

No. 855,059.

PATENTED MAY 28, 1907.

J. JUSZCZESKI.
PIANO ZITHER.

APPLICATION FILED JULY 20, 1906.

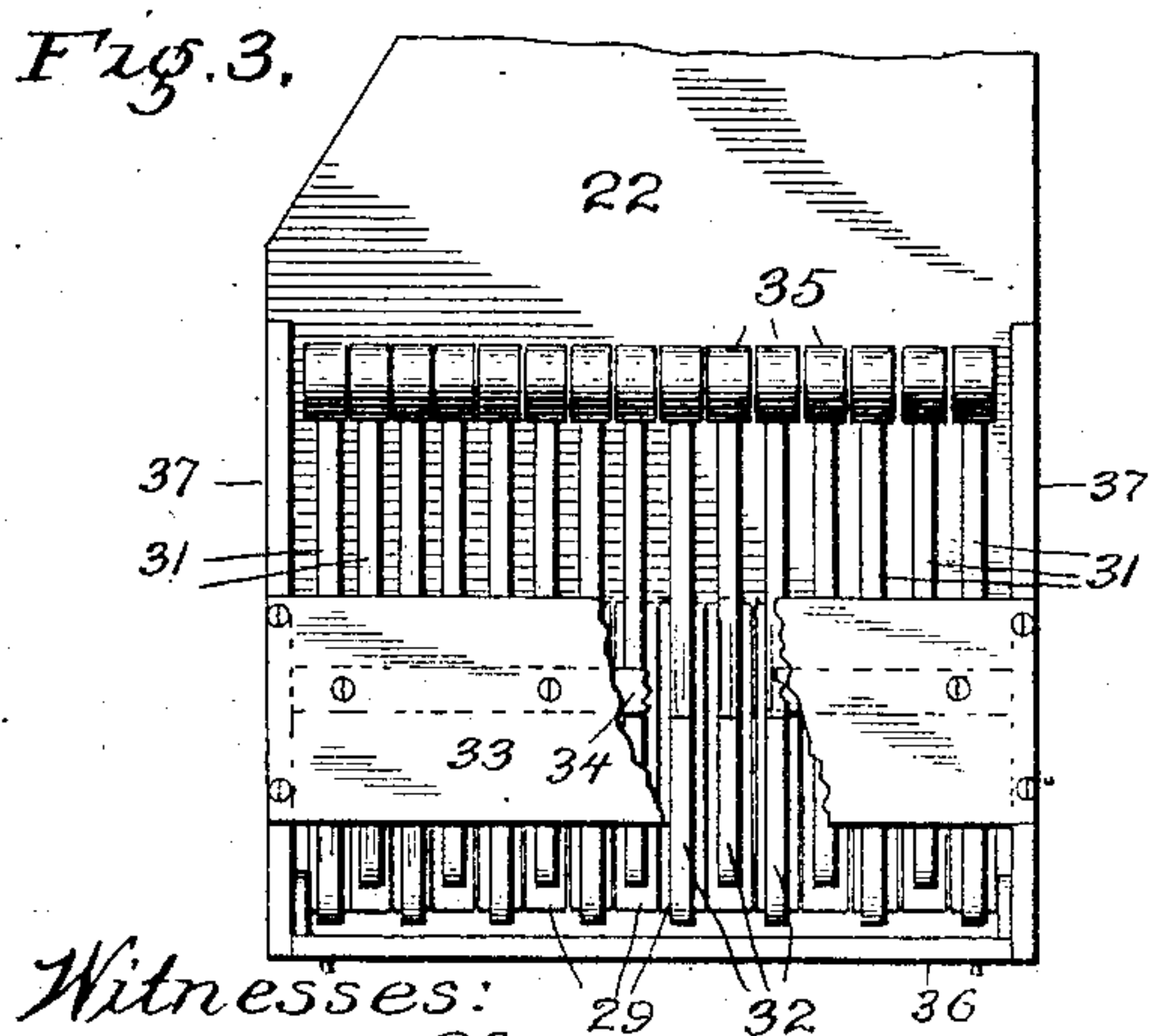
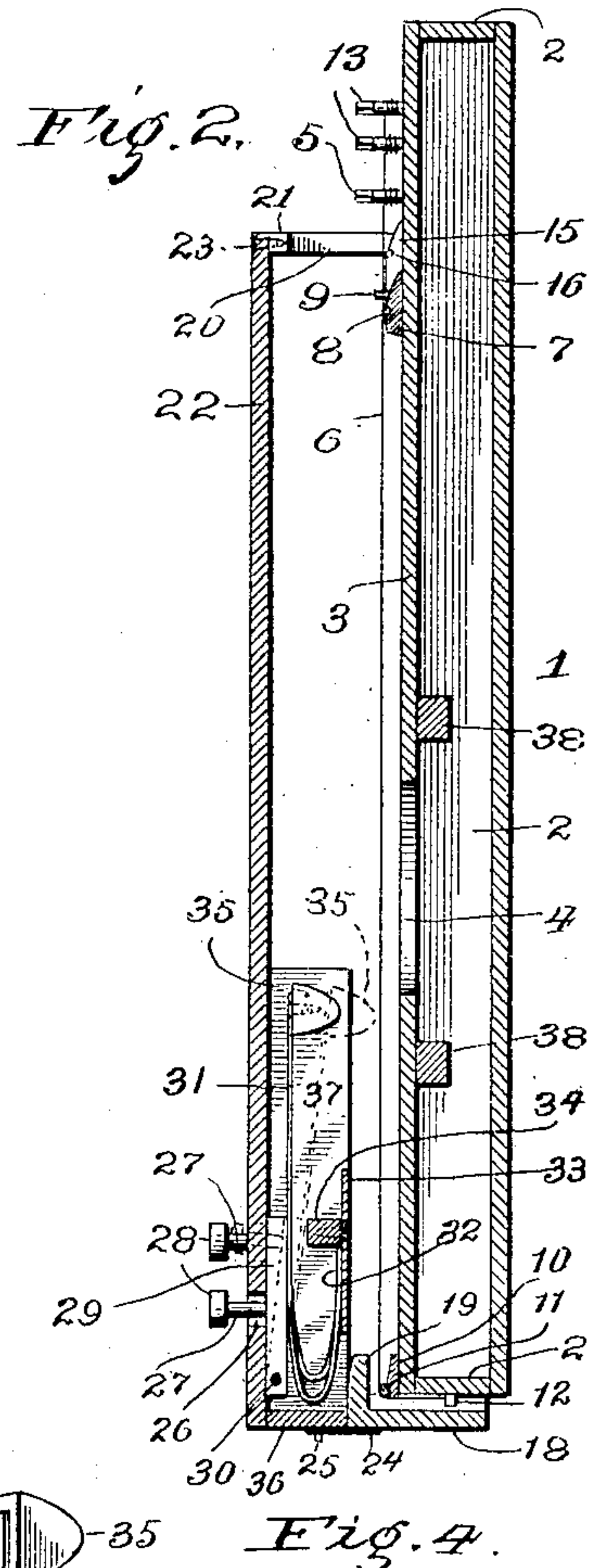
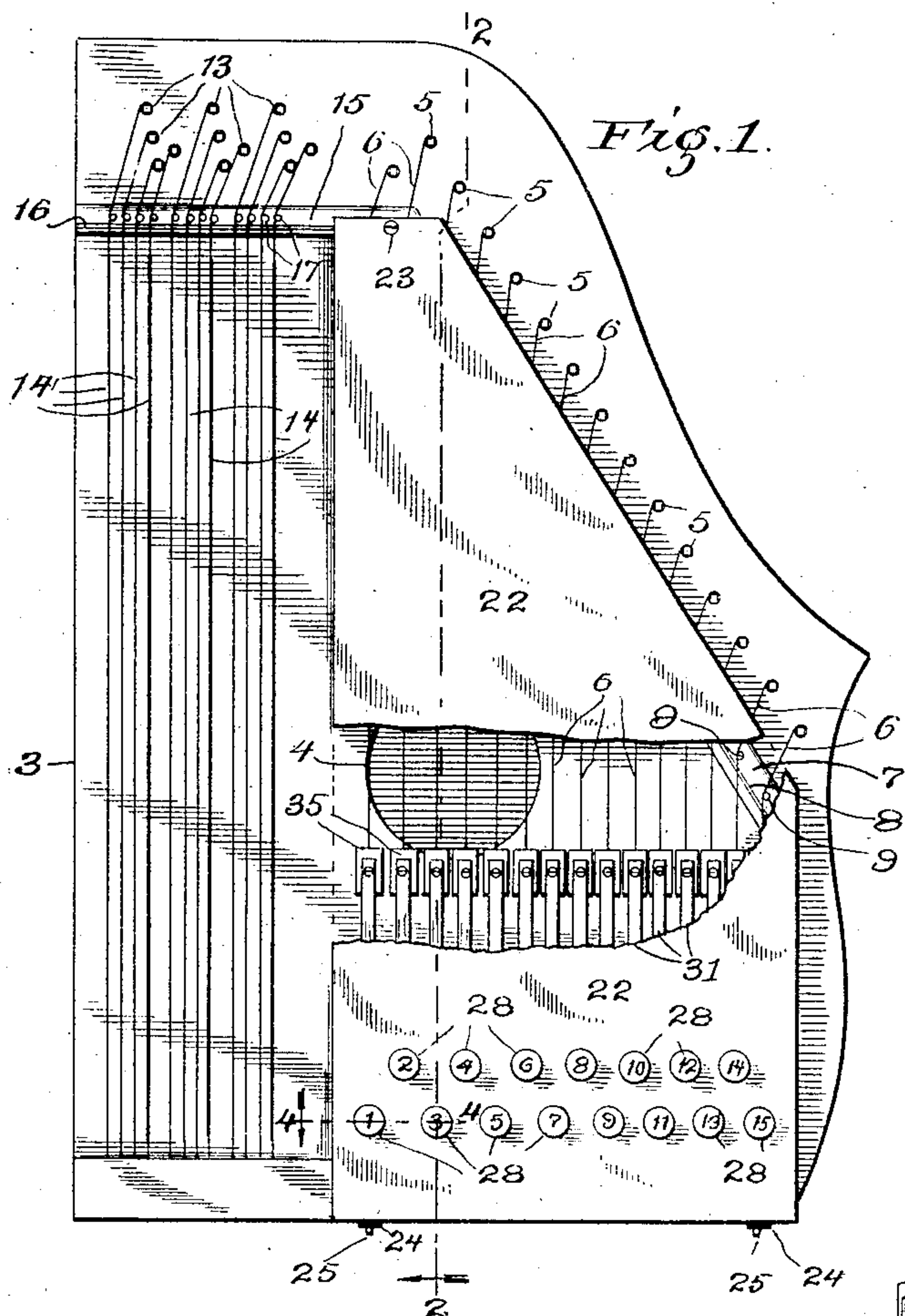
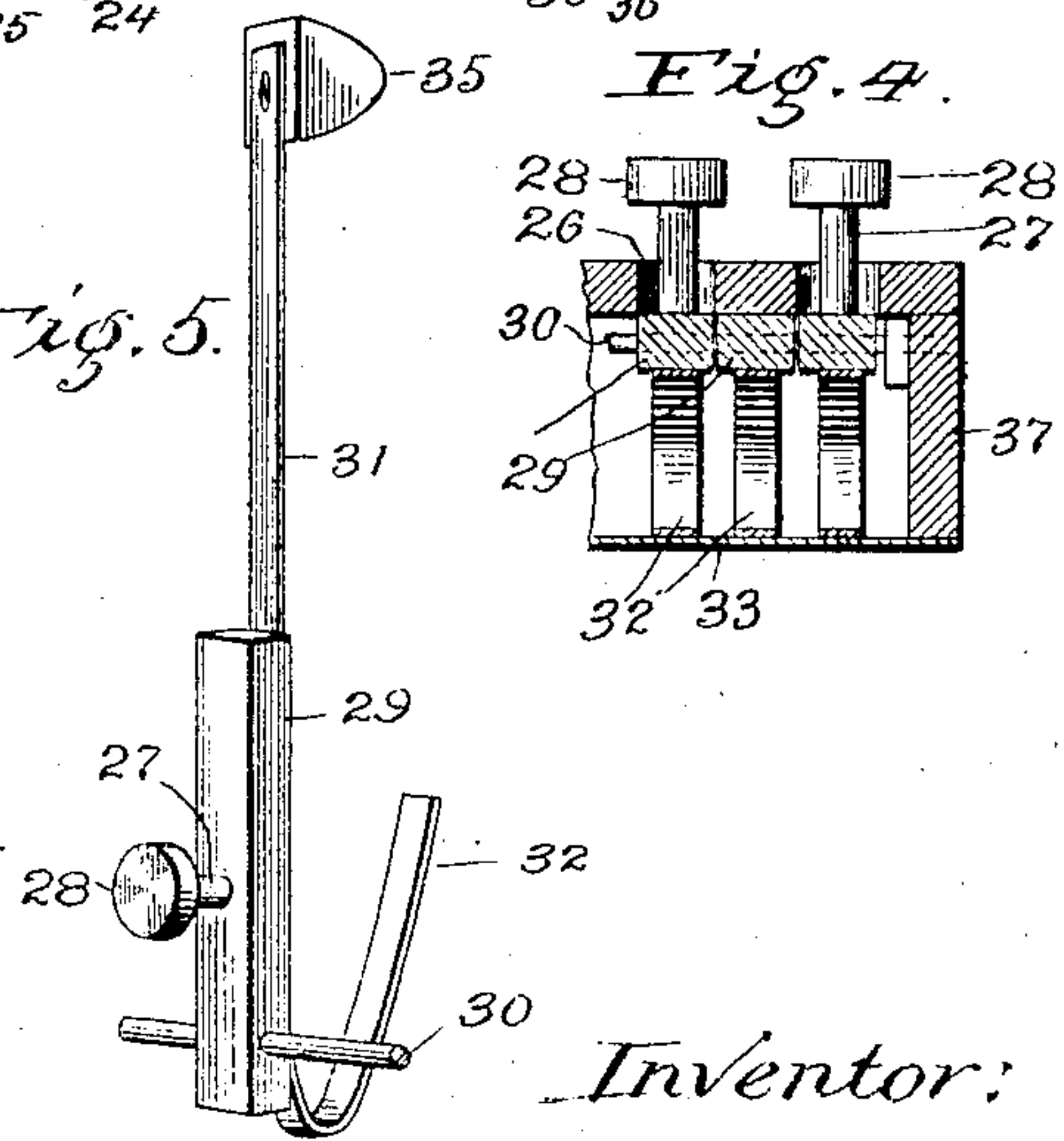


Fig. 5.



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UNITED STATES PATENT OFFICE.

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PIANO-ZITHER.

No. 855,059.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN JUSZCZESKI, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Piano-Zithers, of which the following is a specification.

This invention relates to a musical instrument combining in its structure the features of an ordinary zither and a piano movement for some of the strings, and so arranged that a portion of the strings can be played by the hand of the operator direct and the remaining portion through the striking of keys by which the hammers or strikers can be made to engage the strings.

The objects of the invention are to construct a musical instrument adapted to be played by hand and by the striking of hammers against a portion of the strings; to enable the hammer struck strings to give a clear note or to produce a trill, as may be desired; to so attach the hammers and their operating devices as to enable the hammers to be removed without destroying the operativeness of the musical instrument for use by hand; and to improve generally the construction and arrangement of the several parts entering into the formation of the musical instrument as a whole.

The invention consists in the features of construction and combination of parts hereinafter described and claimed as new.

In the drawings Figure 1 is a top or plan view with the plate carrying the hammer-operating keys partly broken away; Fig. 2 a longitudinal section on line 2—2 of Fig. 1; Fig. 3 a detail showing the bottom or under side of the end of the plate and the support for the hammers with the contact plate for the hammer springs partly broken away; Fig. 4 a detail in section on line 4—4 of Fig. 1; and Fig. 5 a perspective view of one of the hammers and its striking key.

The instrument, in the construction shown, has a bottom plate 1 with a surrounding wall 2 and a top plate 3 with a sound opening 4 therein; and these parts, 1, 2 and 3, constitute the base of the instrument. The top plate 3, at one end, has mounted therein a series of stems or arbors 5 for the attachment of the ends of the treble strings 6, and the strings 6 extend over a bridge piece or support 7 carrying a wire 8, and lie against a stop pin 9, and each string extends lengthwise of the instrument and passes over a bridge 10

with a wire 11, and its end is attached to a stem 12 or other suitable attaching means. The top plate 3, at one end, has a series of stems or arbors 13 mounted therein, and each stem or arbor has attached thereto the end of a bass string 14, and the bass strings 14 run over a bridge 15 and a wire 16 on the bridge and lie against a stop pin 17, and each bass string extends lengthwise of the instrument and passes over a bridge and wire similar to the bridge 10 and wire 11 of the treble strings, and each bass string is attached to a stem 12 or other fastening means.

A support 18, having a top strip 19, is attached to the end of the base of the instrument, and a post or upright 20, having a strip 21, extends up from the top plate 3 of the base, as shown in Fig. 2. A plate 22 is attached to the strip 21 by a screw 23 or otherwise and is attached to the end support 18 by hooks 24 pivotally mounted on the end piece 18, and a pin 25 projecting out from the end plate 36, and this top plate 22 furnishes a support for the hammers and their striking keys. The top plate 22 has two series of holes 26, and through each hole a stem 27 passes, as shown in Fig. 2. Each stem has a head or cap piece 28, and is attached to a swinging block or head 29, and the several blocks 29 are pivotally mounted on a cross head 30 so that, by striking down the stems 27, the struck stem will depress the free end of the block 29 to operate a hammer or striker. As many keys and stems and as many swinging heads or blocks 29 are provided as strings for the treble section of the instrument, and the heads or caps of the stems have numerals indicating which treble string will be actuated by striking the key having the number thereon;—that is, the stem having the cap No. 1 will cause the hammer to strike the treble string No. 1, and so on up to the limit of the number of treble strings.

Each swinging head or block 29 has secured thereto or engaged therewith a flat spring 31, and each spring is turned on itself to form a bearing or spring end 32 which rests on a cross plate 33, preferably of metal, so as to give the necessary resiliency for returning the swinging block or head and the spring to normal position under a vibratory movement. The cross plate 33 has thereon a cross strip 34, preferably of wood, against which the spring carriers 31 strike and arrest the downward movement of the carriers and

the swinging heads or blocks. Each spring carrier 31 has fixed to its free end a hammer or striker 35 positioned to strike a string when the carrier is thrown down by the depression of the stem for any particular string. The hammers and the spring carriers are inclosed in a casing formed by the end wall or strip 36 attached to the top plate 22 and the side walls or strips 37, also attached to the top plate 22, and, as shown, the cross plate 33 and the stop 34 are attached to the side walls 37, and the pin 25 projects out from the end wall 36 of the casing, thus enabling the hammers and the operating devices therefor to be removed by releasing the hooks 24 and withdrawing the screw 23, enabling access to be had direct to the treble strings, if so desired. The top plate 3 of the base has on each side of the opening 4 bridges 38, as usual, so that the top plate 3 forms a sounding board.

In use, the bass and treble strings are keyed to the desired scale by turning the stems 5 and 13, as usual in keying up string instruments. The player of the instrument operates the bass strings by the thumb or finger in the usual manner, and operates the treble strings by pressing down with the finger the properly numbered stem for the string desired, and, by a quick release of the stem, the player can obtain a clean, clear note, and, by holding the finger on the stem so as to keep the striker or hammer in contact with the string, a trill can be produced. The instrument is of simple construction and can be played even by an amateur or one who has no great amount of musical genius or understanding.

What I claim as new and desire to secure by Letters Patent is:

1. In a piano zither, the combination of a base consisting of top, bottom, side and end walls inclosing a chamber, a series of bass strings and a series of treble strings, both series of strings above the top wall of the base, a series of resilient vibratable carriers located above the series of treble strings one carrier for each treble string, a support for one end of each carrier, each carrier having at its supported end a return bend to form a spring, a hammer for and attached to the free end of each carrier, and means for vibrating the carriers and causing the hammers to strike the strings, substantially as described.

2. In a piano zither, the combination of a base consisting of top, bottom, side and end walls inclosing a chamber, a series of bass strings and a series of treble strings, both series of strings above the top wall of the base, an upper plate covering the treble strings, a series of depressible stems extending above and through the upper plate, one stem for each treble string, a series of swinging blocks underneath the upper plate, one block for and connected with each stem, a resilient vibratable carrier for and engaged

with each swinging block, a support for one end of each carrier, each carrier having at its supported end a return bend to form a spring, and a hammer for and attached to the free end of each carrier, substantially as described.

3. In a piano zither, the combination of a base consisting of top, bottom, side and end walls inclosing a chamber, a series of bass strings and a series of treble strings, both series of strings above the top wall of the base, an upper plate covering the treble strings, a series of depressible stems extending above and through the upper plate, one stem for each treble string, a cap for each stem with a designating character for a treble string, a series of swinging blocks underneath the upper plate, one block for and connected with each stem, a resilient vibratable carrier for and engaged with each swinging block, a support for one end of each carrier, each carrier having at its supported end a return bend to form a spring, and a hammer for and attached to the free end of each carrier, substantially as described.

4. In a piano zither, the combination of a base consisting of top, bottom, side and end walls inclosing a chamber, a series of bass strings and a series of treble strings, both series of strings above the top wall of the base, an upper plate covering the treble strings, a series of depressible stems extending above and through the upper plate, one stem for each treble string, a series of swinging blocks underneath the upper plate, one block for and connected with each stem, a vibratable spring carrier for and engaged with each swinging block, a support for one end of each carrier, each carrier having at its supported end a return bend to form the spring, and a hammer for and attached to the free end of each spring carrier, substantially as described.

5. In a piano zither, the combination of a base consisting of top, bottom, side and end walls inclosing a chamber, a series of bass strings and a series of treble strings, both series of strings above the top wall of the base, an upper plate covering the treble strings, a series of depressible stems extending above and through the upper plate, one stem for each treble string, a cap for each stem with a designating character for a treble string, a series of swinging blocks underneath the upper plate, one block for and connected with each stem, a resilient vibratable carrier for and engaged with each swinging block, each carrier having at its supported end a return bend to form a spring, a hammer for and attached to the free end of each carrier, and a support for the other end of each spring carrier and located under the series of carriers, substantially as described.

6. In a piano zither, the combination of a base consisting of top, bottom, side and end

walls inclosing a chamber, a series of bass strings and a series of treble strings, both series of strings above the top wall of the base, an upper plate covering the treble strings, a series of depressible stems extending above and through the upper plate, one stem for each treble string, a cap for each stem with a designating character for a treble string, a series of swinging blocks underneath the upper plate, one block for and connected with each stem, a resilient vibratable carrier for and engaged with each swinging block, each carrier having at its supported end a return bend to form a spring, a hammer for and attached to the free end of each carrier, a support for the other end of each spring carrier and located under the series of carriers, and a stop located under and common to all of the spring carriers, substantially as described.

7. In a piano zither, the combination of a base consisting of top, bottom, side and end walls inclosing a chamber, a series of bass

strings and a series of treble strings, both series of strings above the top wall of the base, an upper plate covering the treble strings, a series of depressible stems each stem extending above and through the upper plate, one stem for each treble string, a cap on each stem with a designating character for a treble string, a series of swinging blocks underneath the upper plate, one block for and connected with each stem, a resilient vibratable carrier for and engaged with each swinging block, each carrier having at its supported end a return bend to form a spring, a hammer for and attached to the free end of each carrier, a support for the other end of each spring carrier and located under the series of carriers, and a stop located under and common to all of the spring carriers, substantially as described.

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