(No Model.)

E. F. O'NEILL.

HARMONIC ATTACHMENT FOR KEY BOARD MUSICAL INSTRUMENTS.

No. 316,908. Patented Apr. 28, 1885.

Fig. 1.

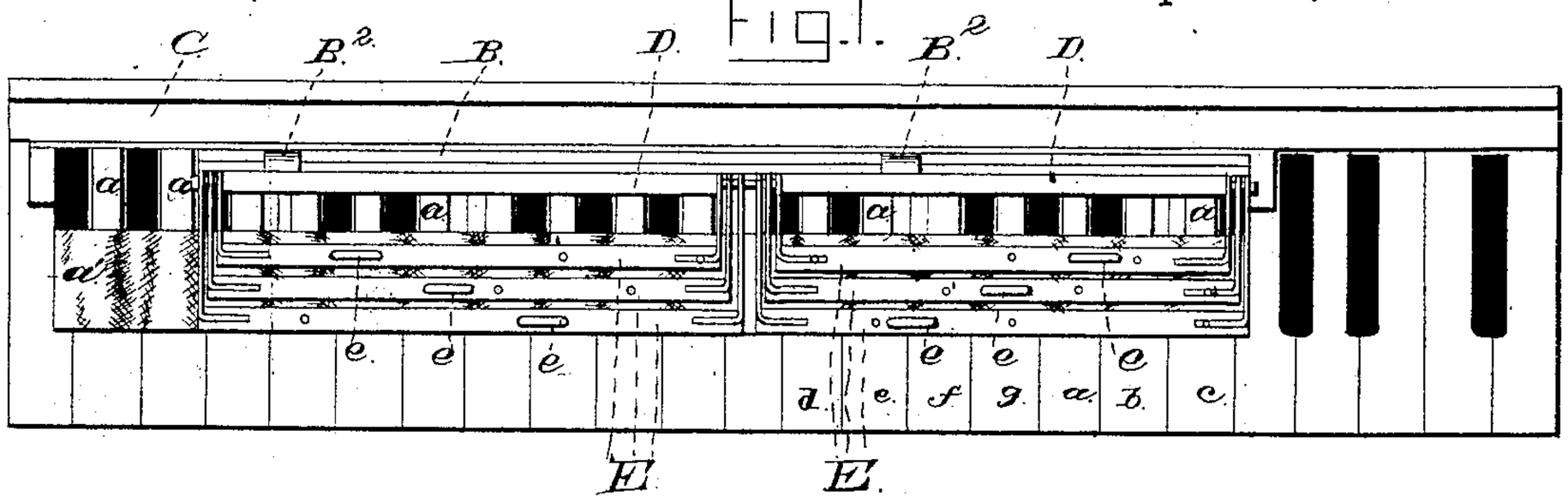


Fig. 2.

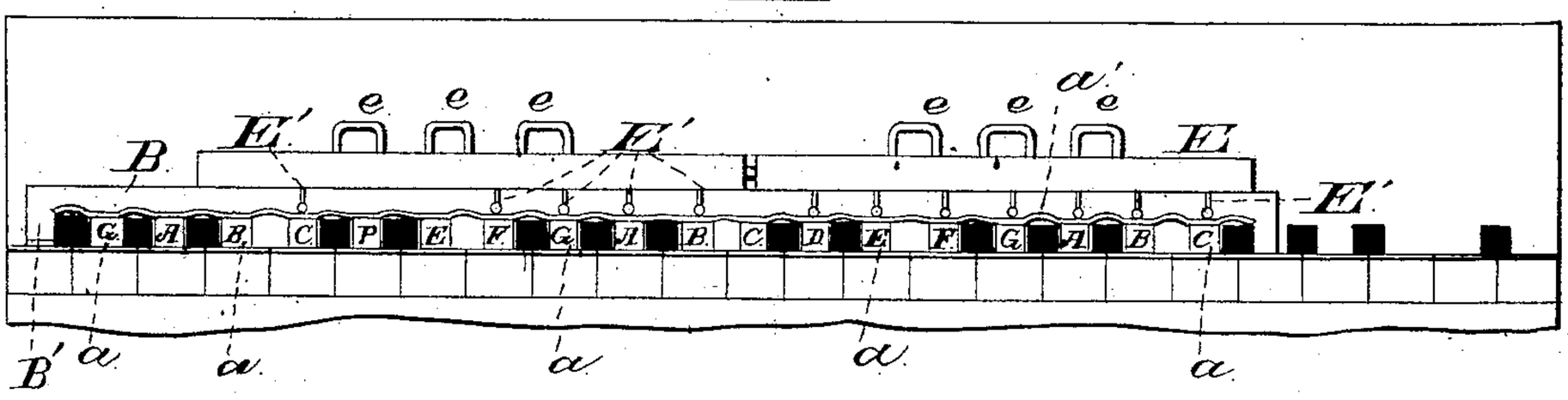


Fig. 3.

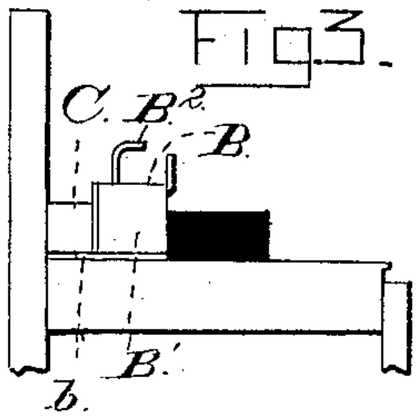


Fig. 5.

Fig. 4.

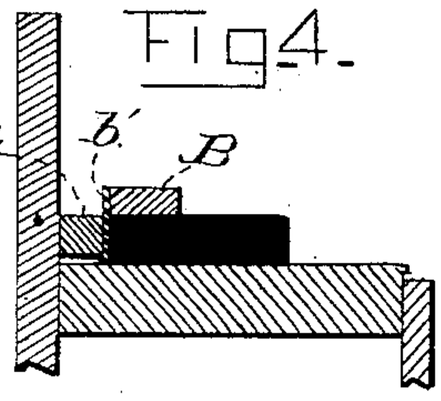


Fig. 6.

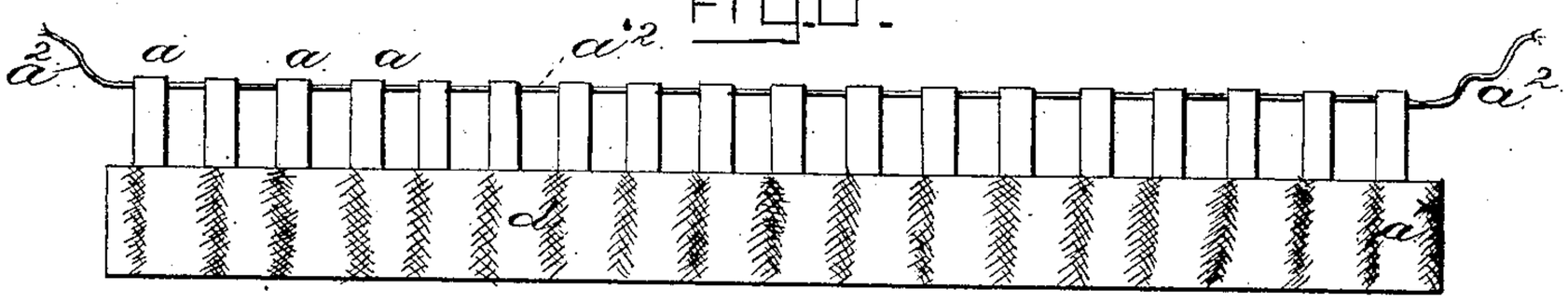


Fig. 7.

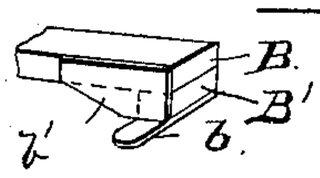
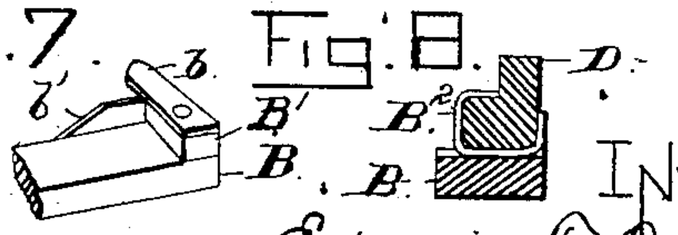


Fig. 8.



WITNESSES

M. A. Clark

P. B. Durfee.

INVENTOR

Edward F. O'Neill

By R. S. & A. P. Lacey

Attorneys.

UNITED STATES PATENT OFFICE.

EDWARD F. O'NEILL, OF STORM LAKE, IOWA.

HARMONIC ATTACHMENT FOR KEY-BOARD MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 316,908, dated April 28, 1885.

Application filed June 26, 1884. (No model.)

To all whom it may concern:

Be it known that I, EDWARD F. O'NEILL, a citizen of the United States, residing at Storm Lake, in the county of Buena Vista and State of Iowa, have invented certain new and useful Improvements in Attachments for Pianos and Organs; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to pianos, organs, and similar keyed musical instruments, and has for its object a simple and economical attachment whereby an inexperienced, unskillful person may readily play accompaniments either for the voice or other instruments, such as violins, flutes, or cornets.

To this end it consists in the novel construction, combination, and arrangement of parts, as will be hereinafter more fully described, and pointed out in the claims.

In the drawings, Figure 1 is a plan, and Fig. 2 a front view, of a section of a key-board on which is secured my improvement. Fig. 3 is an end view of same. Fig. 4 is a cross-sectional view. Fig. 5 is a detail view of one of the key-fingers. Fig. 6 is a detail view of the supplemental keys. Fig. 7 is a detail perspective view of the end of the fastening-bar. Fig. 8 is a cross sectional view of the said bar and the back or journal-bar, all of which will be described.

In order to the proper working of my invention when applied to the common key-board it is desirable that the bearing-surfaces of all the keys, both black and white, should be in the same horizontal plane. To secure this I provide the supplemental or filling keys *a a*, connected together at their opposite ends and fitted to be placed on the key-board between the black keys and on the white ones, as shown in Fig. 2, in which figure I have lettered said supplemental keys G A B, &c., corresponding to the usual white keys on which they rest. Where desired these supplemental keys may be separate and secured individually on their respective white keys, but for convenience I prefer to connect them at the forward ends by a flexible strip, a', and at their rear ends by a cord, a^2, which is fitted to be pushed down behind the black keys and hold the supplemental series in place.

While I prefer to employ these supplemental keys I do not desire to be limited thereto, as where desired the fingers, presently described, may be screw threaded into or otherwise suitably connected to their frames in such manner that they may be adjusted to suit the white or black keys—that is, made longer to strike the white keys, or shorter to strike the black ones—as will be more clearly understood in the light of the following description.

The fastening and supporting bar B is provided at its opposite ends with depending-blocks B′, from the lower side of which is projected rearwardly a short plate or lug, *b*, fitted to extend under the name board C of the instrument, and short plates *b′* are secured on the rear edge of the bar B, and project down to about the bottom of the blocks B′. This construction and arrangement is most clearly shown in Fig. 7.

In applying the bar B to an instrument, it is placed on the key-board, with the lugs *b′* resting on the adjacent black keys, and the bar is depressed, carrying the black keys with it, until the lugs *b* come flush with the top of the white keys. The bar is then moved inward until the lug *b* is slipped entirely under the name-board C, when the lug *b′* will slip down in rear of the black key, and the said bar B is held as shown in Figs. 3 and 4, the lug *b* preventing any vertical and the lug *b′* any outward or lateral displacement thereof, as will be understood.

The bar B is provided with guides, B^2, in which the pivot-bar D is held, as shown in Fig. 8, so it may be moved along the said bar B, in order to change the key, as will be understood. It will be understood, however, that the pivot-bar may be secured immovably to the supporting-bar, or that the pivot-bar may be dispensed with and the frame, presently described, be pivoted or hinged directly to the supporting-bar. In either of these cases the changing of keys would be secured by moving the support-

ing-bar along the key-board; but I prefer to employ the construction, as shown and before described.

The frames E are composed of the front bar and the arms or side bars, the rear ends of the latter being pivoted or hinged to the pivot bar D. I prefer to form these frames in two series, as shown, one for the bass and the other for the treble. The cross or front bars have the fingers E′ depending from their lower sides, and are preferably provided with suitable handles, *e*, so they may be more conveniently operated.

The fingers or pins E′ may be provided with an elastic cover, *e′*, on their lower striking ends, where desired, so as to overcome the stiff mechanical stroke which would be otherwise given. The fingers may be suitably arranged so that those on one frame will strike the proper keys to form the bass for the corresponding treble chord. The arrangement may be varied to suit the will of the maker, and it is manifest that the number of frames may be increased where desired to play more than three chords.

I have shown the frames arranged to play the key of C. In this arrangement the fingers of the outer bass-frame will strike C G E, those of the outer treble-frame E G C; the middle bass-frame will play F A, and the corresponding treble-frame F A C; the inner frames will play the bass one G B, and the upper one D G B. This will be seen from Figs. 1 and 2, as I have indicated the position of the fingers in the plan view, Fig. 1.

It is manifest that the bass and treble may be varied in many ways by those acquainted with the formation of musical chords, and I have not thought it necessary to more fully enlarge thereon. By moving the pivot-bar along the connecting-bar the attachment may be adjusted to play in any key desired. In operation the outer bass-frame may be depressed to play the tonic-bass, then the corresponding treble-frame is operated, and so on through the middle and inner frames, to play the dominant and subdominant chords, as desired.

It is obvious that instead of supporting the frames on a separate removable and adjustable pivot-bar they may be pivoted or hinged directly to the instrument; but I prefer to employ the construction, as shown and before described.

It will also be understood that a single series of frames provided with fingers to strike chords would be useful, as it is easier for inexperienced persons to strike the bass-keys than the several ones of the treble chords, and a single series of frames would be useful and operative in this way.

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

1. As an attachment for key-board instruments, a series of frames consisting of cross-bars and end bars or arms, and made of different sizes, whereby they may be fitted one within the other, and fingers supported on the cross-bars, substantially as set forth.

2. The combination, in a musical instrument, with the key board, of a frame having one end pivotally supported at the inner edge of the key-board, and provided at its other or outer edge with a finger or fingers whereby to engage the keys, substantially as set forth.

3. An attachment for key board musical instruments, comprising a pivot-bar and a plurality of frames pivotally connected at one end to the said bar and provided at the other end with fingers, substantially as set forth.

4. An attachment for key-board musical instruments, consisting of a main or supporting bar, a supplemental bar held to and movable along the supporting-bar, and a frame or frames pivoted to the supplemental bar, substantially as set forth.

5. The combination, with the key-board, of the supporting-bar provided at its opposite ends with depending blocks or portions B′, the lugs *b*, and the lugs *b′*, the pivot-bar secured to the supporting-bar, and the frames pivoted to the pivot-bar, substantially as set forth.

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

EDWARD F. O'NEILL.

Witnesses:

J. W. WARREN,

I. D. CADY.