

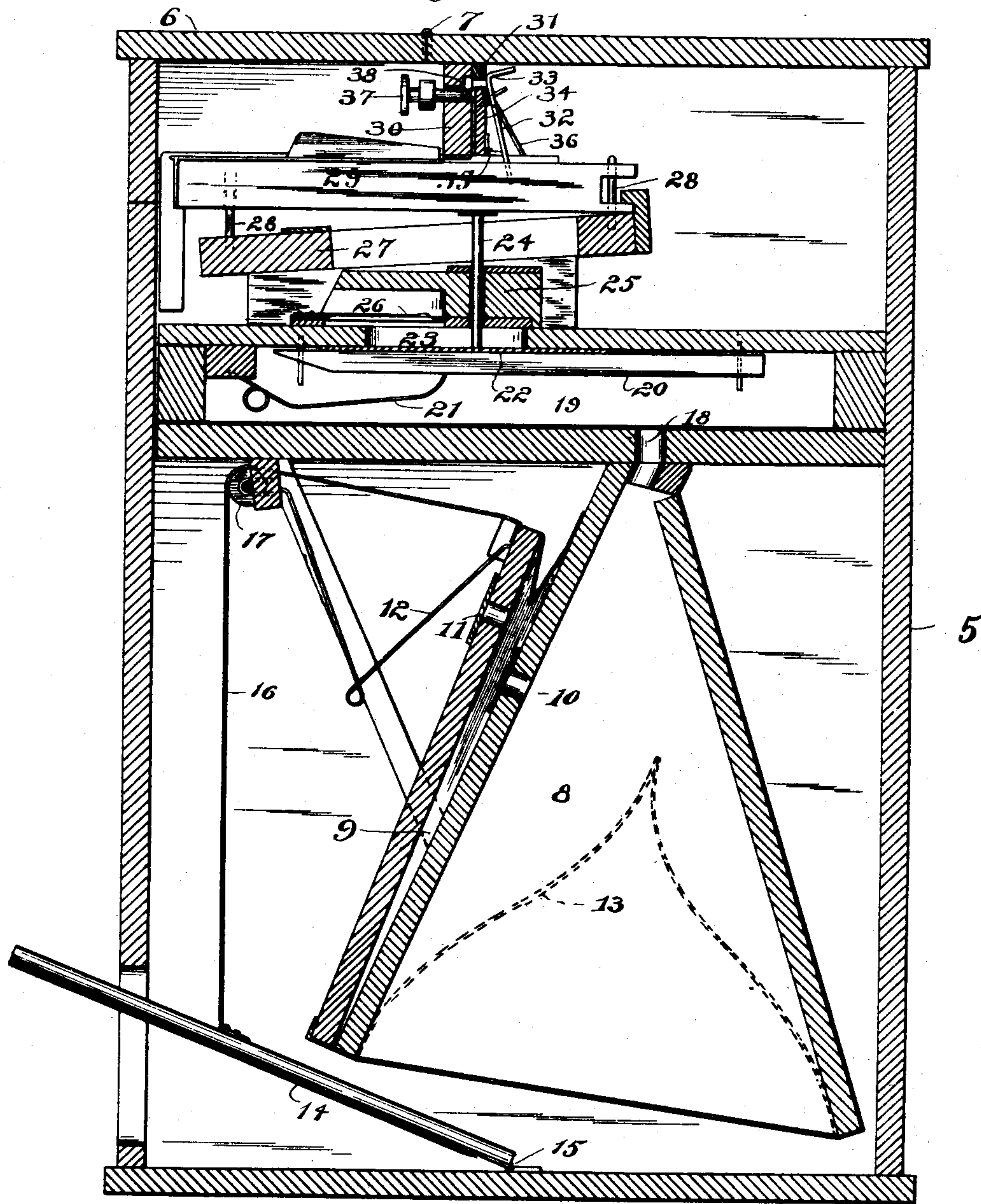
I. B. ROSENCRANTZ.
TUNING INSTRUMENT.

(Application filed Feb. 19, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1



Witnesses:

G. D. Noble
G. E. Jew

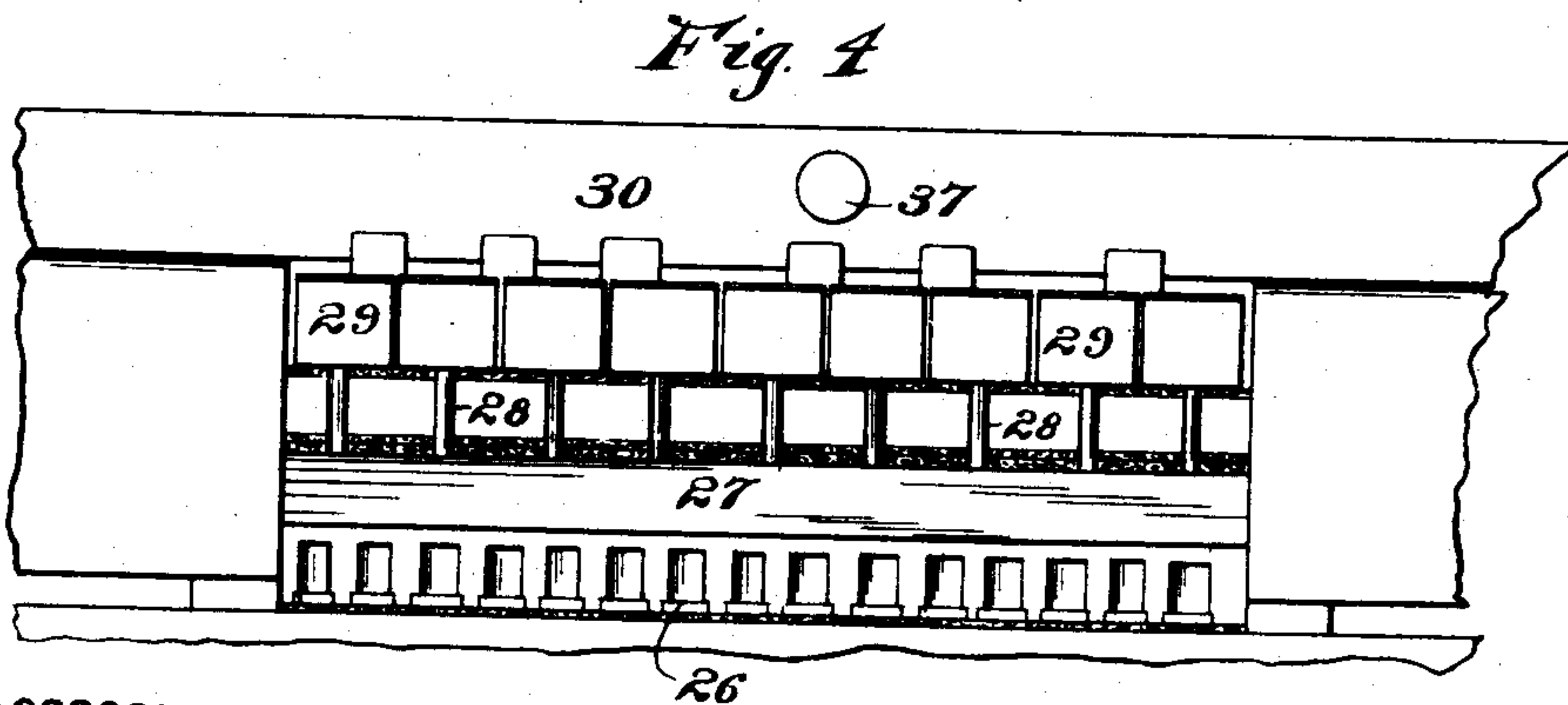
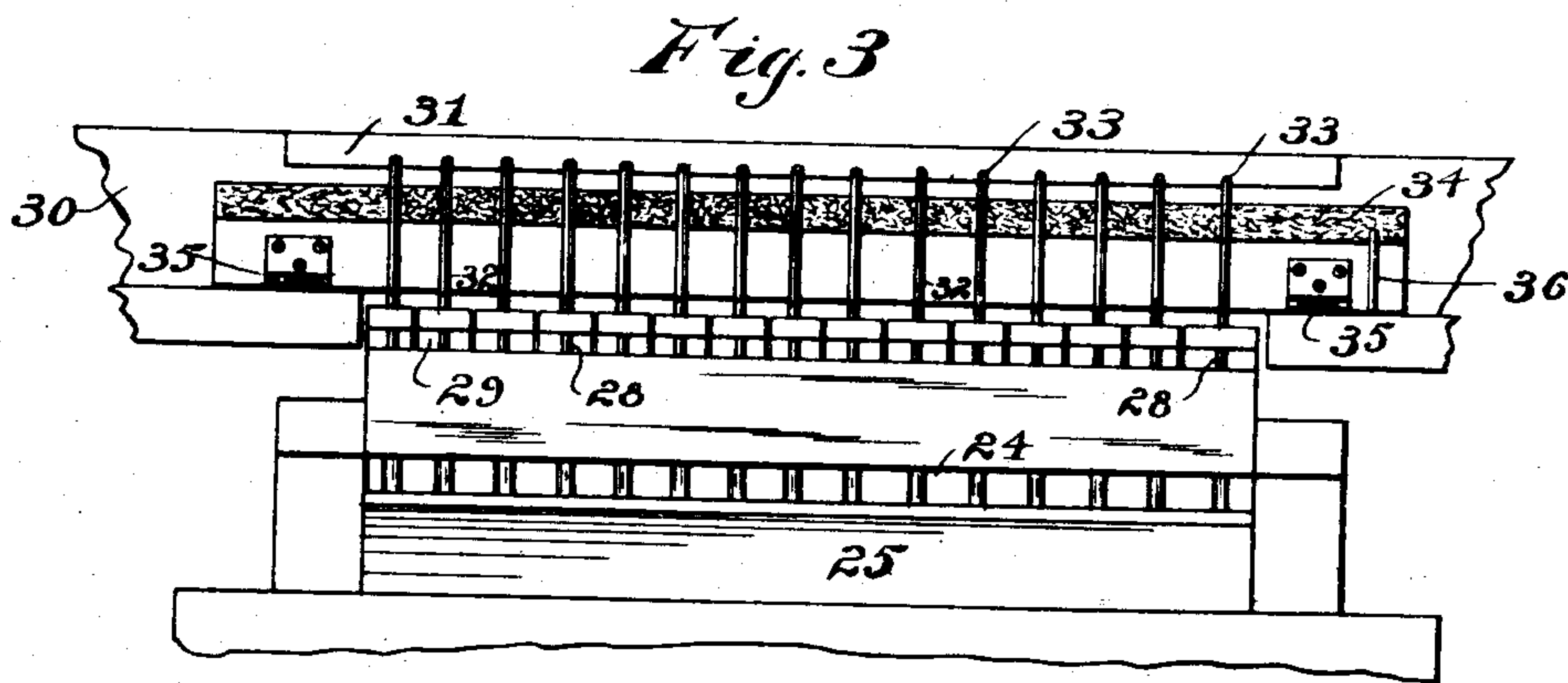
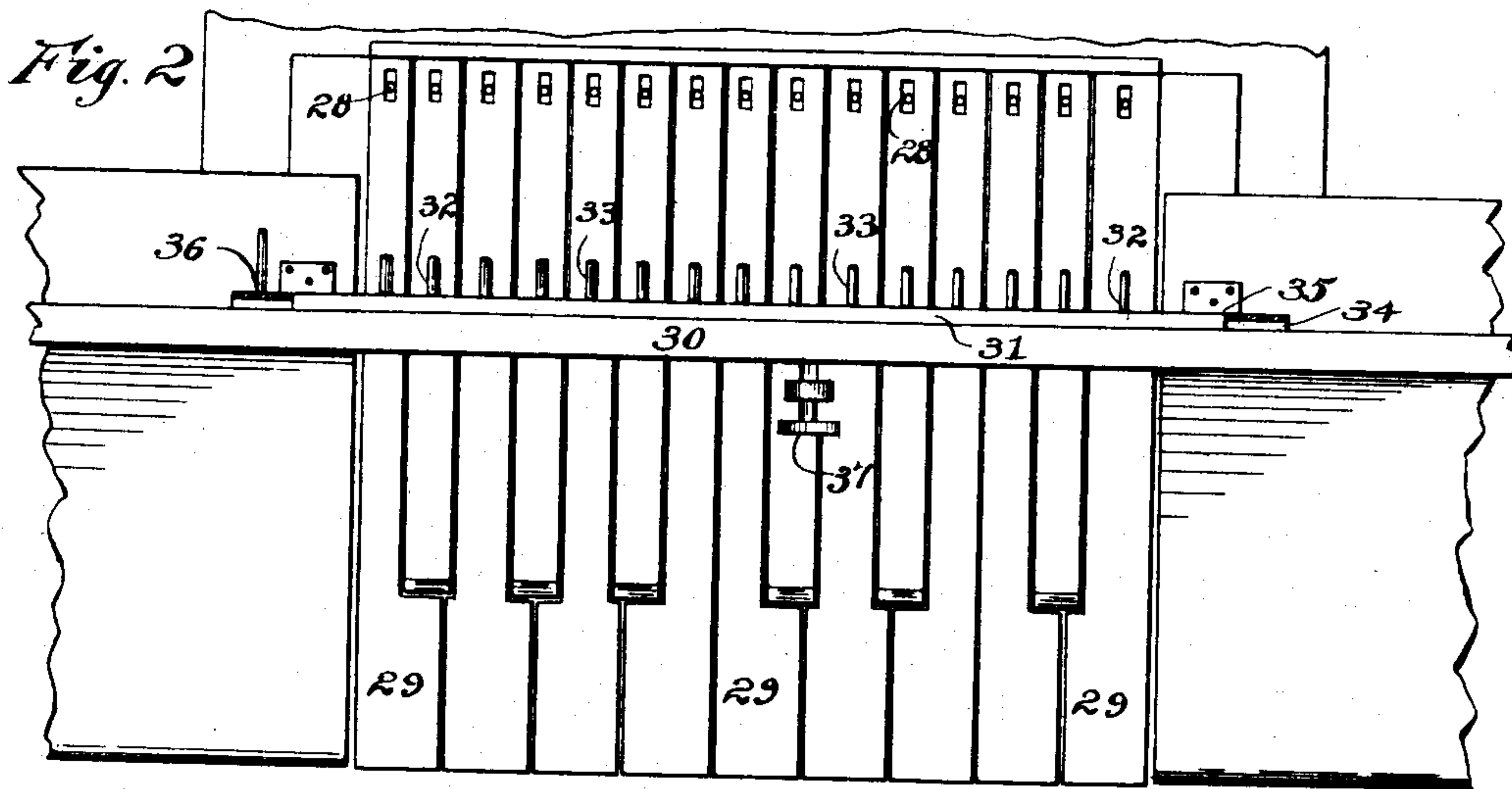
Ibidor B. Rosencrantz Inventor,
by Milo B. Stevens & Co
Att'y.

I. B. ROSENCRANTZ.
TUNING INSTRUMENT.

(Application filed Feb. 19, 1901.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses:

G. S. Noble
G. E. Tew.

Inventor,

Iddor B. Rosencrantz
by Milo B. Stevens & Co.
Att'y.

UNITED STATES PATENT OFFICE.

ISIDOR B. ROSENCRANTZ, OF CHICAGO, ILLINOIS, ASSIGNOR TO TUNELLA COMPANY, OF SAME PLACE.

TUNING INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 683,990, dated October 8, 1901.

Application filed February 19, 1901. Serial No. 47,933. (No model.)

To all whom it may concern:

Be it known that I, ISIDOR B. ROSENCRANTZ, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Tuning Instruments; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to instruments used in tuning pianos and organs and in teaching the art of tuning.

In the present state of the art pianos and organs are tuned by means of a tuning-fork, the tone of which being temporary will be lost by an unskilled person before the necessary adjustment, as of piano-wires, can be made. The tuning-fork also gives but one tone, and the remaining keys must be tuned by relation to this tone, which is an art acquired only by long experience and practice.

The object of my invention is to dispense with the use of a tuning-fork by an instrument capable of producing a tone or a number of tones which may be continued indefinitely at the will of the operator without his continuous attention and manipulation.

A further object is to provide an instrument capable of producing one or more indefinitely-continuous tones to be used in tuning and with which but a single operator will be required, and both of his hands will be at liberty to act upon the instrument being tuned without attention to the tone-indicating instrument.

A further object is to provide an instrument having a number of keys of proper tone in relation to which the corresponding keys of a piano may be tuned by direct agreement or harmony.

A further object is to provide an instrument from which the art of tuning may be readily and quickly acquired without the long practice and experience now necessary.

Referring to the drawings, Figure 1 is a vertical longitudinal section of the instrument. Fig. 2 is a top plan view, partly

broken away, with the cover removed. Fig. 3 is a rear elevation, with the cover and casing removed, of the parts above the valve-chest. Fig. 4 is a front elevation of the same parts.

The casing 5, with cover 6 hinged at 7, incloses the instrument, which is substantially a small reed-organ, with additional appliances to be hereinafter described. The main bellows 8 is exhausted by the auxiliary bellows 9 through a valve 10 in the former and valve 11 in the latter. The bellows are operated by a treadle 14, extending without the casing, connected by a hinge 15 to the bottom of the casing, and by a strap 16, passing over a pulley 17, to the movable board of the auxiliary bellows. A spring 12 normally compresses the auxiliary bellows, and a spring 13 normally expands the main bellows. An opening 18 connects the main bellows to a valve-chest 19, containing valves 20, having facings 22, of felt or other suitable material, to form an air-tight connection. Springs 21 normally retain the valves in closed position over perforations 23, communicating with the reeds 26, which are secured in tubes or openings in the reed-board 25. Rods or pins 24 rest upon the valves and pass through perforations in the reed-board and in a frame 27, on which the keys are fulcrumed, to engagement with the keys 29, so that when the keys are depressed the valves are opened and air is drawn through the reeds and sounds produced. Guide-pins 28 retain the keys in position.

The organ above described is an ordinary reed-organ modified to suit my invention, and the particular construction is immaterial to my invention.

The front board of the organ is indicated at 30 and has at its upper rear edge a projecting ledge or cleat 31. From the upper side of each key behind the front board rises a forwardly-inclined spring 32, the upper end of which presses against the ledge 31 and is bent rearwardly to form a shoulder 33, which is adapted, when the key is depressed, to spring in and be caught under the ledge 31, whereby the key is retained in depression until released by the operator. The releasing means consist of a push-button 37, extending through a suitable perforation in the

front board to engagement with a strip 34, extending laterally between the front board and the springs below the ledge and connected at each end by a hinge 35 to the frame 5 beside the keyboard. A spring 36 normally retains the strip in forward position. When the button 37 is pushed in, the strip is moved back against the springs of the depressed keys, throwing them out of engagement with 10 the ledge 31 and permitting the keys to rise. To permit an action as in an ordinary organ—that is, to prevent the keys being retained in depression—the push-button 37 and frame 34 may be locked in the releasing position by a turn of the push-button, causing 15 the stud 38 at the rear end thereof, which stud normally passes into a suitable cavity in the front board, to engage the rear surface of the front board.

20 The keys of the instrument are preferably duplicates of those of the piano, producing the tones F, F \sharp , G, G \sharp , A, A \sharp , B, C, C \sharp , D, D \sharp , E, F, F \sharp , and G in the middle register. This arrangement is best adapted to suit the 25 method of using the instrument and the art of tuning.

In use the instrument is preferably placed in front of the piano being tuned, conveniently near the operator, to allow his foot to 30 work the treadle. The key on the instrument corresponding to the key of the piano to be tuned is then struck. The key remains depressed and a continuous tone produced during the period of time required by the operator 35 to strain and adjust the strings of the piano. The key is then released and the next key operated in the same manner. When the keys of the piano corresponding to the keys of the instrument are tuned, the rest of the 40 piano-keys may be readily tuned, as by “octave-tuning”—a comparatively easy operation.

The instrument preferably embodies a reed-organ carefully constructed which will remain in correct tune and pitch a number of 45 years.

In teaching the art of tuning the pupil is allowed to operate the instrument according to any approved plan of tuning, and by listening to the true and continuous tones pro-

duced will soon learn the proper relation and harmony.

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

1. In a tuning instrument, in combination, an organ having keys, a fixed bar, a spring attached to a key and adapted when the key is depressed to engage the fixed bar and retain the key in depression, and means to 60 force the spring out of engagement with the bar.

2. In a tuning instrument, in combination, an organ having keys, a fixed bar, a spring attached to each key and adapted when the 65 key is depressed to engage the fixed bar and retain the key in depression, and means to simultaneously force the springs out of engagement with the bar.

3. In a tuning instrument, in combination, 70 an organ having keys, a fixed bar, a spring attached to a key and adapted when the key is depressed to engage the fixed bar and retain the key in depression, and a yielding bar adapted to be forced against the spring 75 to disengage the same from the fixed bar.

4. In a tuning instrument, in combination, an organ having keys, a fixed bar, a spring attached to each key and adapted when the 80 key is depressed to engage the fixed bar and retain the key in depression, and a yielding strip or bar adapted to be pressed against the springs of the depressed keys and to simultaneously disengage the same from the fixed 85 bar.

5. In a tuning instrument, in combination, an organ having keys, a fixed bar, a spring attached to a key and adapted when the key is depressed to engage the fixed bar and retain the key in depression, and a yielding 90 strip or bar adapted to be actuated to prevent engagement of the spring with the fixed bar.

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

ISIDOR B. ROSENCRANTZ.

Witnesses:

GEORGE E. TEW,
E. M. STALEY.