

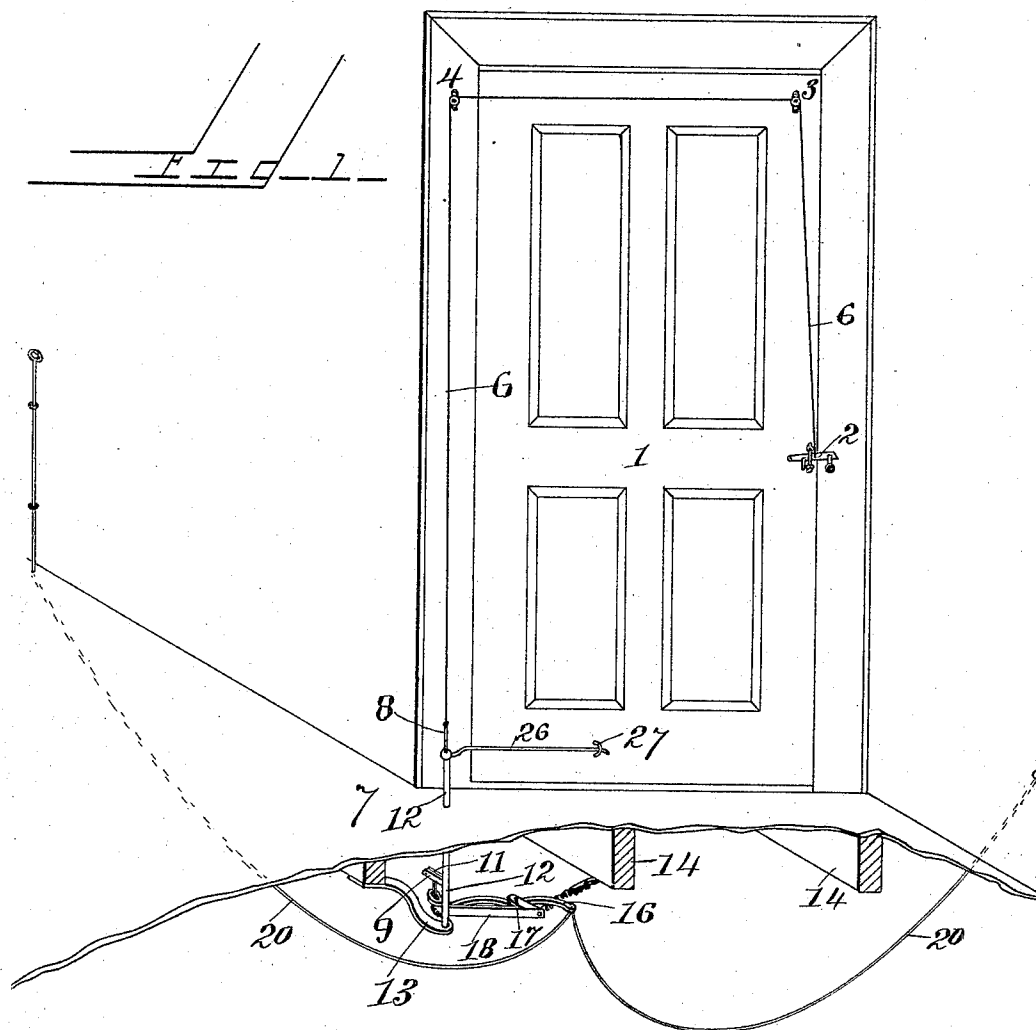
(No Model.)

2 Sheets—Sheet 1.

S. A. CRAWFORD.
DOOR OPENER OR CLOSER.

No. 537,632.

Patented Apr. 16, 1895.



Witnesses:
Claude Linsford.
C. J. Beek.

Inventor:
Samuel A. Crawford
By M. H. Wells,
Atty.

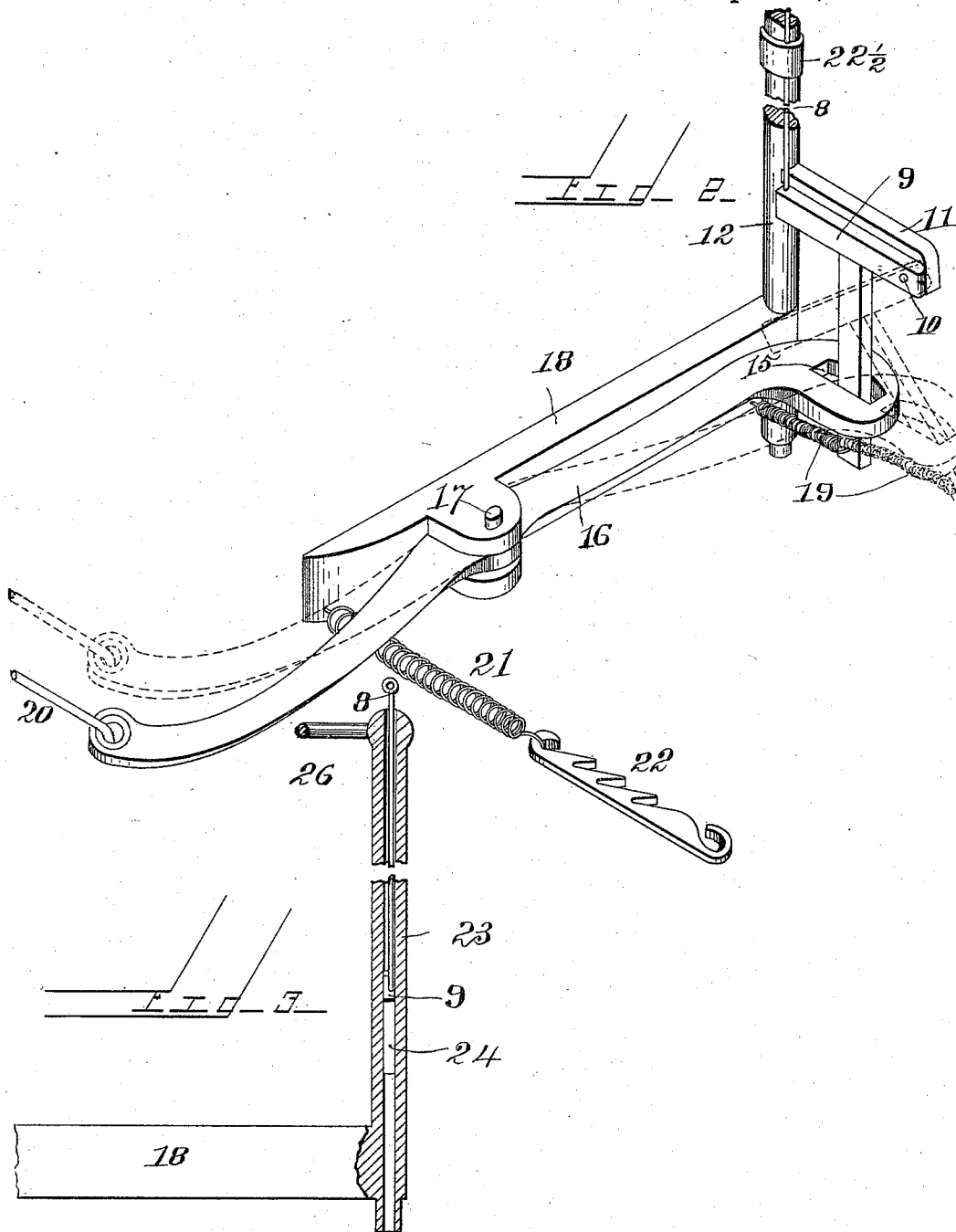
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2 Sheets—Sheet 2.

S. A. CRAWFORD.
DOOR OPENER OR CLOSER.

No. 537,632.

Patented Apr. 16, 1895.



Witnesses:
Glaude Lunsford.
C. J. Bell.

Inventor.
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UNITED STATES PATENT OFFICE.

SAMUEL ADAMS CRAWFORD, OF FRANKLIN, PENNSYLVANIA.

DOOR OPENER OR CLOSER.

SPECIFICATION forming part of Letters Patent No. 537,632, dated April 16, 1895.

Application filed May 12, 1894. Renewed March 5, 1895. Serial No. 540,663. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL ADAMS CRAWFORD, a citizen of the United States, residing at Franklin, in the county of Venango and State of Pennsylvania, have invented certain new and useful Improvements in Door Openers or Closers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a door opener and closer, and its novelty will be fully understood from the following description and claims when taken in connection with the annexed drawings; and the object of the invention is to provide a door opener or closer of simple, durable, and cheap construction to be operated from any part of a building to open or close a door of such building.

My invention consists in the novel construction and arrangement of parts.

The invention is clearly illustrated in the accompanying drawings, which, when taken in connection with the reference numerals marked thereon, form a part of this application, and in which—

Figure 1 is a perspective view, partly broken away, showing the interior of a room, with my improved opener and closer attached to a closed door, and the opening and closing device in normal position. Fig. 2 is a perspective view of the device, partly broken away, looking at its rear side, showing in dotted lines the position of the parts when the door latch is raised and the door ready to be opened. Fig. 3 is a sectional view of a modified form of standard.

The same reference-numerals denote the same parts throughout the figures of the drawings.

The door 1, is provided with an ordinary latch 2, and a guide pulley 3. A similar pulley 4, is hung upon the door jamb 5. Through these pulleys, from the said latch, is run the lifting cord 6, down to or near the floor 7, where it is secured to the lifting rod 8. This lifting rod 8, is attached to one end of the short portion of a T shaped lever 9, the other end of the short portion being pivoted at 10, to the projecting arm 11, formed in the same

piece with and at right angles to the standard 12, which sits, and is free to be turned in the supporting bracket 13, secured to one of the joists 14, beneath the floor 7. The standard has a door rod 26, which engages a staple 27, upon the door. The long portion of the T shaped lever 9, passes through a slot 15, in one end of the oscillating or rocking arm 16, which is pivoted at 17, to the bar 18, formed in the same piece with and at right angles to the standard 12, and at right angles to the projection 11; the said long portion of the T shaped lever being provided with a coil spring 19, secured to the said portion beneath the slot 15, and to the bar 18. To the end of the rocking bar 16, opposite the slot 15, is secured the hand rope, wire or cord 20, which may be of a length to reach to any desired part of a dwelling, store or office. The free end of the bar 18, is provided with a spring 21, connected to an adjusting hook 22, which is secured to one of the joists 14, or in any suitable manner beneath the floor.

In Fig. 2 the lifting rod is shown passing through a thimble or sleeve 22½, upon the outside of the standard 12, and in this form the latter is solid; but in the modification shown in Fig. 3, the standard is hollow, or made in the form of a pipe or tube 23, and the lifting rod runs through, and out of a slot 24, where it is coupled with the T shaped lever.

The operation of my device is as follows: To open the door, the hand cord 20, is pulled to operate the rocking arm 16, which carries the end of the long portion of the T shaped lever out from the standard 12, expands the spring 19, and pulls down the free end of the short portion of the T shaped lever to which is attached the lifting rod. This operation unlatches the door, and by continuing to pull the said hand rope the rocking arm strikes the end of the bar 18, to turn the standard in its supporting bracket and open the door as far as desired. To close the door the hand rope is simply released and the spring 21 will force the above described parts to resume their normal position and close the door.

I do not wish to be understood as limiting myself to a solid standard, or to a standard having the arms and projections formed in the same piece with it; to the particular

means shown for connecting the device with a door, to its location relative to the door nor to any means for securing it in position, as the same may be altered without departing from the spirit of my invention.

What I claim, and desire to secure by Letters Patent, is—

1. In a door opener and closer, the standard connected with a door, the latch lifting rod, slidably secured to the standard and means attached to the standard and to the rod to pull the latter down and raise the latch, and to turn the former, to open and close the door, as set forth.

2. In a door opener and closer, the standard connected with a door, the lifting rod connected with the door latch, the rocking arm, and the T shaped lever to which the lifting rod is attached, pivoted to a projection of the standard and engaging the rocking arm, substantially as set forth.

3. In a door opening and closing device the standard having a rod engaging the door, the lifting rod connected with the door latch, the T shaped spring controlled lever to which is secured the lifting rod, the arm projecting from the standard to which is pivoted the T shaped lever, the bar projecting from the standard at right angles to the lever, and the rocking arm pivoted on the said bar and having a slot in which the long end of the said

lever is operated to move the arm, substantially as set forth.

4. In a door opening and closing device, the standard having a rod engaging the door, the lifting rod connected to the door latch, and slidably secured to the standard, the projecting arm 11, of the standard, the bar extending from the standard at right angles to said arm, combined with the spring controlled T shaped lever pivoted to the same arm, the rocking arm having a slot engaged by the T shaped lever, and the spring secured to the said bar, substantially as set forth.

5. The combination with the standard, the projecting arm, the bar at right angles to the arm, all formed in the same piece, and the spring secured to the bar, of the T shaped lever pivoted in the said arm, the lifting rod, secured to the lever, means for slidably attaching the lifting rod to the standard, the rocking arm having a slot engaged by the lever, and the spring secured at one end to the lever and at the other end to the said bar, substantially as set forth.

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

SAMUEL ADAMS CRAWFORD.

Witnesses:

JNO. K. CRAWFORD,
C. J. CRAWFORD.