

No. 625,996.

Patented May 30, 1899.

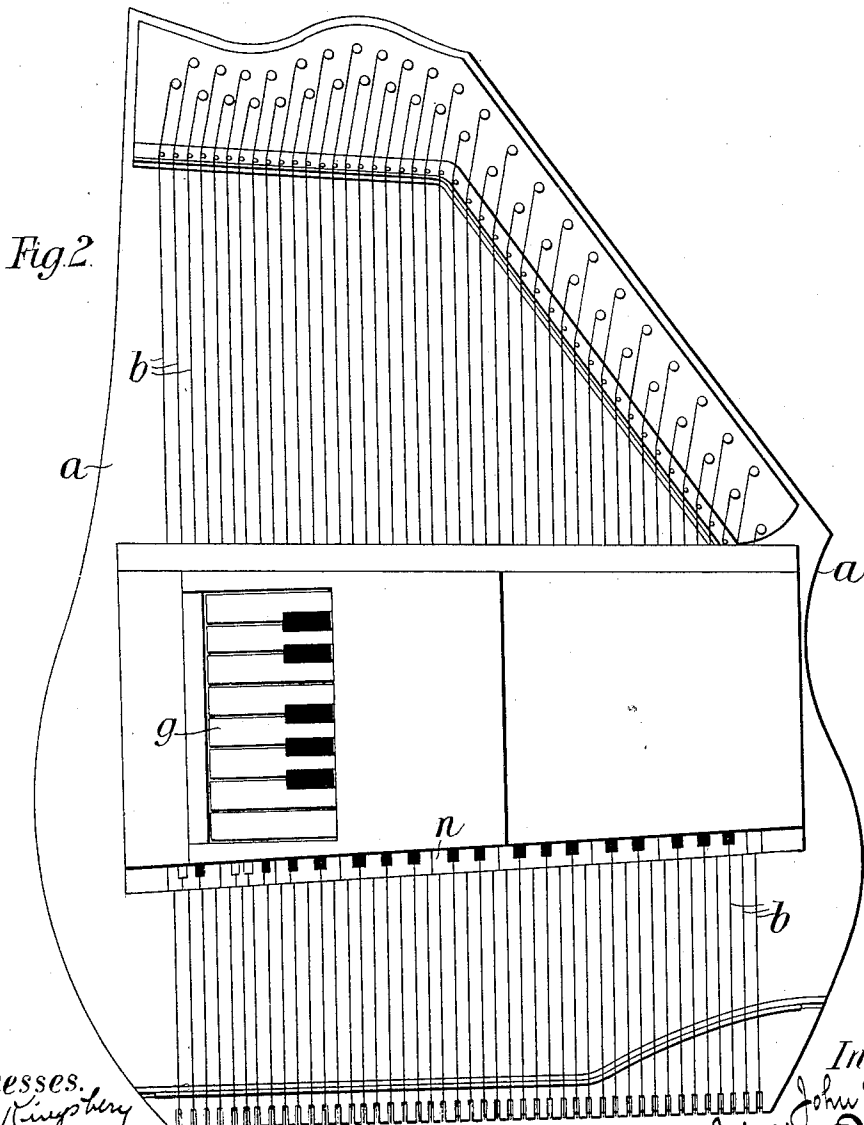
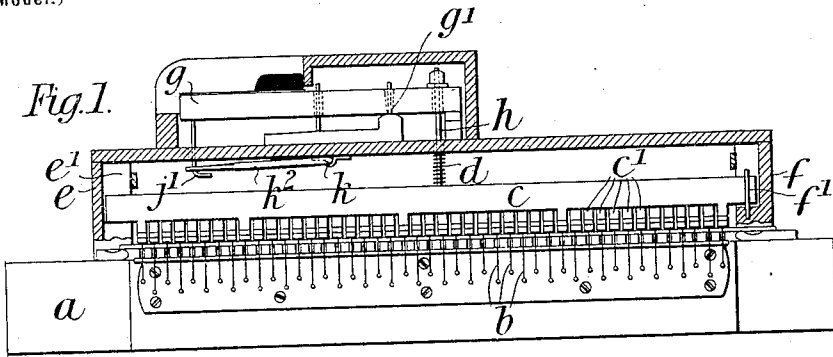
J. S. YOUNG.

STRINGED MUSICAL INSTRUMENT.

(Application filed Nov. 21, 1898.)

2 Sheets—Sheet 1.

(No Model.)



Witnesses.
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2 Sheets—Sheet 2.

Fig. 3.

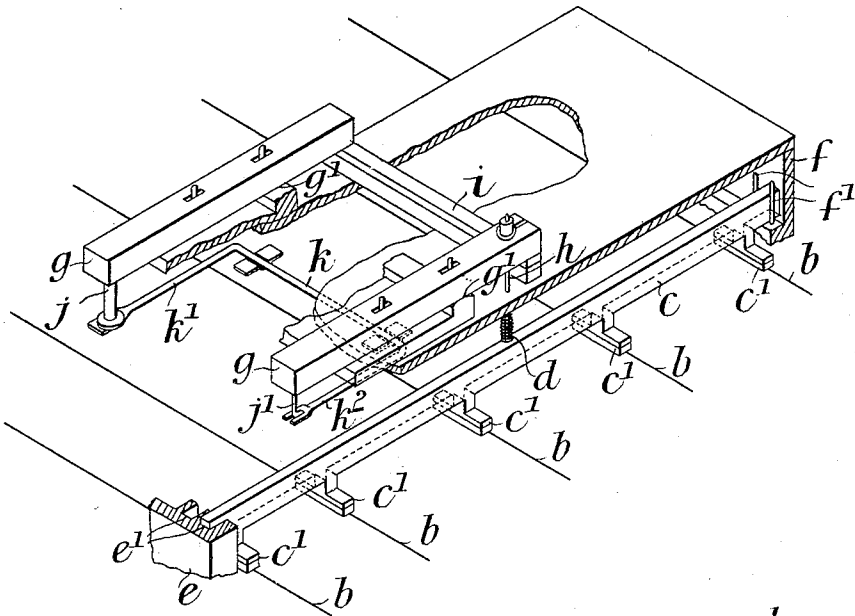
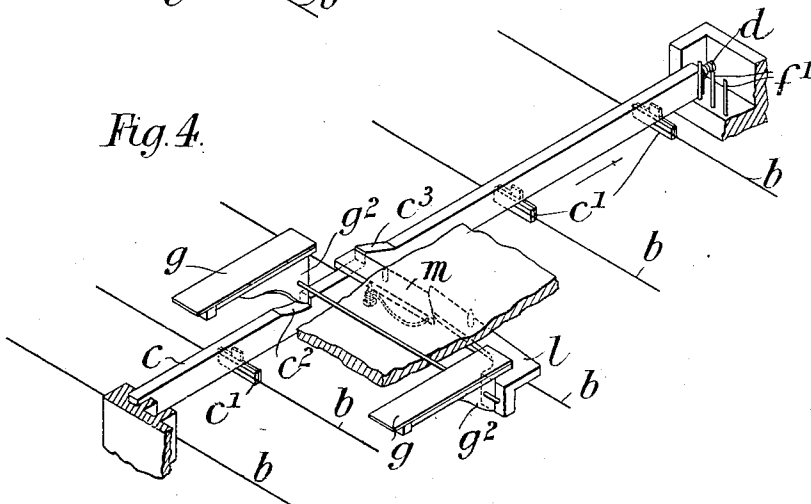


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN SUTHERLAND YOUNG, OF LONDON, ENGLAND, ASSIGNOR TO HARRY MACKWOOD MILLINGTON, OF SAME PLACE.

STRINGED MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 625,996, dated May 30, 1899.

Application filed November 21, 1898. Serial No. 697,078. (No model.)

To all whom it may concern:

Be it known that I, JOHN SUTHERLAND YOUNG, a subject of the Queen of Great Britain, residing at London, England, have invented a new and useful Improved Stringed Musical Instrument, (for which I have applied for a patent in Great Britain, No. 9,698, dated April 27, 1898,) of which the following is a specification.

This invention relates to a new or improved stringed musical instrument.

In the accompanying drawings, Figure 1 is a sectional end elevation of a musical instrument made according to the invention. Fig. 2 is a plan thereof. Fig. 3 is an isometric view illustrating the key movement, and Fig. 4 is a similar view showing a modification in the key movement.

The body *a* of the instrument is made somewhat similar to that of a cithern, as is clearly seen from Fig. 2; but it is provided with a free-sounding board made on the principle of the sounding-board of a piano. It is strung with steel and covered strings *b b*, which are normally damped by means of damper-bars *c c*, having dampers *c' c'*, normally held against the strings *b b* by springs *d d*. The dampers *c'* are preferably of an inverted-T shape, as shown, and each of the said damper-bars *c* is adapted to damp a note and its octaves, so that by having a damper-bar corresponding to each note all the notes of the instrument are thereby damped. The damper-bars *c c* are guided at one end in grooves *e' e'* in an upright *e* and at the other end between pins *f' f'*, fitted to an upright *f*. With this arrangement it will be obvious that all the notes being normally damped it is necessary to remove a damper-bar *c* to enable a note and its octaves to be sounded in the manner usually adopted with instruments of this class. Now to enable any one or any combination of the dampers to be raised in order that any desired chord may be played I make use of a keyboard arrangement whereby by depressing a key or a combination of keys forming a chord the corresponding strings of the instrument will be free to be sounded. This keyboard is shown at *g* in Figs. 1 and 2, and in Figs. 3 and 4 I have illustrated two methods of operating the dampers from the said keys.

Referring first to the arrangement shown in Fig. 3, the key *g* corresponding to each damper-bar *c* is pivoted at *g'* and is connected to the said damper-bar *c* by a rod *h*. The spring *d*, which, as above mentioned, normally maintains the dampers *c'* upon each damper-bar *c* in contact with the strings, is coiled upon the said rod *h* and bears against the upper side of the said damper-bar *c* and the under side of the box or case containing the set of dampers, as clearly shown, so that in addition to normally damping the wires it holds the key at rest upon the key-support *i*. With this construction it will be obvious that by depressing the key in the usual manner the rod *h* and thus the damper-bar and dampers are moved against the action of the spring *d* so as to leave the strings of a note and its octaves corresponding to the damper-bar free to be sounded.

It is advantageous to provide two C keys, but only one damper-bar in connection therewith, so that it is obviously necessary that the said damper-bar be raised when either C key is depressed. To this end I provide the coupling arrangement shown in Fig. 3, comprising the pin *j*, fitted upon the under side of the lower C key and bearing against one arm *k'* of the coupler *k*, the other arm *k''* of which is connected to a pin *j'*, fitted to the under side of the upper C key. When either key is depressed, the damper-bar corresponding to the C strings will be raised.

In the arrangement shown in Fig. 4 the dampers *c'* instead of bearing upon the upper side of the strings *b b* are pressed against them laterally by the springs *d d*, which in this case are fitted between the ends of the damper-bars and the upright *f*. To operate the damper-bars *c*, the keys are provided with downward extensions *g''*, which engage in notches *c''*, formed in the damper-bars, so that by depressing a key the corresponding bar is moved slightly forward, thereby releasing the strings it normally damps, the springs *d* returning the dampers against the strings when the pressure upon the key is relieved. In this case also only one damper-bar, but two keys, is provided for the C strings, so that it is essential that the same strings be freed by the operation of either of the two keys.

The projection g^2 on the key g having no damper-bar bears against a pivoted lever l , the free end of which bears against the end of a pivoted lever m , the other end of which bears against a projection c^3 upon the damper-bar controlling the C strings, so that should either of the two C keys be depressed the dampers will be moved away from the strings to enable the same to be sounded.

10 In practice I find it advantageous to provide a printed slip n representing the keyboard of a piano in connection with the strings, as shown in Fig. 2, so that the player can see at a glance the situation of any note.

15 The instrument may be made to stand on four legs, and when used may be placed on its case, which acts as a resonator.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a musical instrument, the combination with the body provided with a series of strings, of a series of damper-bars provided with dampers, a series of keys corresponding to the notes of the scale, operatively connected with said dampers and a dummy key operatively connected with the damper-bar of one of said series of keys, for operating the same, substantially as described.

2. In a musical instrument, the combination with the body provided with a series of strings, of a series of damper-bars, each provided with dampers for engaging the strings corresponding to a note in the scale and the octaves thereof, a series of keys arranged to correspond with the several notes in an octave operatively connected with said damper-bars, and a dummy key located in the position

of the octave of one of said series of keys and operatively connected with the damper-bar thereof, substantially as described.

3. In a musical instrument, the combination with the body provided with a series of strings, of a series of longitudinally-movable damper-bars provided with dampers for engaging laterally the strings corresponding to a note and the octave thereof, a series of keys corresponding to the notes of an octave, operative connections between each of said keys and one of said longitudinally-movable bars, a dummy key located in a position corresponding to that of an octave of one of said series of keys and connections between the damper-bar thereof and said dummy key, substantially as described.

4. In a musical instrument, the combination with the body provided with a series of strings, of a series of longitudinally-movable damper-bars provided with dampers for laterally engaging the strings corresponding to a note and the octaves thereof, springs engaging said bars for holding said dampers normally in contact with said strings, a series of keys corresponding to the notes of an octave, operative connections between each key and one of said bars for moving the same longitudinally against the pressure of its spring, a dummy key located in the position corresponding to that of the octave of the first key of said series, of a lever disposed transversely of said dummy key, operatively connecting it with the damper-bar of said first key, substantially as described.

JOHN SUTHERLAND YOUNG.

Witnesses:

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