

No. 631,633.

Patented Aug. 22, 1899.

J. I. GUNTHER.
ELECTRIC PUSH BUTTON CUT-OUT.

(Application filed Apr. 15, 1899.)

(No Model.)

Fig. 1.

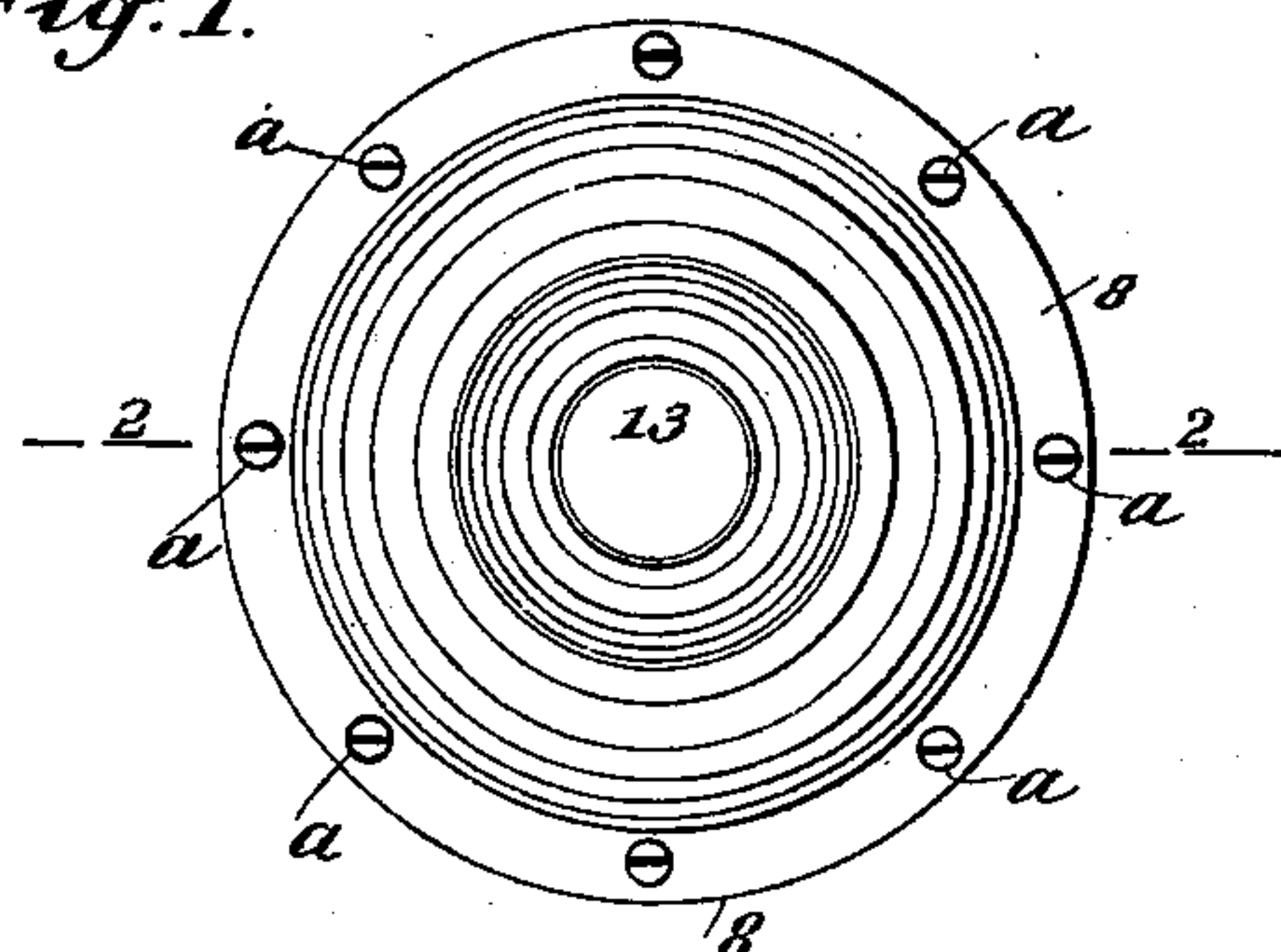


Fig. 2.

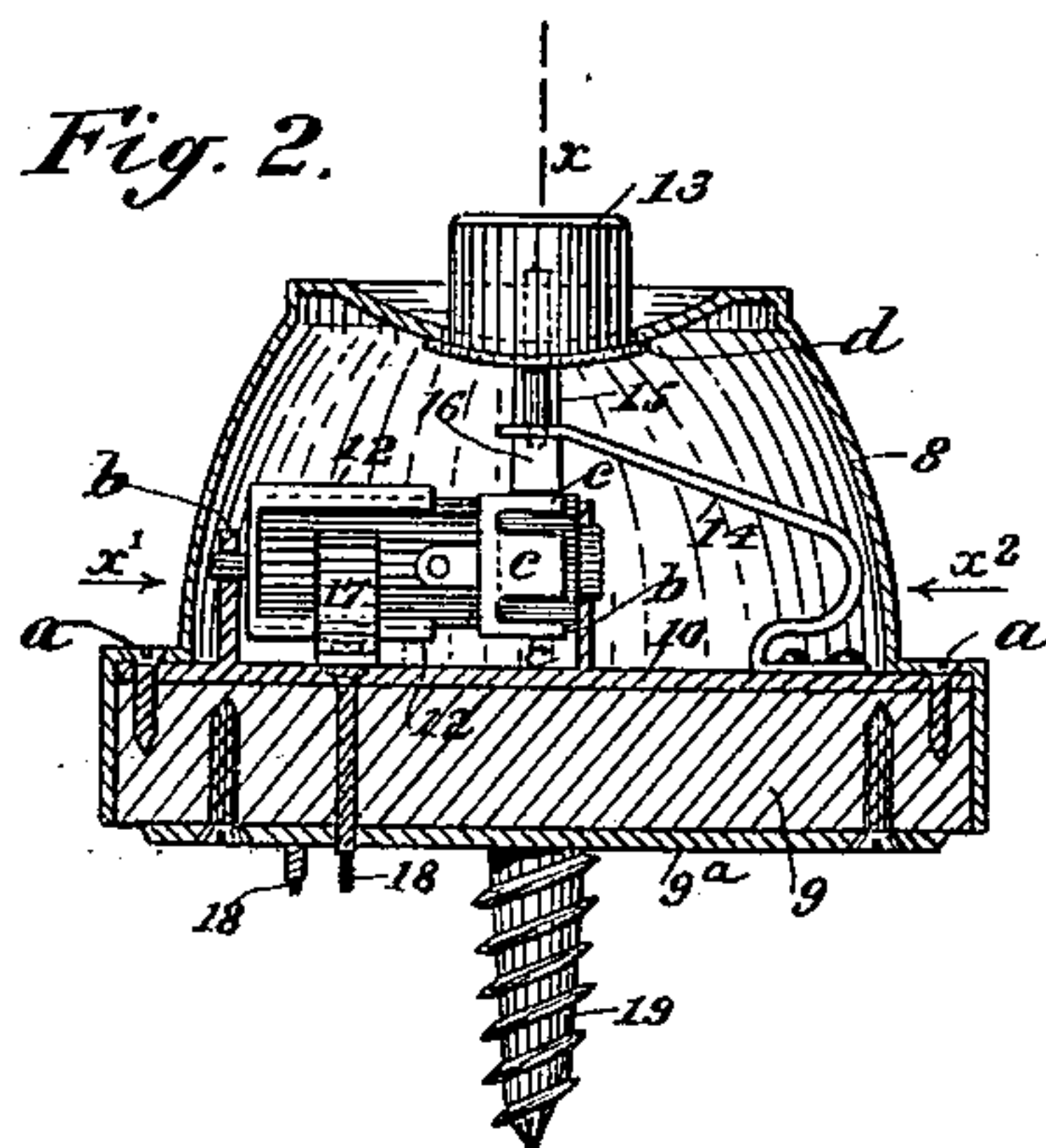


Fig. 3.

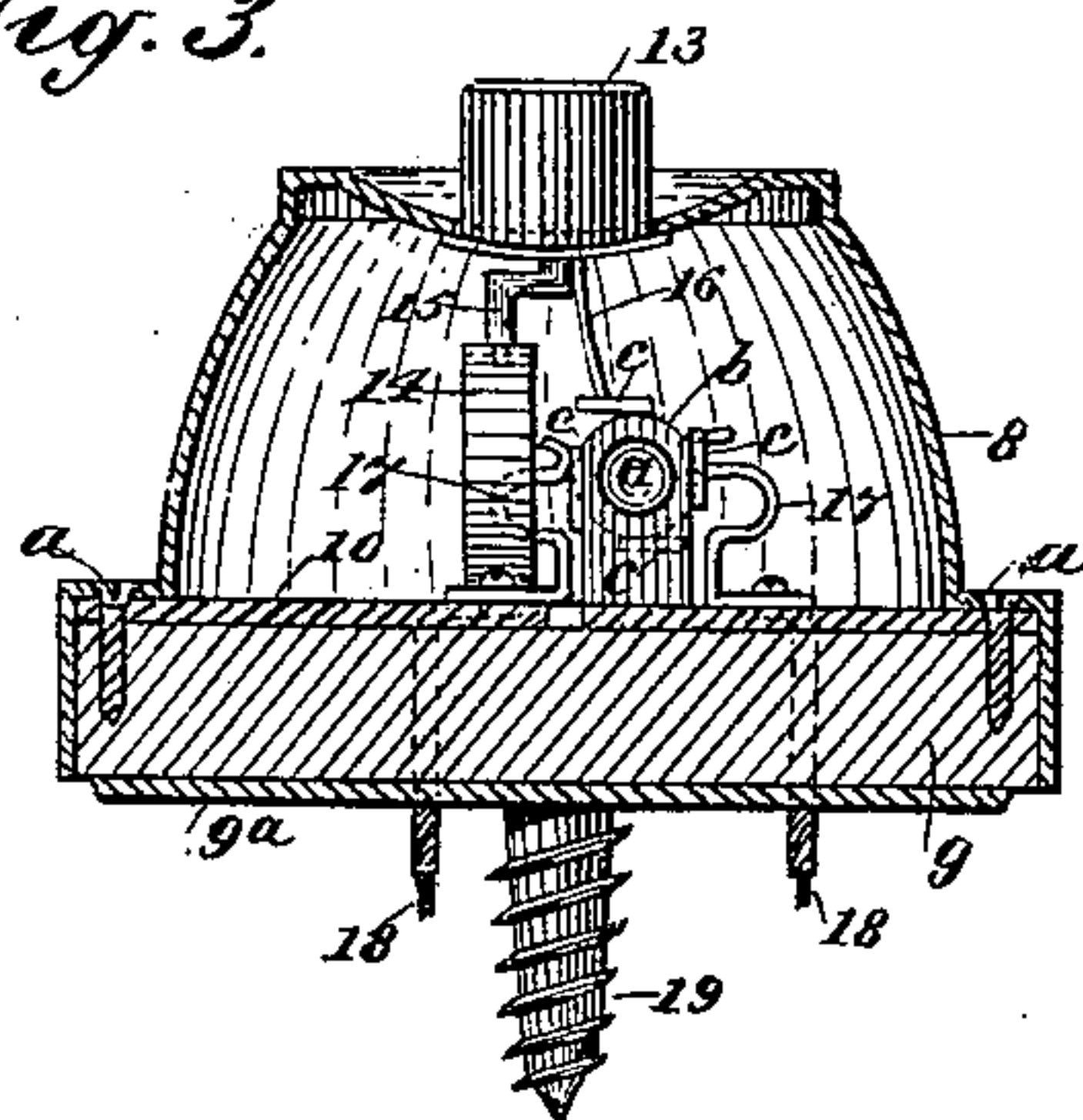


Fig. 4.

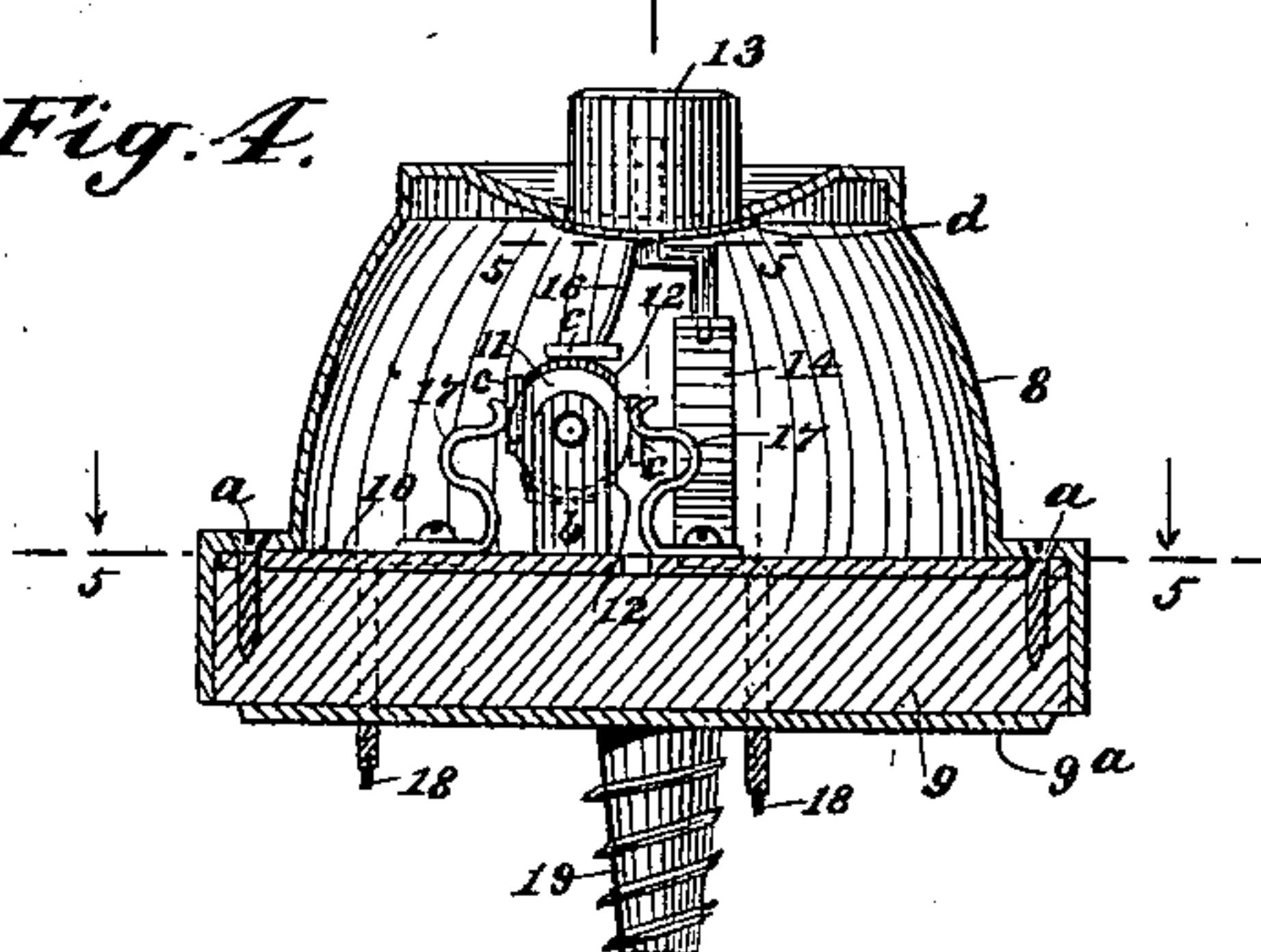


Fig. 5.

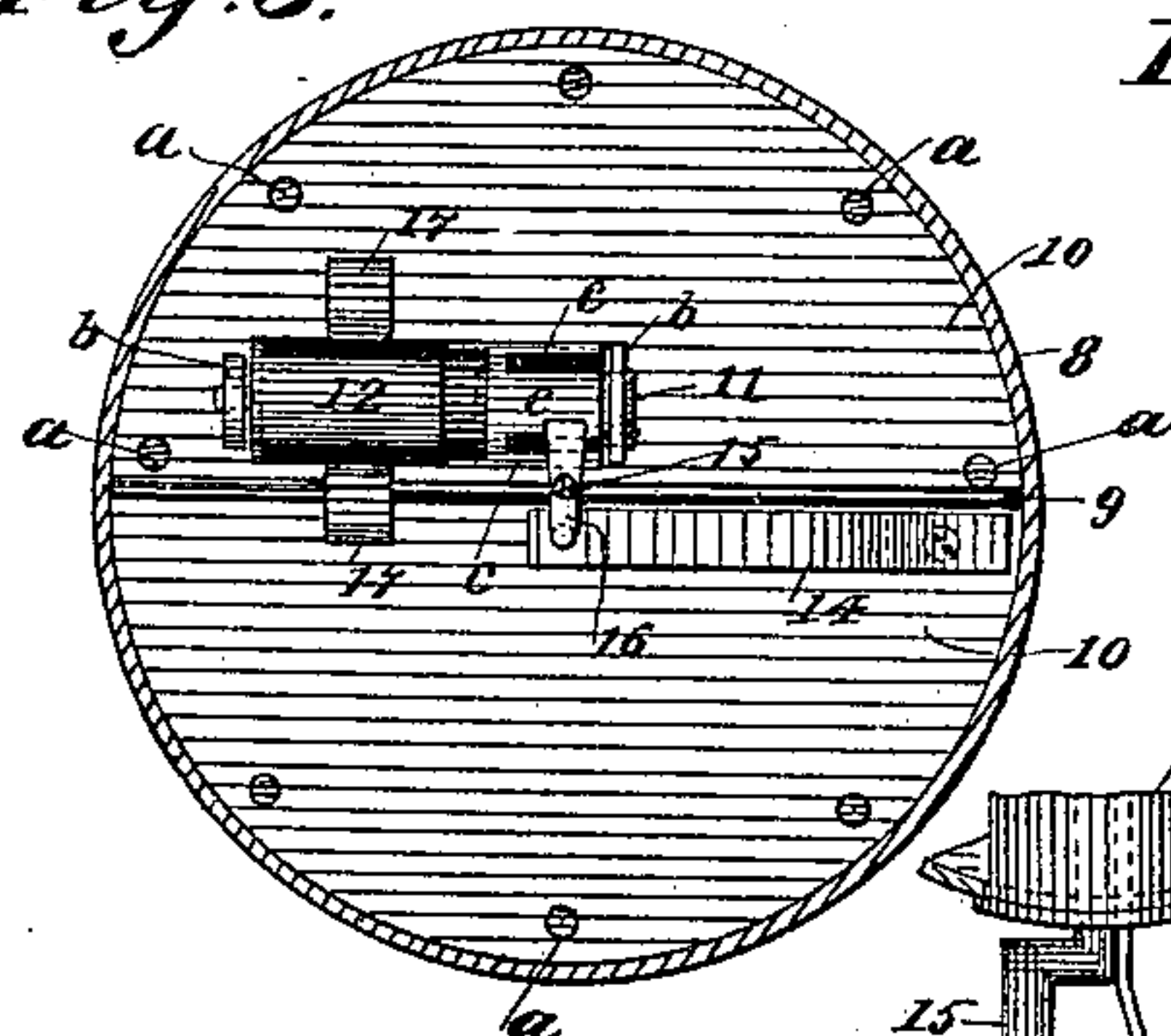


Fig. 6.

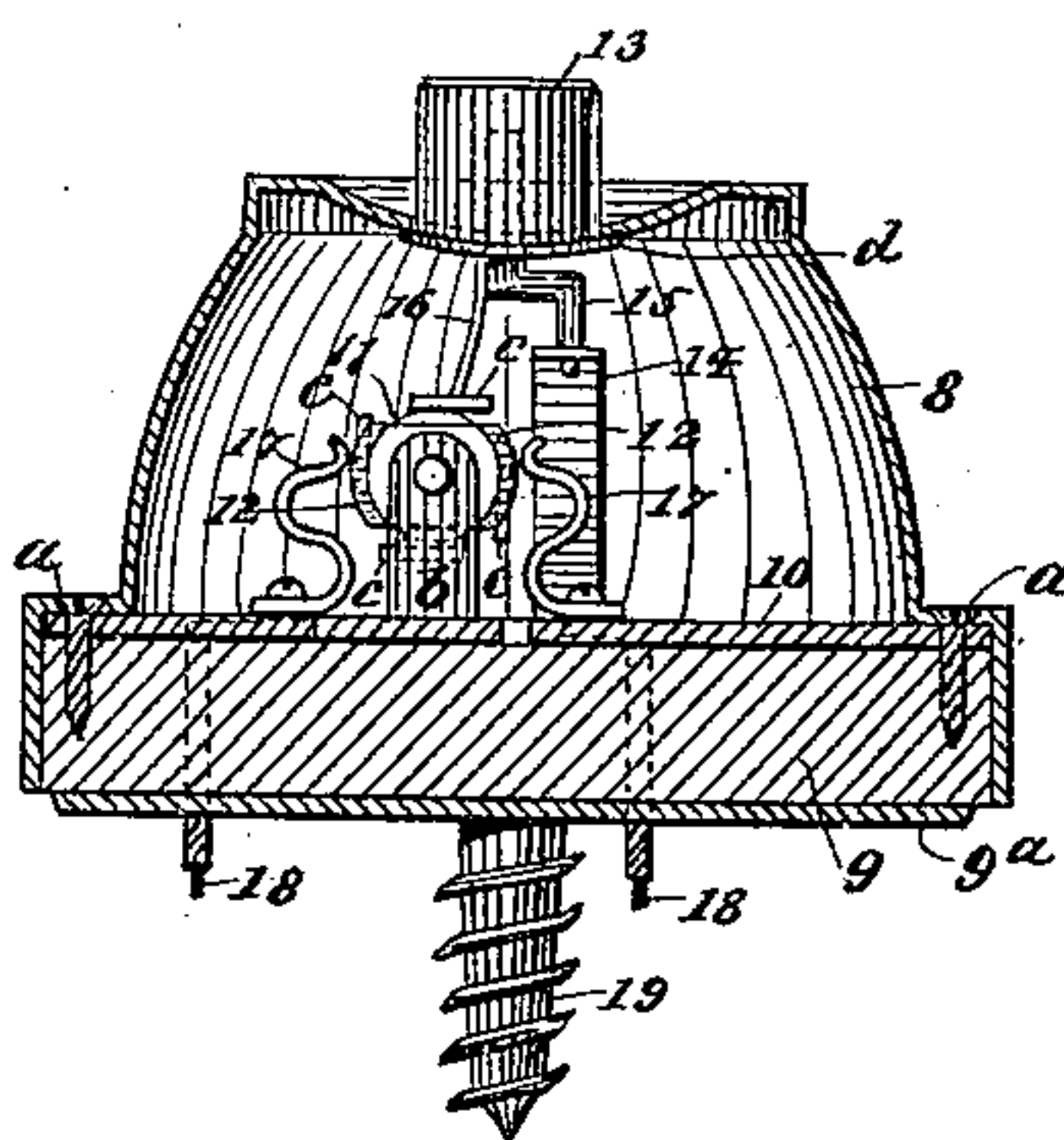
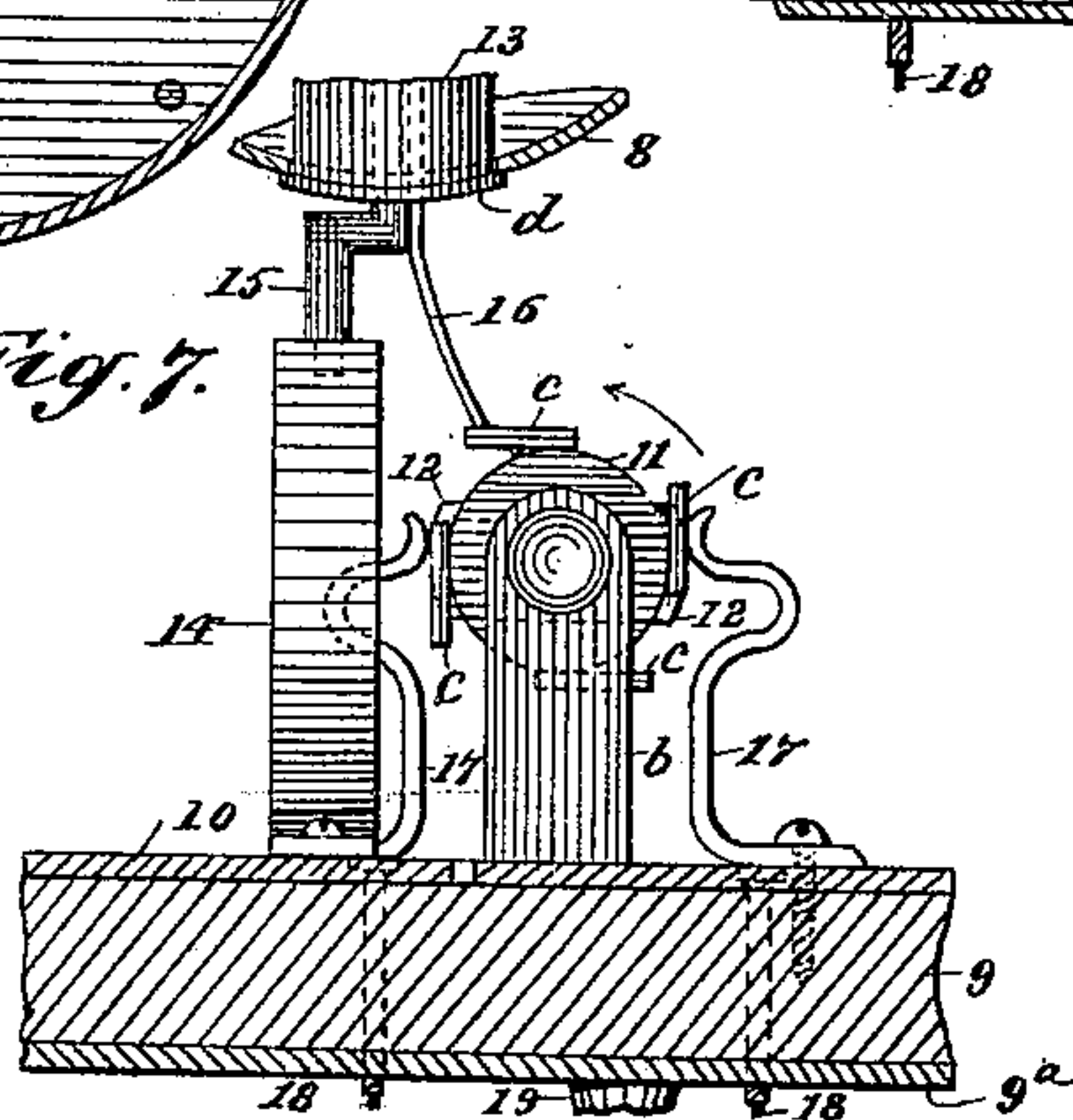


Fig. 7.



WITNESSES:

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JAMES I. GUNTHER, OF NEW YORK, N. Y.

ELECTRIC PUSH-BUTTON CUT-OUT.

SPECIFICATION forming part of Letters Patent No. 631,633, dated August 22, 1899.

Application filed April 15, 1899. Serial No. 713,144. (No model.)

To all whom it may concern:

Be it known that I, JAMES I. GUNTHER, of the city of New York, borough of Manhattan, in the county and State of New York, have
5 invented a new and Improved Electric Push-Button Cut-Out, of which the following is a full, clear, and exact description.

This invention is a novel electric cut-out to be operated for alternately making and
10 breaking connection in an electric circuit by the manipulation of a single push-button, one push making connection and a succeeding push opening the circuit, thus dispensing with the use of two push-buttons, as is usual
15 in the employment of such devices for the control of electric currents.

The invention consists in the novel construction and combination of parts, as is hereinafter described, and defined in the claims.
20 Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the device. Fig.
25 2 is a sectional side view of the casing for the push-button cut-out substantially on the line 2 2 in Fig. 1, showing interior details partly in section. Fig. 3 is a transverse sectional view of the casing substantially on the
30 line $x x$ in Fig. 2, the contained working parts being seen in the direction of the arrow x^2 in Fig. 2. Fig. 4 is a transverse sectional view of the casing substantially on the line $x x$ in Fig. 2, the inclosed details of construction being
35 seen in the direction of the arrow x' in Fig. 2. Fig. 5 is a sectional plan view of the push-button casing and a partly-sectional plan view of novel working parts therein, all substantially on the broken line 5 5 in Fig. 4.
40 Fig. 6 is a sectional side view of the push-button casing substantially on the line $x x$ in Fig. 2, showing contained working parts seen in the direction of the arrow x' , but having a different adjustment from that represented
45 in Figs. 4 and 5; and Fig. 7 is an enlarged fragmental sectional view of the casing and an enlarged end elevation of the push-button mechanism.

In carrying into effect the features of the
50 invention a cupped casing 8 is employed for inclosing the working parts of the device, and said casing is mounted, as usual, upon the

base-block 9. On the upper surface of the base-block 9 a bisected base-plate 10 is located, and its sections are held in place slightly
55 separated by the screws a , that secure the casing thereon, as indicated in the drawings.

Two standards b , that may be in plate form, are erected upon one of the half-sections of the base-plate 10, near its straight inner edge
60 and at right angles thereto. The standards b are spaced apart a suitable distance, and between them is rotatably held the preferably cylindrical block 11, formed of hard
65 wood or other good non-conductor of electricity, and on it near one end are secured oppositely the two contact-strips 12, electrically connected at like ends of each strip, preferably at the adjacent end of the supporting-block 11, as best shown in Fig. 2.
70 Upon the opposite end of the horizontal rotatable block 11 a set of four wings c is secured, these wings being equally spaced apart and having flat exterior faces, said wings being parallel in pairs.
75

A push-button 13 is held to slide in an aperture formed to receive it in the top face of the casing 8, the support for said button consisting of the bent plate-spring 14, secured
80 upon one section of the base-plate 10. A pusher-bar 15 is axially secured in the push-button 13, so as to depend therefrom, and the lower end of the pusher-bar is seated upon the free upper end of the bent plate-spring
85 14. Preferably the pusher-bar 15 is offset in the body portion that projects down below the push-button, this provision enabling the location of the spring 14 a short distance at one side of the rotatable block 11, which
90 adapts the latter, together with the wings c thereon, to rotate freely.

From the side of the pusher-bar 15 a spring-finger 16 extends downward and laterally, so as to be disposed above and near the free
95 edge of the wing c —that is, the uppermost of the four wings—and located horizontally, the finger having its lower end loosely seated on said wing when the push-button is fully elevated by the supporting-spring 14, and the
100 push-button is checked from complete removal by the laterally-extending collar d on its lower end or by an equivalent projection therefrom.

Two similar contact spring-fingers 17, pref-

erably bent as shown, are secured one at each side of the rotatable cylindrical block 11 and respectively upon different sections of the bisected base-plate 10. The location of the contact-springs 17 enables each one to press upon the cylindrical block 11 at opposite points, and as there are two insulating-spaces disposed oppositely between the edges of the contact-strips 12 it will be seen that quarter-revolutions of the block 11 on its end supports will cause the upper resilient ends of the contact-springs 17 to bear first upon the body of the block, which will insulate the springs from each other, and then upon the joined strips 12, which will electrically connect said spring contact-fingers with each other.

Two surface-insulated conducting-wires 18, that are extended from a source of electricity (not shown) and adapted to convey current to electric lights or any other device which is to be periodically cut in and out of electrical connection with a source of electricity, pass through vertical perforations in the base-block 9 and also through the two sections of the base-plate 10. The wires 18 have direct connection with the spring contact-fingers 17, so that these spring-fingers are, in effect, terminals of the open circuit had by the positive and negative electrical conducting-wires 18.

On the lower side of the base-block 9 a bracket-plate 9^a may be secured by any suitable means, and from said plate a stout screw 19 projects to afford convenient means for the attachment of the push-button cut-out device at a desired point—upon woodwork of a building, for example, or upon any other stable support that a screw is adapted to penetrate—but it is to be understood that other means may be employed for securing the base-block in place at a desired point.

In operation it will be seen that if the pusher-finger 16 is depressed by manipulation of the push-button 13 the contact of this finger with the top wing *c* will depress the wing and rock the block 11 in the direction of the curved arrow in Fig. 7 until said wing assumes a vertical plane adjacent to the plate-spring 14 and another wing *c* is brought to the top of the block 11, and on relaxing pressure the plate-spring 14 will elevate the push-button. The quarter-revolution of the block 11 by depression of the push-button 13, as explained, will bring the contact-strips 12 into electric connection with the contact-fingers 17. The pressure of the fingers 17 upon the block 11 and contact-strips 12, alternately occurring when the push-button 13 is depressed and released, will hold the block from too free rotatable movement and also assure a positive contact between the fingers and strips named, which will complete the circuit of the wires 18 at the instant the fingers 17 contact with the strips 12.

The base-block is formed of material which is a non-conductor of electricity, and the bisected base-plate 10 must be of similar mate-

rial if the casing 8 is formed of metal, and thus prevent short-circuiting of the current from one half of the base-plate to the other by the electric conductivity of the casing 8.

In some cases I may prefer to dispense with the sectional base-plate 10 and attach the working parts directly upon the base-block 9 in a suitable manner to render the device operative.

The device is compact, cheap to manufacture, and is very convenient in service, as persons not used to electric-light fixtures can, by pressing upon and then releasing the single push-button 13, effect the lighting of electric lights thus brought into circuit or cut them out when desired.

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

1. The combination with an insulating base-block, and a casing secured thereon having an aperture in its top, of a spring-supported push-button in said aperture, a cylindrical insulating-block rotatable above the base-block, two oppositely-held and electrically-connected contact-strips on said insulating-block, a four-winged bracket on the end of the insulating-block separated from the contact-strips thereon, a bent pusher-bar connecting the push-button with the plate-spring therefor at one side of the insulating-block, a spring-finger projecting from the push-button and adapted to engage successively with the wings of the bracket and give a quarter-revolution to the insulating-block for each depression of the push-button, two spring contact-fingers pressing upon the insulating-block and contact-strips successively as the insulating-block is given quarter-revolutions, and two conducting-wires in electric connection with the contact-fingers.

2. The combination with a suitable base-block, and a bisected base-plate thereon, of a spring-supported push-button, a cylindrical insulating-block held to rotate on one section of the divided base-plate, two oppositely-held and electrically-connected contact-strips on the insulating-block, a four-winged bracket on the end of the insulating-block, separated from the contact-strips thereon, a pusher-bar seated on the spring-support of the push-button and depending from said button, a spring-finger adapted to contact with the uppermost wing and partly rotate the insulating-block when the push-button is depressed, two oppositely-disposed contact-fingers secured respectively on the insulated sections of the base-plate, and two conducting-wires in electric connection with the contact-fingers.

3. The combination with a casing, a base-block, two half-sections of a base-plate held separated on the base-block, and electric conducting-wires passing up through the base-block and two-part base-plate, of a rotatably-supported cylindrical insulating-block on one base-plate section, a pair of electrically-con-

5 nected contact-strips extending from one end of the block upon opposite sides thereof, a four-winged bracket held on the opposite end of the insulating-block, a push-button, a pusher-bar thereon seated on a supporting-spring, a spring-finger projecting from the push-button, and adapted to contact with the uppermost wing of the series for partial rotation of the insulating-block when the

push-button is depressed, and two spring 10 contact-fingers respectively secured on the sections of the base-plate in electric connection with the conducting-wires.

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Witnesses:

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