

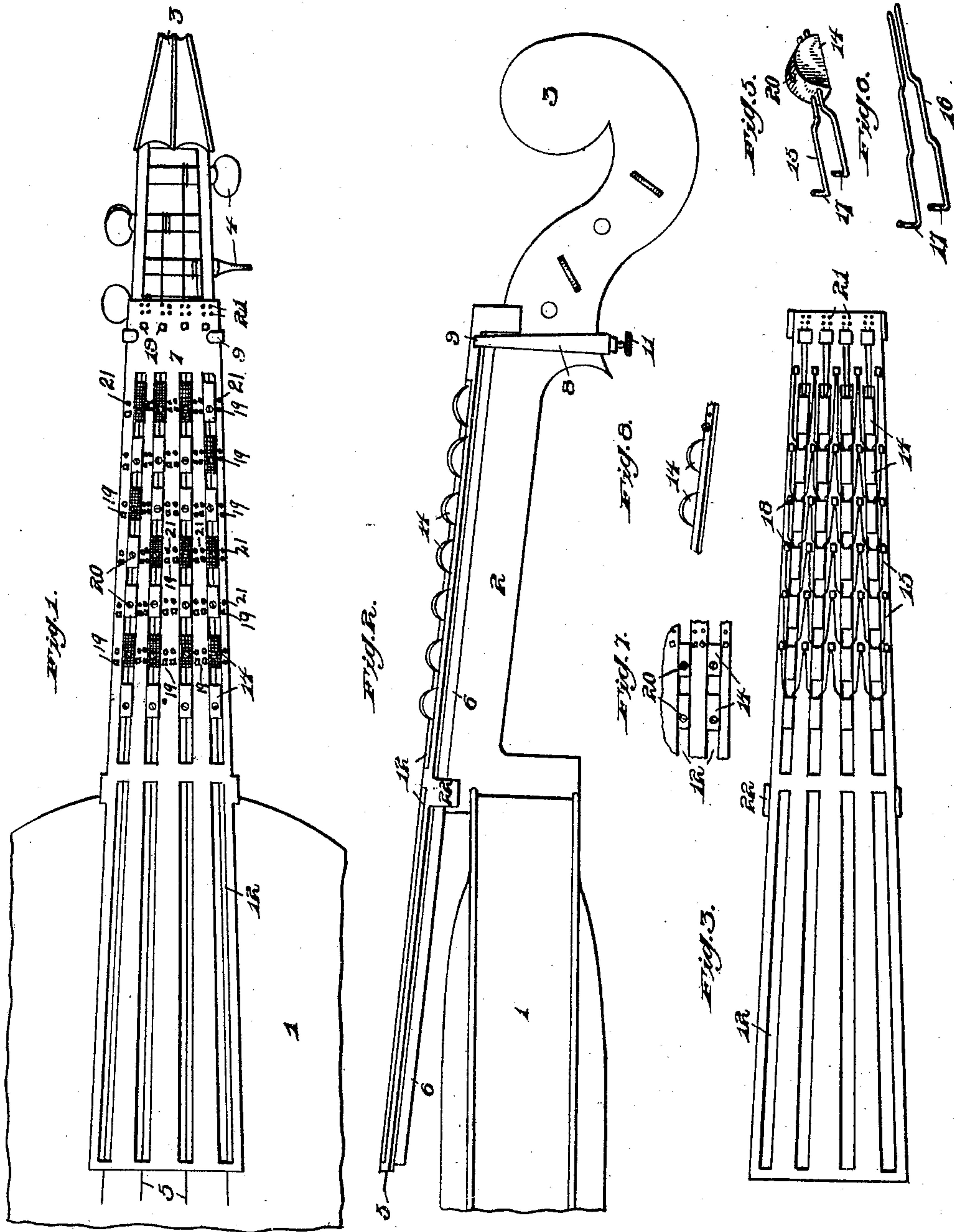
No. 697,799.

Patented Apr. 15, 1902.

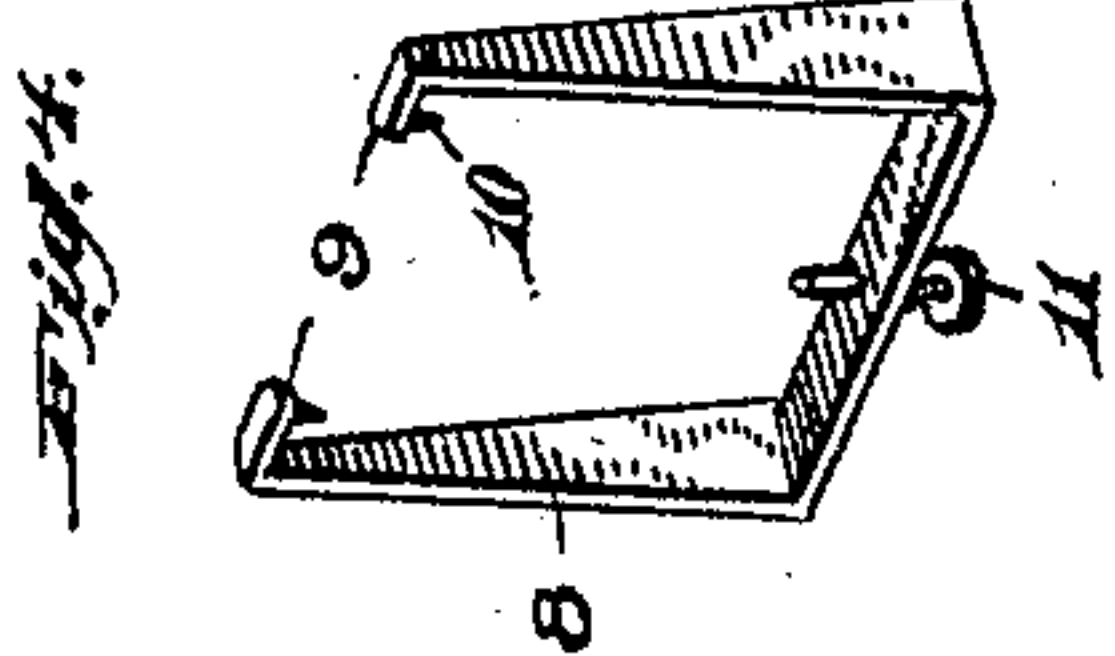
G. P. BUCHANAN.
KEYBOARD FOR VIOLINS.

(Application filed May 31, 1901.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE P. BUCHANAN, OF ALLEGHENY, PENNSYLVANIA.

KEYBOARD FOR VIOLINS.

SPECIFICATION forming part of Letters Patent No. 697,799, dated April 15, 1902.

Application filed May 31, 1901. Serial No. 62,507. (No model.)

To all whom it may concern:

Be it known that I, GEORGE P. BUCHANAN, a citizen of the United States of America, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Keyboards for Violins, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in stringed instruments, and relates more particularly to violins, violas, violoncellos, and bass and double-bass instruments.

15 My invention contemplates to construct a keyboard upon which it will be a comparatively easy matter to play difficult positions upon the violin, not only the first, third, and fifth positions, but it will be a comparatively
20 easy matter to play the second, fourth, sixth, and seventh positions.

The invention, briefly stated, consists of a removable keyboard of especial construction attached to the finger-board of a violin and arranged above the strings thereof, the keys carried by the keyboard being pressed to produce the clear note or tone from the instrument.

With the above and other objects in view the invention consists in the novel combination and arrangement of parts to be herein-
30 after more fully described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate corresponding parts throughout the several views, in which—

40 Figure 1 is a top plan view of the forward portion of a violin, showing the neck and head with my improvement attached thereto. Fig. 2 is a side elevation of the same. Fig. 3 is an inverted plan view of the keyboard removed from the violin. Fig. 4 is a perspective view of the yoke which serves to secure the forward portion of the keyboard in position. Fig. 5 is a perspective view of one of the keys. Fig. 6 is a similar view of a pair of springs connected to the keys. Fig. 7 is a
50 top plan view of a modified form of attaching the keys. Fig. 8 is a perspective view thereof.

For the purpose of illustrating my invention I have shown the same applied to a violin, and in the drawings the reference-numeral 1 indicates the body portion of the violin; 2, the neck thereof; 3, the head of the violin; 4, the keys of the strings, and 5 the strings.

The reference-numeral 6 indicates the usual finger-board of the violin, over which the strings pass over the bridge of the violin. (Not shown in the drawings.)

The reference-numeral 7 represents the keyboard, constructed of any suitable material, but preferably of metal. This keyboard is attached to the head 3 of the violin by means of the yoke 8, said yoke having inward extensions 9, carrying downwardly-extending pins 10. This yoke is also provided with a thumb-screw 11, extending through the yoke and engaging the under face of the head portion, thereby serving to firmly clamp the keyboard to the neck of the violin. This keyboard being bowed, however, is so arranged in relation to the strings that it does not touch the strings normally and has suitably formed therein a series of longitudinal openings 12. These openings are arranged in a series to correspond with the strings and are secured in a manner to be directly above the strings of the instrument. In these openings 12 are suitably secured a series of flat-faced keys 14, these keys being preferably semicylindrical in form, as shown in detail views represented in Figs. 5 and 8 of the drawings and also as illustrated in Fig. 2. The keys 14, as shown in the drawings, have two flat parallel side faces, which are guided by the walls of the elongated slots. The lower face of the key is flat and the upper one semicylindrical in form, as shown. These keys are suspended by means of springs 15 or 16, as shown in Figs. 5 and 6 of the drawings, said springs having their ends bent, as shown at 17, in order to secure the same in apertures 18, arranged on the under face of the keyboard, and extend through the upper face of the keyboard, where the same may be suitably secured by means of nuts 19 or other suitable fastening means. The keys 14 are each provided with an adjusting-screw 20, operating upon the springs 15 or 16 and allowing an adjustment upon the springs 15

or 16 to any desired position. This adjustment may also be obtained by providing a series of apertures 21 and allowing the ends of the springs to extend therethrough and
 5 fasten the same, as shown at 19, by means of small nuts.

The reference-numeral 22 represents lugs formed integral with the keyboard and extending downwardly and engaging the side of
 10 the neck portion to assure against any lateral movement of the finger-board. Should undue pressure be exerted upon keyboard 7 when the violin or other instrument is in use, the lugs 22 will arrest this downward movement
 15 by engagement with the upper face of the body portion of the instrument.

The keys are preferably marked black and white, the black keys indicating the sharps and flats and the white keys the natural
 20 notes. For example, upon the G-string the first note, G sharp, is indicated by a black key, and the next note, A, would be a white key, and so on up the entire strings of the instrument. The form of the keys may be
 25 semicylindrical or may be curved on an incline when desired.

The operation of my improved keyboard is as follows: When it is desired to produce the note, the key corresponding with said note is
 30 firmly pressed downwardly, engaging the upper face of the string, pressing the string firmly against the finger-board and retaining the string in this position until the desired note has been produced. When the key is
 35 released, the springs will return the key to its normal position, raising the same from engagement with the string, that will permit a clear note to be produced when the next key is operated, and so on. It has been a
 40 difficult matter to produce clear chords upon stringed instruments of this kind; but with my improved device it is a very easy matter to obtain all chords. Even octaves are easily obtained when playing in a difficult position. It
 45 is also an easy matter to play a chromatic scale

with my improved device, as the finger may be readily slid over the keys in order to produce this scale.

The many advantages obtained by the use of my improved device will be readily ap- 50
 parent from the foregoing description, taken in connection with the accompanying drawings.

It will be noted that various changes may be made in the details of construction with- 55
 out departing from the general spirit of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is— 60

1. In a device of the character described, a keyboard having a series of longitudinal openings formed therein, keys operating in said openings, springs carried by said keys, means carried by the springs for securing said 65
 keys to the under face of said keyboard, and a yoke for securing said keyboard to the violin, substantially as described.

2. In a device of the character described, a keyboard having openings formed therein, 70
 keys operating in said openings, a pair of springs secured to each of said keys, lugs carried by the said springs, and means for securing said lugs to the keyboard, substantially as described. 75

3. In a device of the character described, a keyboard having longitudinal openings formed therein, keys operating in said openings, springs secured one to each side of each of said keys, lugs carried by said springs and 80
 adapted to engage the keyboard, and means securing the keyboard to the violin, substantially as described.

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

GEORGE P. BUCHANAN.

Witnesses:

JOHN NOLAND,
 E. E. POTTER.