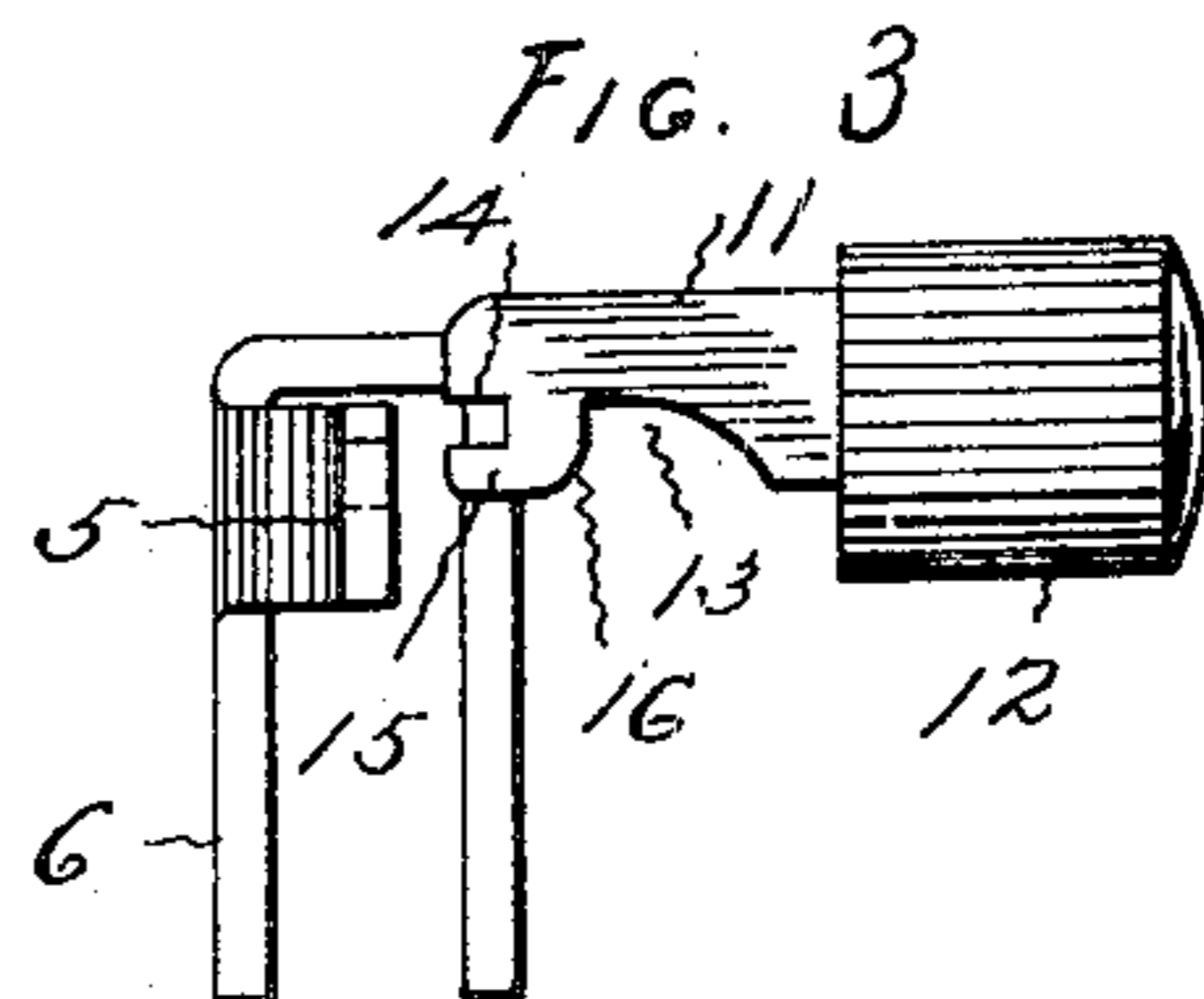
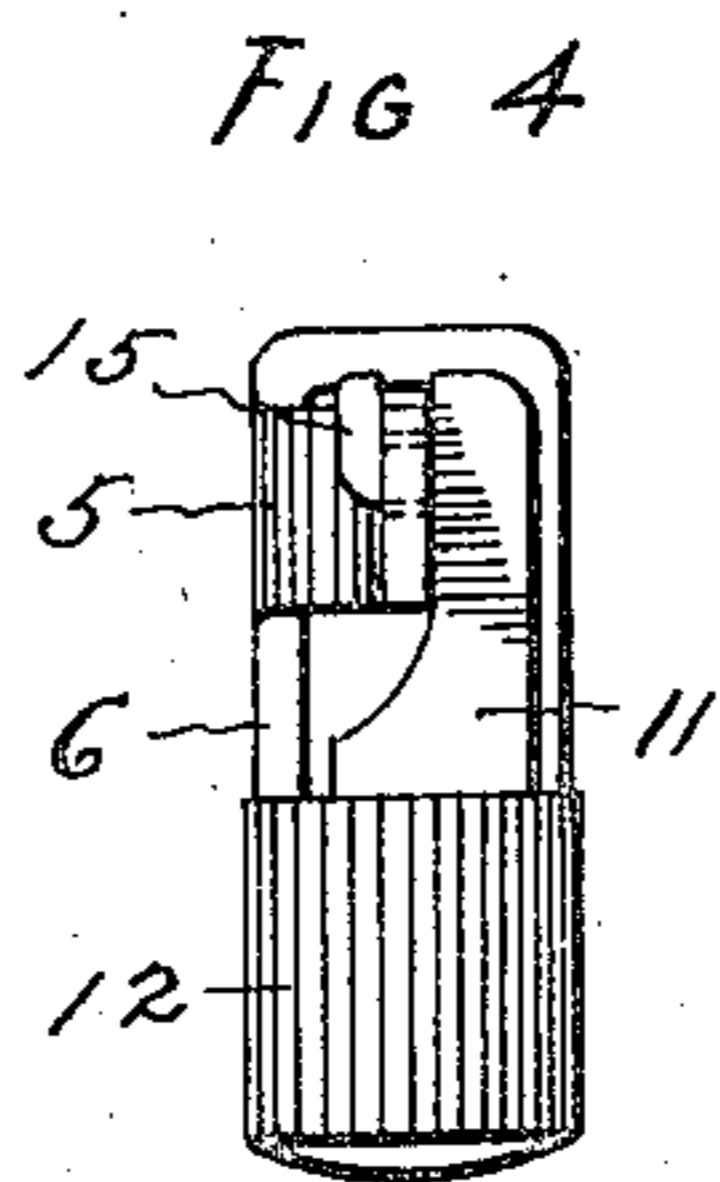
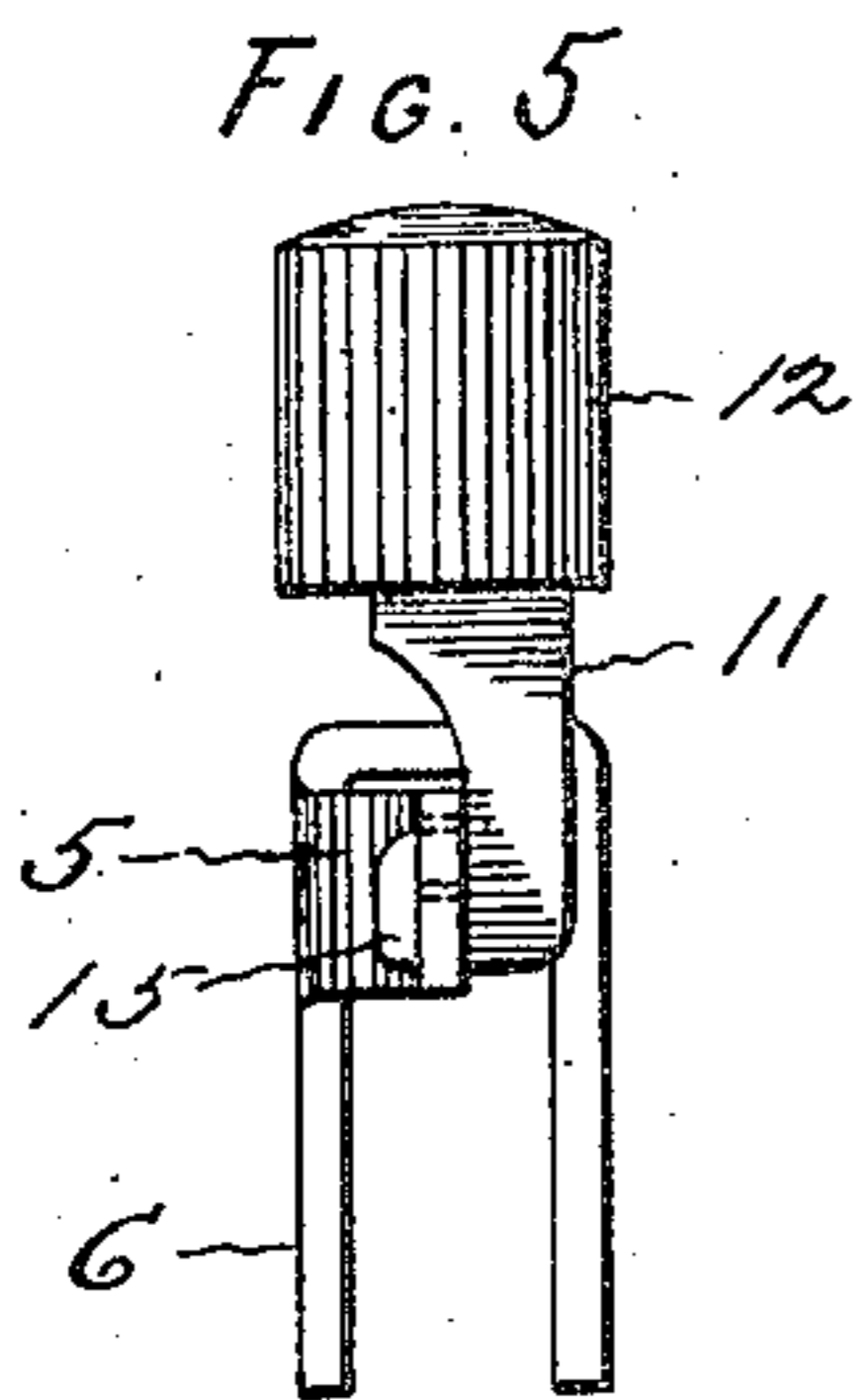
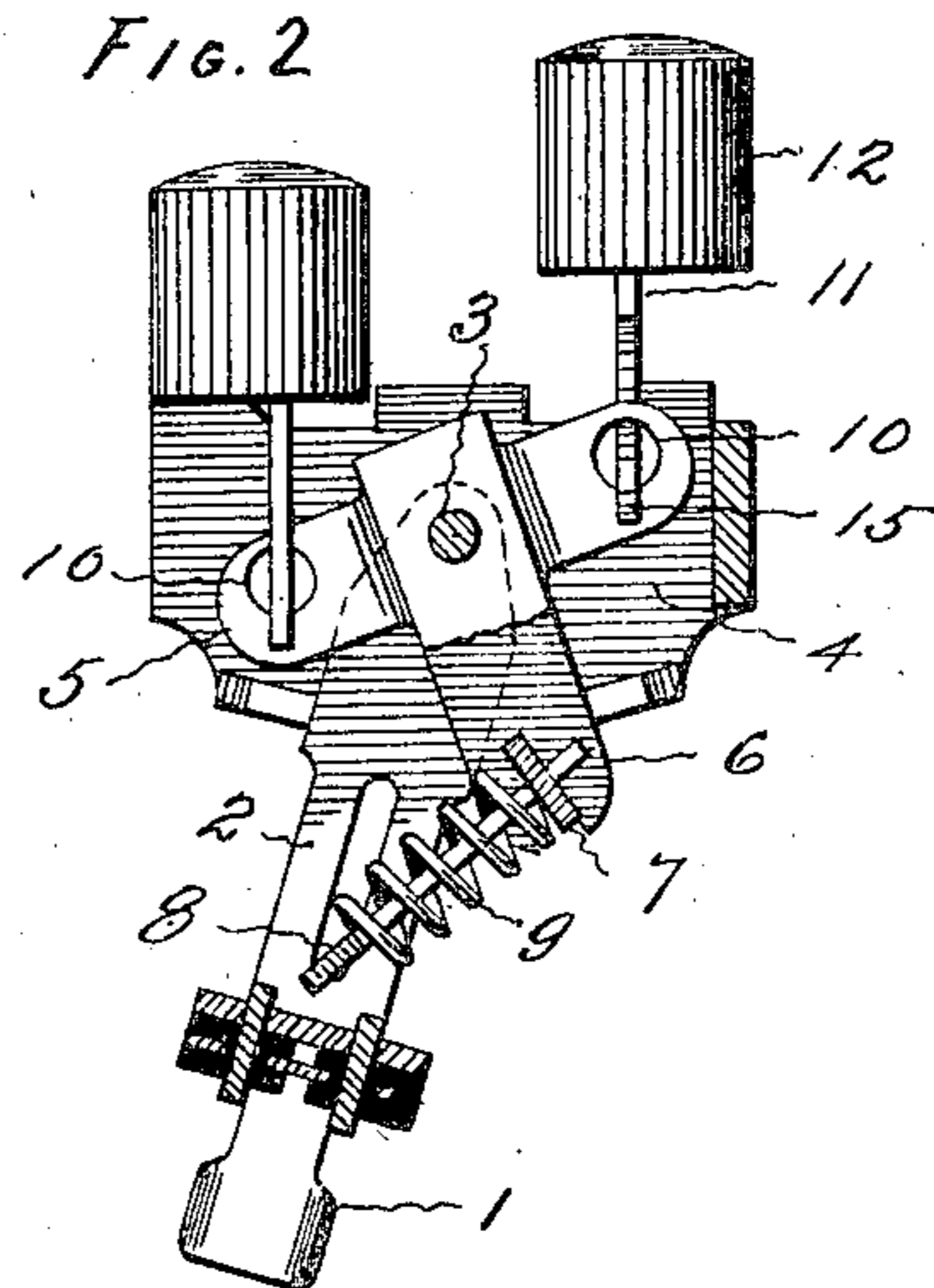
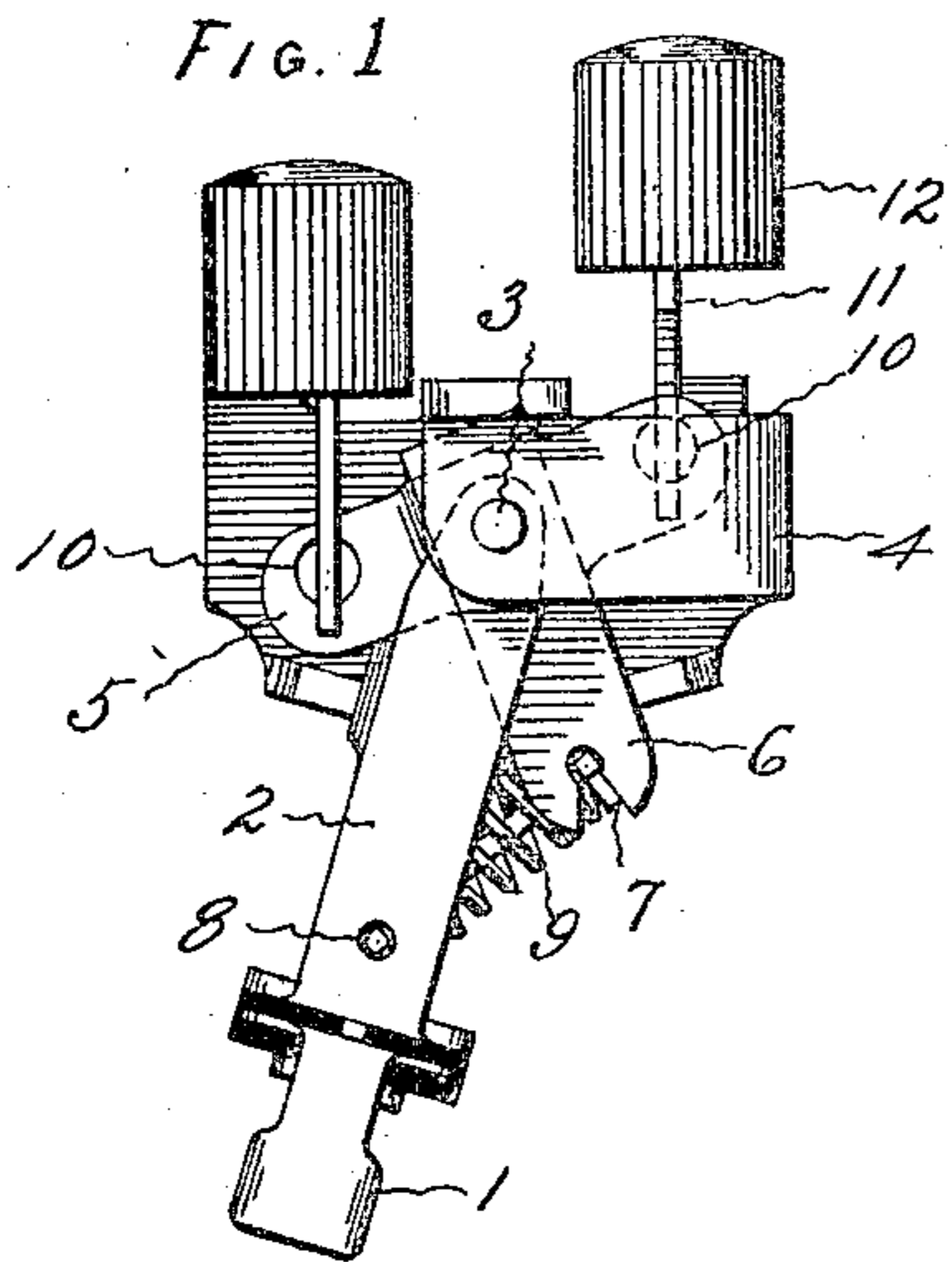


J. G. PETERSON.
PUSH BUTTON ELECTRIC SWITCH.
APPLICATION FILED FEB. 1, 1909.

922,034.

Patented May 18, 1909.



WITNESSES
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UNITED STATES PATENT OFFICE.

JOHANN G. PETERSON, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE ARROW ELECTRIC COMPANY, OF HARTFORD, CONNECTICUT, A CORPORATION OF CONNECTICUT:

PUSH-BUTTON ELECTRIC SWITCH.

No. 922,034.

Specification of Letters Patent.

Patented May 18, 1909.

Application filed February 1, 1909. Serial No. 475,388.

To all whom it may concern:

Be it known that I, JOHANN GODFREY PETERSON, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented a new and useful Push-Button Electric Switch, of which the following is a specification.

This invention relates to a means for attaching the buttons to the actuating mechanisms, of push switches of the ordinary wall and pendent types.

The object of the invention is to provide a very simple, cheap and secure means for attaching a push button shank to the rocker plate of the actuating mechanism of a single button or double button push switch, in such manner that the parts can be easily and quickly assembled by merely interlocking them, and can be taken apart when desired, without the use of any machinery or tools. This object is attained by providing the shank of a push button with a hook or opening of such shape that it can be easily and quickly engaged with a complementary hook or opening in the rocker plate of a switch, out of normal operative position, and after being engaged and turned into normal operative position, cannot be detached until again turned to inoperative position, that is, the parts are interlocked in such manner that as long as the buttons are in operative position with respect to the actuating mechanism, the parts cannot be disengaged. As a result of this construction, no small rivets are required to be handled and headed, the expense of a riveting machine is eliminated, and the buttons can be easily and quickly disconnected, without driving out a rivet or the employment of any tool, when it is desired to take the mechanism apart.

Figure 1 of the accompanying drawings shows a side elevation of a double button push switch mechanism with the buttons attached to the rocker plate or actuating lever, according to this invention. Fig. 2 shows another view of the same mechanism with the parts broken away to better illustrate the construction. Fig. 3 shows a side view of a rocker plate and a push button in the relative positions occupied just before they are put together, or just after they are separated. Fig. 4 shows a similar view of the same parts after the shank of the button has been engaged with the rocker plate and

is turned to the first position necessary for interlocking the parts. Fig. 5 shows a similar view with the button turned up to operative position, in which position, the parts are interlocked so they will not become disengaged.

The particular form of switch mechanism illustrated is not essential to the invention, which is suitable for the connection of buttons with any form of actuating mechanism employing one or two push buttons.

In the form of mechanism illustrated, the oscillating poles or movable contacts 1 are attached to but insulated from the swinging yoke 2 that is pivoted on a pin 3 which is held in openings in the frame 4. Pivoted on the stud is the rocker plate or actuating lever 5 which has, in the form shown, projecting arms 6 which support a bar 7, between which and a bar 8, carried by the yoke 2, is the actuating spring 9. When the rocker plate is oscillated, the spring is compressed until after the axis of the bar 7 passes the axis of the bar 8, and then the spring throws the yoke in the usual manner.

In the form of the invention illustrated, the rocker plate 5 has perforations 10, made nearer to the upper edge of the plate than to the lower edge. The shank 11 of the push button 12, of this form of the invention, has a notch 13 in its edge, and a mortise 14 in its end. The tongue 15 at the end of the button shank is of a width substantially equal to the diameter of the perforation 10 in the rocker plate, and the mortise 14 is substantially the same width as the thickness of the rocker plate, and also as the width of the portion of the rocker plate between the top of the perforation and the upper edge of the plate. The part of the shank of the button between the tongue and the notch is curved as at 16. In order to assemble these parts and secure them so that they cannot be disengaged when in operative position, the shank of the button is advanced longitudinally toward the side of the rocker plate, as shown in Fig. 3, and the tongue at the end of the shank thrust into the perforation in the rocker plate. When the parts are in this position the button is turned downwardly to the position shown in Fig. 4. This movement of the button turns the tongue on the end of the shank through the perforation and up against the back side of the rocker plate. Then the button is turned

upwardly to operative position. When the parts are thus connected, as shown in Fig. 5, they cannot become disengaged, for the distance between the bottom of the perforation and the lower edge of the plate is greater than the depth of the mortise in the bottom end of the shank. When the mechanism is assembled in a switch, of course the frame and surface plate keeps the button in operative position. If at any time it is desired to take the switch apart, after the frame plate has been removed, the button is turned from such a position as shown in Fig. 5, downwardly to the position shown in Fig. 4, and then turned from that position to a horizontal position, as shown in Fig. 3, in which position it is readily disengaged by a longitudinal movement of the button. This construction provides a firm, strong and tight connection between the buttons and the rocker plate of the actuating mechanism, which cannot possible become disengaged as long as the buttons are in operative position. No rivets are required, the labor of handling small rivets and the expense of a riveting machine for setting such rivet, is eliminated, and the parts can be disassembled at any time without driving out any rivet or damaging or bending any of the parts.

The invention claimed is:

1. The combination in a push button switch, of a rocker plate having a perforation, and a push button having a shank with its end shaped to enter the perforation when the parts are out of normal operative relation, and to be turned so as to interlock therewith, whereby, when the parts are in normal operative relation they cannot become separated.

2. The combination in a push button switch, of a rocker plate having a perforation near each end, and push buttons having shanks with their ends shaped to enter the perforations when the parts are out of normal operative relation, and to be so turned as to interlock therewith, whereby, when the parts are in normal operative relation they cannot become separated.

3. A push button switch having a rocker plate provided with a perforation, and a push button having a shank with a hook and mortise at its end, said hook being shaped to freely enter the perforation when the parts are out of normal operative relation, but to engage and interlock with the plate when the parts are in normal operative relation.

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