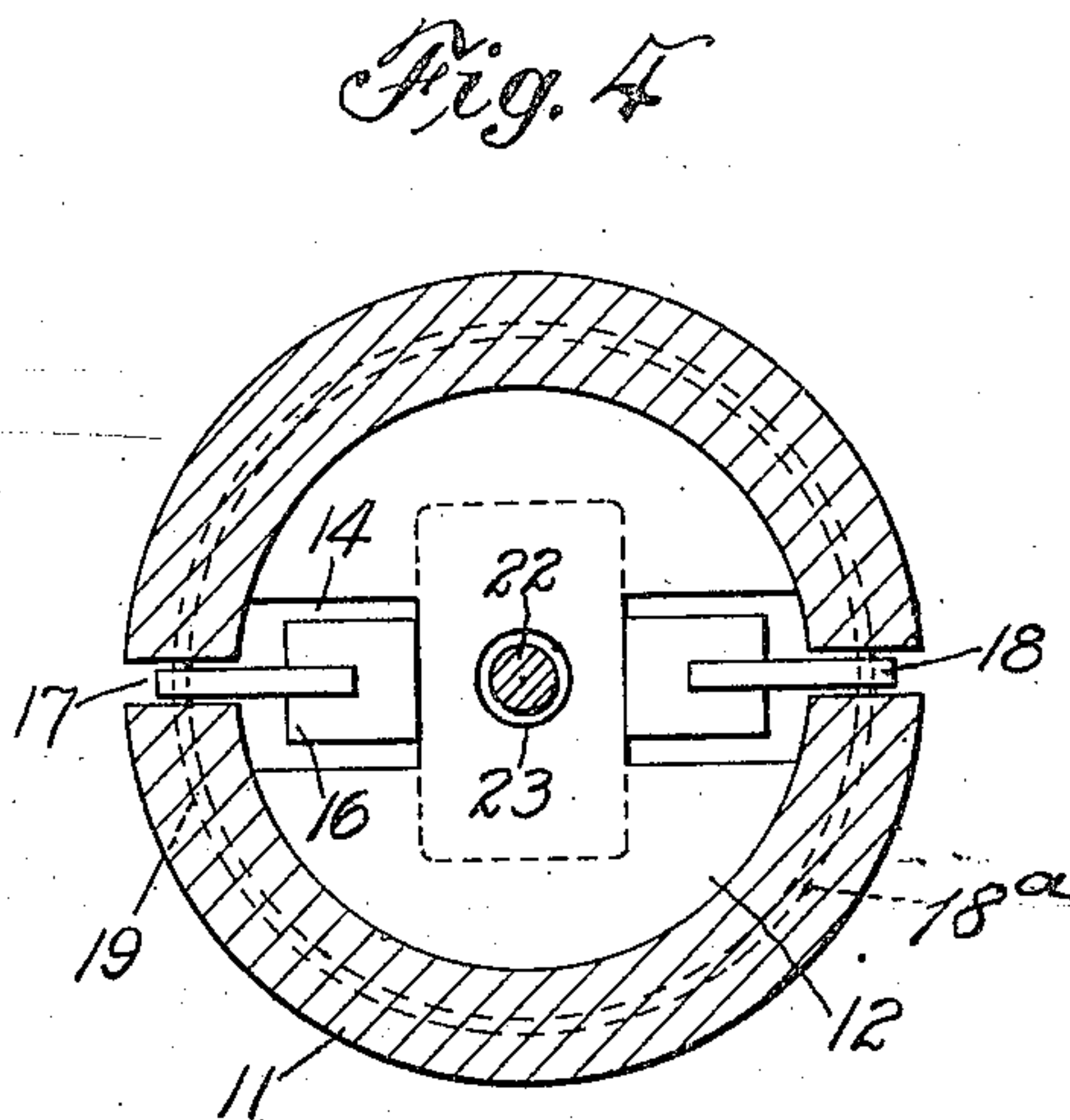
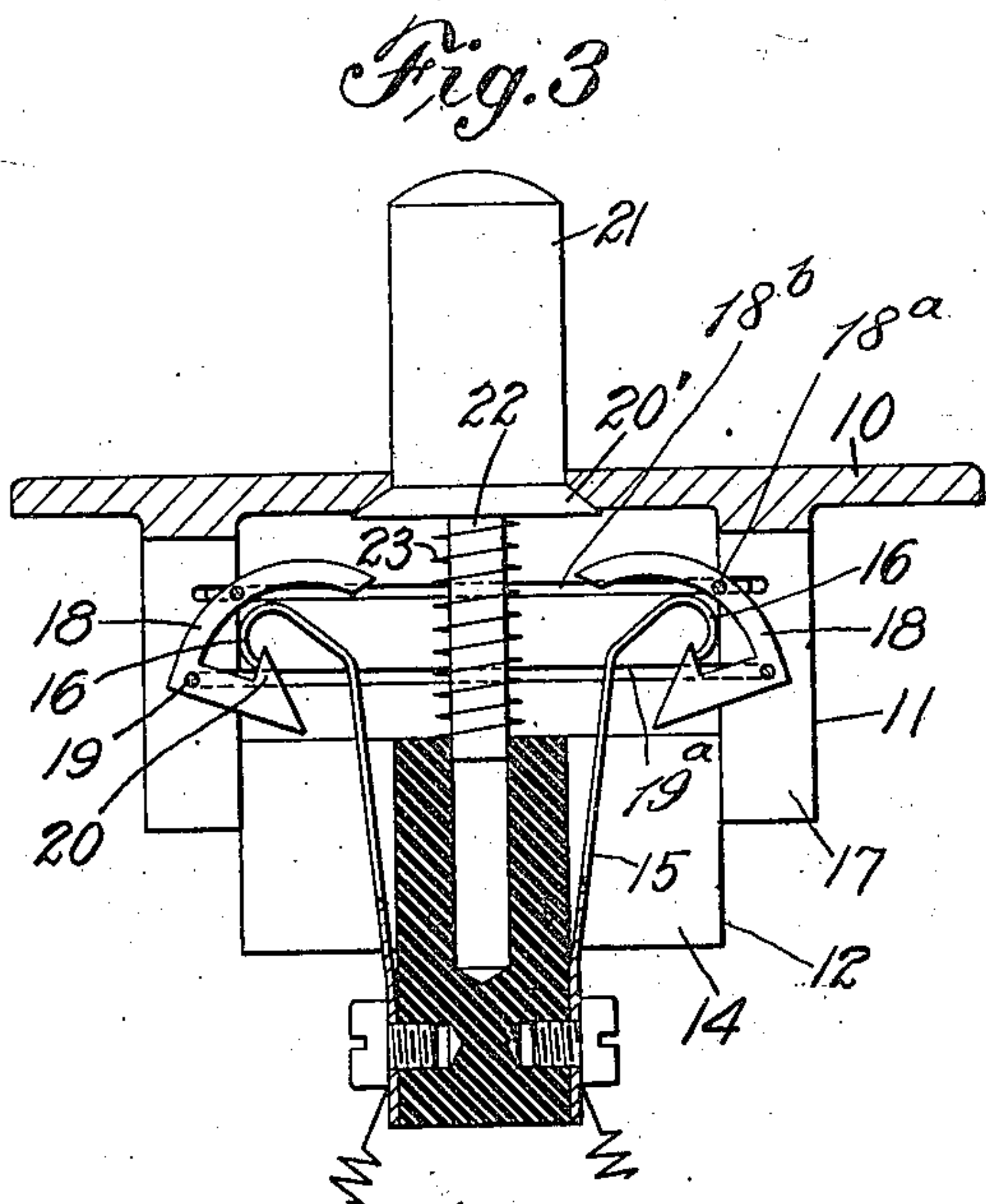
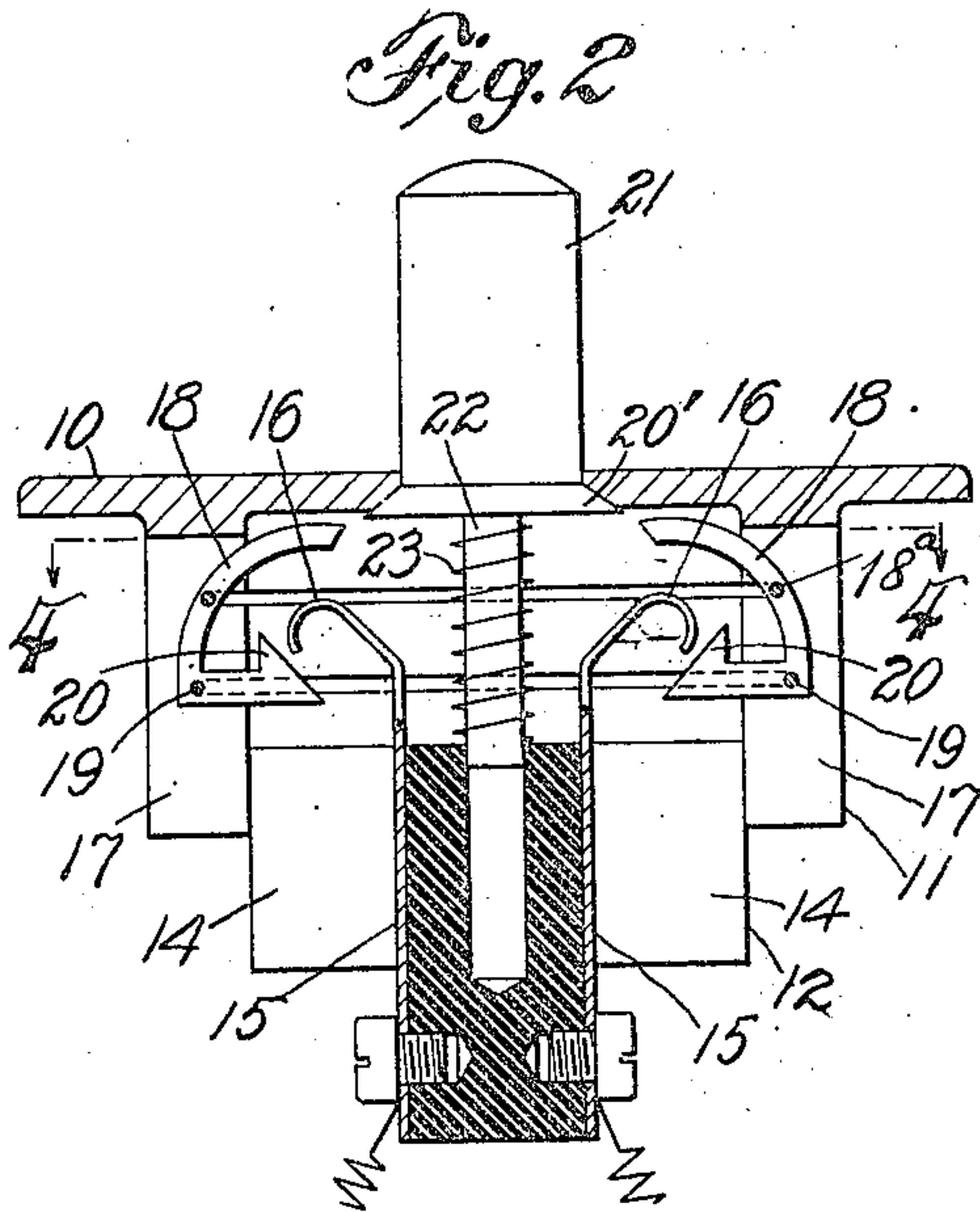
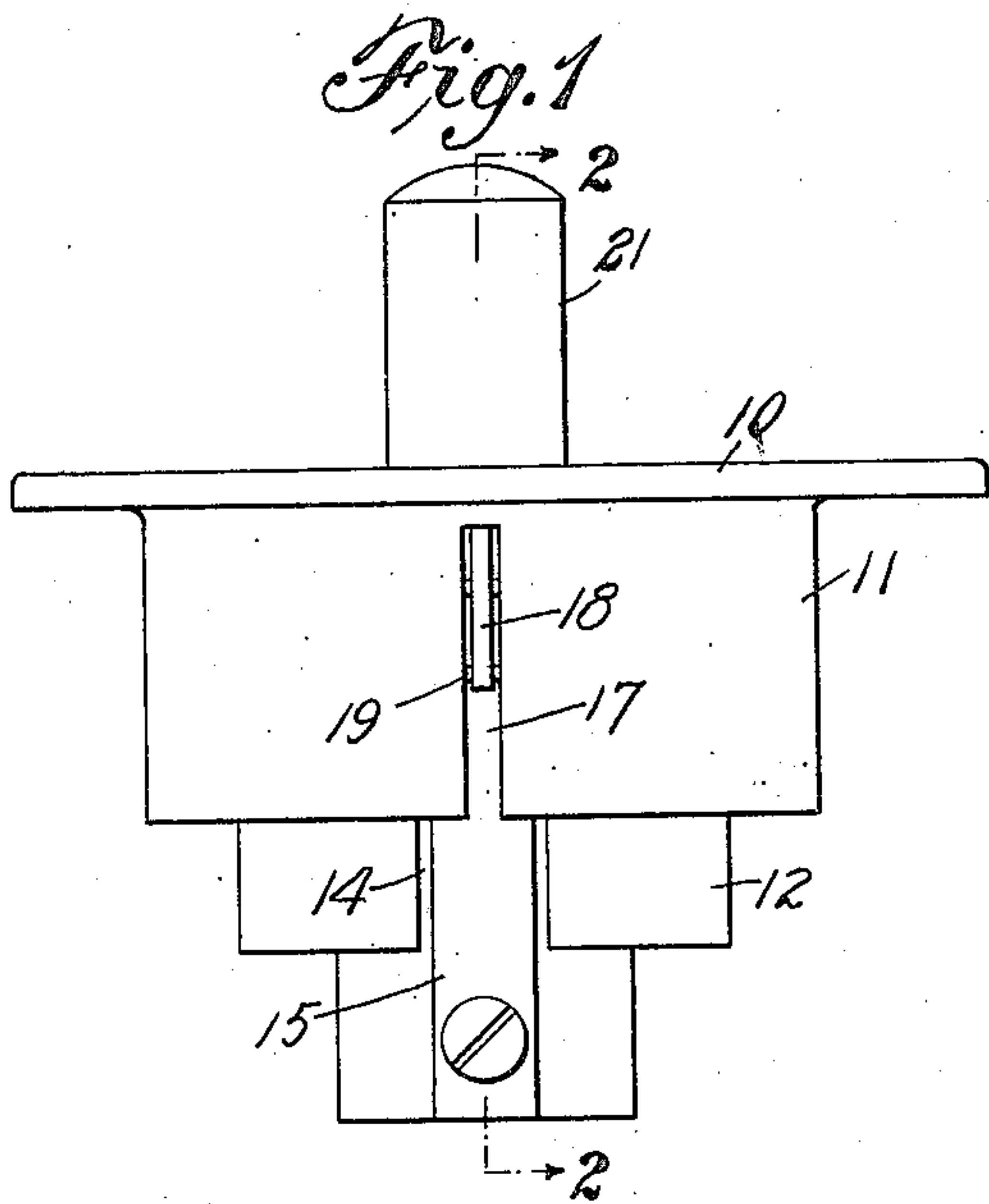


M. H. SPIELMAN.  
 PUSH BUTTON SWITCH.  
 APPLICATION FILED SEPT. 8, 1910.

994,040.

Patented May 30, 1911.



*Witnesses*  
*Frank H. Vick Jr.*  
*F. B. Martin*

*Inventor*  
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*by his attorney*  
*Owen & Fairbank*



# UNITED STATES PATENT OFFICE.

MAX H. SPIELMAN, OF NEW YORK, N. Y., ASSIGNOR TO JOSEPH F. O'BRIEN, OF NEW YORK, N. Y.

## PUSH-BUTTON SWITCH.

994,040.

Specification of Letters Patent.

Patented May 30, 1911.

Application filed September 8, 1910. Serial No. 581,068.

*To all whom it may concern:*

Be it known that I, MAX H. SPIELMAN, of the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Push-Button Switches, of which the following is a full, clear, and exact specification, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a push button switch for electric circuits, using a low tension current, such as call bells, lighting circuits and analogous work.

The object of the invention is primarily to construct a push button switch by which the circuit may be opened or closed by a motion of a single button proper. This has been attempted heretofore, but not with commercial success, owing to complications and inadaptability of the arrangement proposed.

My invention seeks to overcome these disadvantages and produces a simple and durable device for the purpose indicated.

To this end my invention comprises certain features of construction and combinations of parts which will be fully set forth hereinafter and particularly pointed out in the claims.

Reference is now had to the accompanying drawings which represent, as an example, the preferred embodiment of the invention.

In these drawings—Figure 1 is a side elevation of the push button switch; Fig. 2 is a section on the line 2—2 of Fig. 1 showing the circuit broken; Fig. 3 is a similar view showing the circuit closed; and Fig. 4 is a section on the line 4—4 of Fig. 3.

The switch has a face plate 10 with a barrel 11 projecting inward and adapted to be let into the wall or other part to which the switch is applied. The barrel 11 contains an insulation frame 12 having orifices 14 therein in which are contained spring contacts 15 fastened to the frame and adapted to be electrically connected to the terminals of the circuit. The spring contacts 15 extend upward into the barrel 11 and are formed with hooks 16 on their ends. The barrel 11 is formed with two opposite orifices 17 in which elbow levers 18 are mounted on fulcrums or pivots 19, formed by a ring let into an annular orifice 19<sup>a</sup> in the barrel 11. 18<sup>a</sup> indicates a spring of ring form let into an annular recess 18<sup>b</sup> in the barrel 11, the spring serving to keep the levers 18 yieldingly in the position shown in Fig. 2. The elbow levers have hooks 20 on one end which are respectively disposed opposite the hooks 16 and the other ends of the elbow levers project inward toward the flanged base 20' of the push button proper 21.

When the circuit is open the parts stand as in Fig. 2, the hooks 20 being disengaged from and out of contact with the hooks 16. Upon depressing the button 21 its flange 20' clears the upper ends of the elbow levers 18 and finally engages the inclined upper portion of the contacts 15, causing their hooks 16 to engage the hooks 20. The parts then assume the position shown in Fig. 3 and the circuit is closed through contacts 15, levers 18 and barrel 11. In this connection it will be observed that the upper ends of the elbow levers 18 are now rocked inward and held in that position by the spring action of the contacts 15. The flange 20' of the push button has an inclined upper side and as the push button moves back to the position shown in the drawings this flange snaps past the elbow levers. However, upon again depressing the button it this time engages the upper ends of the elbow levers and depressing them moving the hooks 20 out of engagement with the hooks 16 and allowing the contacts 15 to spring backward to the position shown in Fig. 2 which is clear of the hooks and the circuit is broken.

The button 21 is guided by a stem 22 which plays in the frame 12 and which is surrounded by a spring 23 serving yieldingly to hold the push button raised as shown in Figs. 1 and 3. The manner of mounting the levers 18 is important, since by reason of the ring-like spring 18<sup>a</sup> and pivot 19 the levers may be sprung into place in the barrel no riveting or screwing being necessary.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States is:

1. A push button switch having engaging contacts and means for operating the same, said contacts changing their positions upon engagement with each other, whereby the operating means strikes one contact to close the circuit and the other contact to open the same.

2. A push button switch comprising two contacts adapted to engage each other, one



of said contacts being in the form of an elbow lever and mounted to change its position when engaged with the other contact and a means for operating the contacts, whereby said other or second contact is engaged by the operating means to close the circuit and the first named contact or elbow lever is engaged by the operating means to open or break the circuit.

10 3. A push button switch having a spring contact with a hooked end, and elbow lever forming a second contact, one of its arms having a hook to engage the hook of the spring contact and a button proper for operating the contacts, said button engaging the spring contact to close the circuit through the elbow lever in the path of the button, whereby the second motion of the button engages the elbow lever and breaks or opens  
20 the circuit.

4. A push button switch having a barrel with an interior annular groove, contact devices including a movable member and a ring-like pivot for said movable member sprung into and seated in said groove.

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5. A push button switch having a barrel with an interior annular groove, contact devices including a movable member and a ring-like pivot for said movable member sprung into and seated in said groove, and a ring-like spring connected with said movable member to actuate it and also seated within the barrel.

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

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MAX H. SPIELMAN.

Witnesses:

F. C. MARTIN,

B. BIGGE.