(No Model.) 3 Sheets—Sheet 1.

R. ESSIG.

MUSICAL INSTRUMENT.

No. 534,144. Patented Feb. 12, 1895.

Fig. 2.

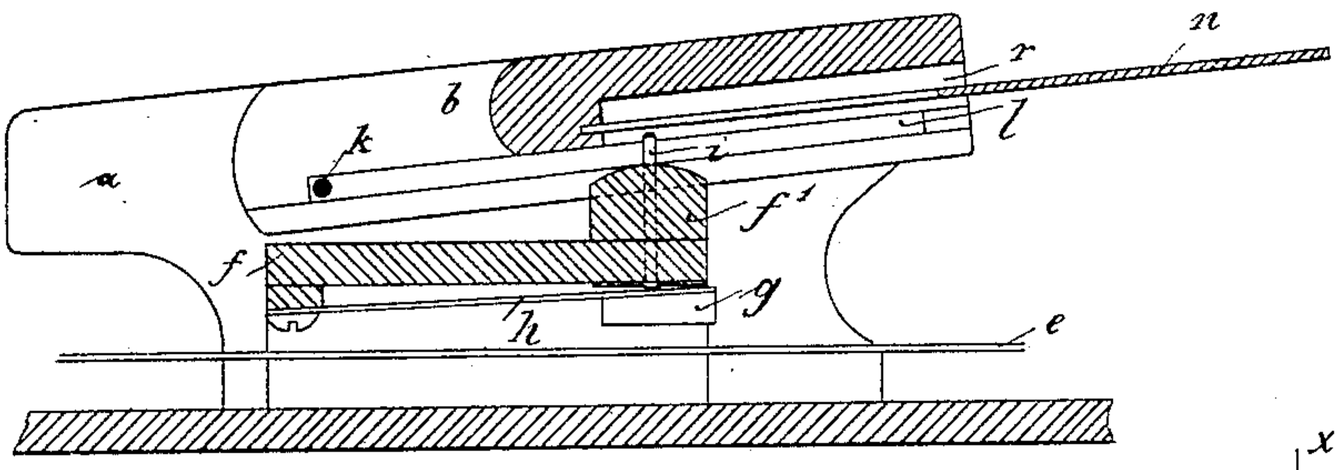
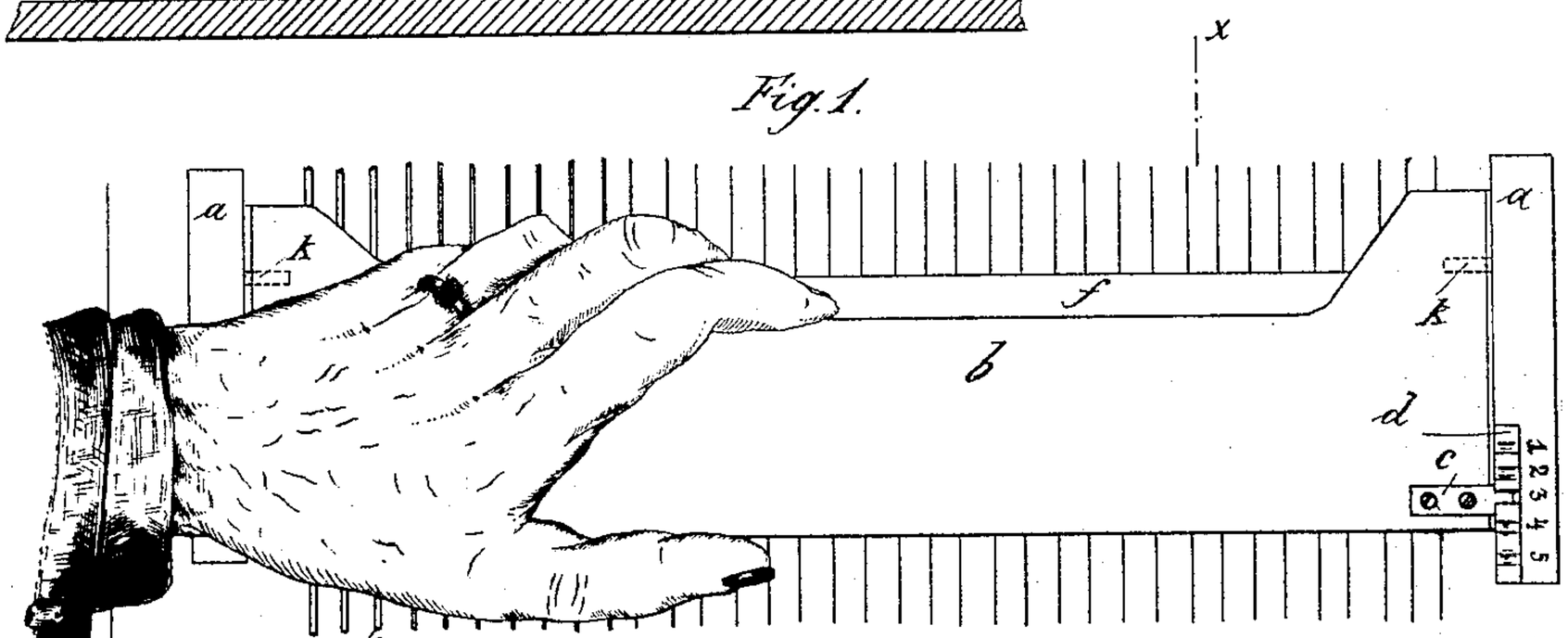


Fig. 1.



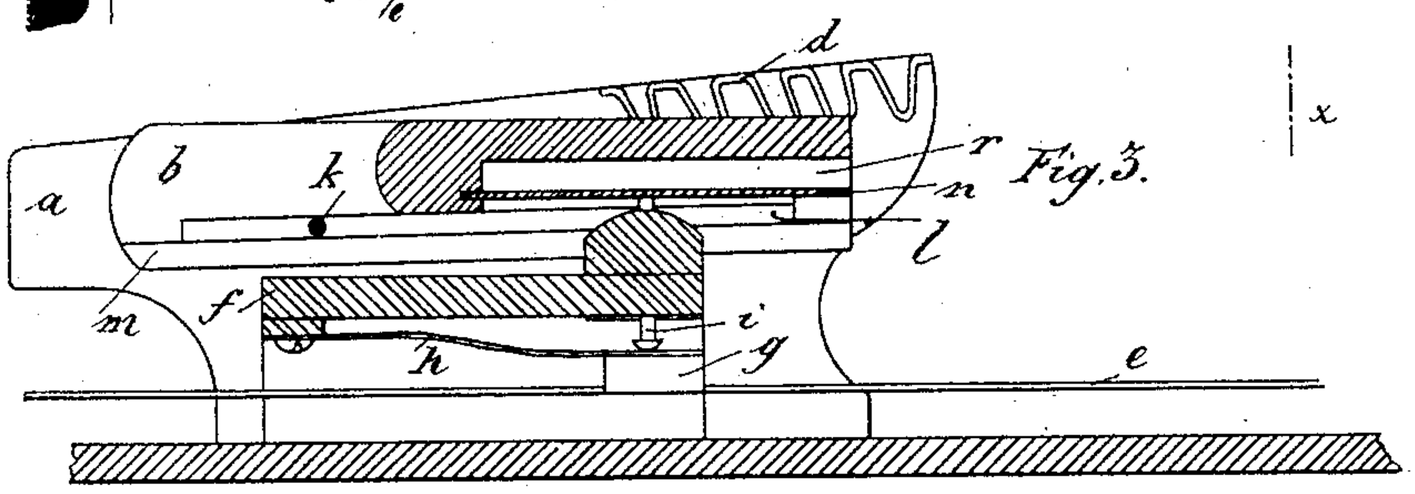


Fig. 3.

Witnesses:
G. W. Rea,
Thos. A. Green

Inventor:
Rudolf Essig.
By James L. Norris.
Atty

(No Model.) 3 Sheets—Sheet 2.

R. ESSIG.

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Fig. 4.

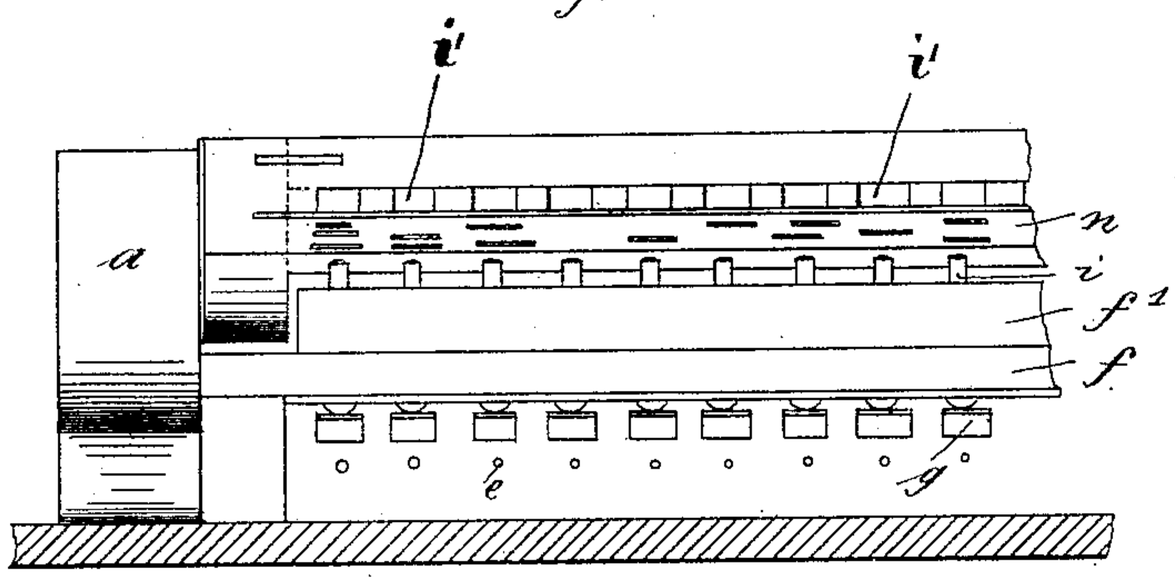


Fig. 5.

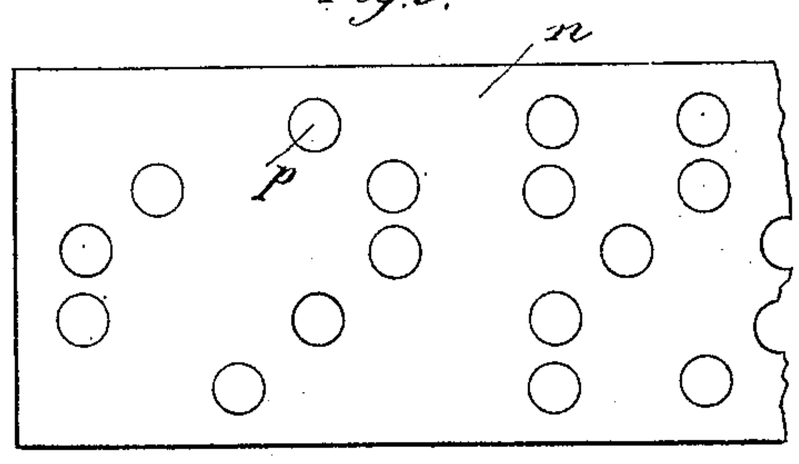
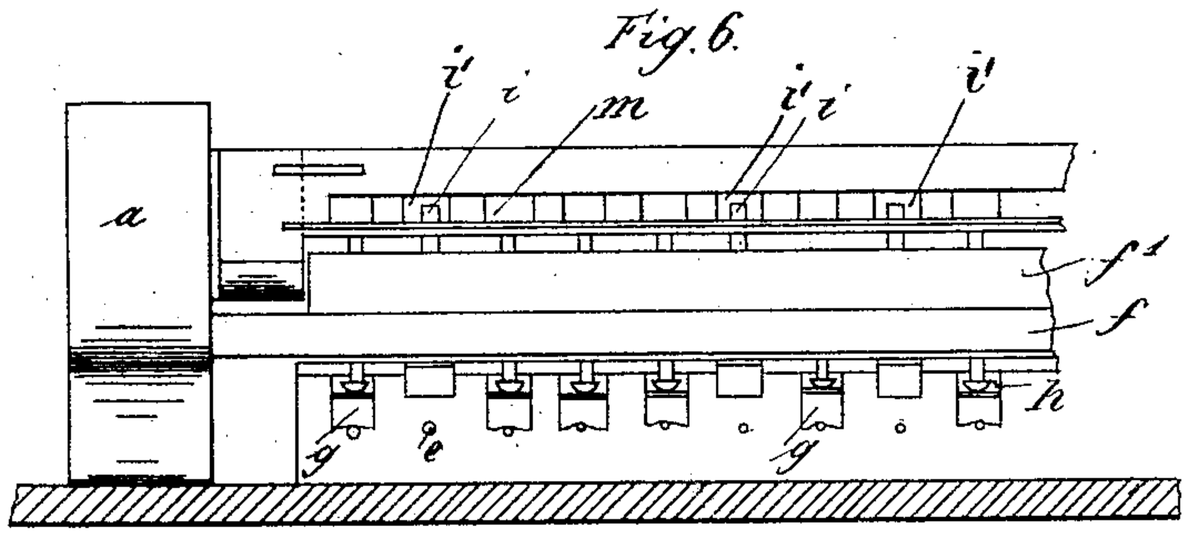


Fig. 6.



Witnesses:
G. W. Rea
Thos. A. Greer

Inventor:
Rudolf Essig.
By James L. Norris.
Atty.

(No Model.) 3 Sheets—Sheet 3.

R. ESSIG.

MUSICAL INSTRUMENT.

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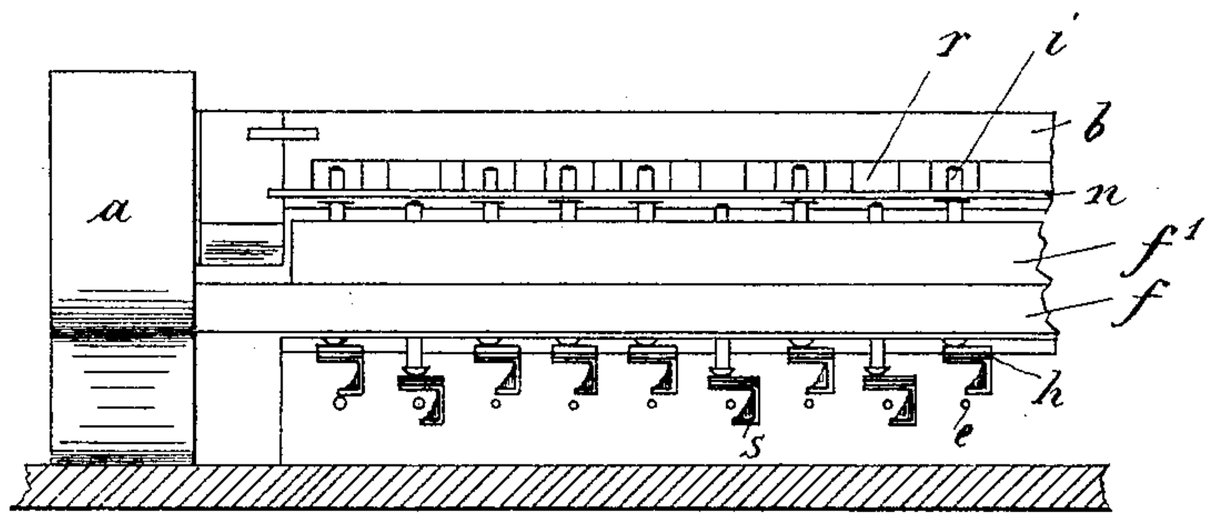
Fig. 1.



Witnesses;
G. W. Rea.
Thos. A. Green

Inventor:
Rudolf Essig.
By James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

RUDOLF ESSIG, OF LEIPSIC-GOHLIS, GERMANY, ASSIGNOR TO KRAFT BEHRENS, OF SAME PLACE.

MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 534,144, dated February 12, 1895.

Application filed March 13, 1894. Serial No. 503,479. (No model.) Patented in Germany March 31, 1894, No. 2,355.

To all whom it may concern:

Be it known that I, RUDOLF ESSIG, a subject of the King of Würtemberg, residing at Leipsic-Gohlis, Saxony, Germany, have invented certain new and useful Improvements in Musical Instruments, (for which, with my consent and allowance, Letters Patent of Great Britain were granted to Kraft Behrens, of Leipsic, Germany, No. 2,355, dated March 31, 1894,) of which the following is a specification.

The present invention has for its object a harmony zither by means of which harmonics of any kind of tone may be produced, by providing a movably arranged finger board with a corresponding music sheet, the finger board being pressed on the strings while the latter are set in vibration.

The invention is shown on the accompanying drawings as follows:

Figure 1 is a plan of the entire appliance with a portion of the strings shown thereunder. Figs. 2 and 3 show a section on the line *x*—*x* of Fig. 1. Figs. 4 and 6 are two longitudinal sections of the appliance. Fig. 5 is a view of part of the music sheet. Fig. 7 shows a modification of the appliance.

The following describes how the foregoing appliance is constructed.

Two bars *a a* are fitted on the sounding board in the direction of the strings and are connected with a bridge *f*. The latter is provided in its longitudinal direction with a piece *f'* which is somewhat shorter than the bridge itself. Flat springs *h* are arranged on the lower side of the bridge *f*, corresponding exactly to the strings, and which springs are connected with dampers *g*. The tension of these flat springs is such that the dampers are always pressed on the board. In the latter, and also in the piece *f'* and above the flat springs, there are also seated easily adjustable pins *i* which are pressed constantly upward by means of the springs. Between the bars *a* there is a finger board *b* swinging on the pins *k*, but in such a manner that the same can be pushed along the strings. The finger board is perfectly smooth on its upper side but on its lower side it is provided with spaces or channels *i'* and in such a way, that each space or channel lies on top of one of the pins *i*. The indents are oblong so that the pins *i* on the movement of the finger board will not be affected. In the finger board itself there is inserted a music sheet *n* in such a manner that its holes *p* set free the corresponding pins whilst at the same time the other pins are pressed downward. The music sheet can be inserted in an extremely easy manner and it need only lie in a groove of the finger board so that it can easily be changed at any time. It is however by no means necessary that the music sheet should slide into position as it can be otherwise applied.

When the parts are arranged as before described the movement of the swinging finger board is accomplished in the following manner: A slit *l* is made at each end of the inside of the finger board and is covered with strips *m*. The slit *l* forms a guide for the pin *k*. In this respect however the construction can be altered as may be desired, for instance by an arrangement of slide rolls, &c. A guide pin *c* is fastened on the upper side of the finger board which guide pin takes into a rack or recesses *d* of the bar *a*. On the upper surface of the bar itself beside the rack or recesses *d* there are also numbers which serve merely for recognizing the harmony.

In the modification Fig. 7 the flat springs (*h*) are not provided with dampers but with bevels *s*, and the holes in the music sheet are so arranged that, when the finger board is depressed, those pins are set free, which are above the springs not belonging to the desired harmony.

The foregoing invention is made use of in the following way:—The finger board *b* movable in the direction of the strings (Fig. 1) is brought with the one hand between the bars *a* into the position corresponding to the desired harmony. It is then depressed on the strings so that those pins above which the openings *p* in the music sheet *n* may happen to be, are not affected by the sheet, while on the contrary the other ones are depressed so that the dampers *g* are pressed on the corresponding strings *e*. The collective strings are vibrated with the right hand, but it is evident that only those strings will emit notes which have not been touched with the dampers. If there is to be another harmony, the

finger board is released so that thereby all the depressed dampers are set free, and it is then brought into a position corresponding to the desired harmony, and the instrument used as before. The music sheet may for instance have five harmonies as shown in the drawings.

Figs. 2 and 4 show the finger board in its raised position while Figs. 3 and 6 show the same depressed, Fig. 6 showing in particular how the dampers *g* rest on the strings *e*. Fig. 1 shows the finger board in a position corresponding to harmony No. 3 for instance. In the modification Fig. 7 the harmonies are produced by depressing the finger board with the inserted music sheet, which causes the pins (*i*) not set free by the latter to move downward, influencing the flat springs *h* with the bevels *s*, and produces a direct sounding of the strings. When the finger board is set free, then the bevels *s* too move upward without producing a sounding of the strings.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A zither characterized by having a swinging adjustable finger board, provided with a changeable music sheet, so that on the depression of the board into a bar provided with movable pins some of the latter are set free by the music sheet, while the remainder move under in such a way that the dampers situated thereunder prevent the strings struck from sounding or giving out notes, by which means the adjusting or moving of the finger-board may be made to produce any desired harmonies, the whole for the object of producing with one and the same finger board harmonies of any desired kind of tone.

2. A zither having a swinging and slidable finger-board carrying a changeable music sheet, and spring-pressed pins, some of which are set free by the music-sheet while the other pins are pressed down by said sheet, substantially as and for the purposes described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

RUDOLF ESSIG.

Witnesses:
RICHARD LUTZE,
RUD. E. FRICKE.