

No. 627,221.

Patented June 20, 1899.

J. BERNOLAK.
CITHERN.

(Application filed Aug. 9, 1898.)

(No Model.)

Fig. 1.

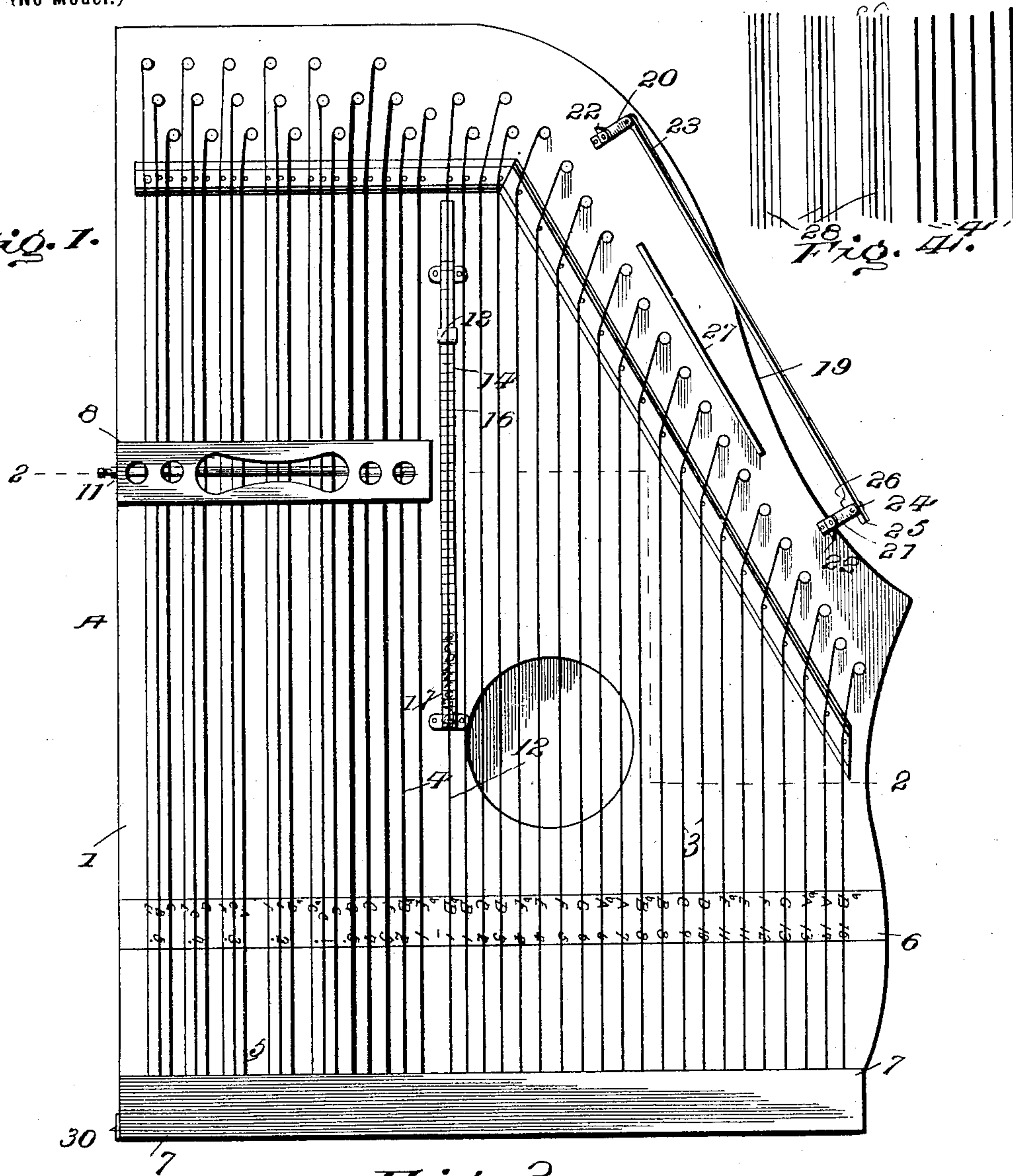


Fig. 4.

Fig. 2.

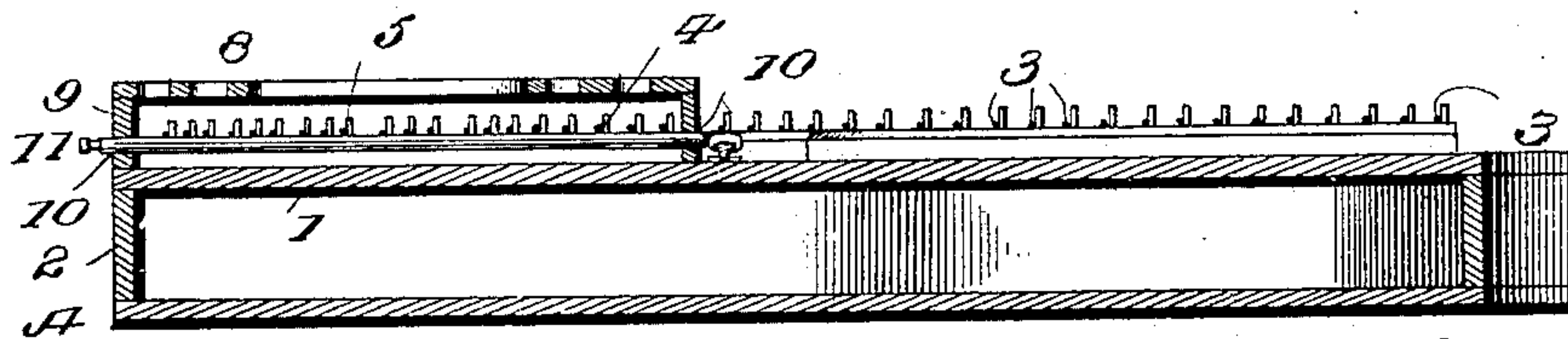


Fig. 3.

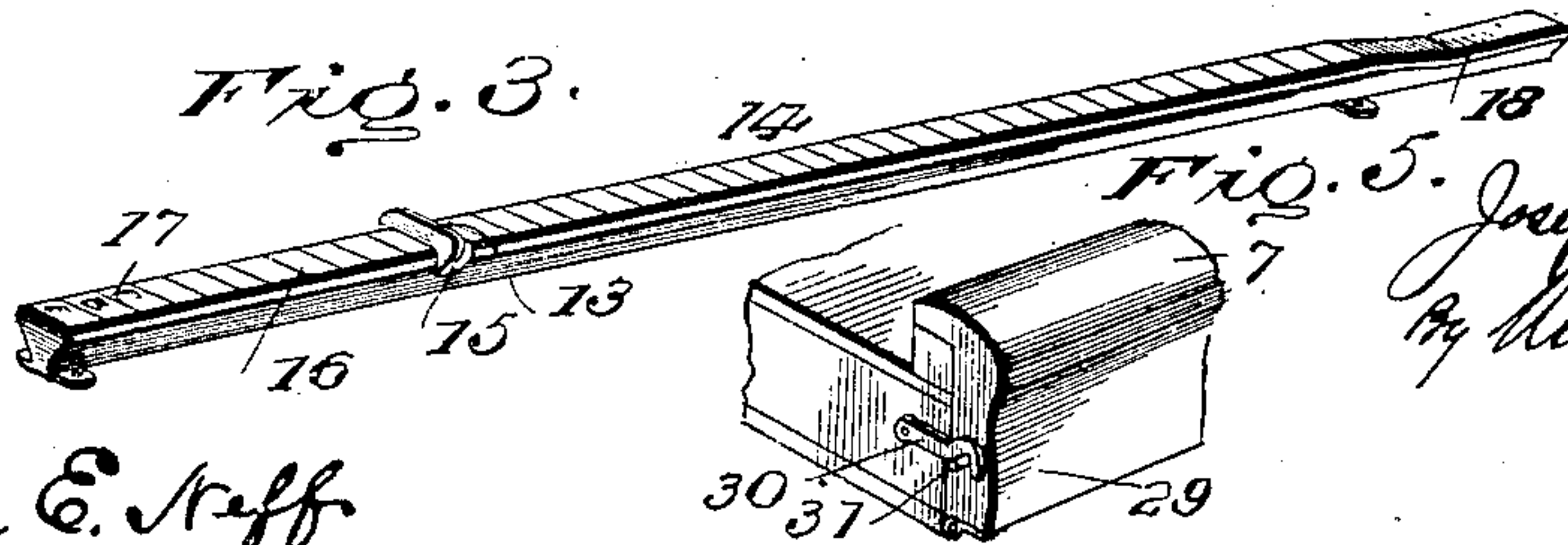
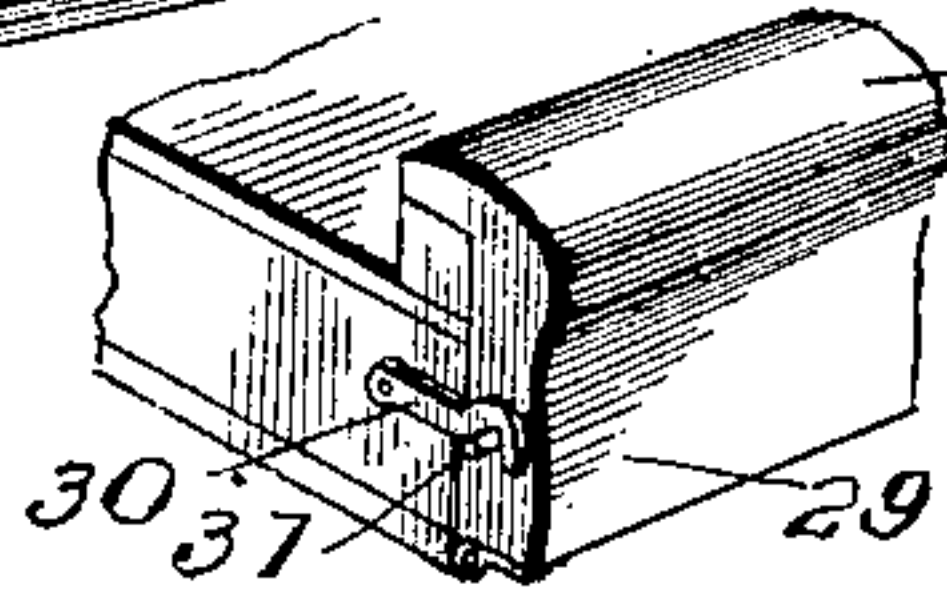


Fig. 5.



Witnesses
J. M. Miller
William E. Steff

Inventor
Joseph Bernolak
By Watson & Watson
his Attorneys

UNITED STATES PATENT OFFICE.

JOSEPH BERNOLAK, OF BALTIMORE, MARYLAND, ASSIGNOR TO THE
LYROCHORD MANUFACTURING COMPANY, OF SAME PLACE.

CITHERN.

SPECIFICATION forming part of Letters Patent No. 627,221, dated June 20, 1899.

Application filed August 9, 1898. Serial No. 688,187. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH BERNOLAK, a citizen of the United States, residing in the city of Baltimore, State of Maryland, have invented certain new and useful Improvements in Lyrochords, of which the following is a specification.

My invention relates to improvements in stringed musical instruments of the kind mentioned and includes an arrangement of strings and rests whereby the use of the instrument may be readily acquired, improved means for tuning the instrument, and other improvements which will be hereinafter referred to.

In the accompanying drawings, which illustrate my invention, Figure 1 is a top plan view of a complete instrument embodying my invention. Fig. 2 is a cross-section on the line 2 2 of Fig. 1. Fig. 3 is a perspective view of the tuning-fret and scale. Fig. 4 is a diagram illustrating a modified arrangement of the chord-strings, and Fig. 5 is a detail of the hinged hand-rest.

Referring to Fig. 1 of the drawings, 1 indicates the sounding-board of my improved instrument, which is mounted upon a suitable frame 2. The strings 3 of the open scale are arranged in their regular order, according to pitch, from left to right upon the right-hand side of the instrument. The bass strings 4, which are arranged in fifths from right to left in their regular order, the dominant following the tonic, are located at the left of the strings of the open scale, and the chord-strings 5 are arranged in groups at the left of the bass strings, the groups of chord-strings being arranged in the same relative order as the bass strings with which they are tuned in harmonic chord. A scale 6, having characters to denote the different strings, is secured to and extends across the sounding-board at right angles to the strings, so that the several characters underlie the appropriate strings.

In playing upon the instrument the side A is arranged next to the operator. A rest 7 is provided for the right hand, said rest extending over all of the strings at the lower end of the instrument. A rest 8 for the left hand is also arranged near the central line of the

instrument and extends over the chord strings and the bass strings. This rest 8 is mounted upon suitable supports 9, arranged at either end of the rest. The supports 9 have perforations 10 in line with each other, and a fret 11 is provided which may, when desired, be passed through the perforations 10, so as to bear against the under side of the chord and bass strings, thus raising the pitch of said strings and making these strings the equivalent of a double set.

At the right of the rest 8 and beneath the first treble string 12 is arranged an adjustable fret 13 for the purpose of tuning. As shown in Figs. 1 and 3, this fret is mounted upon a horizontal guide-bar 14, enlarged at the top, the arms 15 of the fret embracing loosely the top of the guide. The guide has graduations 16 upon its top surface corresponding in number to the strings of the open scale, and a scale 17 is imprinted upon or arranged along the side of said guide. The characters of this tuning-scale are arranged according to pitch from the outer end of the guide toward the center of the instrument. The purpose of the graduations 16 is to indicate the exact point to which the fret should be moved to give to the first treble string which it underlies the tone indicated by the character opposite the graduation-mark.

The operation of tuning will be readily understood. As the fret is moved inward from point to point along the tuning-scale the pitch of the first treble string increases, and vice versa, and when any other string upon the open scale is to be tuned the fret 13 is moved to the point upon the scale 17 indicated by the character upon the scale 6 corresponding with the string to be tuned, and the correct pitch is given. The tension of the string to be tuned is then adjusted to the same pitch. The outer end 18 of the guide-bar is downwardly inclined, and when the operation of tuning has been completed the fret is pushed onto the inclined end of the guide and sinks down out of contact with the string.

Upon the inclined side 19 of the instrument I arrange a folding music-support consisting of uprights 20 and 21, hinged to the sounding-board in such a manner that they may fold toward each other, but cannot swing

outward from one another by reason of suitable stops 22, which bear against the sounding-board. A cross-arm 23 is hinged or pivoted to the upright 20, and the upper end of the upright 21 is slotted, as shown at 24, to receive the end 25 of the cross-arm 23. A shoulder 26 upon the cross-arm 23 abuts against the slotted upright 21 and prevents the latter from falling inward. A suitable strip 27 may be arranged in front of the support to prevent the bottom of the music-sheet from slipping.

In playing upon the instrument the side A being toward the operator the right hand is supported by the rest 7 and plays the strings of the open scale, while the left hand is supported by the rest 8 and plays the bass and chord strings. To raise the latter to a higher pitch, as already stated, the fret 11 is inserted beneath all of said strings. The bass strings being arranged by themselves and being tuned in harmonic chord with the groups of chord-strings occupying the same relative position on the instrument, it is much easier for a novice to learn to play the instrument than if the bass strings were grouped with the chord-strings to form special chords.

While I prefer to arrange the chord-strings in groups of three, as shown in Fig. 1, that being the most convenient arrangement for playing, I may in some instances to avoid multiplication of strings arrange them in groups of five, as indicated in Fig. 4, the central string 28 being common to two chords represented by the strings on either side of the central one.

In Fig. 5 the manner of securing the hand-rest 7 to the instrument is shown. The rest extends over and hides from view the ends of the strings, and the downward extension 29 is hinged to the end of the frame of the instrument, so that the rest may be swung out of the way when it is desired to gain access to the string-fastenings for any purpose. A suitable latch 30, attached to the frame of the instrument, is adapted to engage the pin 31 and hold the rest in its normal position over the ends of the strings.

My improved arrangement of strings is productive of a number of advantages, among which may be enumerated the following: In playing accompaniments the instrument can be played with bass and full chords or the bass and chords can be played alternately or in any other desired order, being practically independent of each other. The same bass string can be used in connection with different chord-strings and the same chord with different bass strings. When the instrument is constructed with all major chords, the strings of different groups may be combined

to produce minor chords, and when the instrument is provided with some minor chords combinations may be selected therefrom to produce major chords. The instrument is adapted to be held with the longer side toward the player, which position facilitates the use of harp-grips on the open scale, and by having the bass strings and chords separated, using a finger and thumb for accompaniment purposes, the instrument may be played in fast tempo with great facility.

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

1. In a musical instrument, an open scale of strings, a group of bass strings arranged in fifths, and a group of chord-strings for each bass string tuned in harmonic chord therewith, said groups of chord-strings being arranged in the same relative order as the bass strings with which they harmonize, substantially as described.

2. In a musical instrument an open scale of strings arranged at one side of the instrument, a group of bass strings adjacent thereto, and a group of chord-strings for each bass string, said groups of chord-strings being arranged adjacent to the group of bass strings and in the same relative order as the bass strings with which they harmonize, a hand-rest extending over all of said strings, and another hand-rest extending over only the bass and chord strings, substantially as described.

3. In a musical instrument, an open scale of strings, a group of bass strings arranged in fifths, and a group of chord-strings for each bass string tuned in harmonic chord therewith, said groups of chord-strings being arranged in the same relative order as the bass strings with which they harmonize, a hand-rest mounted upon suitable supports and extending over said bass and chord strings, and a fret adapted to pass through openings in said supports and bear against said bass and chord strings, substantially as described.

4. In a musical instrument, an open scale of strings and an adjustable fret arranged below the first treble string of said scale, said fret being movably mounted upon a guide-bar having graduations corresponding with the strings of the open scale and having one of its ends lower than the body of the bar, substantially as described.

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

JOSEPH BERNOLAK.

Witnesses:

THOMAS G. WELSH,
O. PARKER BAKER.