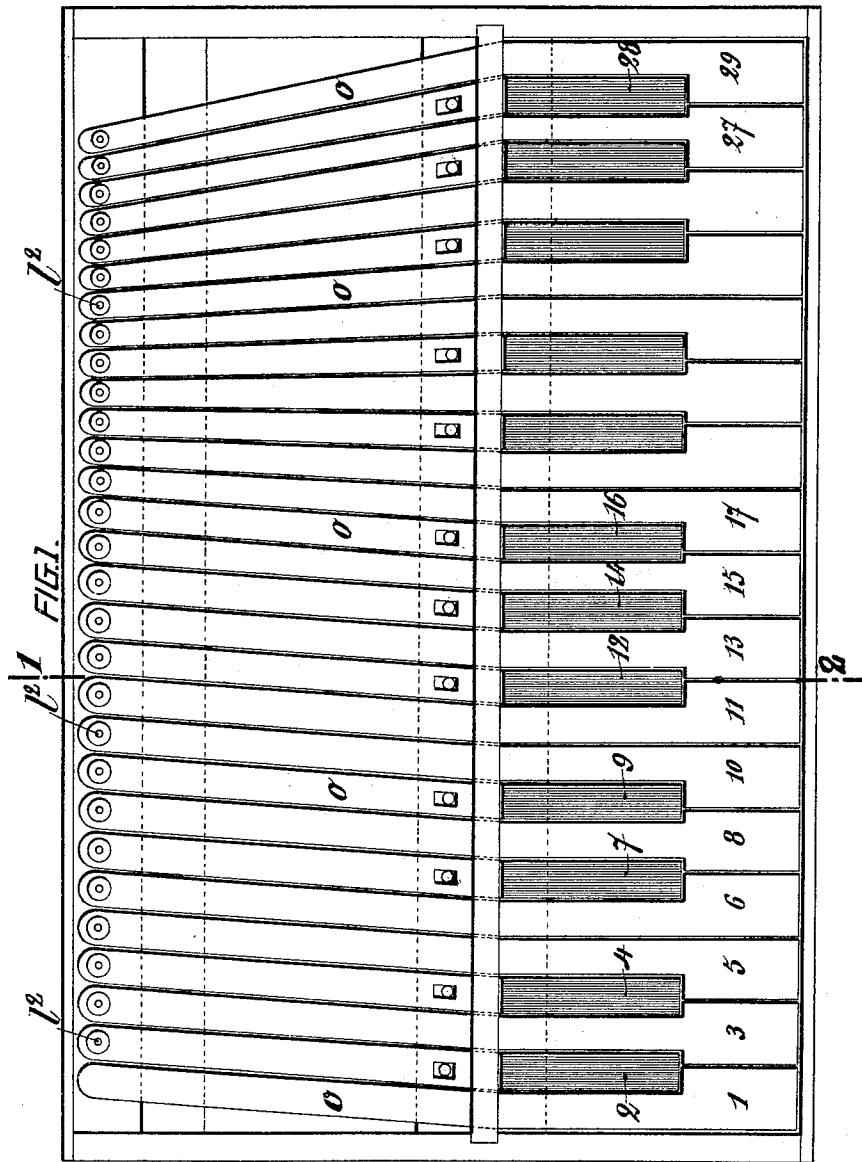


E. J. DE VLAMINCK.

KEYBOARD MECHANISM FOR PLAYING UPON STRINGED INSTRUMENTS.

No. 521,851.

Patented June 26, 1894.



Witnesses:
L. M. Hackschlagger,
Ed. C. Mearns

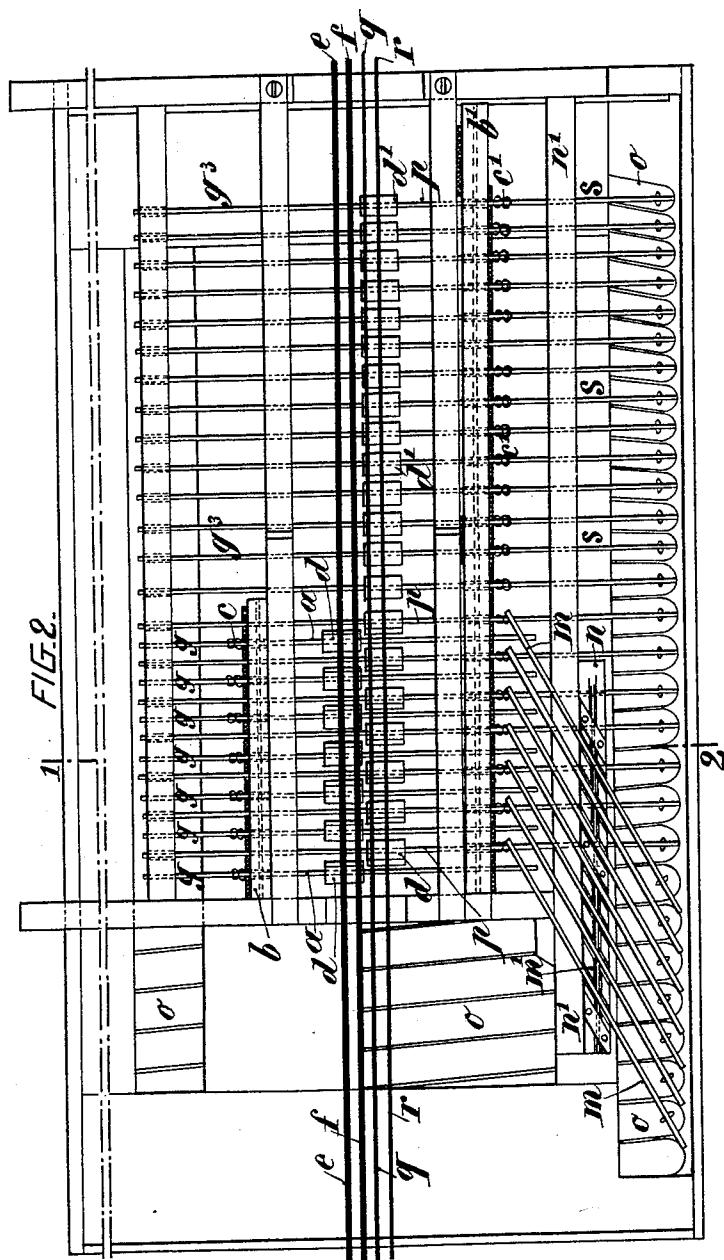
Inventor
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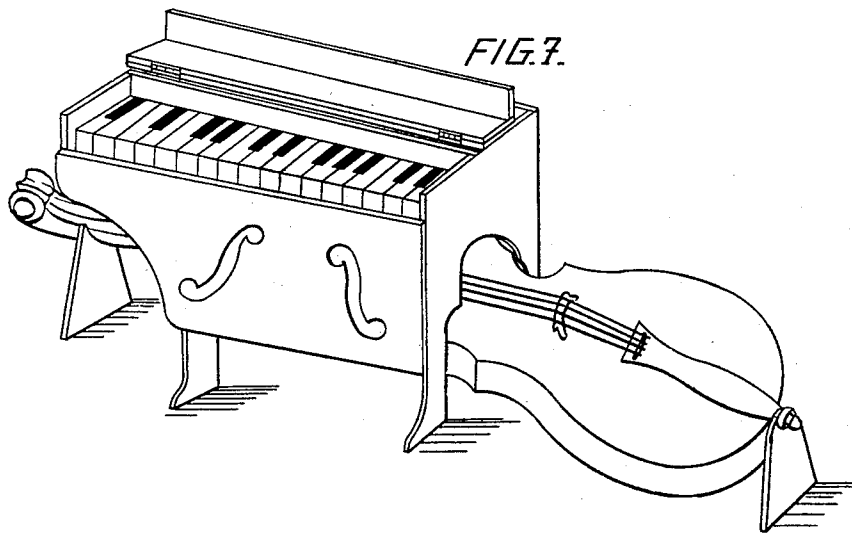
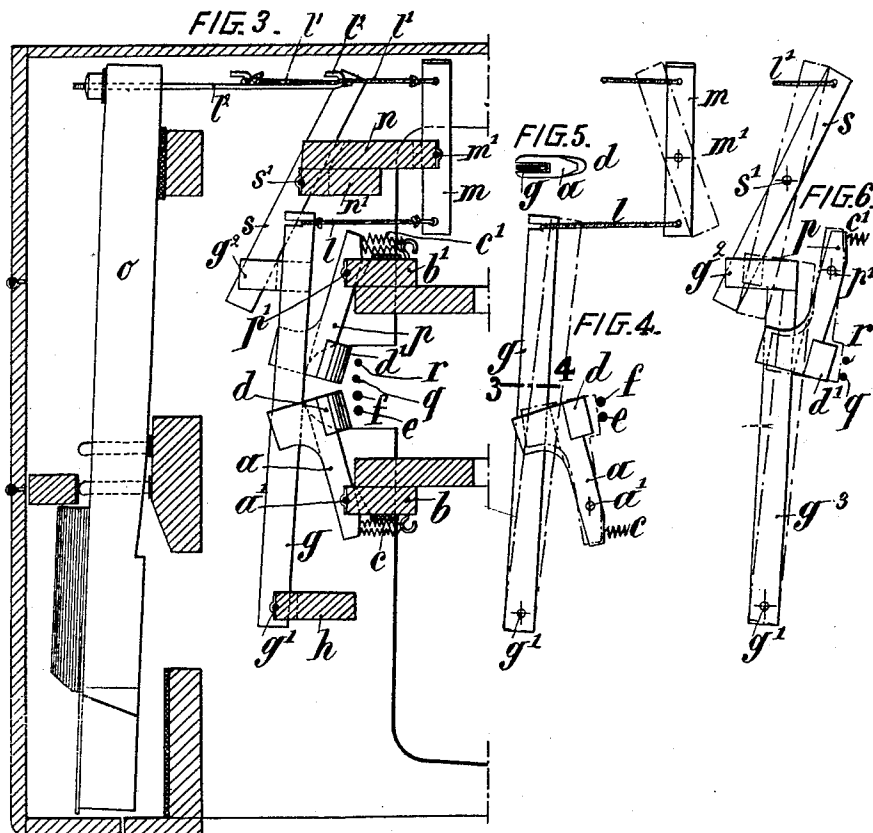
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UNITED STATES PATENT OFFICE.

EDMOND JULIEN DE VLAMINCK, OF VÉSINET, FRANCE.

KEYBOARD MECHANISM FOR PLAYING UPON STRINGED INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 521,851, dated June 26, 1894.

Application filed August 5, 1893. Serial No. 482,458. (No model.) Patented in France December 28, 1892, No. 226,665, and in Belgium May 3, 1893, No. 104,515.

To all whom it may concern:

Be it known that I, EDMOND JULIEN DE VLAMINCK, of the city of Vésinet, (Seine-et-Oise,) France, have invented a Keyboard Mechanism for Facilitating the Playing of Stringed Musical Instruments of the Violin Class, (for which I have obtained Letters Patent in France for fifteen years, dated December 28, 1892, No. 226,665, and in Belgium for fifteen years, dated May 3, 1893, No. 104,515,) of which the following is a full, clear, and exact description.

My invention relates to a key-board device for facilitating the playing of the violin and other stringed musical instruments of the same class, in which the strings are usually required to be stopped or shortened by the fingers of the performer in order to produce the intermediate tones, and it has for its object to provide mechanism not connected with the instrument for stopping or shortening the strings acting on them from the top operated by a key-board whereby any person having a slight knowledge of the piano or organ may be enabled to play on a stringed instrument of the violin class in absolutely correct tune which is dependent only upon the accurately regulated position of the pressers which act on a stop or shorten the strings in lieu of and in the same manner as is now done by the fingers of the performer. Each presser acts upon two strings at a time and the strings are bowed in the ordinary manner for obtaining the various effects now produced by the different strokes of the bow in such instruments.

Reference is to be had to the accompanying drawings, forming part of this specification, wherein—

Figure 1 represents a plan of the key-board; Fig. 2, an under side plan of the key-board mechanism, and Fig. 3 a transverse vertical section, on line 1—2 Figs. 1 and 2. Fig. 4 is an elevation, and Fig. 5 a transverse section on line 3—4 of the mechanism for operating the pressers of the third and fourth strings of the instrument. Fig. 6 is an elevation of the mechanism for operating the pressers of the first and second strings. Fig. 7 shows, on

a reduced scale, a perspective view of the key-board device as applied to a tenor violin.

The same letters and numerals of reference denote like parts in all the figures.

The apparatus comprises a series of presser-levers *a* pivoted at *a'* upon a rail *b* and provided with retracting springs *c*. The heads *d* of the pressers are faced with leather or other equivalent material upon a backing of india-rubber, and are caused to press upon and stop or shorten the third and fourth strings *f e* of the instrument by means of levers *g* pivoted at *g'* upon a rail *h*, the said levers lying in forks or notches at the back of the presser levers *a* and being connected by ties *l* to obliquely-arranged levers *m* pivoted at *m'* on a rail *n* and connected by ties *l'* and regulating hooked wires *l''* with the corresponding key-levers *o* at the lowermost or bass end of the keyboard. A second series of presser-levers *p* are pivoted at *p'* upon a rail *b'* and provided with retracting springs *c'*.

The presser heads *d'* are faced in a similar manner to the others and they are caused to act upon and shorten the first and second strings *r q* of the instrument by means of levers *g''* which are provided near their ends with forks or notches *g'''* in which lie the ends of levers *s* pivoted at *s'* upon a rail *n'* and connected by ties *l'* and regulating wires *l''* with the corresponding remaining keys of the keyboard.

The apparatus is represented in the example shown as applied to a tenor violin, in which case it comprises a series of seven pressers for the strings *e f*, which are the covered or bass strings of the instrument, and a series of twenty-one pressers for the strings *q r*. The first string of the tenor is replaced by a string giving the re open so the tuning of the instrument is about four octaves and extends thus from the lower C to B on the fifth line above the stave.

The apparatus is placed directly over the strings as clearly shown in Fig. 7, that is to say upon the neck or finger board of the instrument which is supported upon two bearers placed one beneath the neck near the head and the other at the end of the tail piece.

On depressing the keys *o* the corresponding pressers will stop or shorten the strings of the instrument and in this manner any kind of music may be executed, whether written
 5 for a tenor or other violin. For example, the white keys 1, 3, 5, 6, 8, serve for the fourth and third strings. The key No. 1 will give the *do* on the open fourth string. The presser *d* which corresponds to key No. 3 will stop
 10 the string and give the *re*; the key No. 5 the *mi*, the key No. 6 the *fa*, and the key No. 8 the *sol*. The pressers actuated by the black keys Nos. 2, 4 and 7, will give the semitones. On the third string the key No. 1 will give
 15 the *sol* upon the open string, the presser corresponding to the key No. 3 will give the *la*, the key No. 5 the *si*, the key No. 6 the *do*, and key No. 8 the *re*, while the keys 2, 4 and 7, will give the semitones. Similarly, the key
 20 No. 8 will give the *re* on the open second string, the key No. 10 the *mi*, and key No. 11 the *fa*, and so on. The key No. 8 will also give, in the upper octave, the *re* on the first string, the key No. 10 the *mi*, and so on to
 25 key No. 29 which will give the *si* natural on the first string.

The keyboard mechanism may be applied to all kinds of instruments of the violin class, such as violins, violas or tenors, violoncellos
 30 or basses, double basses, and generally to all

similarly stringed instruments, without in any way altering the instrument to be played upon.

I claim—

In a device for mechanically fingering 35 stringed instruments of the violin class the combination of a keyboard composed of key levers *o*, a series of spring retracted presser levers *a* provided with forked top, levers *g* carried by said forks and adapted to depress 40 levers *a*, levers *m* connected to levers *g* and to key levers *o* by cords and adjusting wires; a second series of spring retracted presser levers *p* provided with forked tops, forked topped levers *g*³ carried by the forks of levers 45 *p*, levers *s* connected by cords and adjusting wires to key levers *o*, and carried by the forks of levers *g*³ and adapted to depress levers *g*³ and *p* all arranged so that a depression of one of the key levers will cause a depression of 50 its connected, presser lever, substantially as described.

The foregoing specification of my keyboard mechanism for facilitating the playing of stringed musical instruments of the violin 55 class signed by me this 1st day of July, 1893.

EDMOND JULIEN DE VLAMINCK.

Witnesses:

ROBT. M. HOOPER,
 ALBERT MOREAU.