

(No Model.)

3 Sheets—Sheet 1.

F. P. STEVENS.
ANNUNCIATOR.

No. 591,179.

Patented Oct. 5, 1897.

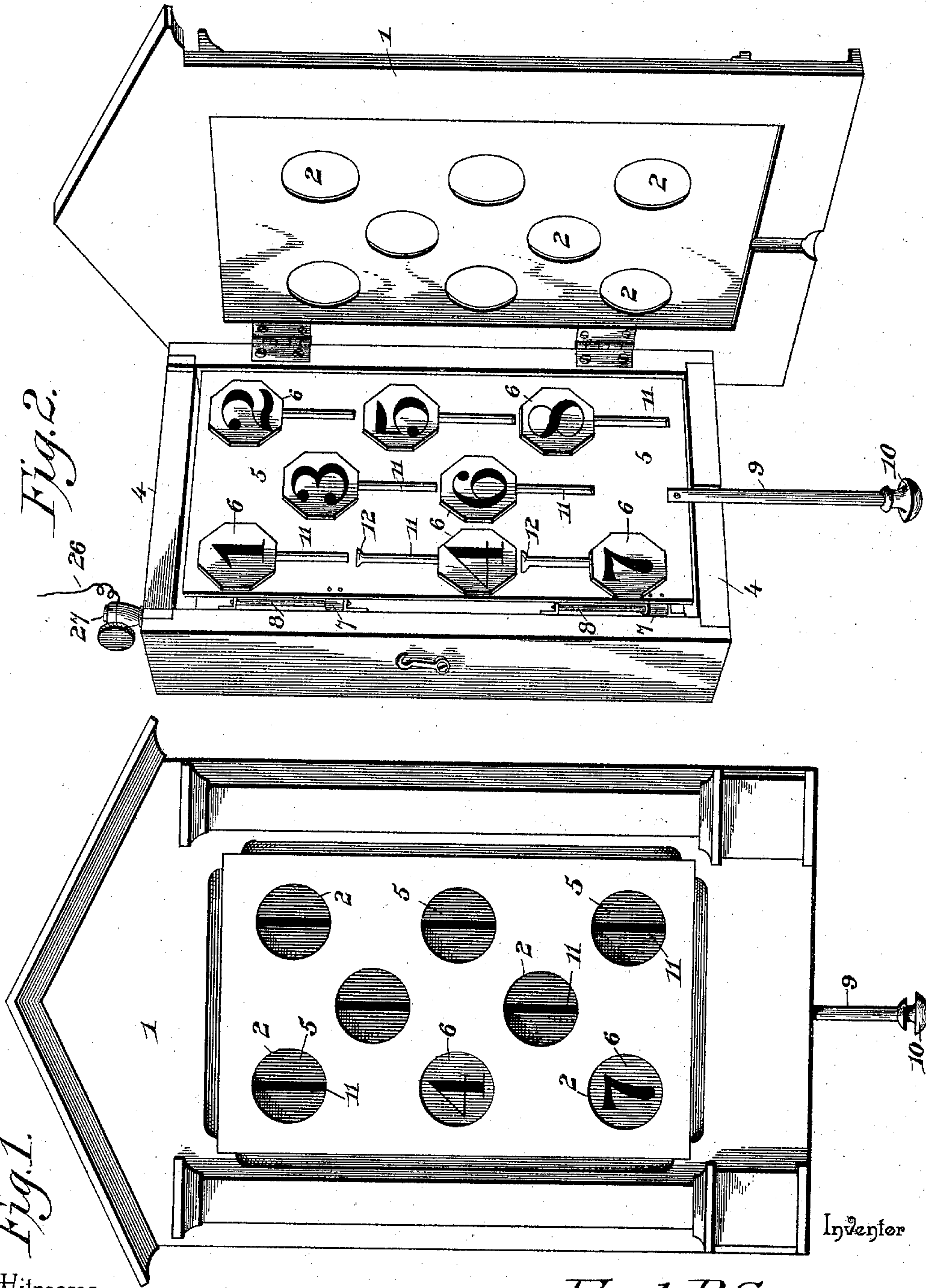


Fig. 1.

Fig. 2.

Witnesses

Jas. H. McLaughlin
U. B. Willyard.

By *his* Attorneys,

Fred P. Stevens

C. A. Snow & Co.

Inventor

(No Model.)

3 Sheets—Sheet 2.

F. P. STEVENS.
ANNUNCIATOR.

No. 591,179.

Patented Oct. 5, 1897.

Fig. 8.

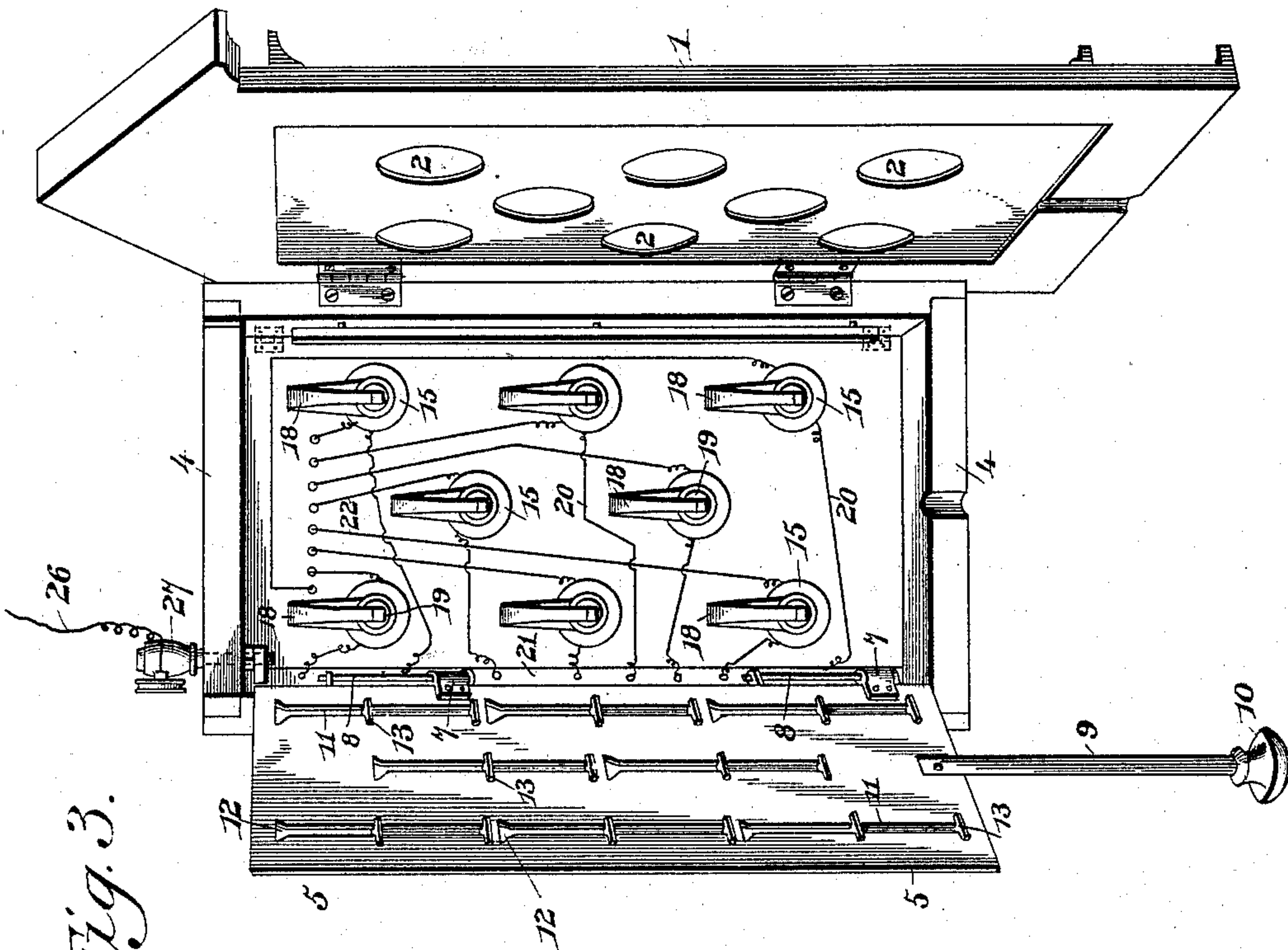
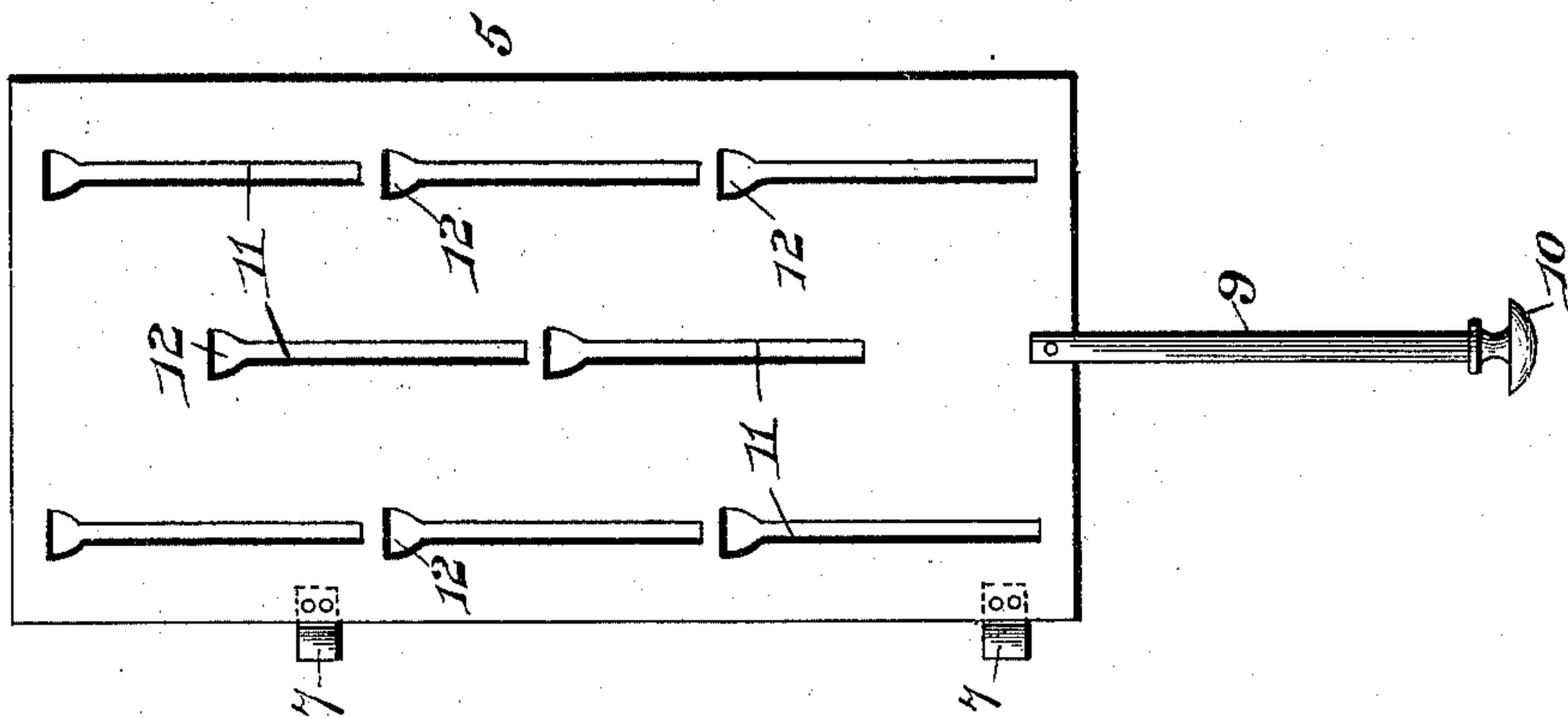


Fig. 3.

Inventor

Fred P. Stevens

Witnesses
Jas. S. McLathran
V. B. Hillyard.

By His Attorneys.

C. A. Snow & Co.

(No Model.)

3 Sheets—Sheet 3.

F. P. STEVENS.
ANNUNCIATOR.

No. 591,179.

Patented Oct. 5, 1897.

Fig. 5.

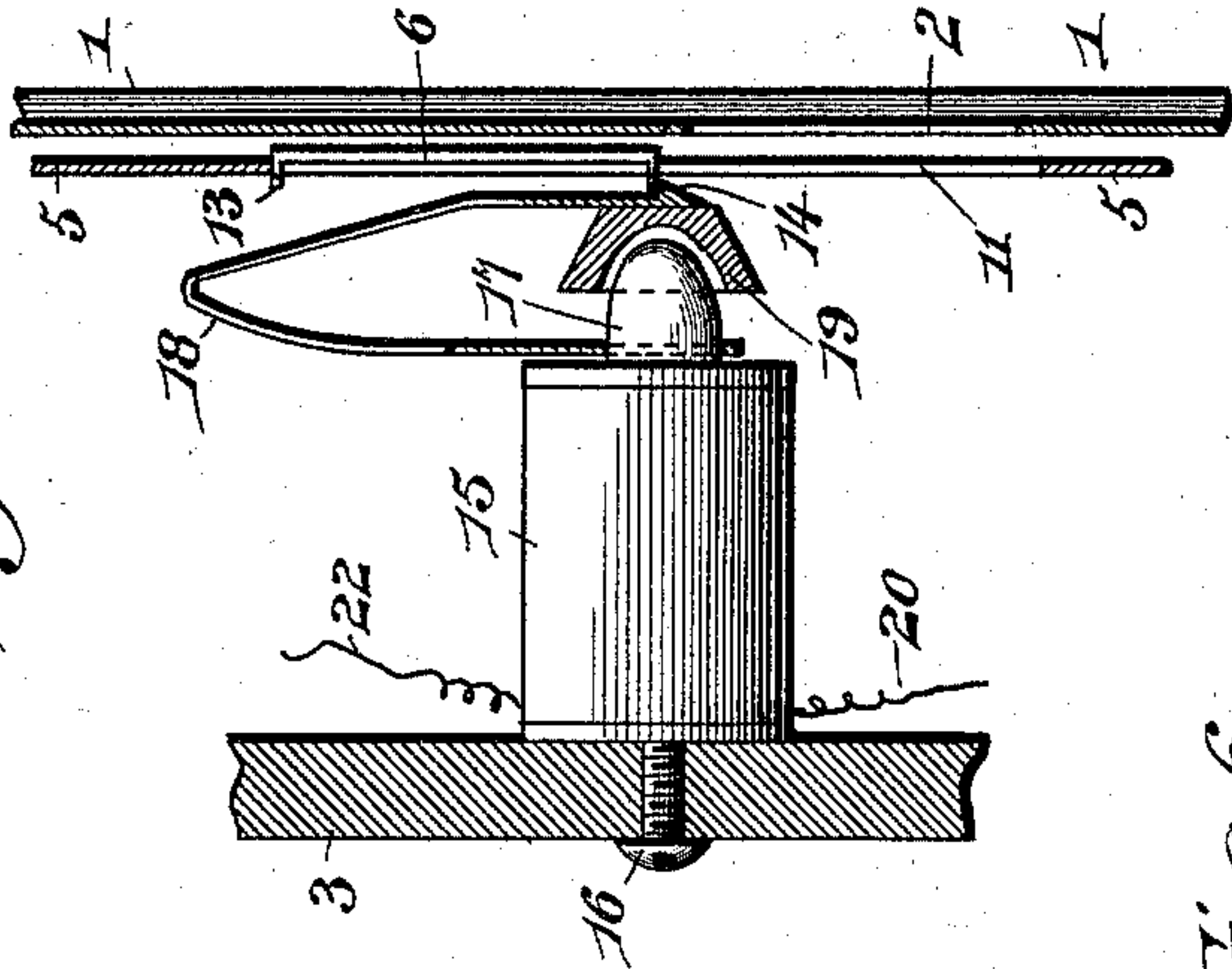


Fig. 7.

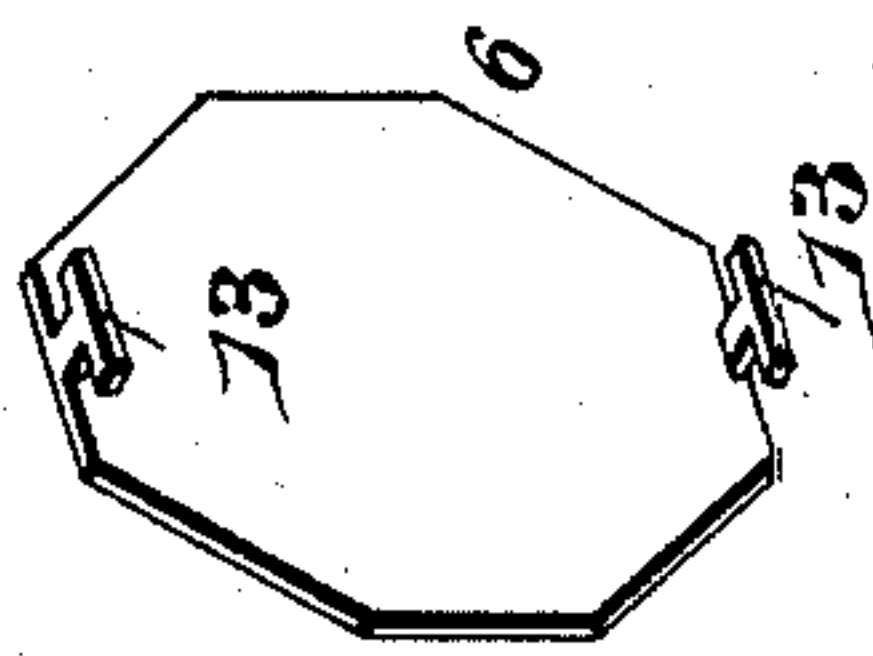


Fig. 6.

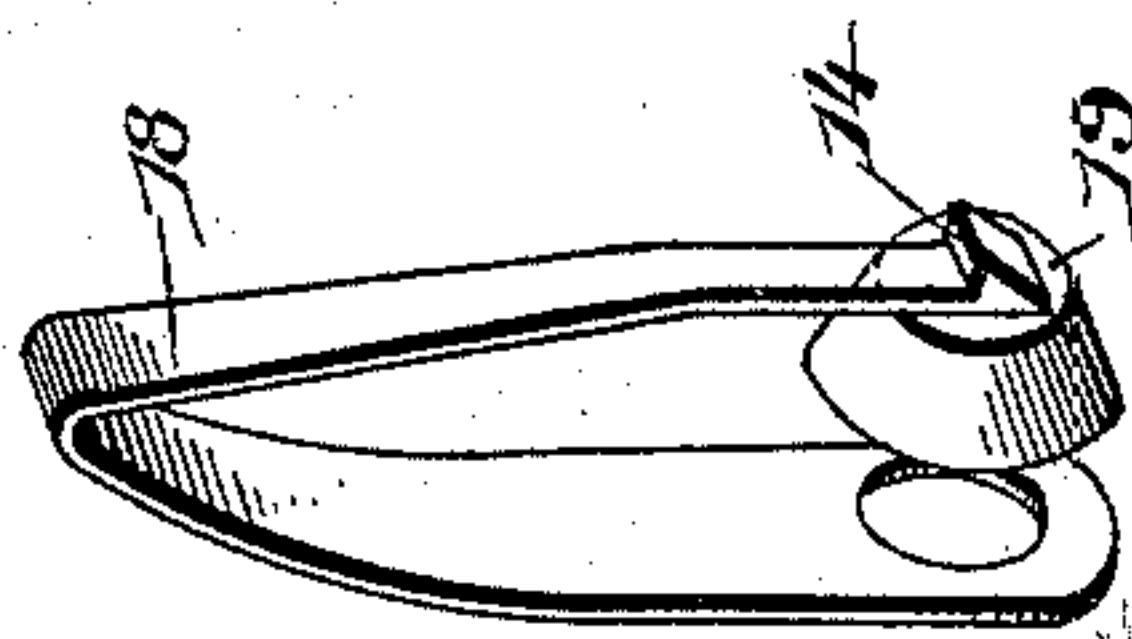
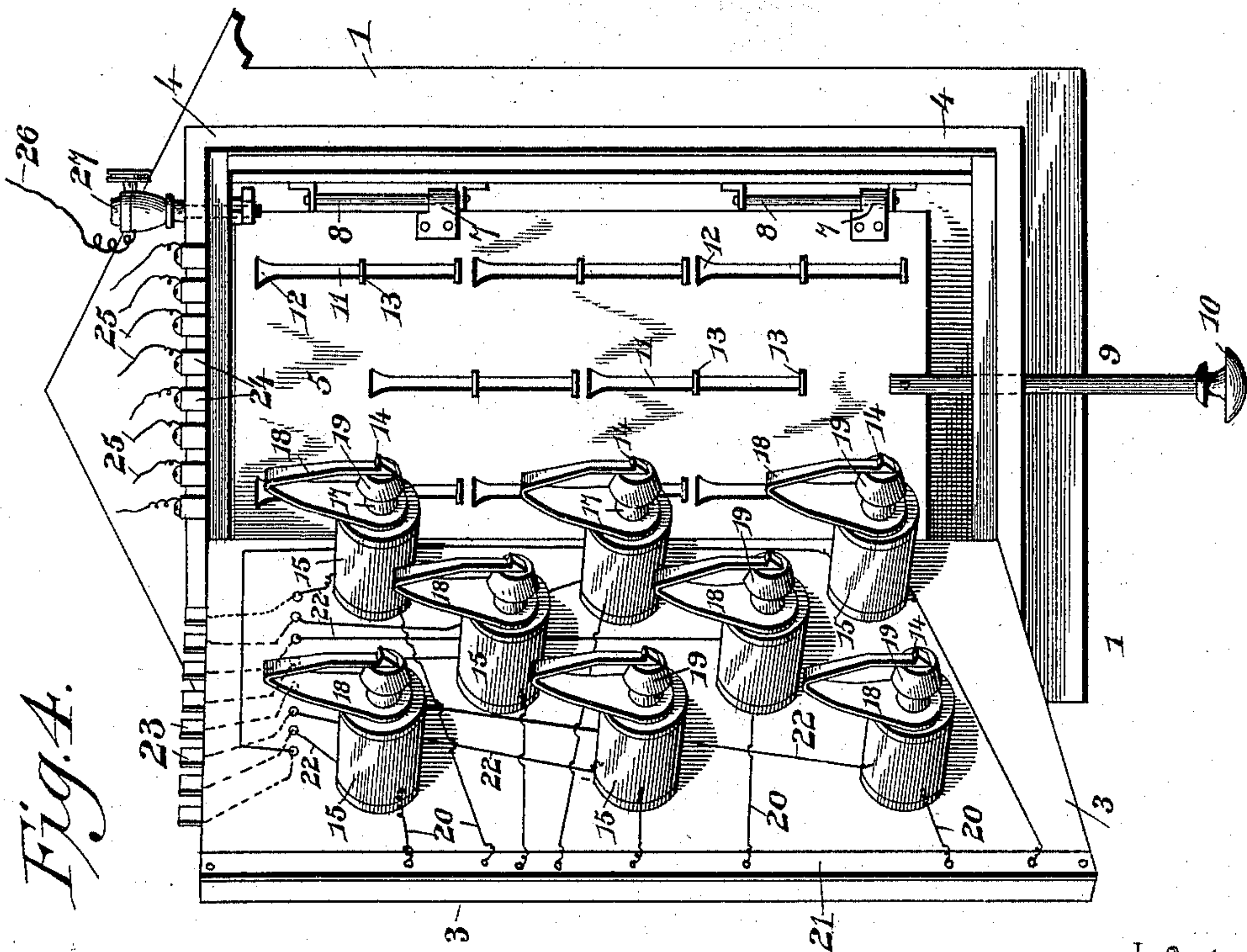


Fig. 4.



Inventor

Fred P. Stevens

Witnesses
Jas. L. McLaughlin
V. B. Willyard.

By His Attorneys,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

FRED PARK STEVENS, OF COLORADO SPRINGS, COLORADO.

ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 591,179, dated October 5, 1897.

Application filed October 13, 1896. Serial No. 608,775. (No model.)

To all whom it may concern:

Be it known that I, FRED PARK STEVENS, a citizen of the United States, residing at Colorado Springs, in the county of El Paso and State of Colorado, have invented a new and useful Annunciator, of which the following is a specification.

This invention relates to annunciators for general use in dwellings, hotels, and boarding-houses, elevators and railroad-cars, and aims to reduce the number of operating parts usually required in this class of devices; to render the action of the working parts certain and positive; to simplify the actuating mechanism; to provide for ready access to the interior of the case for repairing, cleaning, adjusting the parts, or for any desired purpose; to enable the indicating-plates to be shifted, interchanged, or replaced by others at an instant's notice without necessitating the manipulating of fastenings of any kind, and to simplify, cheapen, and reduce the cost of maintaining and placing devices of this nature upon the market.

Objects other than those herein specifically referred to will suggest themselves to those versed in the art to which the present invention appertains as the details of the construction are disclosed. Hence for a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a front elevation of an annunciator embodying the principles of this invention. Fig. 2 is a perspective view showing the front open and disclosing the resetting-plate and the indicating-plates carried and supported thereby. Fig. 3 is a detail view similar to Fig. 2, showing the resetting-plate open and exposing the operating mechanism. Fig. 4 is a rear elevation of the annunciator, showing the back carrying the actuating mechanism open. Fig. 5 is a detail view showing the relation of the back, front, re-

setting and indicating plates, and the mechanism for supporting and releasing an indicating-plate. Figs. 6, 7, and 8 are detail views of the operating parts directly connected with the indicating-plates.

Corresponding and like parts are referred to in the following description and indicated in the several views of the accompanying drawings by the same reference-characters.

The case for inclosing the operating parts consists of a front 1, having a series of observation-openings 2, through which the indicating-plates are viewed, a back 3, a frame 4, hinged at one side to the front 1, and a resetting-plate 5, having a sliding hinge connection with the frame 4 and adapted to mask the actuating mechanism attached to the back 3 and carrying and supporting the indicating-plates 6. The frame 4 is preferably of rectangular shape and is closed at its rear side by the back 3 and at its front side by the plate 5, which latter has a limited vertical movement between the front 1 and the frame 4 for the purpose of returning the indicating-plates to a normal position when exposed through the observation-openings 2. The sliding hinge connection between the plate 5 and its supporting-frame 4 may be of any desired formation, and as shown consists of cuffs 7, secured at one edge to the plate 5, and pins or short rods 8, attached to a side of the frame 4. The plate 5 is adapted to be moved upward and is provided with a stem 9, which is attached to its lower edge and is fitted in grooves formed in the opposing faces of the lower parts of the frame 4 and front 1, and this stem has a button 10 at its lower end to present an extended bearing for the thumb or finger when it is required to press upon the stem for moving the plate upward. The resetting-plate has a series of vertical slots 11, which are enlarged at their upper ends, as shown at 12, the number of the slots corresponding with the number of observation-openings 2, and these slots forming guide-ways for T-shaped projections 13 at the opposite ends of the indicating-plates 6. The enlarged ends 12 of the slots 11 provide for the passage therethrough of the T-shaped projections 13 when placing the indicating-plates in position or removing them from the resetting-plate, thereby admitting of the in-

dicating-plates being interchanged or replaced by others at a moment's notice.

The indicating-plates bear numerals or other designating characters according to the use and purpose for which the annunciator is designed. The projections 13, in addition to retaining the indicating-plates in proper position with respect to the resetting-plate and acting jointly with the slots 11 to direct the said plates 6 in their vertical movements, also provide stops to engage with corresponding stops 14, whereby the indicating-plates are normally supported and concealed from view behind the front 1 and above the respective observation-openings.

A series of electromagnets 15 are secured to the back 3 above the respective observation-openings 2, the attaching means being an ordinary machine-screw 16, which passes through the back and into the core of the magnet. The core of each electromagnet projects a short distance beyond the outer or front end of the helix and is shaped to provide a conoidal pole-piece 17. A substantially V-shaped spring 18 is secured at one end to the pole-piece 17 of each electromagnet, and its free end is formed with a shoulder or stop 14 and carries an armature 19, which is adapted to cooperate with the pole-piece of the magnet to release the indicating-plate when the electromagnet is energized by completing the circuit in which it is included. The armature 19 is frusto-conical and has a conoidal-shaped recess at its inner face to receive the terminal of the pole-piece 17, it being understood that in assembling the parts ample space is provided for the movement of the armature, so as to disengage the stop 14 from the projection of the indicating-plate, whereby the latter is liberated and permitted to fall by the action of gravity and be viewed through the proper observation-opening. One terminal of the helices, as 20, is electrically connected with a conducting-strip 21, affixed to the back 3, and the other terminal, as 22, is in electrical connection with a contact 23, attached to a convenient portion of the back 3, and which contacts 23 are adapted to complete the circuits by engaging with corresponding contacts 24, to which the wires 25 are attached by binding-screws in the ordinary way. The return-wire 26 makes connection with a binding-post 27, arranged to connect electrically with the metallic strip 21 when the back 3 is closed and the annunciator connected and in position for actual service.

Under normal conditions the indicating-plates are masked or concealed from view by the front 1 and are supported above the respective observation-openings by the stops 14 engaging with the lower projections 13 of the indicating-plates. Upon energizing an electromagnet by closing the circuit in which it is included its armature will be attracted and withdraw the stop 14 from engagement with the indicating-plate, which latter will

fall under the influence of gravity and become exposed through the observation-opening, thereby conveying the required information to the person in attendance. By moving the plate 5 upward the indicating plate or plates exposed will be returned to a normal position and be supported by engaging with the stops 14, as previously intimated. The usual alarm, although not shown, will be applied to the annunciator in the ordinary way, so that the person in attendance may be apprised by an audible signal when the annunciator is operated, so as to call attention to the exposed indicating-plate.

Having thus described the invention, what is claimed as new is—

1. In an annunciator, the combination of a slotted plate, an indicating-plate having projections operating in the slot of the first-mentioned plate, an electromagnet having a projecting pole-piece, a stop to engage with a projection of the indicating-plate and hold it out of sight, and an armature connected with the said stop and recessed to receive the pole-piece of the electromagnet, substantially as set forth.

2. In an annunciator, the combination of a slotted resetting-plate, an indicating-plate having a projection working in the slot of the resetting-plate, an electromagnet having a projecting pole-piece of conoidal shape, a frusto-conical armature provided with a stop to engage with the projection of the indicating-plate to hold the latter out of sight, and having a recess in its rear face to correspond with and normally receive the terminal of the said pole-piece, and a spring attached to the electromagnet and carrying the armature, substantially as set forth.

3. In an annunciator, the combination of an indicating-plate, an electromagnet having a projecting pole-piece, an approximately V-shaped spring having one member apertured to receive the pole-piece to which it is secured, and an armature carried by the other member and adapted to engage with and hold the indicating-plate out of sight, substantially as specified.

4. In an annunciator, the combination of a case having a series of observation-openings, a relatively movable frame, a series of electromagnets attached to the said frame, stops controlled by the electromagnets, a relatively movable resetting-plate interposed between the electromagnets and the observation-openings, and having a reciprocating movement, and a series of indicating-plates attached to and carried by the resetting-plate and normally supported by the electrically-controlled stops, substantially as and for the purpose set forth.

5. In an annunciator, the combination of a case having a series of observation-openings in its front, a relatively movable back, a series of electromagnets attached to the back, a resetting-plate hinged to the back and interposed between it and the front, and hav-

ing a reciprocating movement, and provided with a series of vertical slots, and a series of indicating-plates having projections operating in the slots of the resetting-plate and normally supported out of register with the observation-openings by means of stops controlled by the electromagnets, substantially in the manner set forth.

6. In an annunciator, the combination of a case comprising a front having a series of observation-openings, a movable back, a frame, and a resetting-plate, the latter having a sliding hinge connection and provided with a series of slots which are enlarged at a point in their length, indicating-plates having T projections operating in the slots of the movable plate, electromagnets secured to the said back

and having projecting pole-pieces, approximately V-shaped springs secured at one end to the pole-pieces and having stops at the opposite end to engage with a projection of the indicating-plates to support the latter out of register with the observation-openings, and armatures secured to the free ends of the springs and recessed to receive the terminals of the aforesaid pole-pieces, substantially as shown and described. 20 25

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FRED PARK STEVENS.

Witnesses:

H. HOYT STEVENS,
F. L. ROUSE.