(No Model.)

W. SCHNEIDER.

MUSICAL INSTRUMENT.

No. 590,631. Patented Sept. 28, 1897.

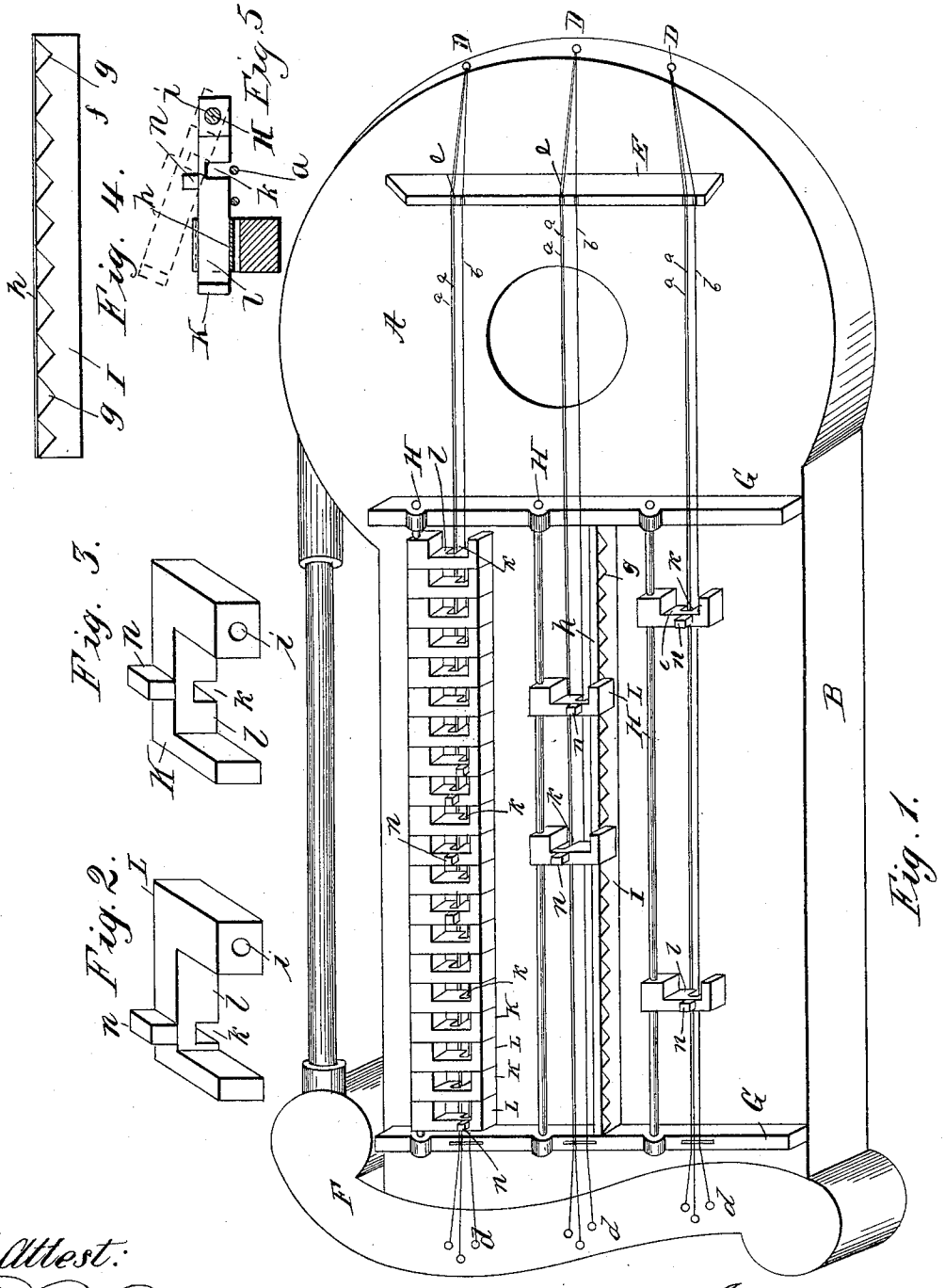


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Attest:
E. C. Cady.
H. C. Reche

Inventor:
William Schneider
by
M. M. Cady Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM SCHNEIDER, OF DUBUQUE, IOWA.

MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 590,631, dated September 28, 1897.

Application filed August 25, 1896. Serial No. 603,890. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SCHNEIDER, a citizen of the United States, residing in the city and county of Dubuque and State of Iowa, have invented certain new and useful Improvements in Musical Instruments; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

In most of the musical stringed instruments now in use of the class in which the strings are vibrated by a metal or celluloid pick applied to the string, such as the mandolin, and especially in those instruments where the strings are set so close together that one string cannot be pressed by the finger without pressing upon others next to the same, it requires two separate instruments and operators to produce or play both the soprano and alto, or the first and second, of a given tune at the same time.

To combine the two instruments and so adapt a single instrument that a single operator can readily and distinctly produce or play both the first and second of a tune at the same time is the leading object of this invention.

With the above and other minor objects and advantages in view the invention consists in the novel construction and arrangement of the different parts of the instrument, which will be specially defined, illustrated in the accompanying drawings, and pointed out in the appended claims.

Figure 1 is a perspective of the instrument with part of the keys removed. Fig. 2 is a side elevation of one of the keys. Fig. 3 is a side elevation of another of the keys. Fig. 4 is a side elevation of the rest for each set of keys, and Fig. 5 shows a cross-section of the block and one of the keys.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates a sounding-board, which is secured to the upper surface of the box B in the usual manner. The shape of the instrument shown in Fig. 1 represents the usual form for an instrument of this kind where it is played while resting upon a table, but it may be of any other shape.

To the lower end of the instrument are fastened pins or buttons D, to which one end of the strings is secured. Near the buttons D, upon the sounding-board A, is fastened an elevation or bridge E, over which the strings are stretched. This bridge has in its upper edge a series of grooves *e* at the required distance apart for separating the strings. Attached to the upper end of the instrument is a pin-block F, in which the block-pins *d d* are secured.

The strings *a* and *b* are fastened at one end to the button D and at the other end to the block-pins *d*, and are brought to the desired tension or key by the usual tuning-wrench.

In the present instrument there are shown nine strings, arranged in three sets, in each of which sets the two strings *a a* are for producing the soprano or first sound and the string *b* in each set for the alto or second sound. This is the same whether the strings are the fine gut and steel strings or the larger wire-wound strings, and the number and kind of strings are immaterial.

Across the sounding-board A are set two bars G, which bars are connected together by a round bar H, one for each set of strings. On the bar H are pivoted the keys presently to be described. Parallel with the bar H is secured between the bars G a block I. (Shown in Fig. 4.) It is placed at a distance of nearly the length of said keys from the bar H, for the purpose presently to appear. The base *f* of the block I is in a horizontal plane and its upper surface formed into notches *g*. Across the top of the block I and spanning the notches *g* is a strip of rubber or other flexible material *h*, the object of which will presently appear.

The keys K and L in Figs. 2 and 3 are preferably rectangular blocks of metal, through one end of which is drilled a hole *i* for pivoting the key on the bar H. Crosswise of the keys, on their under sides, are formed rectangular recesses *k*. It will be noticed that the recess in the key K is nearer the hole *i* than the same recess in the key L. The object of this is to permit the recess *k* in the key K to span the two strings *a a* and impinge

upon the string *b* when the key is pressed down in playing, and the recess *k* in the key L to span the string *b* and impinge upon the strings *a a*. The keys are hollowed out upon the side at *l* for the purpose of lessening the weight, and there is also a raised portion *n* upon their upper surface, upon which the operator presses when operating the same when the keys to be pressed are a considerable distance apart.

In Fig. 1 a full set of keys is shown in position to operate upon the first set of strings, and only two keys are shown with the second and third sets of strings; but it will be understood that all three have the same keys and are arranged in the same manner as shown in the first set.

The manner of operating my device is as follows: The strings *a* and *b* are brought to a proper tension by the means hereinbefore described. In the present instance the strings *a a* are both tuned to the same pitch and the string *b* to a third lower pitch than the strings *a*. The keys K and L are strung upon the bar H, commencing with the key K, then key L, then alternating with the keys K and L, till all of the space on the bar H is occupied. The number of keys of course will vary according to the compass of the instrument. The operator then presses upon the desired key K to vary the pitch of the strings by changing their vibrating lengths, and thus enable the operator to produce the soprano or first of a tune, and this pressure brings the metal key upon the strings *a*, but spans the string *b* by the recess *k*. At the same time the operator presses upon one of the keys L to produce the alto or second, and at the same time he vibrates both the *a* and *b* strings by the usual pick. The above action will produce both the first and second of the tune simultaneously and produce the same effect as though the same tune were played by two persons with two instruments, one playing the first and the other the second. At each change of the K keys a corresponding L key will be used. When the pressure is removed from the keys, the rubber *h* upon the bar I will elevate the keys from contact with the strings and hold them out of such contact.

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

1. In a musical instrument, a sounding-board, strings stretched above it, rods extending parallel with the strings, and keys pivoted upon said rods, combined with rests for the free ends of the keys, and which rests extend parallel with the strings and rods, and are provided with notches, and a flexible upper surface for holding the keys normally out of contact with the strings, substantially as described.

2. A musical instrument provided with groups of parallel strings, two sets of pivoted keys for each group of strings to operate in connection therewith, and rods on which the said keys are pivoted, combined with notched rests for the free ends of the keys, rubber covers which are stretched above said rests and support the free ends of the keys normally above the strings; the two sets of keys being notched in their lower edges where they span the strings, substantially as set forth.

3. A musical instrument consisting of a sounding-board strings *a*, and *b*, keys K, and L, pivoted to said sounding-board, said keys having recesses *k*, rest I, with notches *g*, and rubber *h*, as and for the purposes shown.

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

WM. SCHNEIDER.

Witnesses:
M. M. CADY,
E. E. CADY.