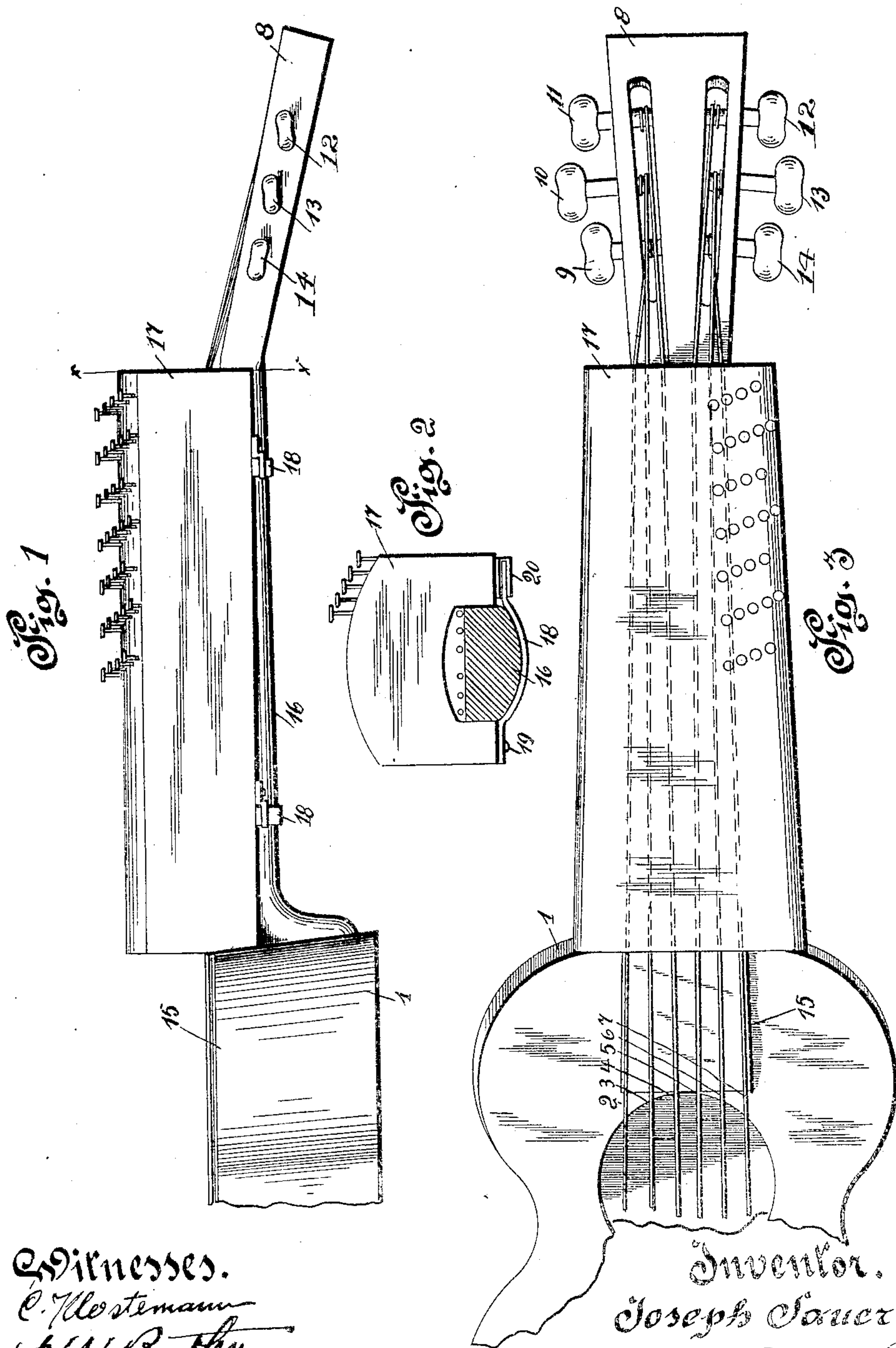


J. SAUER.

ATTACHMENT FOR MUSICAL INSTRUMENTS.

APPLICATION FILED MAR. 23, 1905.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 4

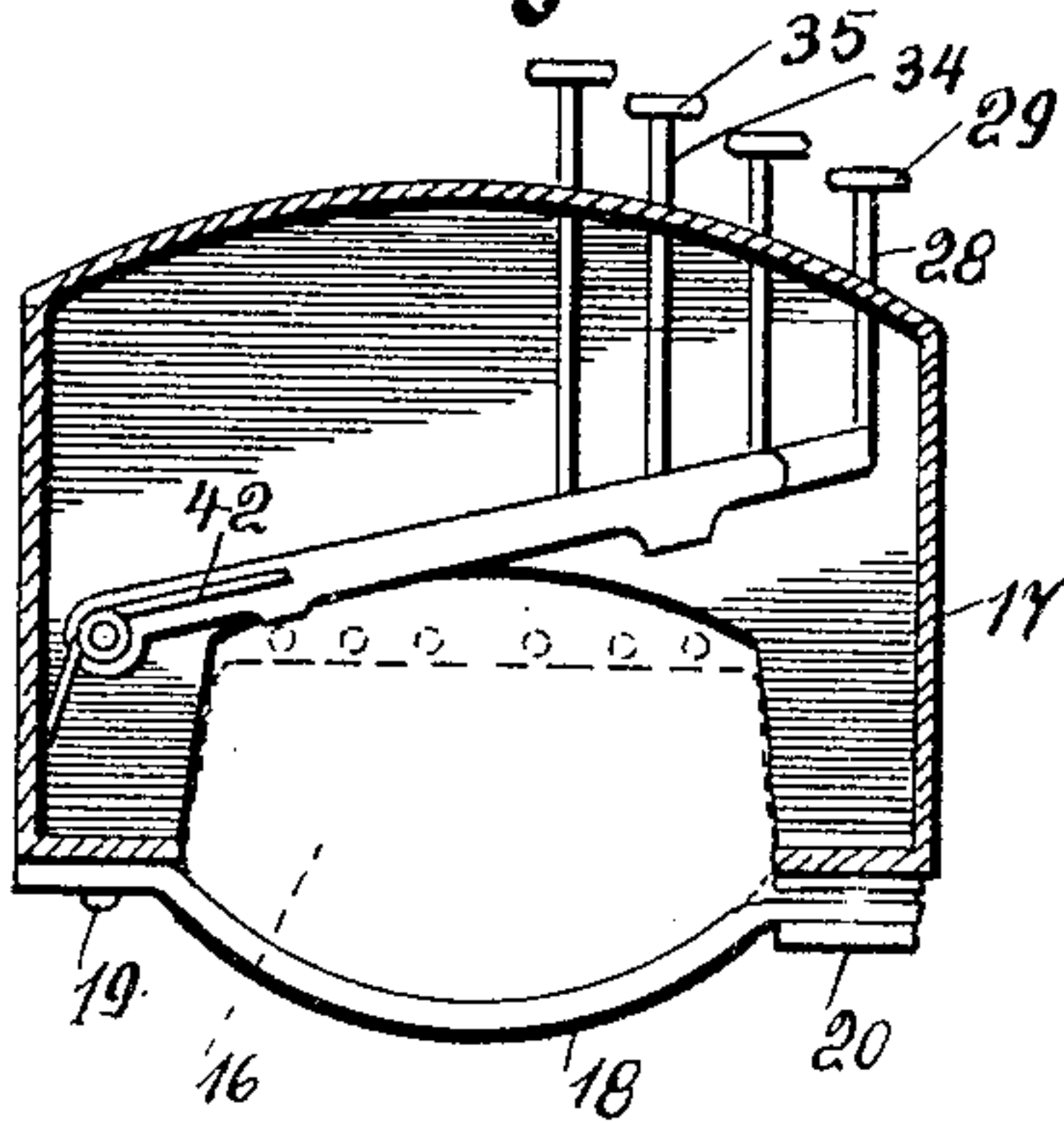


Fig. 5

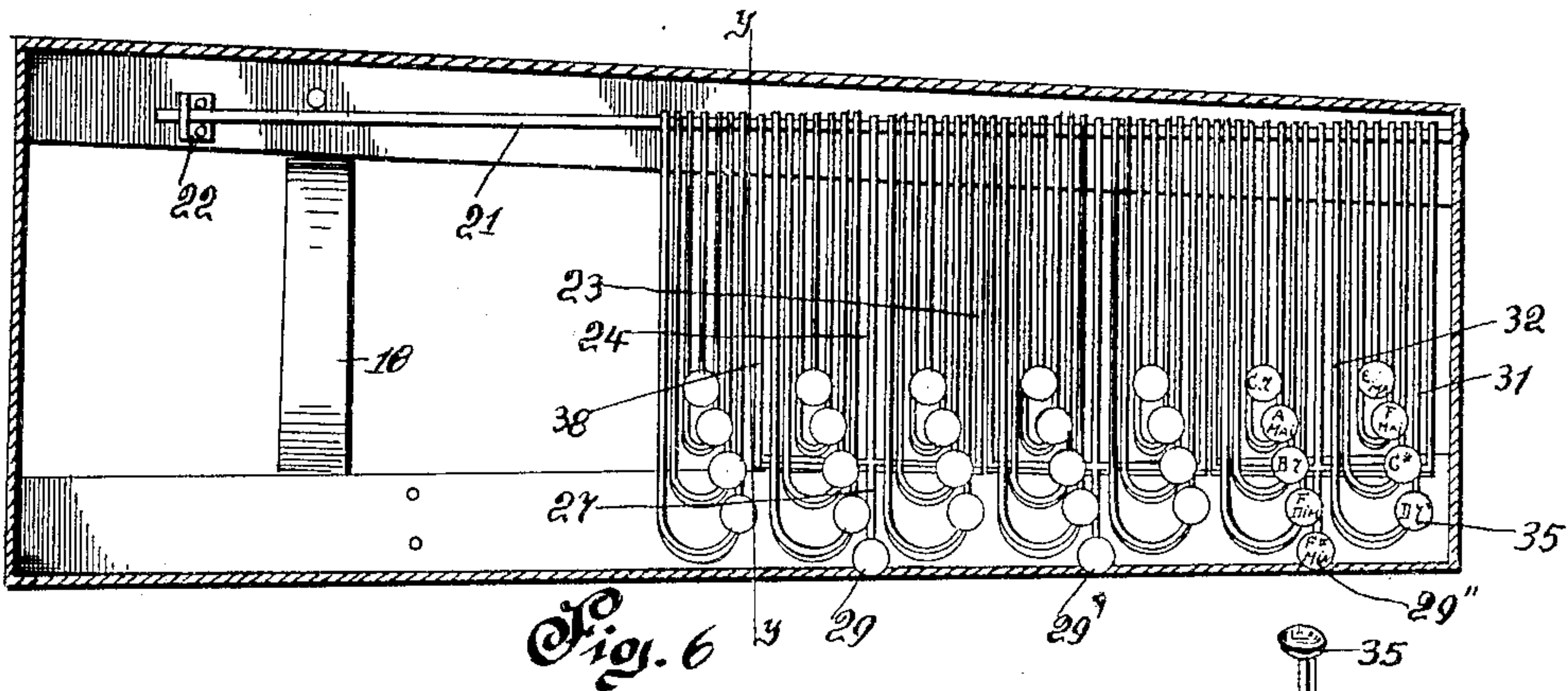
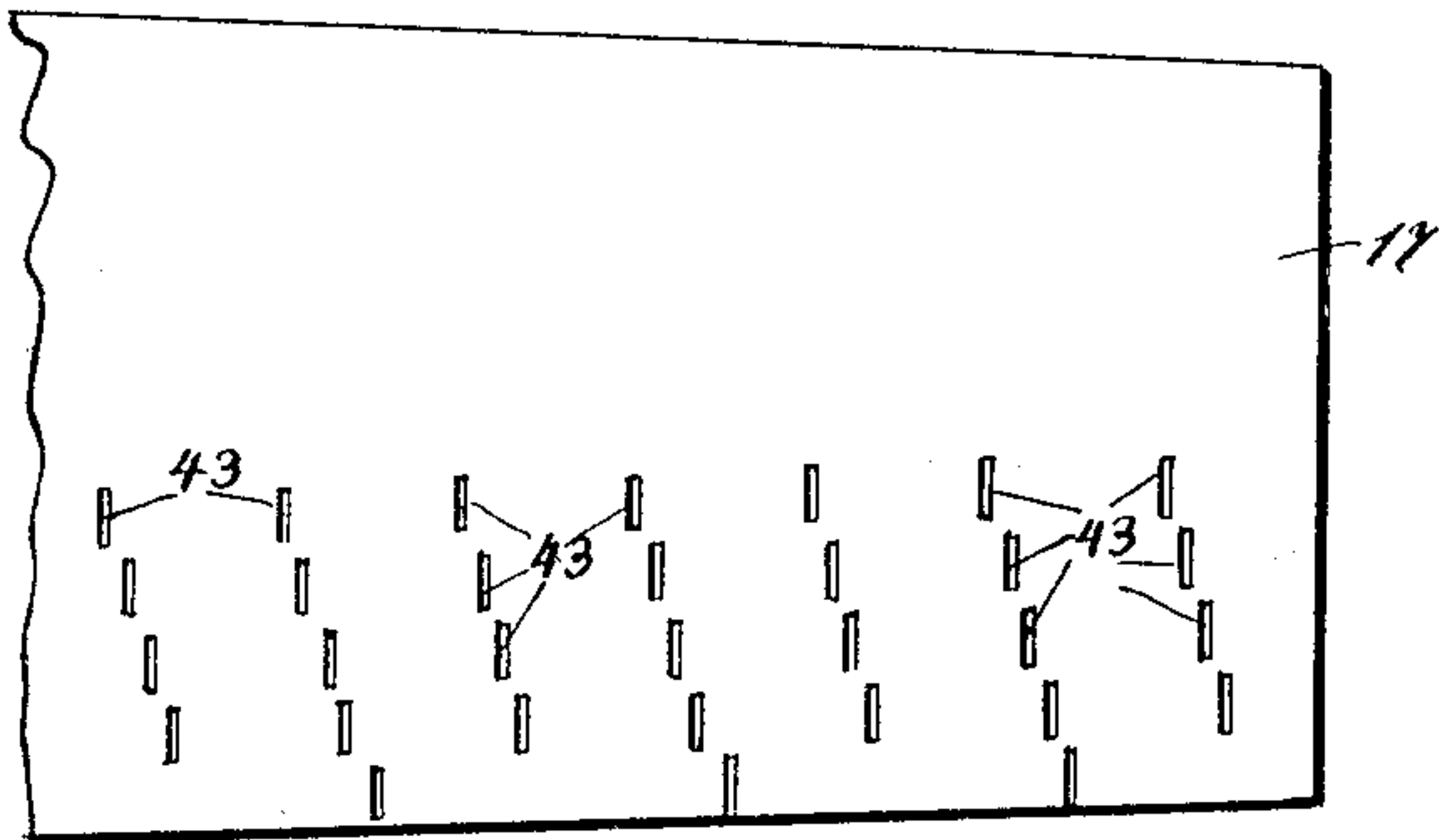


Fig. 6

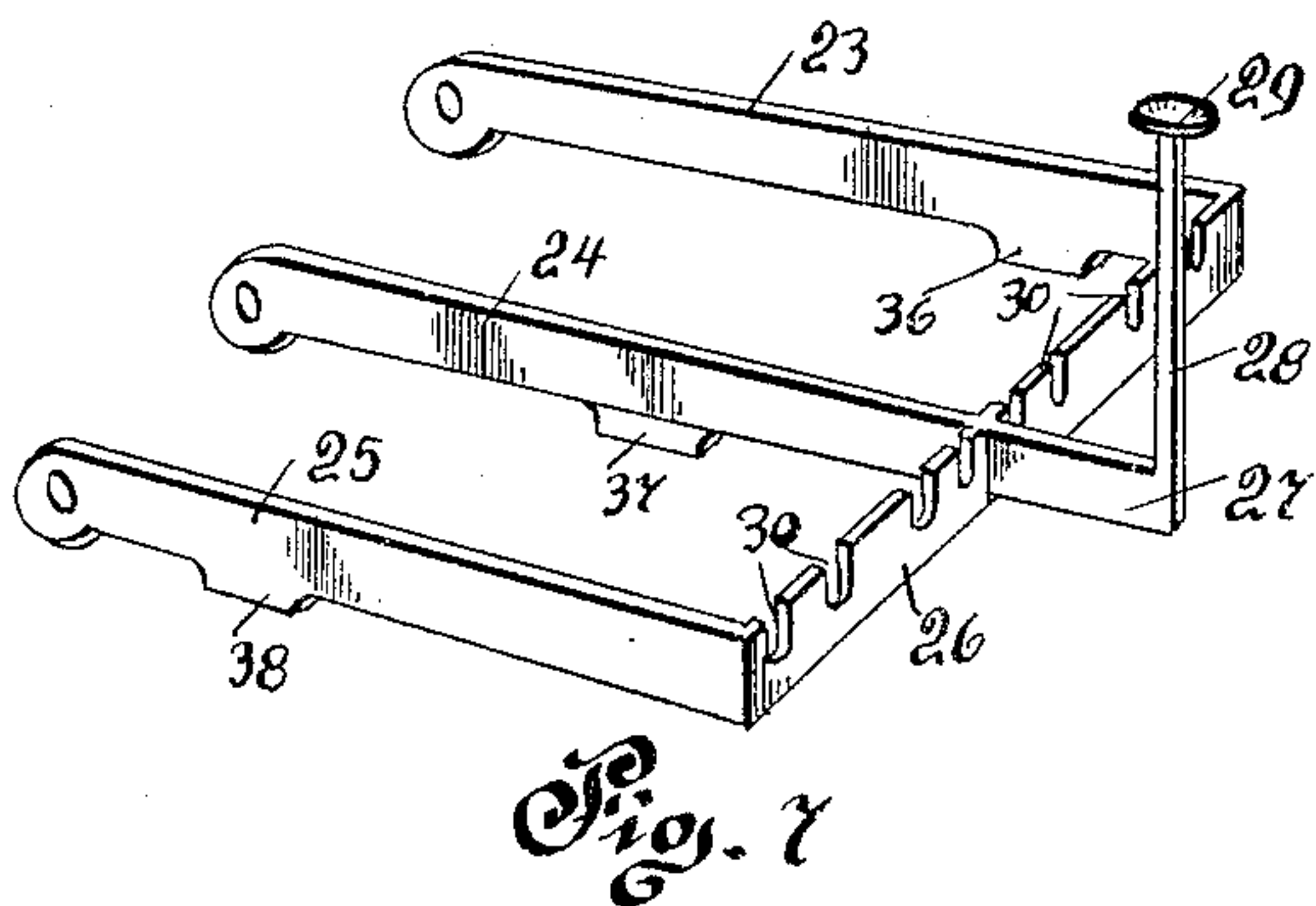


Fig. 7

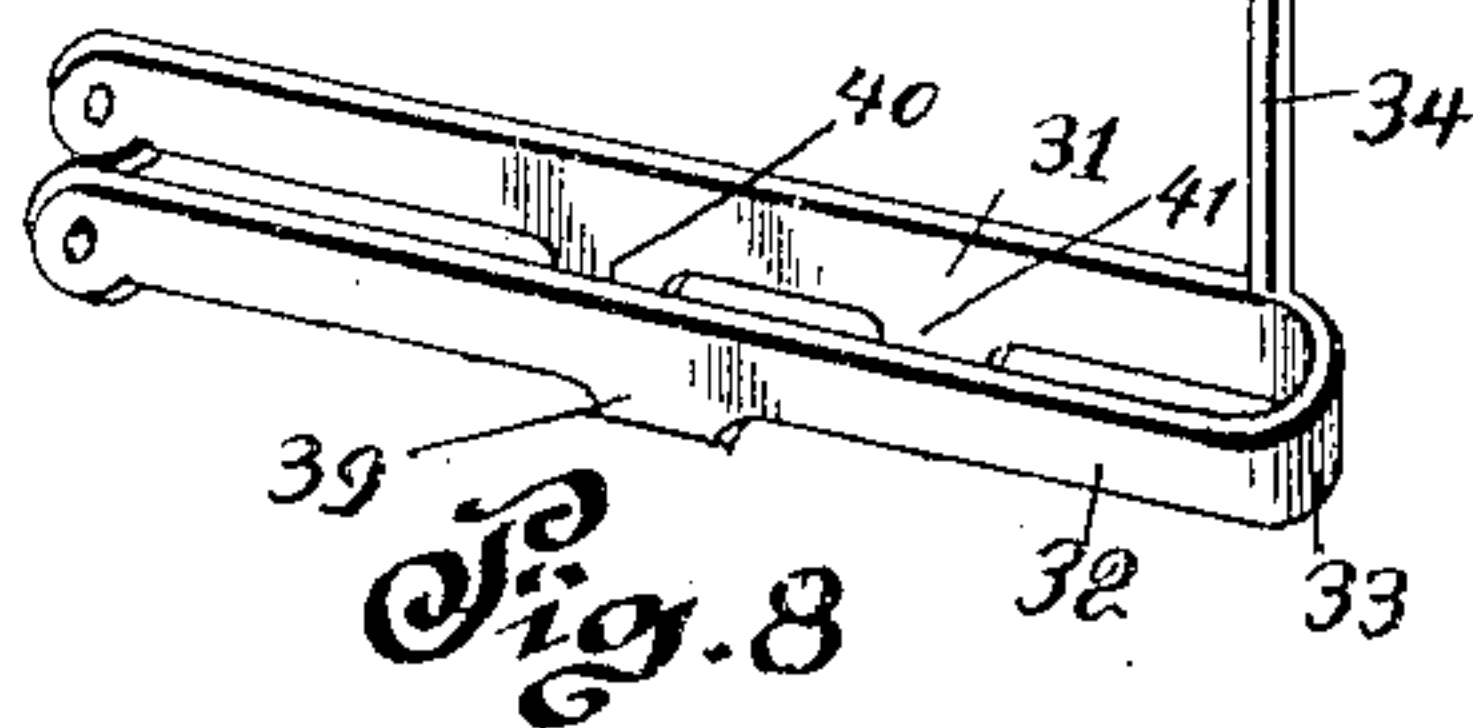


Fig. 8

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UNITED STATES PATENT OFFICE.

JOSEPH SAUER, OF MILLVALE, PENNSYLVANIA.

ATTACHMENT FOR MUSICAL INSTRUMENTS.

No. 804,553.

Specification of Letters Patent.

Patented Nov. 14, 1905.

Application filed March 23, 1905. Serial No. 251,544.

To all whom it may concern:

Be it known that I, JOSEPH SAUER, a citizen of the United States of America, residing at Millvale, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Attachments for Musical Instruments, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention has relation to attachments for musical instruments, and has for its object the provision of a novel device adapted to be attached to a stringed instrument—such as a guitar, banjo, or the like—the device
15 being adapted to facilitate the playing of such instruments and resembling in some respects the well-known autoharp—that is, it is so constructed and arranged that upon the depression of a single key a plurality of strings
20 will be “stopped” simultaneously, so that when played upon a musical chord will be produced.

In carrying my invention into effect I provide a case which is adapted to be applied to
25 the finger-board and neck of a stringed instrument—such as a guitar, mandolin, banjo, or the like—and in this case I arrange a number of levers each of which is provided with a plurality of stops, the stops on each lever being adapted to contact with a plurality of the
30 strings of the instrument, so as to “stop” these strings at such points that when the stopped strings are played upon a chord will be sounded. Each of these levers is provided
35 with a key, by means of which it may be depressed, these keys being equal in number to the scale of the instrument.

I have illustrated my improvement in the accompanying drawings, wherein—

40 Figure 1 is a side elevation of a portion of a stringed instrument having my improvements applied thereto. Fig. 2 is a vertical sectional view on the line *x x* of Fig. 1 looking toward the body of the instrument. Fig.
45 3 is a top plan view of the parts shown in Fig. 1. Fig. 4 is a vertical transverse sectional view on the line *y y* of Fig. 6. Fig. 5 is a top plan view of a portion of the case shown in Figs. 1 and 2 with the top of the
50 case removed. Fig. 6 is a horizontal sectional view of the attachment shown in Figs. 1 and 3 on an enlarged scale. Figs. 7 and 8 are detached views in perspective of parts of the attachment.

55 In the several figures of the drawings like numerals of reference designate correspond-

ing parts, and 1 designates the body of the instrument, which is provided with six strings, (numbered 2 3 4 5 6 7,) these strings extending to a head 8, where they are wound around
60 keys, (indicated, respectively, 9 10 11 12 13 14.) The strings are stretched over the finger-board 15, which is supported upon the neck 16, the instrument so far as described being of the ordinary character. Upon the neck
65 and finger-board of the instrument I mount my improved attachment, which is contained within the casing 17, said casing being of such length as to extend from the top 1 to the head 8 and of such height as to permit of the
70 arrangement therein over the strings of certain appliances, to be hereinafter described, by means of which the strings are stopped at proper points to produce the desired effect. The casing 17 has its end cut away to accom-
75 modate the neck 16 and the finger-board 15 and is secured in position by means of a plurality of bands 18, which are pivoted at 19 to the bottom of the casing and extend at their
80 opposite end under keepers 20, arranged on the bottom of the instrument opposite to the pivotal points of the bands 18. Within the casing 17 is arranged a rod 21, which is supported at one end in a bracket 22,
85 mounted on the bottom of the casing, and at its other end is supported in the outer end of the casing. Upon the rod 21 are pivotally mounted a plurality of frames. These frames are of two kinds, one of them being
90 shown in Fig. 8 of the drawings. The frame shown in Fig. 7 is composed of three parallel bars or levers 23 24 25, which are united by a cross-piece 26, having a central extension 27, carrying a vertical rod 28, on the top of which is a key 29. The ends of the
95 bars or levers 23 24 25 are pierced for the passage of the rod 21, and the cross-bar 26 is provided with a plurality of slots 30, which are intended to receive the bars or levers of the frame shown in Fig. 8. The frame shown in
100 Fig. 8 is composed of the two parallel bars or levers 31 32, united at one end by the curved cross-piece 33, and this frame is provided with a vertical rod 34, on the top of which is a key 35, and the ends of the bars 31 32 are
105 pierced for the passage of the rod 21. The bars 23 24 25 are provided, respectively, with integral lugs 36 37 38, these lugs being so located that they are adapted to bear respectively on three of the strings of the instru-
110 ment and constitute stops by means of which the strings are pressed down upon the finger-

board 15, so as to stop three of the strings at such points in their lengths as will result in the production of a chord when these strings are plucked by the fingers in the usual manner. The bar 32 of the frame shown in Fig. 8 is provided with a similar lug 39, and the bar 31 is provided with two lugs 40 41, the function of these lugs being the same as that of the lugs on the lower edges of the bars 23 24 25. Three of the frames shown in Fig. 7 are arranged in the casing, the keys of these frames being for the purpose of easily distinguishing them numbered 29 29' 29'', and there are twenty-eight of the frames shown in Fig. 8 also arranged within the casing.

Each of the frames shown in Figs. 7 and 8 is maintained in an elevated position by a spring 42, and the vertical rods 28 and 34 project through slits 43 in the top of the casing 17, the vertical rods being of different lengths, so that the keys 29 and 35 on top of the same will be in banks of varying elevation, as clearly shown in Fig. 4. Each of the keys of each of the frames can be separately depressed, and they can of course be simultaneously depressed, so as to stop the strings and produce any note within range of the scale of the instrument or any desired chord, it being noted that when a key is depressed by plucking a single string a single note will be produced; but by plucking all the strings which have been stopped by the several lugs on the bars actuated by this key a chord will be produced, and by various manipulations of the several keys in the manner well known to musicians either an area composed of single keys successively sounded or a succession of chords, or both together, may be produced. It is not necessary to enter into the details of the arrangement of the keys and to particularly point out what note or notes can be produced on the instrument by the manipulation of the several keys, as this arrangement is well known to musicians and those skilled in the art to which my invention pertains. The frames which are moved by the keys 29 29' 29'' are mainly intended to effect the stopping of the bass-strings of the instrument, while the stopping of the treble-strings is mainly effected by the depression of the keys of the frames shown in Fig. 8.

The manner of playing the instrument provided with my attachment is as follows: The instrument being held in the usual manner, the left hand of the musician will be used to depress the several keys and the right hand used to pluck the strings. If it is desired to play a single note, one of the keys, which will stop the appropriate string at the proper point, is depressed, so as to cause the lug on the frame belonging to that key to press

firmly on the string and press the string against the finger-board. The string is then plucked or otherwise manipulated, so as to cause it to sound and the desired note produced. To produce a chord of desired character, one or more of the keys is depressed, so as to stop the proper strings at the proper points, and these strings are plucked simultaneously.

What I claim, and desire to secure by Letters Patent, is—

1. In a device of the character described, the combination of a casing, means for attaching the casing to the neck of a stringed instrument, a rod mounted within said casing, a plurality of double-armed frames pivotally mounted on said rod, both arms of said frames extending transversely across all the strings of the instrument, lugs carried by said arms and adapted to contact with the strings of the instrument, rods carried by said frames and extending through the top of said casing, and keys mounted on said rods, substantially as described.

2. In a device of the character described, the combination of a casing, means for attaching said casing to the neck of a stringed instrument, frames pivotally mounted in said casing, each frame comprising two arms and a vertically-slotted cross-piece, frames pivotally mounted in the casing, each having a plurality of arms and each arm being provided with a lug adapted to contact with one of the strings of the instrument, the arms of said last-named frames moving in the slots of the cross-bar of the first-named frames, and said frames being provided with rods extending through the top of the casing, said rods carrying keys.

3. In a device of the character described, the combination of a casing, and means for attaching the casing to the neck of a stringed instrument, of a plurality of three-armed frames having slotted cross-bars, said frames being pivotally mounted in the casing, and provided with operating-keys, and the arms thereof being provided with lugs adapted to contact with the strings of the instrument, a plurality of frames each pivotally mounted between the arms of the first-named frames, said last-named frames being provided with a plurality of arms and with lugs on said arms adapted to contact with the strings of the instrument and being provided with operating-keys, substantially as described.

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

JOSEPH SAUER.

Witnesses:

E. E. POTTER,
H. C. EVERT.