(No Model.)

T. H. ROTH & J. J. JOYCE.

AUTOHARP.

No. 593,126. Patented Nov. 2, 1897.

Fig. 1.

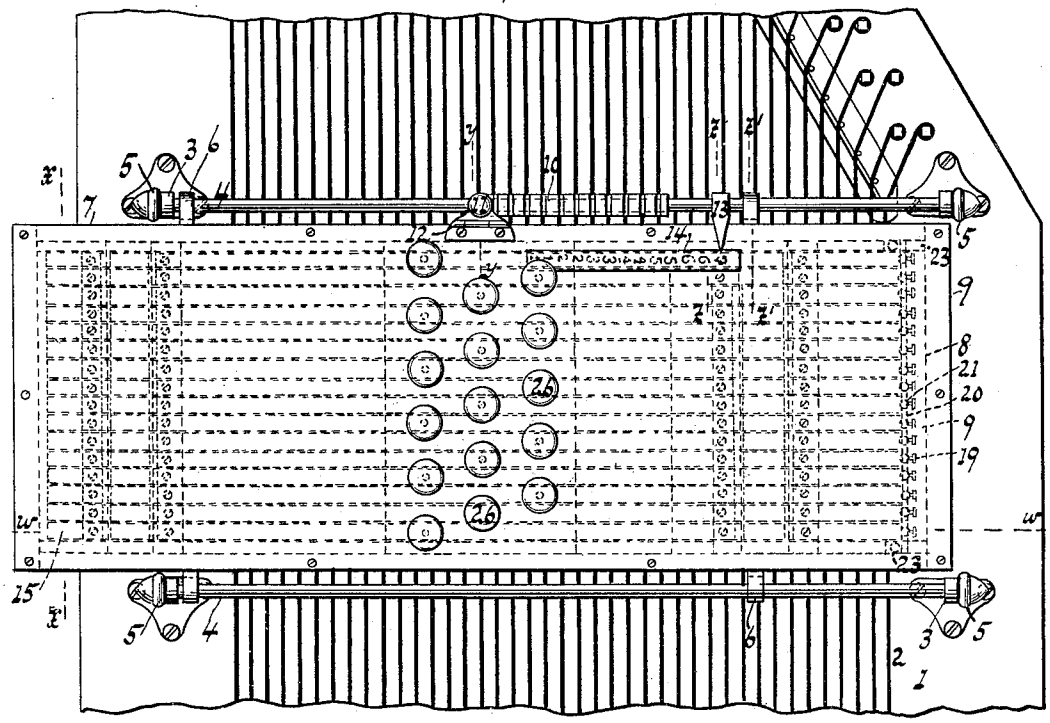


Fig. 2.

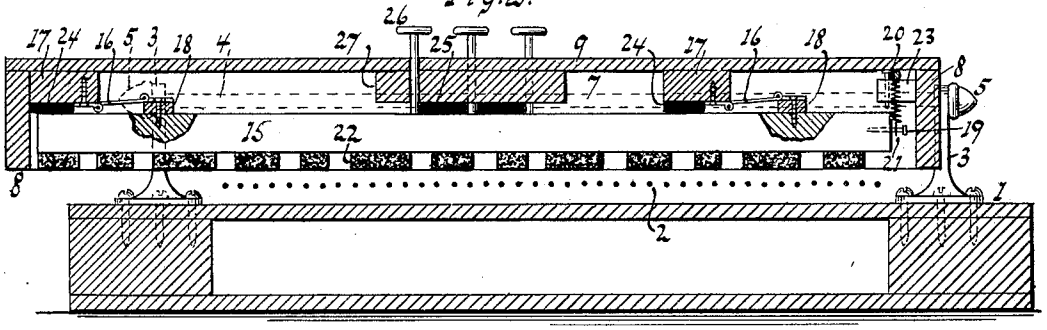


Fig. 4.

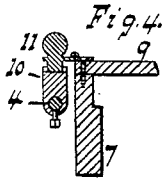


Fig. 5.

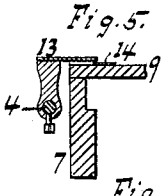


Fig. 6.

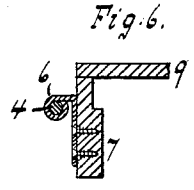
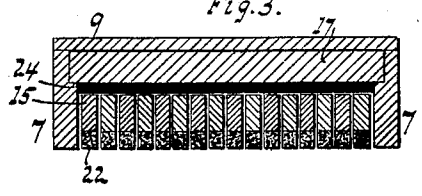


Fig. 3.



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UNITED STATES PATENT OFFICE.

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AUTOHARP.

SPECIFICATION forming part of Letters Patent No. 593,126, dated November 2, 1897.

Application filed April 15, 1897. Serial No. 632,290. (No model.)

To all whom it may concern:

Be it known that we, THEODORE H. ROTH and JOHN J. JOYCE, citizens of the United States, residing at Dolgeville, in the county of Herkimer and State of New York, have invented new and useful Improvements in Autoharps or Musical Instruments, of which the following is a specification.

The object of this invention is to provide an autoharp or stringed musical instrument which is simple of construction and accurate in operation; and the invention resides in the novel features of construction set forth in the following specification and claims and illustrated in the annexed drawings, in which—

Figure 1 is a plan view of an autoharp or musical instrument. Fig. 2 is a section along *w w*, Fig. 1. Fig. 3 is a section along *x x*, Fig. 1. Fig. 4 is a section along *y y*, Fig. 1. Fig. 5 is a section along *z z*, Fig. 1. Fig. 6 is a section along *z' z'*, Fig. 1.

The instrument is shown with sounding-board 1 and strings 2. Standards or risers 3 support rails or guides 4. These rails or rods 4 are suitably secured as by heads or screw-buttons 5, abutting against standards 3. The eyes or supports 6, traveling along the rails 4, are secured to the side pieces 7 of a slide or action 9, comprising side pieces 7, end pieces 8, and top piece 9'. One of the rails 4 has fixed thereto or is formed with a rack 10, practically having twelve teeth, corresponding to twelve chromatic tones or strings. The action 9, after having been suitably slid or shifted along rails 4, can be secured in position by a catch or fastening suitably formed, as by a hook 11, jointed at 12 to action 9 and made to releasably engage rack 10.

A rail 4 is shown as having an index 13 secured thereto, and by the aid of this index with the scale 14 on action 9 it can be noted in what position or for what key the action is set.

A bar or manual 15 or a series of such manuals have links 16 jointed or hinged to the action 9 and to the manual. Blocks 17, secured to the action 9, and blocks 18, secured to the top of manual 15, offer support for link-joints. The manual having a pin 19 and the action 9 a cross-bar or support 20 a spring 21, connected to said part 19 and 20, will normally move the manual away from the strings or cause the manual to move to rest toward the action 9. The blocks 17 may be practically called "link-supports."

When at rest the links 16 incline from the joints at the link-supports 17 upward toward the joints on the manuals, as seen in Fig. 2. The movement of a manual toward the strings will tend to swing the links 16 from their upwardly-inclined toward or, perhaps, somewhat past a horizontal position, so that at the moment the manual 15 brings its contactors or dampers 22 against the strings said manual is moving in a vertical or practically vertical direction. An advantage of a swinging manual is thus combined with an advantage of a manual moving vertically or rectilinearly from and toward the strings. The blocks 18 can be made of such height as to secure for the links a desired upward inclination when the manual is at rest.

The spring-supporting rod 20 is shown carried by supports or ledges 23, Fig. 2, secured to action 9 or to its end piece 8.

The rebound or return of the manuals to rest can be deadened by cushions or pads 24 and 25, which can be glued or secured to the action 9 or to the manuals 15.

The manuals 15 can be actuated or moved toward the strings by handles or buttons 26. These buttons are shown with their stems passing through or guided by a block or thickening 27 on action 9. The buttons or handles may be secured to the manual or made to rest loosely thereon. The pads 24 and 25 are shown secured to the link-supports 17 and to the thickening or piece 27.

Of course the invention is not confined to the exact details shown, as these can be varied without departing from the invention, the object of which is to enable a swinging bar or manual to make a practically direct downward or rectilinear contact with the strings.

What we claim as new, and desire to secure by Letters Patent, is—

1. A stringed musical instrument provided with a link-support and with a bar or manual (one or more), and a link jointed to the support and to the manual, said link when the manual is at rest being made to extend

or incline upward from the support-joint to the manual-joint substantially as described.

2. A stringed musical instrument provided with a link-support and with a bar or manual (one or more), and a link jointed to said support and to the top of the bar or manual, said link when the manual is at rest or out of action being made to incline from the supporting-joint upward to the bar-joint substantially as described.

3. A stringed musical instrument provided with a link-support and with a bar or manual (one or more), and a link jointed to said support and to the top of the bar, said bar or manual being provided with a joint-supporting block or elevation to incline the link from the support-joint upwardly to the manual-joint when the manual is at rest substantially as described.

4. A stringed musical instrument provided with an action or shifting support and with a bar or manual (one or more), and a link jointed to the action and to the manual, said link when the manual is at rest being made to extend or incline upward from the action to the manual substantially as described.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

THEODORE H. ROTH.
JOHN J. JOYCE.

Witnesses:
WILLIAM DOLGE,
EDWARD DEDICKE.