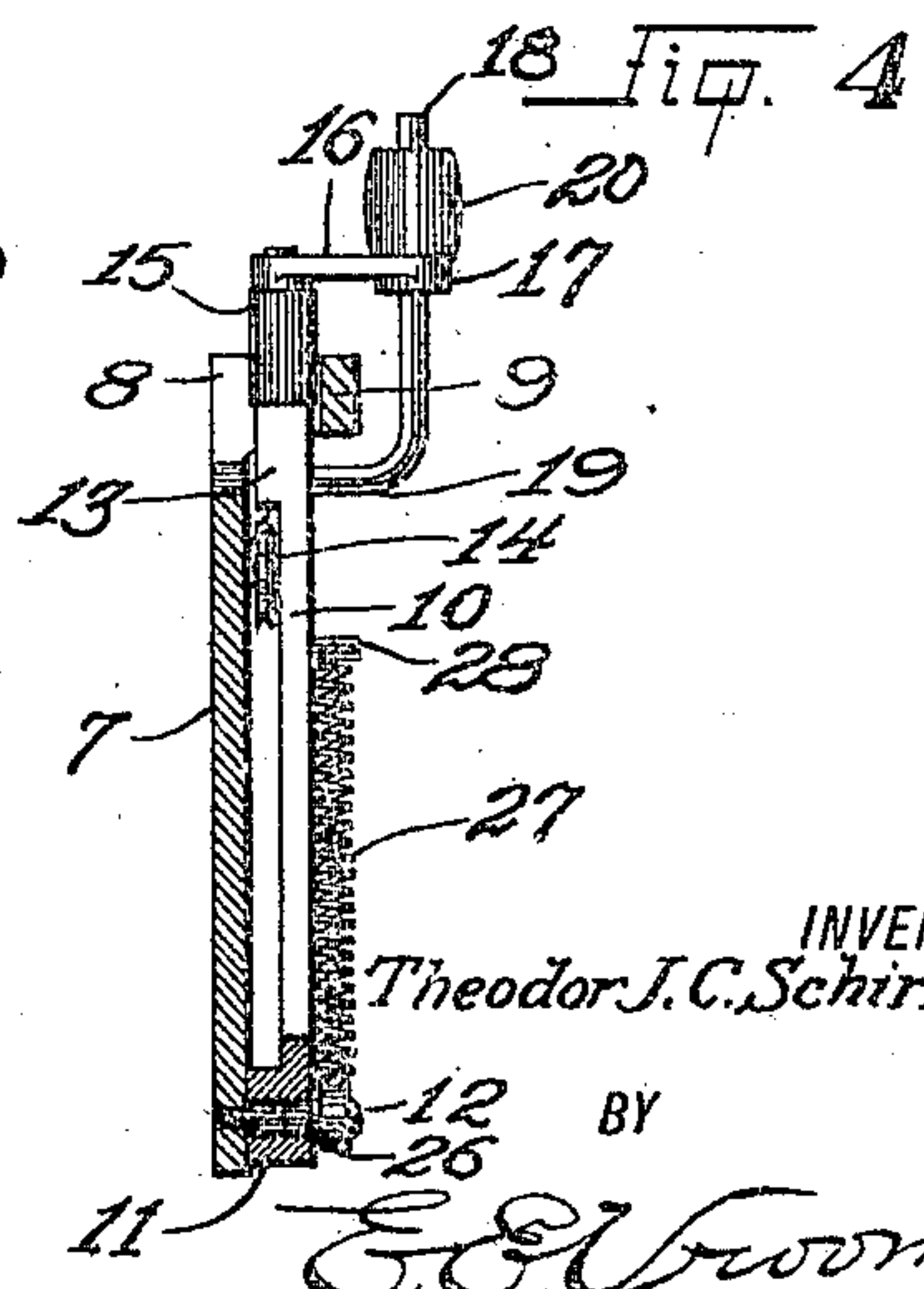
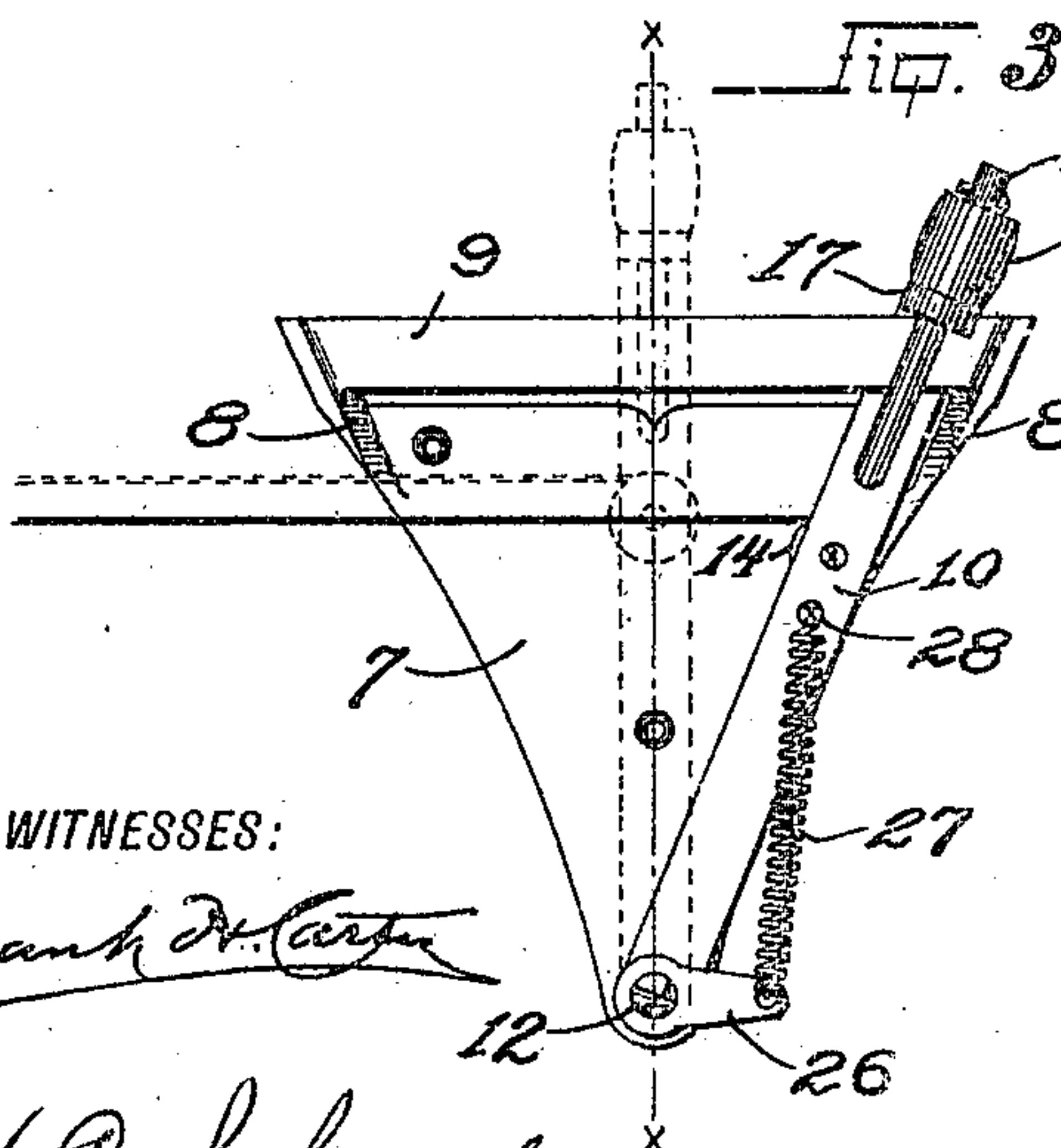
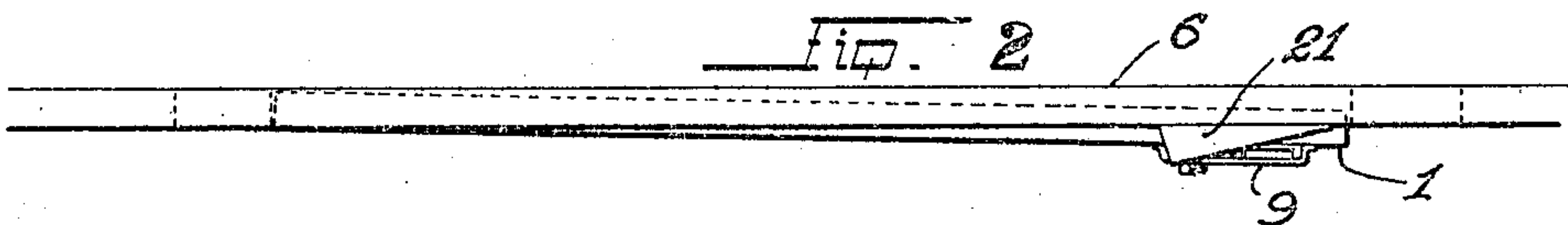
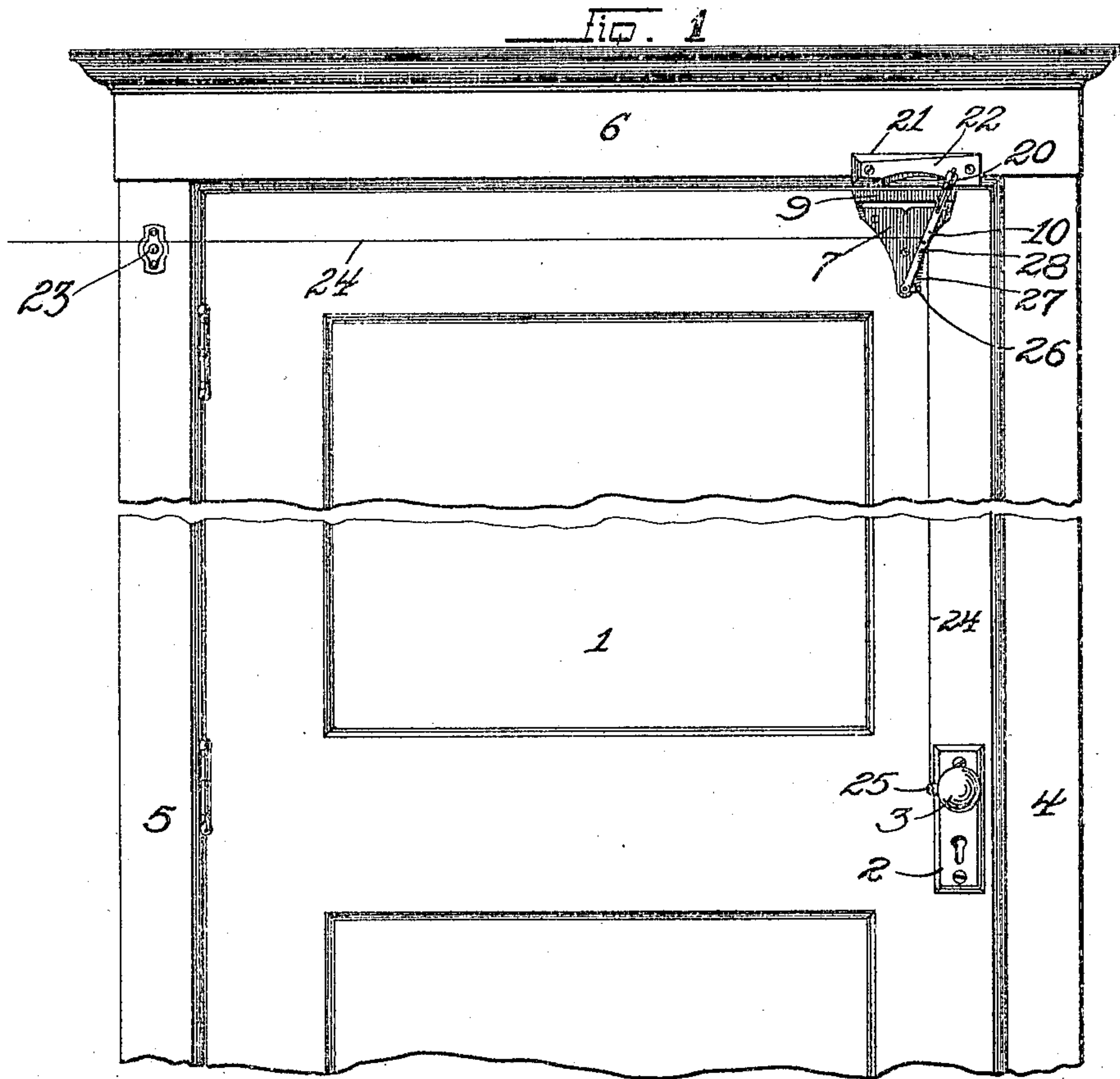


T. J. C. SCHIRRMACHER.
DOOR OPENING DEVICE.
APPLICATION FILED JULY 16, 1909.

959,615.

Patented May 31, 1910.



WITNESSES:
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UNITED STATES PATENT OFFICE.

THEODOR J. C. SCHIRRMACHER, OF OAKLAND, CALIFORNIA.

DOOR-OPENING DEVICE.

959,615.

Specification of Letters Patent.

Patented May 31, 1910.

Application filed July 16, 1909. Serial No. 503,055.

To all whom it may concern:

Be it known that I, THEODOR J. C. SCHIRRMACHER, citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Door-Opening Devices, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to door operating mechanism by means of which a door may be opened by a person on the inside of a house and at a distance therefrom.

In carrying out the objects of the invention generally stated above, it is contemplated employing a cable having one end connected to a door knob, said cable being also connected to a door lever which coöperates with a cam surface carried by a door frame so that when said cable is pulled the knob will be operated to release the latch and at the same time the lever will travel over said cam surface and thereby force the door partly open.

The invention also contemplates means for automatically returning said lever to its initial position when pressure is removed from said cable to permit the closing of the door.

In the practical application of the invention, it will be understood, of course, that the essential features thereof are necessarily susceptible of changes in details and structural arrangements, but a preferred and practical embodiment of the same is shown in the accompanying drawings, wherein—

Figure 1 is a view in front elevation of a door and door frame, showing the improved door operating mechanism applied thereto. Fig. 2 is a top plan view. Fig. 3 is a view in front elevation of the part of the mechanism carried by the door. Fig. 4 is a central vertical sectional view taken on the line $x-x$, Fig. 3.

Referring to said drawings by numerals 1 designates a door provided with the usual latch 2 and latch-operating knob 3; 4—5 designates the vertical member of the door frame and 6 the upper connecting member. A plate 7 is carried by the free upper corner of said door, said plate being preferably of a triangular shape and having its upper corners provided with a pair of laterally projecting arms 8 which are connected by means of a guide bar 9. As shown, said guide bar is held spaced from said plate 7. A lever 10 has a lug 11 at its lower end

through which a pivot bolt 12 passes and engages with the lower end of said plate 7. The lug 11 serves to retain the body of said lever spaced from said plate. Intermediate its upper end, said lever is thickened and overhangs said body portion, as indicated at 13, and immediately beneath said overhanging portion a pulley 14 is mounted on said lever, said pulley being preferably a grooved one. The outer portion of said lever projects beyond and between said guide bar 9 and plate and carries an antifriction roller 15 which contacts with the inner face of said bar. The outer end of said lever carries an outstanding laterally projecting arm 16 which overhangs said guide bar 9 and whose outer end is provided with an eye 17 which is fitted over a shaft 18 the upper end of which projects above said bar 9 and whose lower end 19 is bent at right angles thereto and extended beneath the guide bar 9 and connects with the lever 10. Said upper end of the shaft 18 has an antifriction roller 20 mounted thereon and supported by said eye 17.

A cam plate 21 is horizontally arranged on the upper member 6 of the door frame adjacent its junction with the vertical member 4, said cam plate having its cam surface 22 arranged in the path of movement of the roller 20.

A pulley 23 is mounted on the door frame member 5 over which a cable 24 passes, said cable also passing over the pulley 14 of the lever 10 and connects with a lever 25 projecting from the door knob 3.

An arm 26 projects from the pivot bolt 12 and its outer end is connected to one end of a spiral spring 27, the other end of said spring being connected with a pin or lug 28 projecting from the lever 10.

Assuming the door to be closed as shown in Fig. 1, it will be seen that a pull imparted upon the cable 24 will turn the knob 3 to unlatch the door and simultaneously rock the lever 10 so that its end roller 20 will travel across the cam surface 22 and thereby force the door open a slight distance. When the pressure is released from said cable, the spring 27 will restore the lever 10 to its original position and permit the door to close or be closed, as will be obvious.

What I claim as my invention is:—

1. A device of the character described comprising a doorway cam plate, a latching knob, a door plate, a lever pivoted to said

plate, a roller carried by said lever for contact with said cam surface, and a cable for simultaneously operating said knob and said lever.

5 2. A device of the character described comprising a door frame cam plate, a latching knob, a pivotally mounted door lever, said cam plate being arranged in the path of
10 movement of said lever when the door is closed, and means for simultaneously operating said knob and lever.

3. A device of the character described comprising a latch adapted for attachment
15 to a door, a lever adapted for pivotal attachment to a doorway and supported in the path of movement of said lever when the door is closed, and a cable for operating said lever and releasing said latch.

20 4. A device of the character described comprising a latch-releasing lever adapted for attachment to a door, a second lever adapted for pivotal attachment to said door, a cam plate adapted for attachment to a
25 doorway and supported in the path of movement of said second lever when said door is closed, and means for simultaneously operating said lever to open said door.

30 5. A device of the character described comprising a door latch, a door plate, a lever pivoted to said plate, a guide bar for said lever, a cam plate adapted for attach-

ment to a doorway and in the path of movement of said lever, and means for operating said lever and releasing said latch.

35 6. A device of the character described comprising a door latch, a door plate, a guide bar carried by said plate, a lever pivoted to said plate and guided by said bar, a doorway cam plate supported in the path
40 of movement of said lever when the door is closed, a cable for rocking said lever and operating said latch to open the door, and means for automatically restoring said lever to its original position when the pressure of
45 said cable is released.

7. A device of the character described comprising a latch adapted for attachment
50 to a door, a plate also adapted for engagement with said door, a guide bar held in spaced relation to said plate, a lever pivoted to said plate and guided by said bar, a shaft projecting from said lever, a roller on said
55 shaft, a cam plate adapted for engagement with a doorway and arranged in the path of movement of said roller, and means for rocking said lever and releasing said latch to open said door.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

THEODOR J. C. SCHIRRMACHER.

Witnesses:

H. C. SCHROEDER,

F. H. SCHROEDER.