

B. MURPHY.
 COMBINED DOOR CHECK AND SPRING.
 APPLICATION FILED FEB. 10, 1910.

979,190.

Patented Dec. 20, 1910.

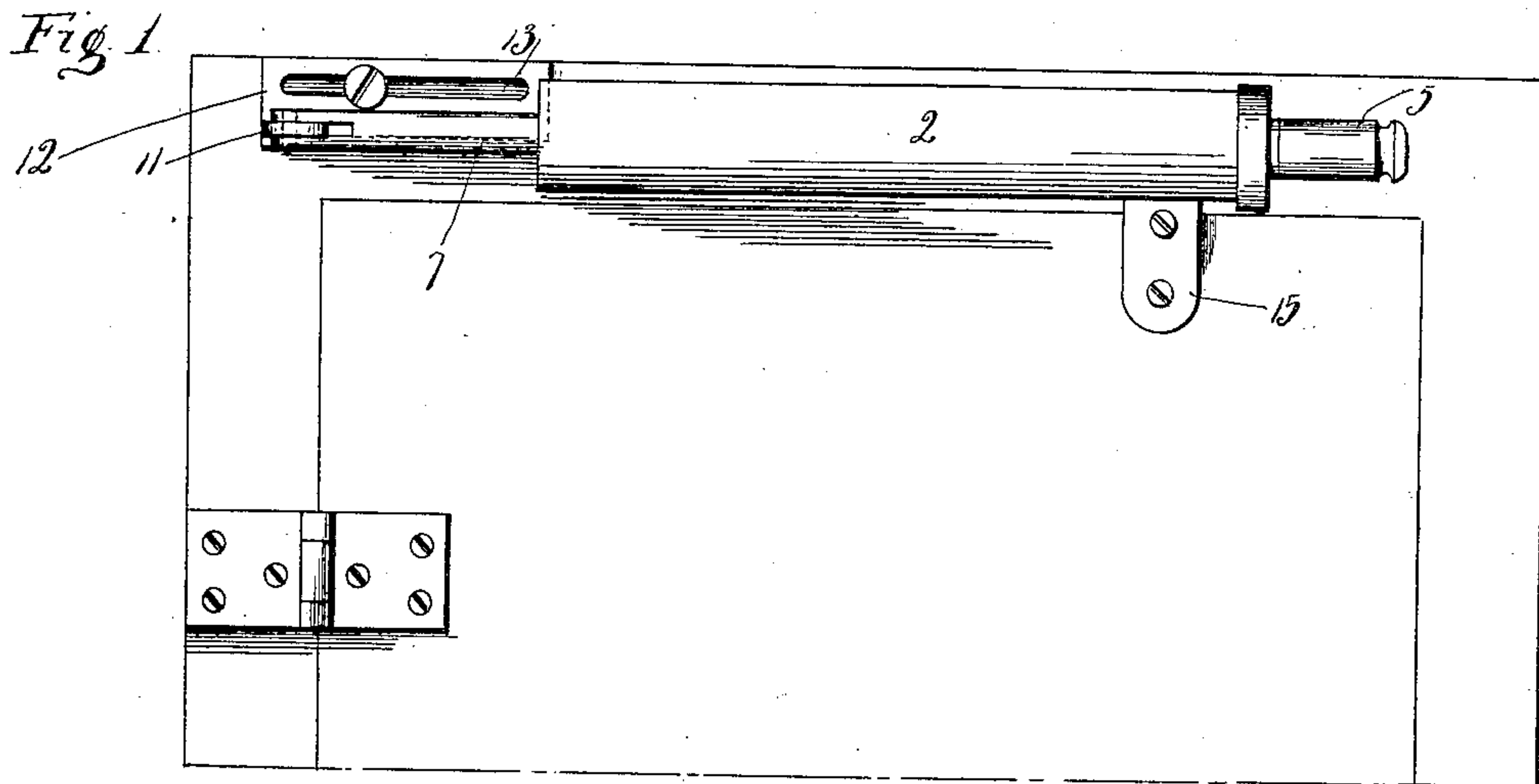


Fig. 2

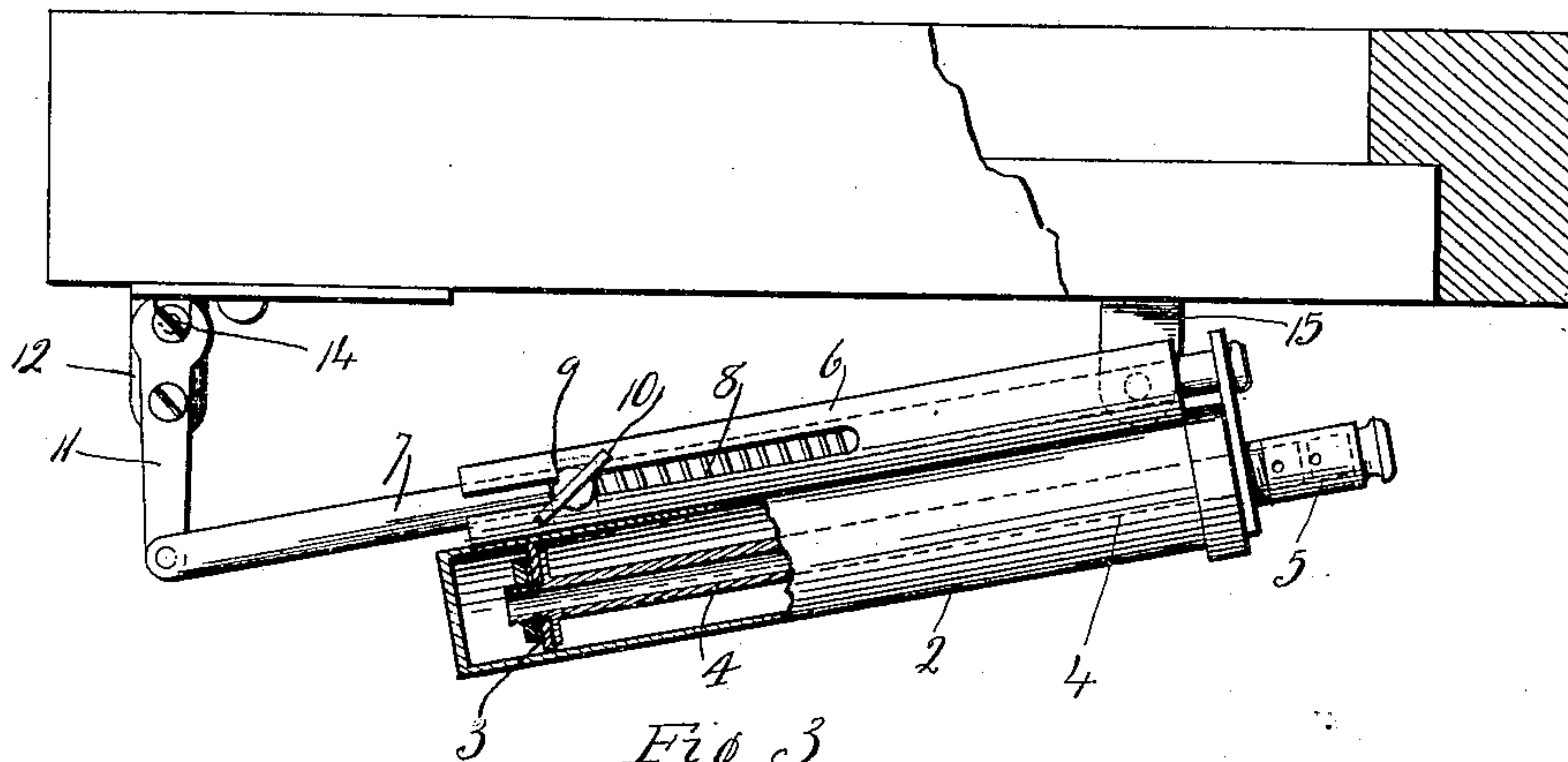
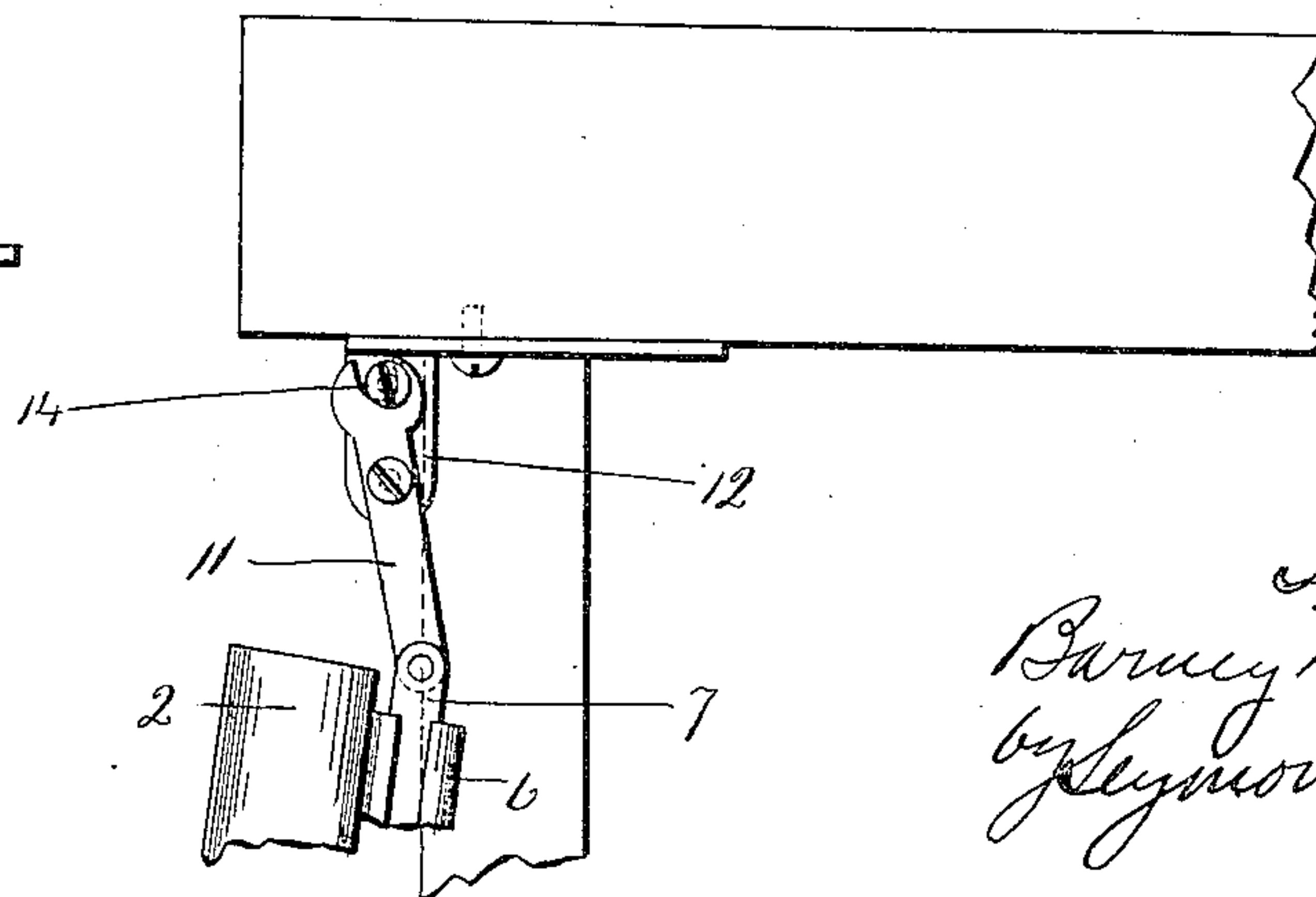
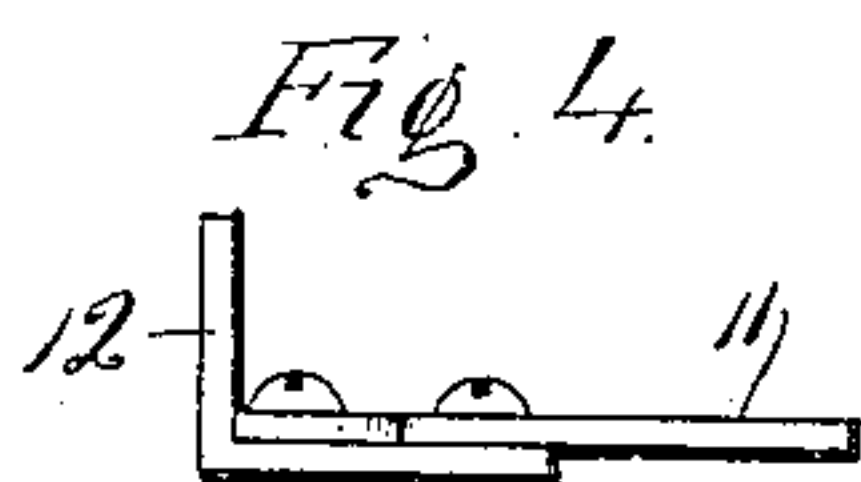


Fig. 3



Witnesses
 C. J. Reed.
 C. L. Reed

Inventor
 Barney Murphy
 by Seymour & Carey
 Attys

UNITED STATES PATENT OFFICE.

BARNEY MURPHY, OF MILFORD, CONNECTICUT.

COMBINED DOOR CHECK AND SPRING.

979,190.

Specification of Letters Patent.

Patented Dec. 20, 1910.

Application filed February 10, 1910. Serial No. 543,019.

To all whom it may concern:

Be it known that I, BARNEY MURPHY, a citizen of the United States, residing at Milford, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Combined Door Checks and Springs; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a front view of a door check embodying my invention. Fig. 2 a top or plan view of the same. Fig. 3 a broken plan view with the door open. Fig. 4 a side view of the lever and bracket to which it is attached.

This invention relates to an improvement in combined door spring and check, and particularly to that class in which provision is made for holding a door in an open position, and while adapted for various purposes, is particularly intended for use in car doors where it is desirable to have the door remain open when opened to a certain degree.

The object of the invention is to provide means for changing the fulcrum of the lever so that when a door is opened to a certain extent, the action of the spring will be reversed and the tendency will be to hold the door open; and the invention consists in the construction hereinafter described and particularly recited in the claims.

In carrying out my invention, I employ a cylinder 2 containing a plunger 3 with its hollow piston rod 4 like a pneumatic pump with a perforated cap 5 by which the pressure may be regulated. In connection with this cylinder I employ a spring chamber 6 through which a spring rod 7 extends, this rod 7 being arranged parallel with and coupled with the piston rod 4 so that when the rod is moved the piston rod will be moved accordingly. On this rod 7 is a spiral spring 8, and a plug or collar 9 is adjustably secured to the rod 7 by a thumb screw 10 so that the pressure of the spring may be adjusted, the spring chamber 6 being slot-

ted for the clearance of the screw. The cylinder and spring chamber are pivotally connected to a bracket 15 attached to the door and the inner end of the rod 7 is pivotally connected to the outer end of a lever 11 which is pivoted to a bracket 12 secured to the door casing, this bracket 12 having a slot 13 by which the bracket may be adjusted as desired. The inner end of the lever is forked to engage with a stop-pin or screw 14, the distance between the ends of the fork being greater than the diameter of the screw so that the lever may be turned.

The tension of the spring and the escape-ment for the piston will be adjusted according to the uses for which the check is applied. As the door opens the spring 8 will be compressed and the rod 7 draws the piston rod toward the outer end of the cylinder in which direction it moves freely and until the door has passed a predetermined angle. If the door is released the expansion of the spring will tend to close the door, but against the action of the piston in the cylinder. If, however, the door is passed beyond a certain point, the lever 11 will turn on its pivot so as to change the fulcrum of the rod 7, and the tendency then is to open the door as the spring draws at such an angle to the hinges that the draft is the reverse of the first opening movement of the door. The point at which this change of fulcrum will take place is determined by the position of the bracket on the casing, and this may be adjusted at the point at which it is desired to hold the door open.

I claim:—

1. A combined door check and spring comprising a cylinder, piston and piston rod, and a spring-operated rod arranged parallel with, and connected with said piston rod, a lever pivotally mounted on a bracket and connected at its outer end with said rod whereby the fulcrum of the rod is changed at a predetermined point, and means to limit the movement of said lever.

2. A combined door spring and check comprising a cylinder, a piston and a piston rod, a spring-actuated rod arranged parallel with, and connected with said piston rod, a bracket adapted to be secured to the door

casing, a lever pivoted to the outer end of
said bracket and pivotally connected with
said rod, said lever adapted to turn on its
pivot whereby the fulcrum of the rod is
5 changed after the door is opened to a pre-
determined extent, and means to limit the
movement of said lever.

In testimony whereof, I have signed this
specification in the presence of two subscrib-
ing witnesses.

BARNEY MURPHY.

Witnesses:

FREDERIC C. EARLE,
CLARA L. WEED.