

No. 738,941.

PATENTED SEPT. 15, 1903.

R. H. READ.
SNAP SWITCH.

APPLICATION FILED JUNE 22, 1903.

NO MODEL.

Fig. 1.

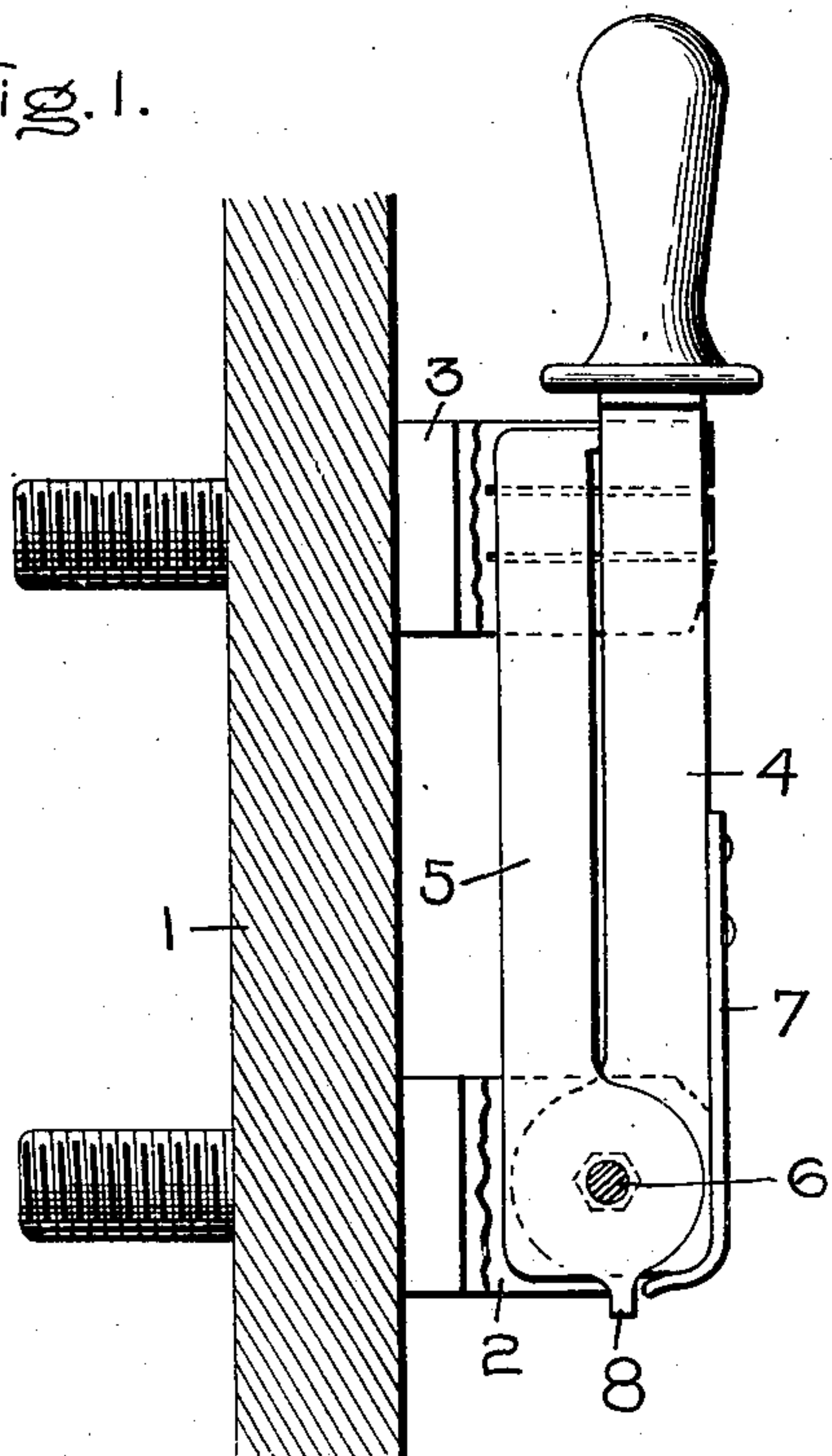


Fig. 2.

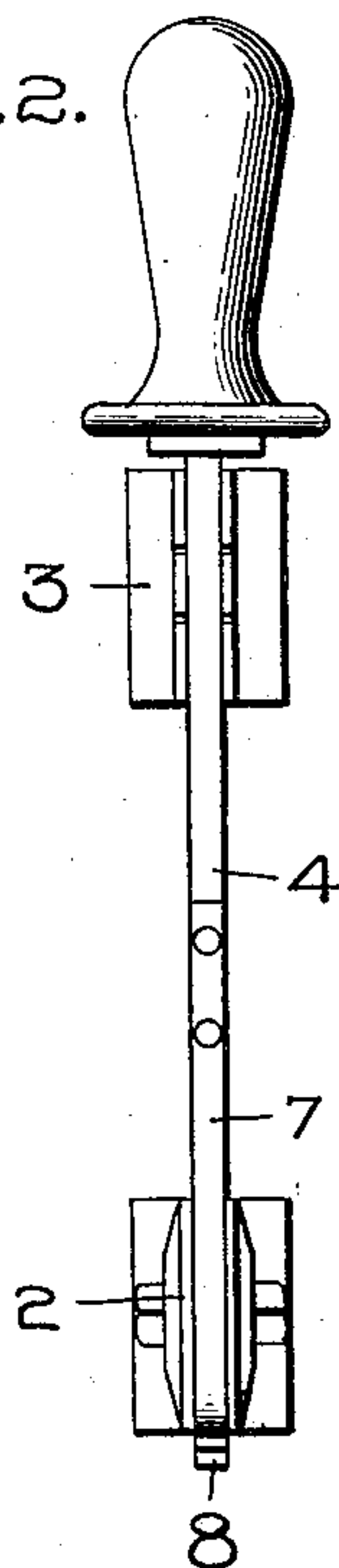
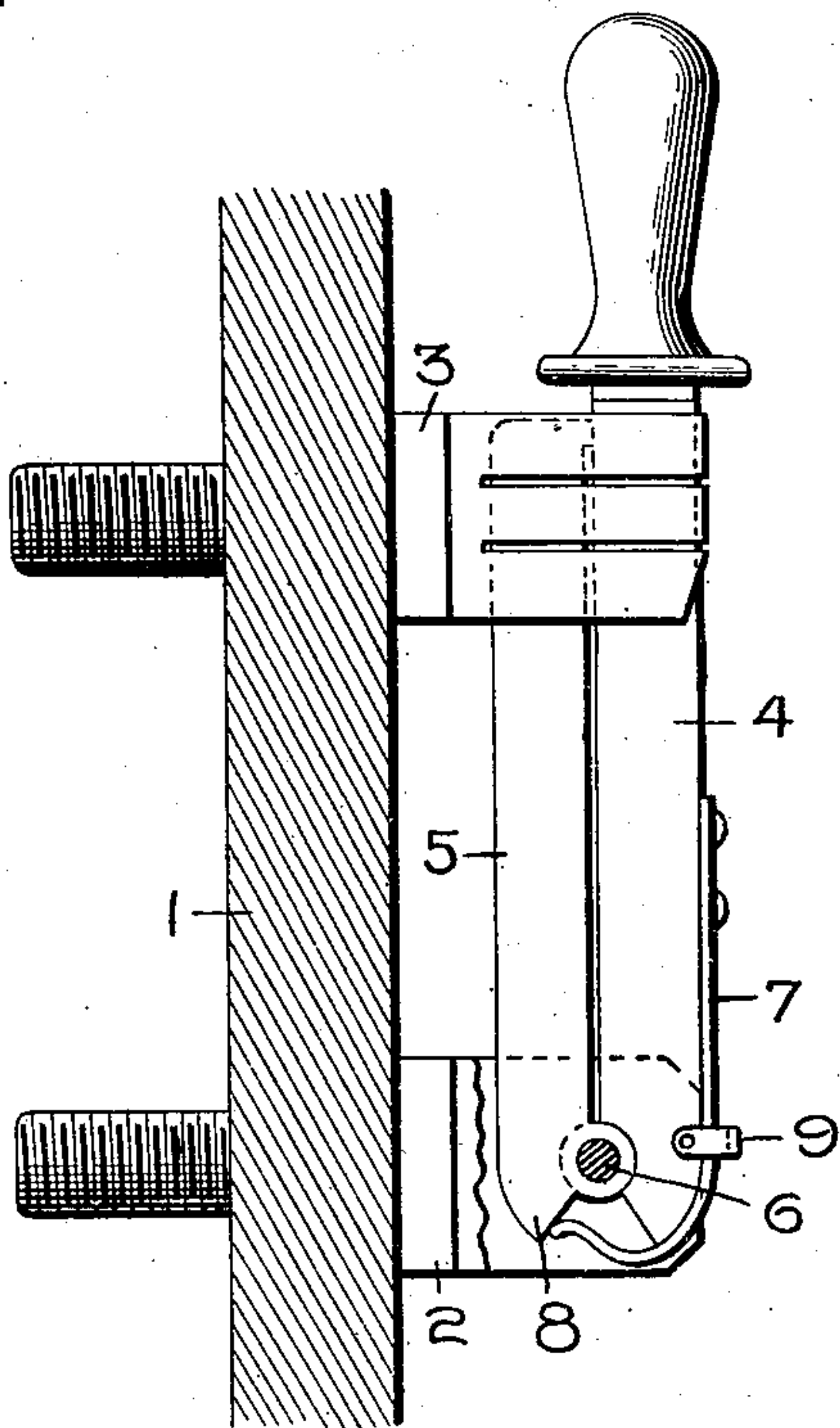


Fig. 3.



Witnesses:

Marcus L. Byng
Allen W. Ford

Inventor:
Robert H. Read,

by *Albert H. Damm*

Att'y.

UNITED STATES PATENT OFFICE.

ROBERT H. READ, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

SNAP-SWITCH.

SPECIFICATION forming part of Letters Patent No. 738,941, dated September 15, 1903.

Application filed June 22, 1903. Serial No. 162,514. (No model.)

To all whom it may concern:

Be it known that I, ROBERT H. READ, a citizen of the United States, residing at Schenectady, in the county of Schenectady, State of New York, have invented certain new and useful Improvements in Snap-Switches, of which the following is a specification.

This invention relates to mechanical cut-outs for opening and closing electric circuits; and it has reference especially to those known as "snap-switches." Heretofore switches of this type have been made with two movable members or blades pivoted on a common axis and connected by a spring in such manner that when one member is moved it puts a tension on the spring, so that presently, either by the increased spring tension or by abutting stops on the two members, the second member is forced out of the clip, whereupon the recoil of the spring breaks the circuit so quickly that no arc of any consequence can form. In this kind of switch the tension of the spring increases regularly from the time the first member is started out of the clip until the second member begins to move; but it is not really necessary to put the spring under tension, at least to any effective degree, until after the first member has cleared the clip.

My invention consists, therefore, of a switch having more than one blade, the blades being connected by a spring and the construction being such that one blade can have a certain amount of free or but slightly-restrained angular movement before the spring is put under any appreciable amount of tension.

In the accompanying drawings, Figure 1 is a side elevation of a switch embodying my invention. Fig. 2 is a front view of the same, and Fig. 3 is a side elevation of a modification.

The switch may be mounted in any suitable manner—as, for instance, on an upright board or panel 1, of slate or other insulating material. The clips 2 and 3 may be of any suitable construction, one serving as the hinge-clip and the other as the contact-clip. The

switch illustrated has two blades 4 5, pivoted, preferably, on the same pin 6 in the hinge-clip 2 and both closing into the jaws of the contact-clip 3.

On one of the blades is secured a leaf-spring 7, whose free end stands adjacent to a lug or shoulder, on the other blade. The spring may not touch the lug when both blades are closed, as shown in Fig. 1, in which case the outer blade 4 can be swung out of the clip 3 before the spring strikes the lug, after which by the continued movement of the blade 4 the spring gradually stores tension until it is strong enough to snap the inner blade 5 out of the clip 3.

In the modification shown in Fig. 3 the spring is normally held in weak tension by the lug or shoulder 8, and this tension increases but slightly when the outer blade is swung out of the clip; but at this point the spring seats against a stop, such as the end of the stirrup 9, and its effective length is thereby so much shortened that its tension is rapidly increased and soon snaps the inner blade out of the clip. This gives the same effect as two springs, one a weak and the other a stiff one, the weak one being sufficiently strong to hold the two blades in contact with one another when free from the clips and the stiff one being sufficiently powerful to pull the inner blade out of the clip.

In accordance with the patent statutes I have described the principle of operation of my invention, together with the apparatus which I now consider to represent the best embodiment thereof; but I desire to have it understood that the apparatus shown is only illustrative and that the invention can be carried out by other means.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a switch, the combination with two blades, of a spring connecting the same, and means whereby one blade can be opened before the spring is put under any effective tension.

2. In a switch, the combination with two

blades, of a spring secured to one and adapted to actuate the other, and means for quickly increasing the tension of the spring at a given point in the movement of the first blade.

- 5 3. In a switch, the combination with two blades, of a leaf-spring secured to one of them, a lug on the other blade adjacent to the free end of said spring, and a stop for shortening

the effective length of said spring at a given point in the movement of the blade. 10

In witness whereof I have hereunto set my hand this 18th day of June, 1903.

ROBERT H. READ.

Witnesses:

BENJAMIN B. HULL,
HELEN ORFORD.