

(No Model.)

2 Sheets—Sheet 1.

J. DODD.
MUSICAL INSTRUMENT.

No. 527,269.

Patented Oct. 9, 1894.

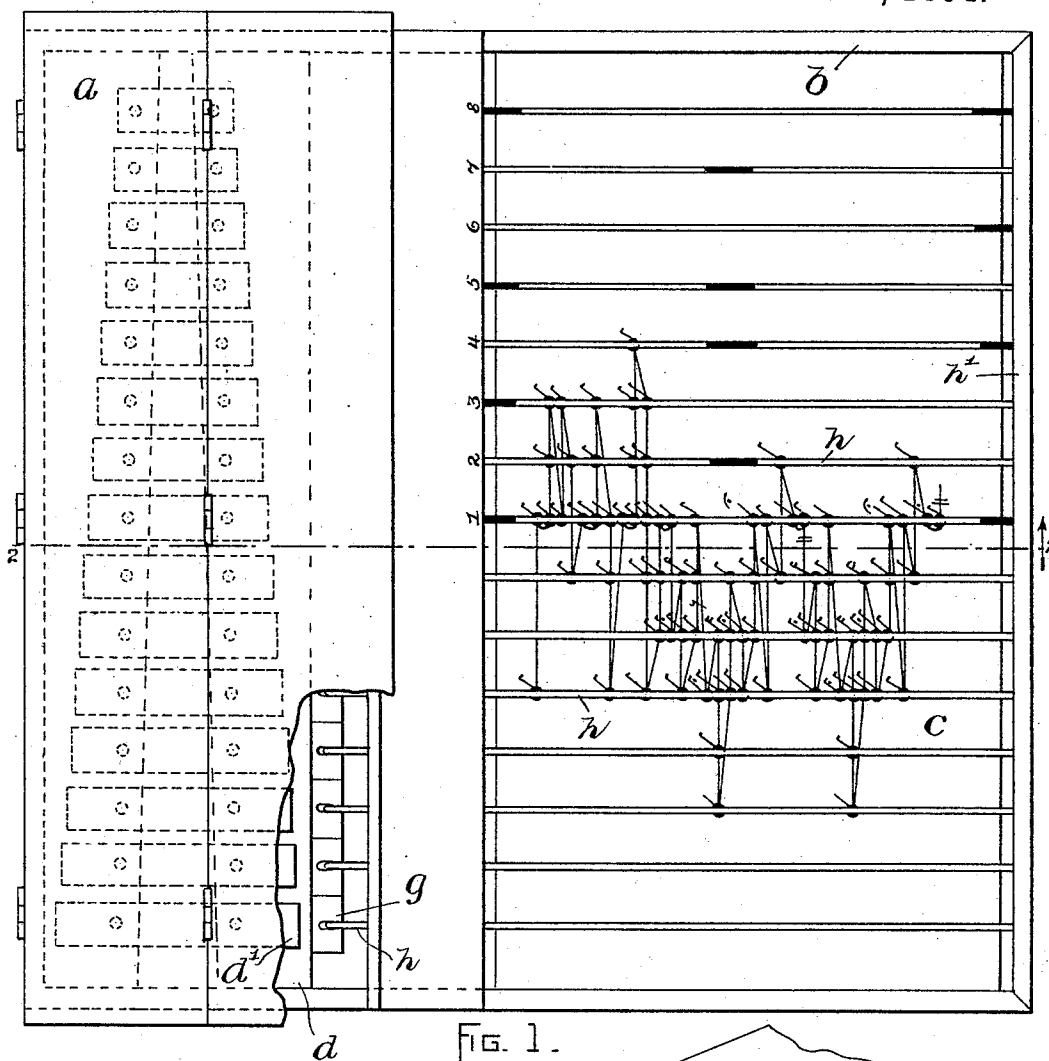


FIG. 1.

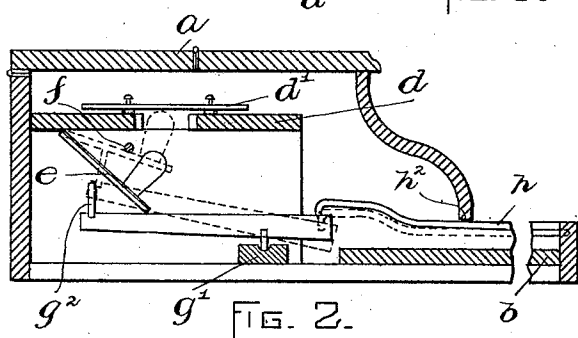


FIG. 2.

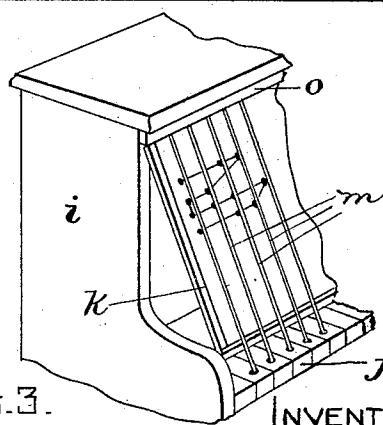


FIG. 3.

WITNESSES.

A. D. Harrison
Parker Davis.

INVENTOR:

J. Dodd
by Wright Brown & Co. Attys.

(No Model.)

2 Sheets—Sheet 2.

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MUSICAL INSTRUMENT.

No. 527,269.

Patented Oct. 9, 1894.

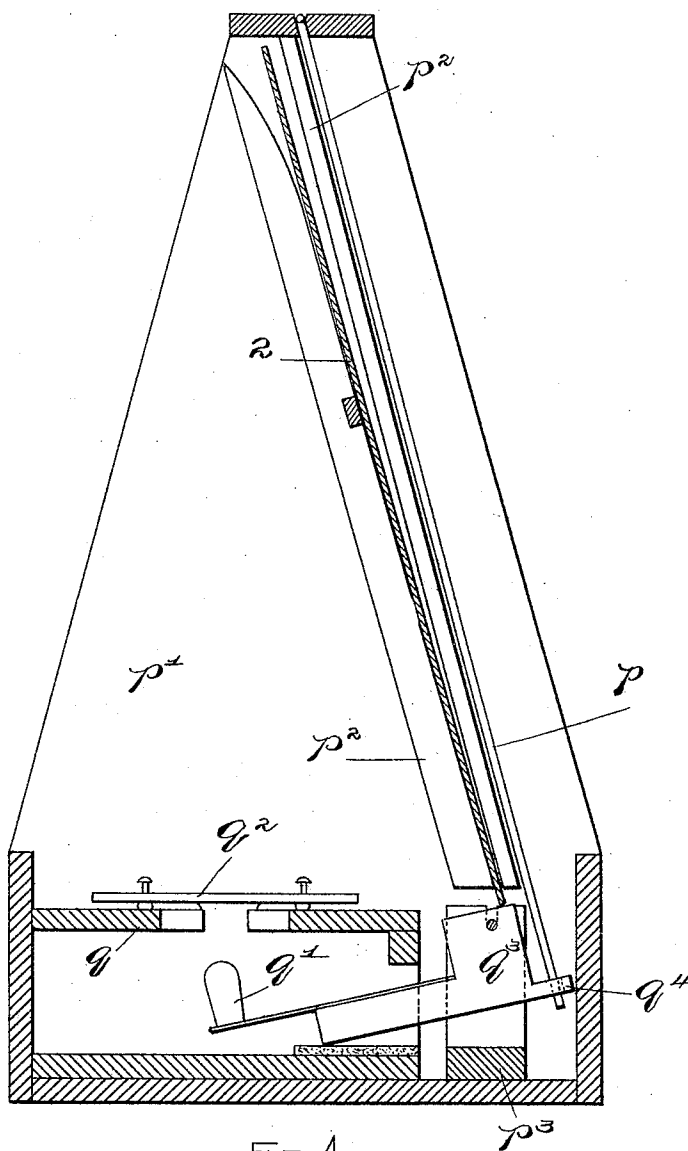


FIG. 4.

WITNESSES:

H. D. Harrison
J. P. Davis

INVENTOR:

J. Dodd
by Hugh H. Brown, Attorney

UNITED STATES PATENT OFFICE.

JAMES DODD, OF BOSTON, MASSACHUSETTS.

MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 527,269, dated October 9, 1894.

Application filed January 30, 1894. Serial No. 498,436. (No model.)

To all whom it may concern:

Be it known that I, JAMES DODD, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Musical Instruments, of which the following is a specification.

The object of the present invention is to provide means whereby a musical instrument of the nature of a piano or organ can be played by a novice, and I accomplish this object by arranging a series of parallel elongated controlling devices to register with characters on a guiding chart or sheet, such, for example, as the guide-line sheet music shown in Patent No. 452,995, granted to me May 26, 1891, and having such relation to the sound-producing agencies of the instrument that they may serve as guides for putting the same in action, and may be manipulated to produce action of said sound-producing devices.

The accompanying drawings show different constructions embodying the invention.

Figure 1 shows a top plan view of one form of instrument in which the invention may be embodied. Fig. 2 shows a section on line 2—2 of Fig. 1. Fig. 3 shows a perspective view of a portion of another form of instrument embodying the invention. Fig. 4 shows a vertical section of another modification.

Referring first to Figs. 1 and 2, the letter *a* designates a box which incloses a sounding-board and a suitably constructed piano-action; and *b* designates a key-board extending from the front of said box and adapted to receive and hold the sheet music, *c*, in proper position. The letter *d* designates the sounding-board, which supports sonorous bars *d'* in a suitable manner; *e*, hammers, which are pivotally attached to the under side of the board *d*, and are adapted to strike the bars *d'* and produce sounds therefrom; *f*, a wire or cord against which the hammers strike, and which limits their upward movement and causes them to rebound from the bars; and *g*, levers or "hoppers," which are fulcrumed on a bar *g'* at the bottom of the box *a*, and extend under the hammers on one side of the fulcrums, where they are provided with projections *g²* to act against the hammers. Said levers or "hoppers" *g* also extend on the opposite or front side of their fulcrums. A series of parallel bars, shown as round rods or

wires *h*, corresponding in number with the sonorous bars, is loosely supported in the front side *h'* of the key-board or box *b*, and these rods extend through an opening *h²* into the box *a*, where they are formed with downturned ends bearing on the levers or hoppers *g* on the front side of their pivots. The guide-line sheet music is placed on the key-board, and the parallel lines on which the notes appear are made to register with the rods *h*. By depressing the rods, it will be seen that the hammers are actuated, and the guide-lines direct the performer as to the order in which the rods are to be operated to produce the tune desired.

In Fig. 3, an instrument of the above character is shown embodied in the form of an upright piano, and *i* designates the box which incloses the action, *j* designates keys, operatively connected with the latter and adapted to be depressed by the performer, *k* designates an inclined rack above said keys and adapted to hold the sheet music, and *m* designates parallel rods or wires pivotally supported at their upper ends in a strip *o*, and loosely connected at their lower ends with the keys *j*, extending through openings therein, so that the keys may slide on the rods.

The performer is guided in operating on the keys by the registration of the rods *m* with the sheet music.

In the construction shown in Fig. 4, the actuating rods, as *p*, are arranged substantially upright, about as the rods *m* appear in Fig. 3, their upper ends being loosely supported in the top bar of a frame *p'*. The guide-line music sheets 2 are slipped between strips, *p²*, fastened to said frame at each side, and they rest upon a bar, *p³*, extending along the bottom of the frame. The sounding board, *q*, is supported in horizontal position back of the music sheets, and the hammers, *q'*, which act against the sonorous bars, *q²*, are attached to bell-crank levers, *q³*, pivoted in slots formed in the bar *p³*. Said levers are provided with forward-projecting lugs, *q⁴*, and the rods, *p*, engage said lugs so that upon pushing a rod, *p*, toward the sheet music, the bell-crank lever will be actuated, and the hammer attached thereto caused to strike the sonorous bar.

While I have shown arrangements employing rods for actuating the actions, yet flexi-

ble cords or strings might be used with equal effect, such cords or strings being operatively connected with the actions.

The invention is not limited to piano-actions but may be applied to reed instruments, the actuating rods or wires being operatively connected with valves controlling the air-currents.

It is obvious that each rod or wire might be connected with two or more note-producing agencies so as to control chords.

It will be seen that by my invention an instrument is adapted for the use of unskilled performers. Besides affording considerable entertainment, the invention is calculated to educate the novice in learning the notes.

It is to be understood that the invention is not limited to the use of guide-line sheet music, but any suitably marked chart or sheet may be employed having characters with which the bars may register.

The character of the elongated controlling devices may vary greatly, and the invention is not limited to any particular form. It is desirable that they extend parallel with each other, and that sufficient space be allowed between them to clearly disclose the chart or sheet behind them. The bars may, however, radiate, and such an arrangement might be found convenient in some instances.

In order to enable the novice to strike chords, the different bars or rods may be suitably designated, as for example by coloring the bars of one chord, as 1, 3, 5, and 8, one color; the bars of another chord, as 1, 4, 6, and 8, another color; and the bars of another chord, as 2, 4, 5, and 7, a still different color,—these being the principal chords. In the drawings, Fig. 1, the chords are designated by representing rods 1, 3, 5, and 8 as black

for a short distance at the inner end, rods 1, 4, 6, and 8 as black for a short distance at the outer end, and rods 2, 4, 5, and 7 as black for a short distance at the middle. By this arrangement the performer is directed to the rods which strike the most important chords.

It is evident that the keys of the piano shown in Fig. 3 might be designated for the chords, instead of the rods.

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

1. The combination, with a musical instrument, of elongated controlling devices suitably connected with the sound-producing devices of the instrument and spaced apart to disclose characters on a guiding chart or sheet placed back of them.

2. The combination, with a musical instrument, of parallel elongated actuating devices operatively connected with the sound producing devices of the instrument, and spaced apart to disclose characters on a guiding chart or sheet placed back of them.

3. The combination, with a musical instrument having a sounding board and hammers, of parallel actuating bars operatively connected with the said hammers and spaced apart to disclose guide-line sheet music placed back of them, substantially as, and for the purpose described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 25th day of January, A. D. 1894.

JAMES DODD.

Witnesses:

A. D. HARRISON,
F. P. DAVIS.