

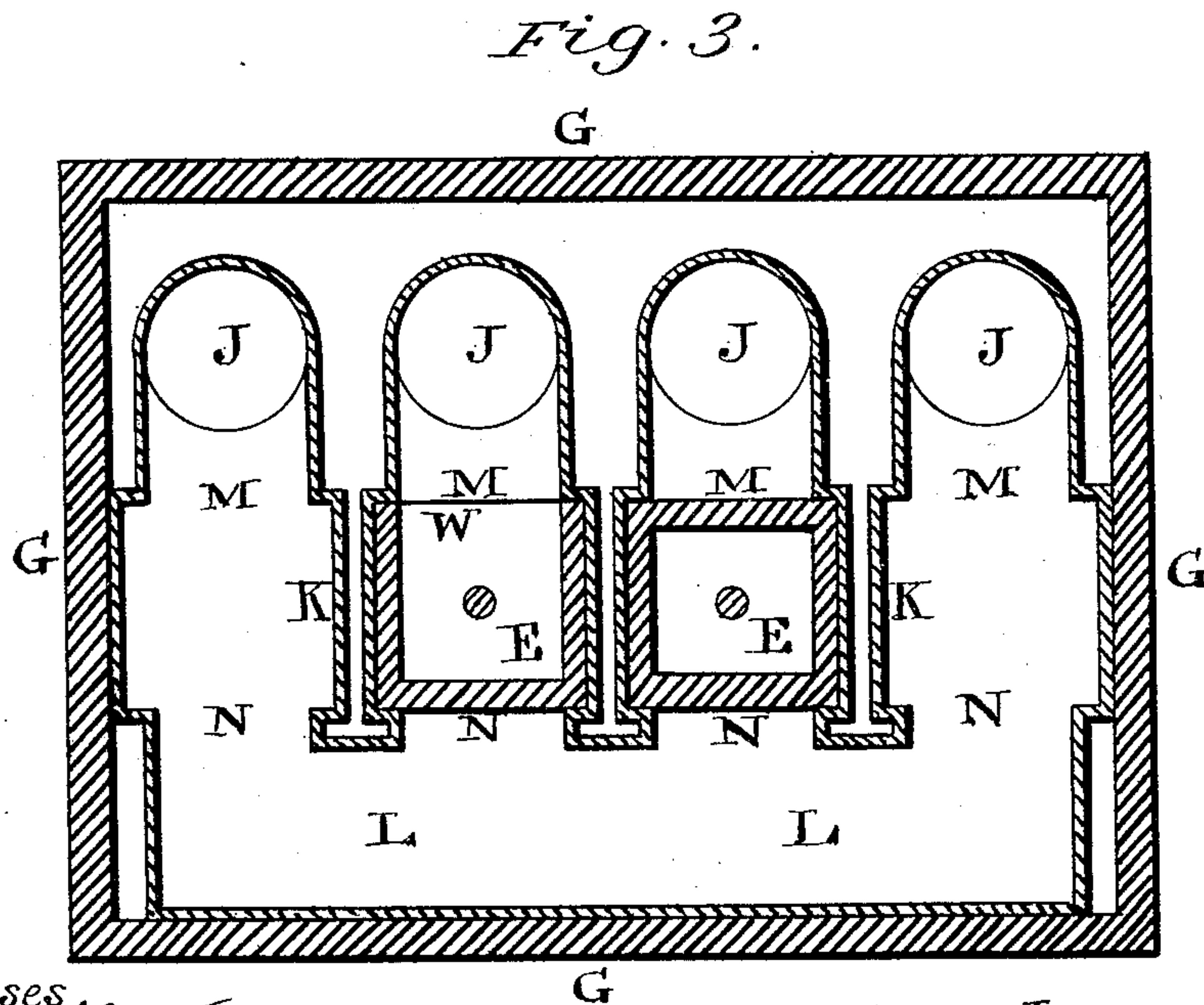
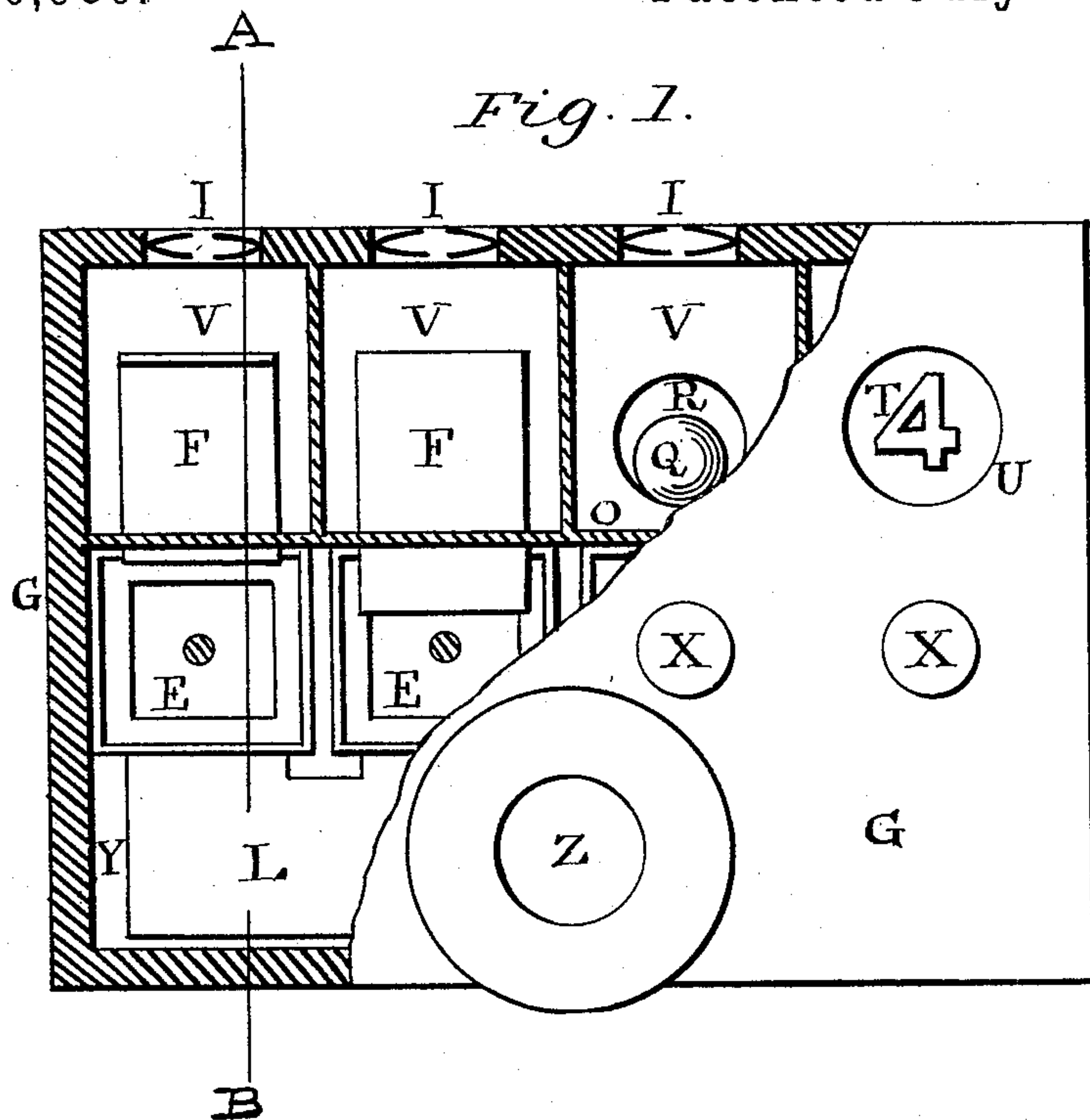
(No Model.)

2 Sheets—Sheet 1.

J. IRELAND.
ORAL ANNUNCIATOR.

No. 280,930.

Patented July 10, 1883.



Witnesses.

W. B. Friedman
Geo. M. Nash

INVENTOR

Joseph Ireland.

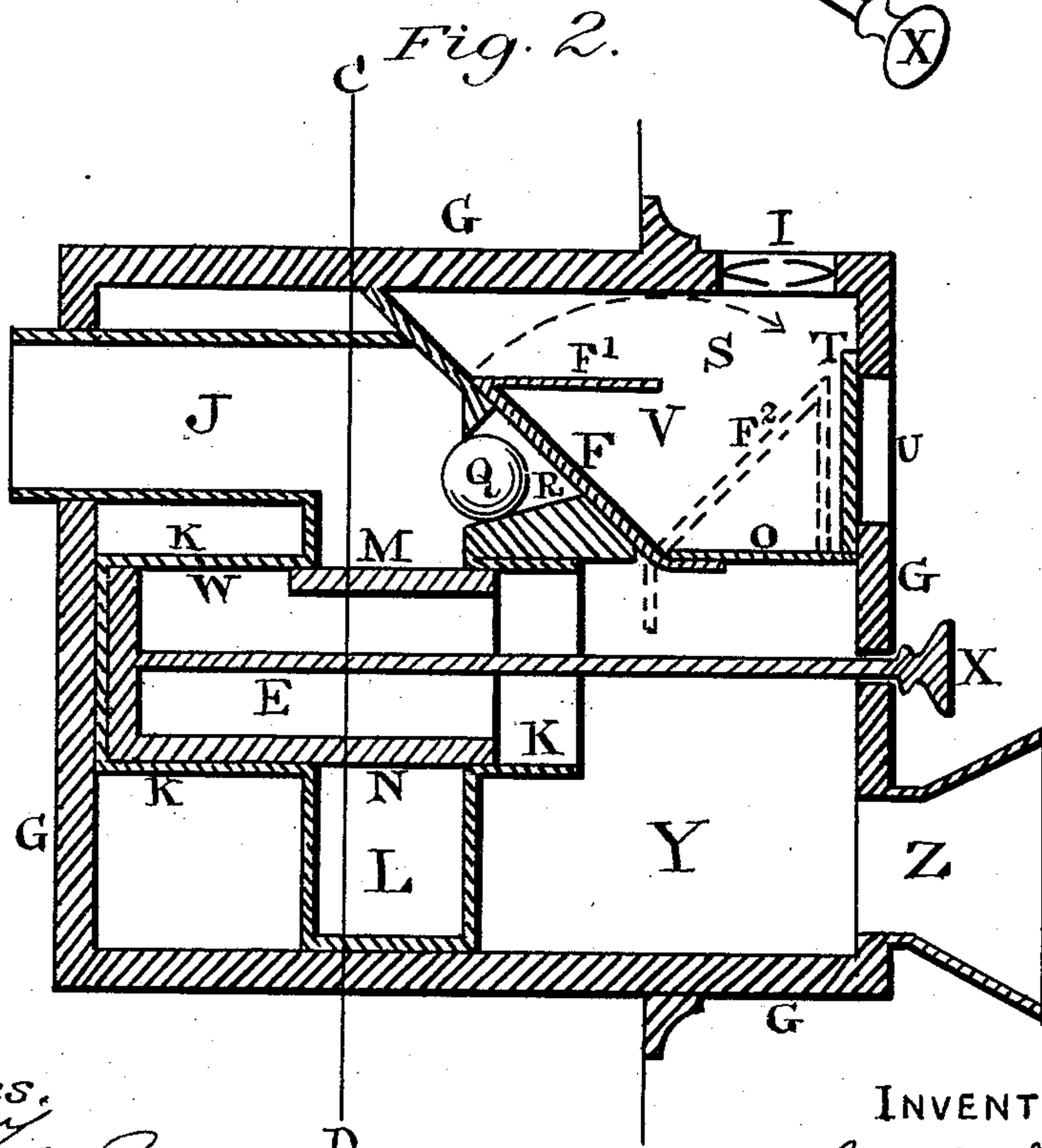
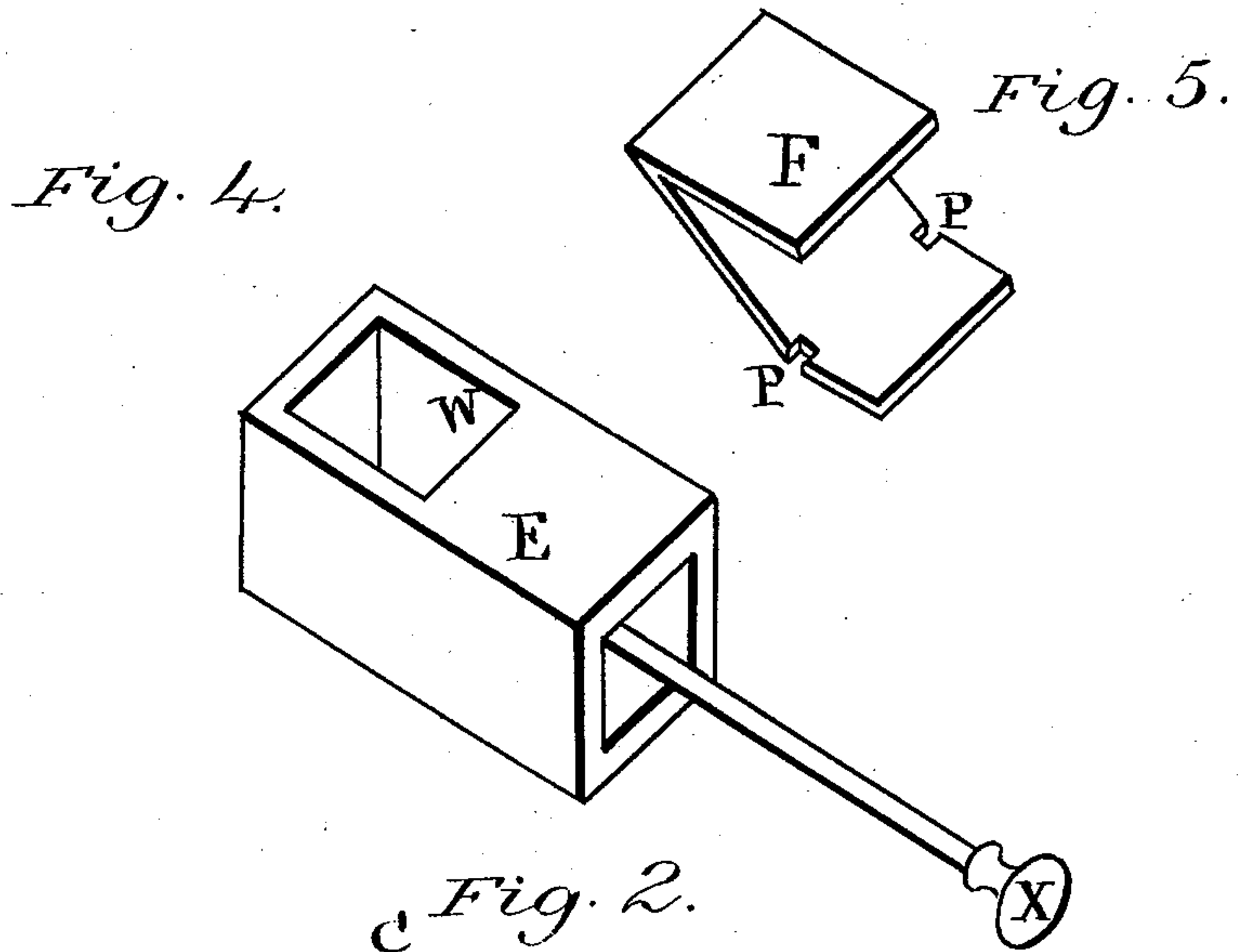
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Witnesses.

Wm. J. Ireland
Geo. H. Hook

INVENTOR

Joseph Ireland

UNITED STATES PATENT OFFICE.

JOSEPH IRELAND, OF CLEVELAND, OHIO.

ORAL ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 280,930, dated July 10, 1883.

Application filed April 20, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH IRELAND, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga, in the State of Ohio, have invented certain new and useful Improvements in Oral Annunciators, of which the following is the specification.

My invention relates to oral annunciators used in connection with speaking-tubes; and the objects of my invention are, first, to provide and substitute one stationary mouth-piece for an annunciator having several tubes connected therewith, thereby reducing the size and cost of an annunciator and facilitating its operation; second, to provide alarm-whistles and visual indicators, so constructed and arranged as that no air can escape through outlets in the tubes required for operating said whistles and indicators, except at the instant of said operation, thereby improving the capacity of said tubes to convey oral communication; third, to provide the means of replacing said indicators after they have been displayed as signals without requiring an act or operation to be made or performed especially for that particular purpose, and, further, so that, said indicators having been displayed, they will be replaced by the operation of answering the call, and not until then, regardless of the call being many times repeated before it is answered, thereby rendering it impossible for the indicators to fail to be replaced for succeeding calls, after one has been answered, through neglect on part of the attendant; fourth, to provide the means of quickly and positively rendering any two tubes which enter the annunciator substantially continuous, so that conversation may be carried on back and forth between the terminal ends of said two tubes at the points to which they extend from the annunciator. This means of intercommunication to be provided within the annunciator itself, and not requiring the use of detached flexible tubes or other appliances; and, further, so that the connecting of two tubes shall not affect or interfere with the free and perfect use of the other tubes at the same time for the purposes of oral communication between the annunciator and the other ends of said tubes, which are not linked or connected together, as aforesaid, thereby increasing the capacity and usefulness of the annunciator

to that extent. I attain these objects by means of the mechanism illustrated in the accompanying drawings, of which—

Figure 1 is a view showing the front of the annunciator, having part of the outer case removed to exhibit the interior mechanism. Fig. 2 is a view showing the several parts of the annunciator in a sectional cut through the same on line A B, Fig. 1. Fig. 3 is a view showing the interior of the annunciator in a sectional cut lengthwise through the same, on line C D, Fig. 2. Fig. 4 is a perspective view of one of the valves or slides E and the rod by which the same is moved. Fig. 5 is a perspective view of one of the tilting indicators, F.

Similar letters refer to similar parts in the several views throughout.

G is the outer casing or box of the annunciator.

Z is one stationary mouth-piece, fixed to the case G.

I is one of the alarm-whistles, fixed in top of case G.

J J are separate inlets to the annunciator-case, to be connected with speaking-tubes running therefrom to various points.

K K are cells or boxes intercepting the several inlets J at or near the entrance of said inlets to a continuous tube, L, at bottom of the annunciator. Said boxes K have openings M on their upper sides, and N on lower sides, coinciding with the caliber or bore of the inlets J, and the front ends of said boxes K are left open to admit of the slides or valves E being moved back and forth within the same.

F F are indicators, one for each tube entering the case, and are hinged or connected to level diaphragm O by means of elongated openings in the latter, through which the indicators are passed and held by the notches P in position to allow of a rocking or tilting motion.

Q is a valve-ball lying free within a cone-shaped opening, R, one at each inlet J, the ball Q when at rest gravitating to the smaller end of the opening R and closing across the latter.

S S are partitions forming separate cells, one in front of each entering-tube, each cell containing an indicator, F.

T T are glass or transparent plates marked with numbers or names corresponding to the

locations to which the tubes from the annunciator lead respectively, the said glass plates to be fixed behind the corresponding apertures U U in front of the box.

5 Having thus described the several parts of the annunciator, I proceed to describe the use and operation thereof, as follows:

The annunciator being "at rest," the slides E are pushed into the back of boxes K, the indicators F are in position shown by F', being 10 held there by gravitation, and the balls Q are resting at smaller ends of cavities R, also by gravitation. The person at the farther end of one of the speaking-tubes, desiring to call the 15 person or attendant at the annunciator, blows through the tube in the usual way. All other outlets from the tube being closed against the force of the air, the ball Q is thereby driven up from its seat, thus allowing the air to throw 20 or tilt over forward the indicator F into the position shown by F², and to sound the whistle I. The air-pressure relieved, the ball Q drops back to its seat, and the indicator remains by gravitation at F², its face showing plainly 25 through the glass plate T. The attendant thus called draws forward the slide E by means of the knob X, until the hole W in the slide is brought directly under the opening M, which thus opens the windway from J into and 30 through the slide, into the continuous space Y, and thence to the mouth-piece Z. At the same time the slide E, being drawn forward, engages with the depending lower end of the indicator F, and thus replaces the latter into 35 position, as at F', holding it over the larger end of hole R, where it remains by gravity after the slide is shoved in again to back of box K, as at first. Should it be desired by the person at the farther end of one of the tubes to talk directly 40 to the person at the farther end of another of the tubes running to the annunciator, as in the case shown by Fig. 3, the two tubes at extreme right and left ends of annunciator. Then, the attendant being called and so informed 45 by, say, number one, he draws out the two corresponding end slides until they touch the inside of the front of the annunciator, or the back end of the slide is brought forward of the holes M and N, Fig. 2, which thus allows 50 the current of air to pass back and forth through the passage L and the end tubes, J, as seen in Fig. 3. The middle two slides be-

ing pushed in to back of boxes K, as at rest, or half-way back, as required for another conversation with the attendant, or one in each 55 of the two positions last named, the connection between the two end tubes cannot be impaired thereby, and the same is true of any two tubes so connected, regardless of the length of the annunciator. 60

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

1. In an oral annunciator, a continuous receiving air-chamber, Y, common to all speaking-tubes J, entering the annunciator for the conveyance of oral communication to and from 65 between and through said tubes J, and one or more mouth-pieces, Z, also opening into said air-chamber upon the front of the annunciator. 70

2. In an oral annunciator, movable valves or stoppers E, one to each tube J entering the annunciator, and placed at or near the entrance of said tubes into a continuous receiving air-chamber, Y, said valves or stoppers being 75 for the purpose of opening and closing the passage or connection between said tubes and said continuous receiving air-chamber, and for the further purpose of opening and closing the passage or connection between said tubes 80 and another continuous air-passage, L, which is common only to said tubes and to no other air-passage in the annunciator, substantially in the manner and for the purpose described.

3. Tilting or falling indicators F for speaking-tubes, to be thrown over or upset by force of air blown through the tubes and out of apertures R, provided with gravity-valves Q, said valves, after allowing the escape of air through said apertures in the tubes, returning 85 by gravitation and closing the apertures R, said indicators and valves arranged substantially in the manner and for the purposes described. 90

4. In an oral annunciator, glass plates T, 95 with numbers or names marked upon them, inserted in the outer case of the annunciator, in connection with falling indicators or disks back of the same, substantially in the manner and for the purpose described.

JOSEPH IRELAND.

Witnesses:

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GEO. M. NASH.