

UNITED STATES PATENT OFFICE.

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KEYBOARD.

No. 877,911.

Specification of Letters Patent.

Patented Feb. 4, 1908.

Application filed October 13, 1906. Serial No. 338,822.

To all whom it may concern:

Be it known that we, ALONZO B. CROSS and BASCOM L. UMBERGER, citizens of the United States, residing at Concord, in the county of Cabarrus and State of North Carolina, have invented a new and useful Keyboard, of which the following is a specification.

This invention relates to musical instruments such as pianos and other instruments utilizing a key board.

The object of the invention is to provide a key board having the general appearance of an ordinary key board but which utilizes characters upon the various keys for designating the tones produced by the depression of any of the keys.

A still further object is to provide a key board having a plurality of keys simulating the "black" keys of an ordinary key board and any one of which when depressed will cause the sounding of a chord in harmony with one of the adjoining "white" keys.

The invention consists of certain novel features of construction and combinations of parts, which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is a plan view of a key board constructed in accordance with our invention; and Fig. 2 is a detail view showing means connected to a "chord" key for sounding a chord upon one depression of the key.

Referring to the figures by characters of reference, 1 indicates a series of "white" keys disposed in the usual manner with the exception that each key has a letter printed or otherwise indicated thereon to designate the note sounded when the key is depressed. One other difference is the interposition of keys designated "B^b" and "E^b" between the "C" and "F" keys of the second octave below middle C. Moreover each key of the first octave below middle C is additionally designated by a dot while the keys of the second octave below are designated by two dots and this arrangement is continued through the lower octaves, in each case the number of dots indicating the octave below middle C in which the key is located. Beginning with A sharp below middle C the "black" keys 2 are arranged in the ordinary manner, each of said keys, however, having indicated thereon the well known character

used in music to designate the sharp. These "black" keys are arranged in the usual groups of twos and threes. Below the "E" of the first octave of the bass one "black" key is interposed between every two "white" keys as indicated at 3 and these "black" keys will be more properly designated "chord" keys. Each "chord" key, when depressed, actuates a hammer 4 so arranged with relation to the strings 5 as to strike a group of strings each of which is of different tone tuned to harmonize with the tone produced by depressing the first "white" key to the right of the "short" key. The tones embodied in each "chord" are indicated in white characters upon the keys. For instance by depressing "D" in the first octave below middle C a chord in harmony therewith can be struck by depressing the first "black" key to the left thereof. As indicated upon the drawing this will result in a chord including, in addition to the "D" below, the "A" below, the "D" above and the "F#" above.

Those keys indicated by the characters "B" flat and "E" flat are designed when depressed to actuate mechanism for sounding the tones designated thereon and the adjoining black keys 3 are disposed when depressed to actuate mechanism for sounding chords in harmony therewith. For instance, by depressing the "B" flat key "B" flat will be sounded and by depressing the black key to the left thereof a chord made up of "D," "B flat" and "F" below middle "C" will be sounded.

It will be obvious that by providing an arrangement of keys such as herein described the player can use the right hand for playing the treble while the left hand can be used for quickly locating and depressing the proper bass and "chord" keys. The characters upon the "chord" keys not only serve to indicate the chord which will be struck by depressing the key but also impress upon the mind of the beginner the notes embodied in the various chords. It becomes possible with this invention for one person to play a solo part and accompaniment with the right and left hand respectively and to play chords which would ordinarily require two persons.

It will of course be understood that any suitable mechanism such as indicated generally by the numeral 6 in Fig. 2 may be employed for actuating the hammer 4 when its key 3 is depressed. Such mechanism has

been described and claimed by us in an application for Letters Patent filed on June 7, 1906, Serial No. 320,649.

While the keys of the key board have been designated as "black" and "white" it is to be understood that we do not restrict ourselves to the use of keys of this character because the same can be of any colors and the terms "black" and "white" are merely employed to designate keys of contrasting shades.

The preferred form of the invention has been set forth in the foregoing description but we do not limit ourselves thereto as we are aware that modifications may be made therein without departing from the spirit or sacrificing the advantages thereof, and we therefore reserve the right to make such changes as fairly fall within the scope of the claims.

What is claimed is:

1. A key board made up of a series of white and black keys all of the white keys being provided with note indicating characters, and those of said keys in the bass being provided additionally with octave indicating characters, the black keys in the treble being interposed between certain of the white keys and bearing "sharp" characters and the black keys in the bass each bearing a plurality of characters indicating the notes of a chord in harmony with the note of an adjoining key, one of said black keys being interposed between every two white keys in the bass.

2. In a musical instrument the combination with groups of strings, the strings of

each group adapted to produce different tones; of a keyboard comprising alternately arranged "black" and "white" keys, said "white" keys having characters thereon indicating the tones produced by the depression of the keys and each of said "black" keys having a series of characters thereon indicating the various tones produced by the depression of said keys, mechanism operated by the depression of each "black" key for sounding the strings of one group, a string for each "white" key, and mechanism operated by the depression of each "white" key for sounding the string thereof.

3. In a musical instrument a keyboard consisting of a series of similar keys having characters thereon indicating the tone produced by the depression of each key, and a second series of similar keys distinguished in appearance from the keys of the first series, one key of said second series being interposed between every two keys of the first series, each key of said second series having a plurality of characters thereon indicating several tones simultaneously produced by the depression of said key, and means operated by the depression of each key for sounding the tone or tones indicated upon the key.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

ALONZO B. CROSS.
BASCOM L. UMBERGER

Witnesses:

WALTER THOMPSON,
CHAS. E. BOYER.