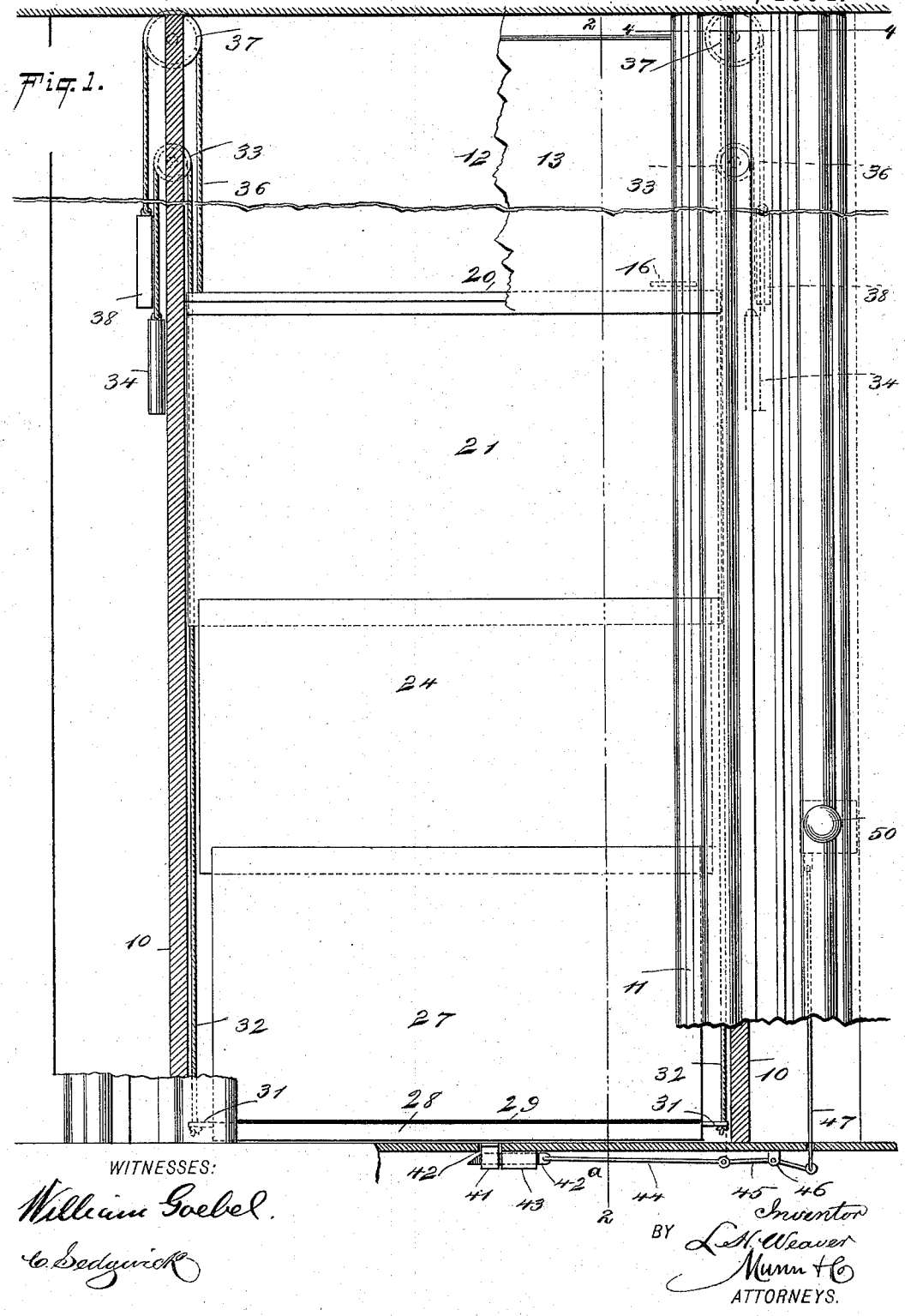
(No Model.) 2 Sheets—Sheet 1.

L. H. WEAVER.

SLIDING DOOR.

No. 530,372. Patented Dec. 4, 1894.

Fig. 1.



WITNESSES:

William Goebel.

C. Sedgwick

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(No Model.) 2 Sheets—Sheet 2.

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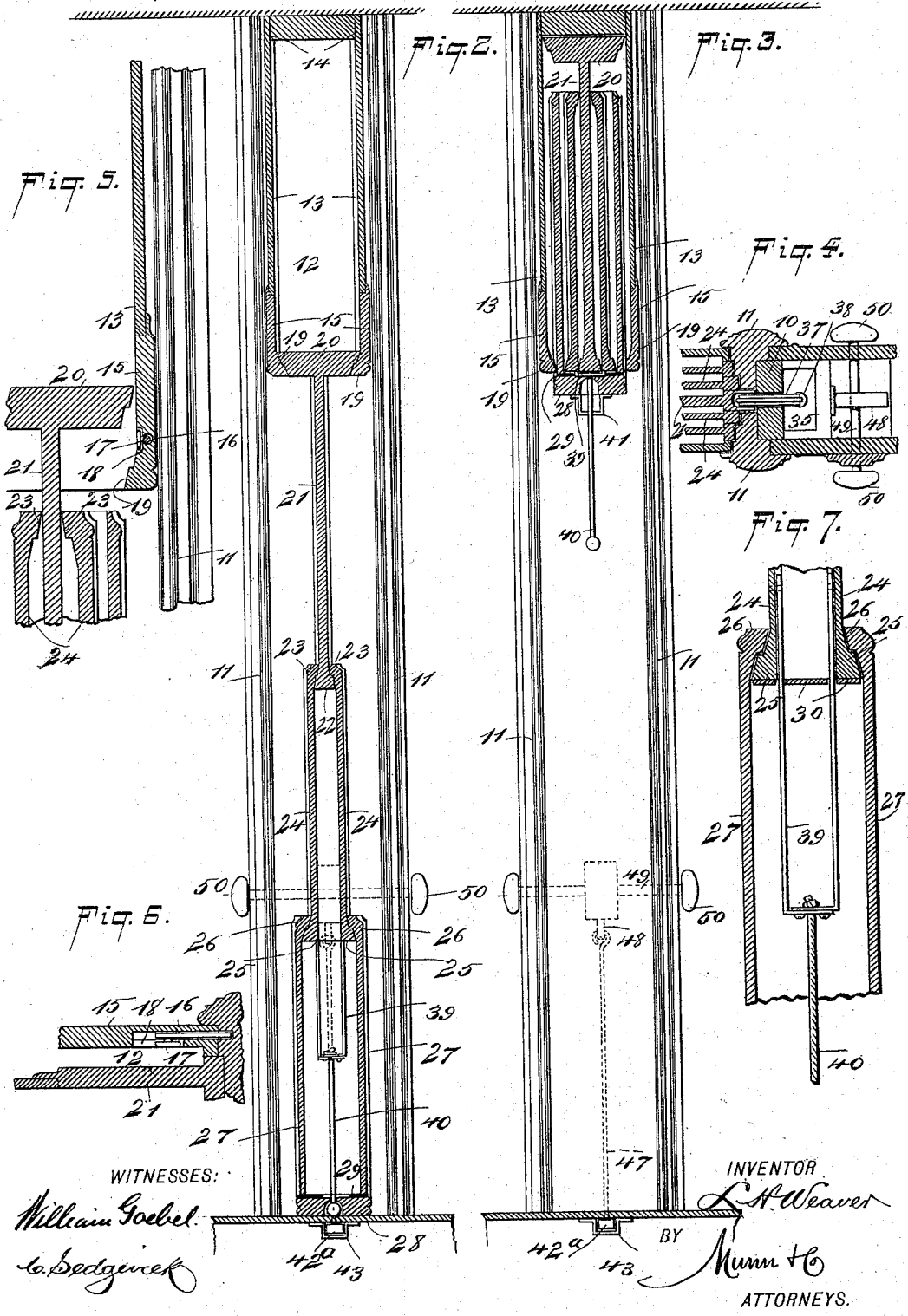

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UNITED STATES PATENT OFFICE.

LEANDER H. WEAVER, OF HUDSON, NEW YORK.

SLIDING DOOR.

SPECIFICATION forming part of Letters Patent No. 530,372, dated December 4, 1894.

Application filed February 24, 1894. Serial No. 501,386. (No model.)

To all whom it may concern:

Be it known that I, LEANDER H. WEAVER, of Hudson, in the county of Columbia and State of New York, have invented a new and Improved Sliding Door, of which the following is a full, clear, and exact description.

My invention relates to improvements in doors, and particularly to house doors; and the object of my invention is to produce a simple form of collapsible and extensible door, which may be used as a substitute for the ordinary swinging or laterally sliding doors, and which, when opened, is out of sight, the door collapsing as it is opened and lying in a suitable case above the door opening.

A further object of my invention is to construct the door and its containing case in such a way that it may be put up without the use of nails and may be very easily operated to open or close it.

To these ends my invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a broken front elevation, partly in section, of the door embodying my invention. Fig. 2 is a vertical section on the line 2—2 of Fig. 1, with the door closed. Fig. 3 is a similar section with the door open. Fig. 4 is a broken sectional plan on the line 4—4 of Fig. 1. Fig. 5 is a broken vertical section of the upper portion of the door and casing. Fig. 6 is a broken sectional view, showing the manner in which the casing is fastened to the door jamb; and Fig. 7 is a detail sectional view, showing particularly the means of pulling down the door.

The door is held between the door jambs 10, which are arranged vertically in substantially the usual manner, and are provided with suitable moldings 11 which may be finished in any desirable way, and these moldings serve as guides for the door which slides vertically and which, when open, is adapted to be held in a casing 12 above the door opening and between the opposite jambs and moldings, the casings being composed of opposite panels 13, the upper edges of which fit in grooves 14 in the cornice, and cross pieces or trimmings 15 at the lower ends of the panels, these being fastened to the moldings 11 by means of slide bolts 16 which have knobs 17 thereon working in slots 18 on the inner sides of the pieces 15, see Fig. 6, so that to operate the bolts, one reaches his hand up into the casing and grasps a knob, but to do this the door must be raised somewhat, as shown in Fig. 5, so that the top of the upper door section will clear the slide bolt.

The casing 12 is open at the bottom, but its sides are beveled and contracted opposite the opening, as shown at 19 in Figs. 2 and 5, so as to engage and support the top plate 20 of the upper door section 21, the top plate having its side edges shaped to fit the parts 19 of the casing. The door may be finished in any desired style, may be of any reasonable size and may be composed of any necessary number of telescoping sections, although three is the number most conveniently used. The upper section 21 is single and it terminates at its lower edge in a foot 22 which fits in the contracted upper end 23 of the second section 24 of the door, this section being double, as shown clearly in Figs. 2 and 5, so that the single section 21 may slide into it, or rather it may slide over the section 21.

The section 24 has at the bottom a foot 25, which fits in the contracted upper end 26 of the lower door section 27, which section is also double or hollow so that it may slide over the section 24, but the lower section 27 is closed at the bottom, as shown at 28, and has within it at the bottom a packing 29 of rubber or other sound-deadening material. The bottom of the section 24 is closed by an iron 30 which serves as a brace to prevent the collapsing of the section.

Projecting from opposite ends of the section 27 are lugs 31 to which are secured cords 32 which extend upward above the door top and over pulleys 33 in the jambs 10, and the upper ends of the cords are secured to weights 34 which hang in pockets 35 in the door frame, and the heft of these weights is sufficient to rather more than counterbalance the two lower door sections, so that when the door is released at the bottom, the two lower sections will be raised, the lower one closing over the next one above it, but to raise the door to its

full height it is then necessary to push upward slightly on it.

The upper section 21 of the door has attached to it, on opposite ends, cords 36 which run over pulleys 37 in the jambs 10 and are attached to weights 38 which, in connection with the weights 34, balance the door. The pulleys 37 are larger than the pulleys 33 so that the weights 38 will not interfere with the weights 34.

The door is pulled up, as specified, by the action of the weights, and to enable the door to be conveniently pulled down, the middle section is provided with a bail 39 of stiff material which extends down into the section 27, and to this bail is attached a cord 40 which extends downward through the bottom of the section 27, so that by grasping the cord and pulling it down, the door is pulled down, and if desired the door may be provided on its exterior with any suitable handhold to assist in its easy manipulation. On the bottom of the door is a keeper plate 41 which, when the door is closed, goes through a hole 42 in the floor and engages a slide bolt 42^a which works in a suitable guide 43 and which is of the ordinary spring kind, so that it automatically engages the catch.

The bolt 42^a is pulled back by means of the connecting rod 44 which is connected with a lever 45 fulcrumed, as shown at 46, beneath the floor, and the outer end of this lever is connected with a vertical rod 47 which extends upward through the floor and into the door frame where it connects with a crank 48 on the knob spindle 49 which projects through the door frame at one side of the door and is provided at its ends with door knobs 50 of the customary kind, and by turning either of the knobs the rod 47 may be raised so as to pull back the rod 44 and bolt 42, thus releasing the door which, impelled by the weights, immediately opens.

It will be understood from the foregoing description that the door may be finished in any desired style, may be provided with any kind of trimmings, and any suitable means may be employed for moving it up and down without departing from the principle of my invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The collapsible door herein described, the same being composed of a series of rectangular panels, which are adapted to slide vertically one on another, and have their vertical axes coincident, or aligned, as shown and described.

2. As an improved article of manufacture, a sliding door comprising an upper single section and a series of double sections below it and connected with it, the sections being arranged to slide one over the other, substantially as described.

3. The combination, with the counterbalanced telescoping door, comprising a series of sections as specified, of the bail secured to one of the sections above the lower section, and a cord secured to the bail and extending downward through the bottom of the lower section, substantially as described.

4. The sliding door, comprising an upper single section having a foot at its lower edge, a hollow section below it, having its upper end shaped to fit the foot of a second section, the second section having also a foot at its lower edge, and a third section closed at the bottom and having its top shaped to fit the foot of the section above it, substantially as described.

LEANDER H. WEAVER.

Witnesses:
MILTON M. HALL,
L. ROYCE TILDEN.