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COMPLETE SPECIFICATION.

Improvements in Harps or Zithers.

We, WILLIAM WASHINGTON BATCHELDER, Junior, Piano-tuner 875 Washington Street, Boston, Suffolk County, State of Massachusetts, and JOSEPH RICHARDSON GREEN, Piano Merchant 164 "A" Tremont Street in said Boston, United States of America, do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement :—

Our invention relates especially to an attachment for small harps, zithers and similar instruments whereby a set of strings forming chords may be struck without setting the adjacent or unharmonious strings into vibration; and it consists in certain novel features hereinafter fully set forth, the object being to produce a simpler, cheaper and more effective device of this character than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation.

In the accompanying drawing,

Figure 1 is a plan view of a zither provided with our improvement;

Figure 2 is a sectional elevation; and

Figure 3 an elevation showing a modification in the formation of the bridge and shield.

Like letters of reference indicate corresponding parts in the different figures of the drawing.

A represents the zither which is of the ordinary form and construction and is provided with strings, *b*, strung in the usual manner.

Below the strings and across the top-board, *d*, a series of three bridges *f g h*, are secured in parallelism.

To each bridge a series of guards or shields *i*, preferably consisting of sections of soft rubber tubes are secured.

Through these guards certain of the strings *b* pass without contact. These guards are so arranged on each bridge that the strings not enclosed therein when struck will vibrate in harmony; for example, when the pick is drawn longitudinally of the bridge *f*, over the strings, the guards or shields *i*, on said bridge protect certain strings from the action of the pick while those exposed on said bridge, when struck are in accord.

The guards are so arranged respectively on each bridge that the exposed strings will sound different chords in a manner which will be readily understood by all conversant with such matters without a more explicit description.

By employing the cylindrical guard, described, disposed out of contact with the strings which they encircle, said enclosed strings are permitted to vibrate freely and the tones thereof are in no manner interfered with when the pick or thumb-piece is employed thereon in the usual way.

We preferably form the guards of rubber tubing, as the flexibility of the material prevents any harsh, grating noise from contact with the pick which freely passes over said guards without causing the strings enclosed to vibrate.

It will be seen that the necessity of using dampers or similar devices for stopping the vibration of certain strings while the others are played in harmony is avoided by the use of our improvement and the disagreeable grating noise caused by the contact of the pick or finger with said strings is done away with.

The shields or guards may be formed integral with the bridge, as in Figure 3, if preferred, or each of the protected strings may be provided with an independent shield fastened directly to the sounding-board without departing from the spirit

Batchelder & Green's Improvements in Harps or Zithers.

of our invention, the purpose of which is to protect determined strings from the contact of the pick in playing chords.

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

First. A zither provided with a shield or set of shields protecting determined strings from contact with the finger, pick or thumb-piece, substantially as and for the purpose set forth.

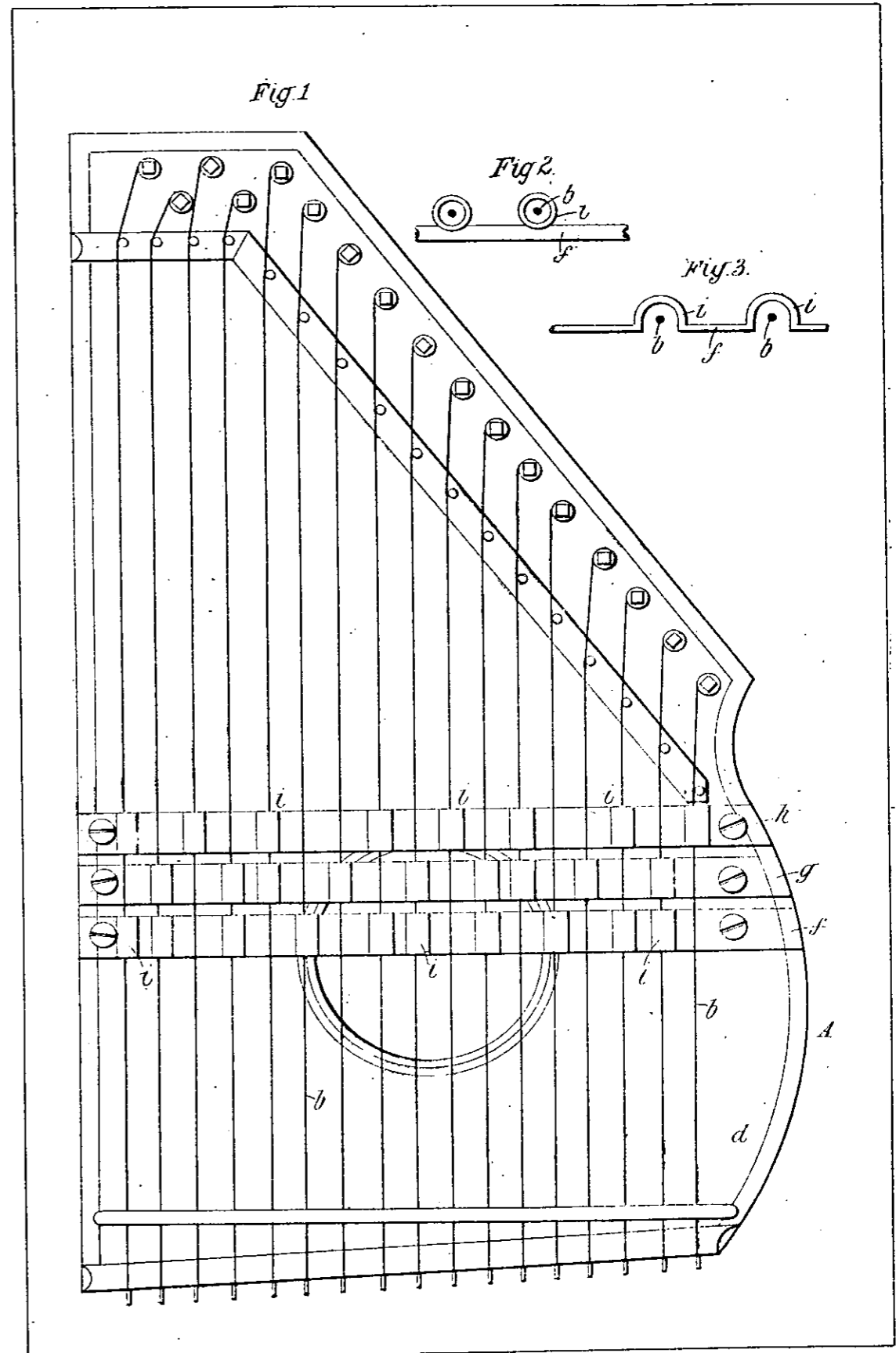
Second. In a zither or similar musical instrument a bridge secured to the sounding-board and provided with guards or shields encircling determined strings of said instrument, substantially as and for the purpose set forth.

Third. In a zither or similar musical instrument a series of bridges secured to the sounding-board in combination with a series of guards secured to each bridge, said guards respectively protecting determined strings of the instrument, substantially as described.

Fourth. A zither or similar musical instrument, A provided with a series of bridges, as *f g h*, in combination with the series of guards, *i*, constructed of rubber tubing or similar flexible material, said guards being secured to said bridges and encircling determined strings of said instrument.

Dated this 4th day of August 1891.

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[This Drawing is a reproduction of the Original on a reduced scale]