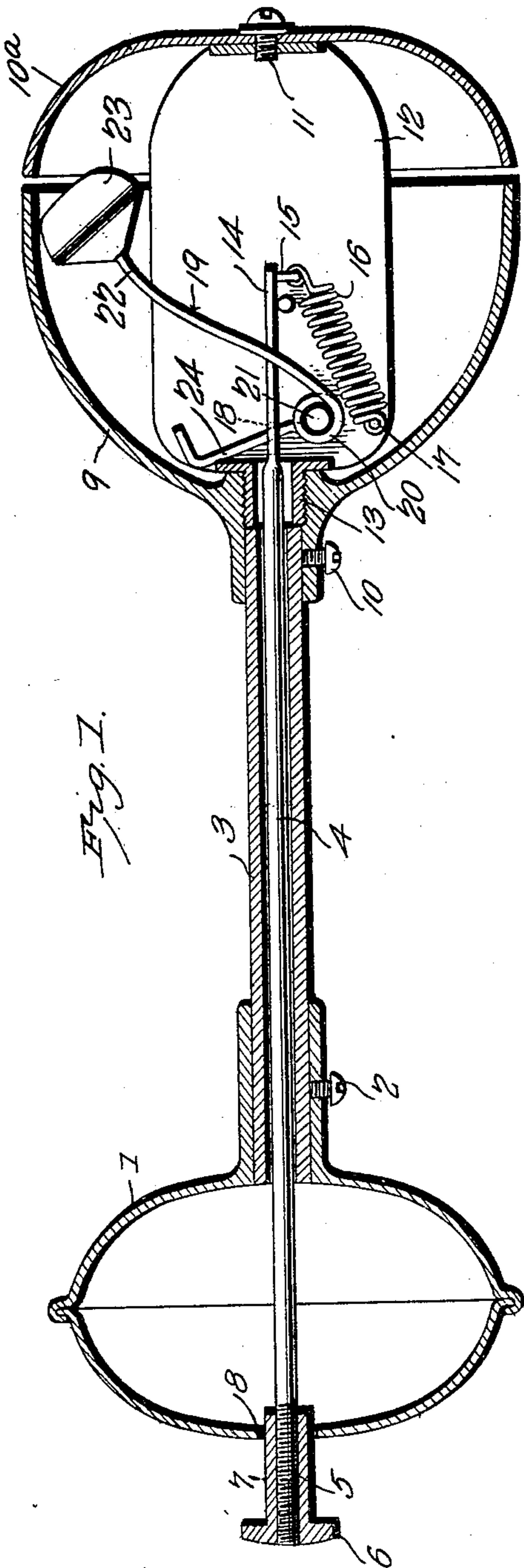
No. 700,681.

Patented May 20, 1902.

J. W. FREEMAN.
COMBINED DOOR KNOB AND BELL.

(Application filed Dec. 9, 1901.)

(No Model.)



Witnesses
E. J. Stewart
H. J. Riley

John W. Freeman, Inventor.
by *C. A. Snow & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

JOHN WESLEY FREEMAN, OF DENVER, COLORADO, ASSIGNOR OF ONE-HALF
TO SILAS B. A. HAYNES, OF DENVER, COLORADO.

COMBINED DOOR KNOB AND BELL.

SPECIFICATION forming part of Letters Patent No. 700,681, dated May 20, 1902.

Application filed December 9, 1901. Serial No. 85,246. (No model.)

To all whom it may concern:

Be it known that I, JOHN WESLEY FREEMAN, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented a new and useful Combined Door Knob and Bell, of which the following is a specification.

The invention relates to improvements in combined door bells and knobs.

10 The object of the present invention is to improve the construction of combined door knobs and bells and to increase their strength, durability, and efficiency and to provide an exceedingly simple and inexpensive one adapted
15 to be readily operated by simply depressing a button and capable of affording ready access to the interior.

The invention consists in the construction and novel combination and arrangement of
20 parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a longitudinal sectional view of a combined door knob and
25 bell constructed in accordance with this invention, the depressible button being extended and the parts being in position for operation. Fig. 2 is a detail view of the inner knob and the bell-ringing mechanism, illustrating
30 the arrangement of the parts after the button has been depressed. Fig. 3 is a sectional view taken at right angles to Fig. 2.

Like numerals of reference designate corresponding parts in all the figures of the drawings.
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1 designates an outer knob secured by a screw 2 in the ordinary manner to the outer end of a knob-spindle 3, which is hollow, preferably by being grooved, for the reception of
40 a reciprocating rod 4, which is connected at its inner end with the bell-ringing mechanism. The outer portion of the reciprocating rod, which is preferably round, is provided with screw-threads 5 for the reception of an
45 adjustable head or button 6, having an interiorly-threaded sleeve 7, which engages the threaded outer portion of the rod and which is adapted to be adjusted longitudinally thereof to arrange the parts to suit the thickness
50 of a door and to secure the necessary recipro-

cation of the rod. The outer knob is provided with a central aperture 8, through which passes the sleeve and the outer portion of the rod, and the button or head is arranged on the exterior of the outer knob and is adapted
55 to be readily pushed inward to ring the bell formed by the inner knob 9.

The inner knob 9, which is adjustably secured to the inner end of the knob-spindle by a screw 10, is composed of an inner main section and an outer section 10^a, which is secured
60 by a screw 11 or other suitable fastening device to the outer end of a bracket or support 12. The bracket 12 supports the bell-ringing mechanism and is provided at its inner end
65 with an exterior threaded tubular shank or sleeve 13, which screws into a threaded portion of the inner or main section of the inner knob and which is adapted to be readily unscrewed therefrom to enable the bracket to be
70 removed. The bracket is adapted by this construction to be readily removed from and applied to the door-knob without detaching the same from the door, and should it become necessary to remove the bell-ringing mechanism
75 it will be only necessary to unscrew the push-button from the outer end of the reciprocating rod and then unscrew the bracket. The outer section of the inner knob, the bracket, and the rod may then be readily removed. The
80 outer section of the inner knob may be fixed to the bracket to facilitate unscrewing the same, or it may be permitted to rotate freely on the bracket to prevent the latter from being accidentally unscrewed by the turning
85 of the inner knob. The outer section of the inner knob may constitute the bell, or the bell-hammer, hereinafter described, may be arranged to hit either or both sections of the
90 inner knob.

The rod 4 has a flattened inner end or portion 14 and is provided with an arm 15, to which is connected one end of a coiled spring 16, which is secured at its other end to an arm or projection 17 of the bracket, and when
95 the push-button and the rod are moved inward the coiled spring will be distended and will return the parts to their initial position as soon as pressure is removed from the push-button. The arms 15 and 17 may be of any
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desired construction and may be provided with eyes or hooks for engaging loops or eyes of the spring.

The flattened inner end of the reciprocating rod is provided with an aperture or slot 18, through which passes one arm of a resilient bell-crank lever 19, which forms a bell-hammer and which is provided at its angle with a spring-coil 20, arranged on the pivot or stud 21. The arm 22 of the bell-crank lever is provided with a hammer-head 23 and is adapted to be oscillated to throw the head from one side of the knob to the other, and the head by varying the length of the arm 22 may be arranged to strike either or both sections of the inner knob. The arm 24, which passes through the aperture or slot 18 of the flattened portion of the reciprocating rod, is approximately L-shaped and is arranged to engage the inner end of the bracket and the flattened portion of the rod to limit the swing of the bell-crank-lever arm 24 and the reciprocation of the rod to relieve the arm 22 of pressure, whereby the said arm 22 is permitted to vibrate when contacting with the bell of the inner knob. When the push-button is moved inward, the reciprocating rod throws the bell-hammer against one side of the bell of the inner knob and the coiled spring moves the rod outward or backward and throws the bell-hammer against the opposite side of the bell. By this construction a positive and efficient alarm or ringing of the bell is effected by simply pushing the button. The arm 22 is preferably bent slightly, as shown in Fig. 3 of the drawings, to arrange the hammer-head in line with the center of the inner knob. The coiled spring is detachably secured to the arms of the reciprocating rod and the bracket, and it will be apparent that the combined door knob and bell, which is composed of but few parts, is readily assembled and that the simplicity of the device enables it to be cheaply manufactured. It will also be apparent that the combined door knob and bell is adapted to be readily substituted for the ordinary door-knob.

What I claim is—

1. In a device of the class described, the

combination of an inner knob composed of inner and outer sections, a bracket connecting the sections, a reciprocating spring-actuated rod provided with an opening, and a resilient bell-crank lever fulcrumed on the bracket and provided at one arm with a head, the other arm of the bell-crank lever being extended through the opening of the reciprocating rod and arranged to engage the latter when the rod is moved inward, whereby the swing of the bell-hammer is limited, the rod-engaging arm of the bell-crank lever being also arranged to engage the bracket to limit the movement of the bell-crank lever when the rod is moved outward, substantially as described.

2. A device of the class described comprising an inner knob having a bell, a bracket mounted within the inner knob, a reciprocating rod adapted to be pushed inward, a coiled spring connected with the rod and with the bracket and adapted to throw the former outward, a pivot or stud mounted on the bracket, and a resilient bell-crank lever provided at its angle with a coil arranged on the pivot or stud, said bell-crank lever being provided at one arm with a head and having its other arm connected with the rod and arranged to engage the latter to limit the movement of the rod and the bell-hammer, substantially as described.

3. A device of the class described comprising an inner knob having a bell, a reciprocating rod adapted to be pushed inward and provided with an aperture, a spring for throwing the rod outward, and a resilient bell-crank lever provided at one arm with a head, the other arm of the bell-crank lever being approximately L-shaped and operating in the aperture of the rod and arranged to engage and limit the movement of the latter, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN WESLEY FREEMAN.

Witnesses:

J. ROSS COLHOUN,
J. H. JOCHUM, Jr.