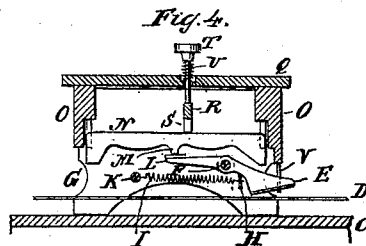
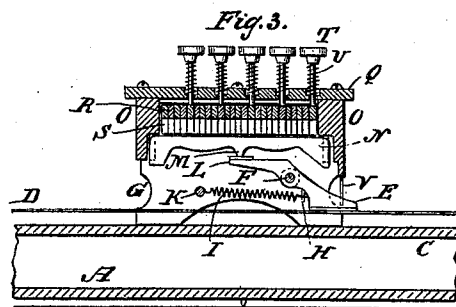
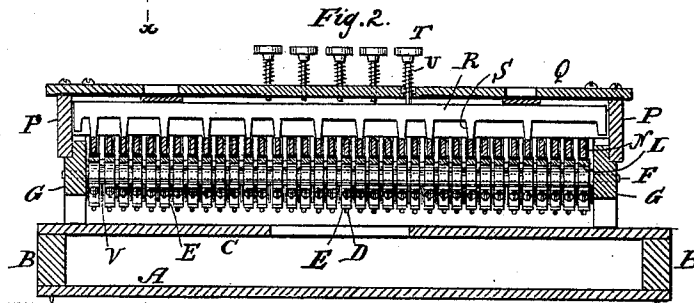
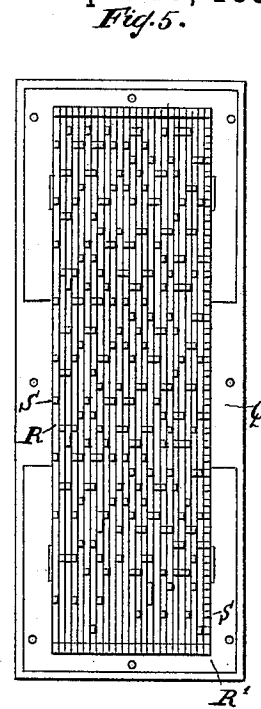
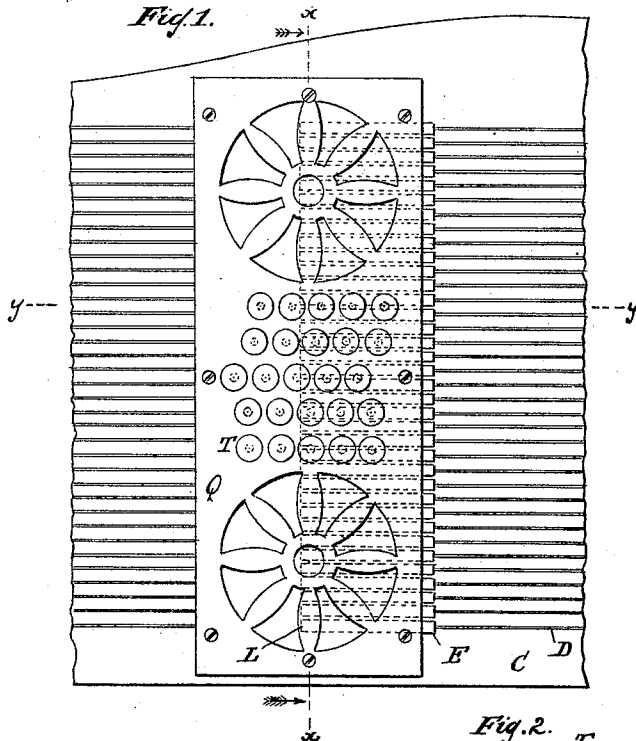


(No Model.)

W. J. RICHIE.
HARP.

No. 518,512.

Patented Apr. 17, 1894.



WITNESSES:

E. Wolff.
Chas. E. Densgen

INVENTOR:

Walter J. Richie.

BY

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ATTORNEYS.

UNITED STATES PATENT OFFICE.

WALTER J. RICHIE, OF LIMA, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS,
TO THE C. F. ZIMMERMANN COMPANY, OF DOLGEVILLE, NEW YORK.

HARP.

SPECIFICATION forming part of Letters Patent No. 518,512, dated April 17, 1894.

Application filed December 15, 1893. Serial No. 493,769. (No model.)

To all whom it may concern:

Be it known that I, WALTER J. RICHIE, a citizen of the United States, residing at Lima, in the county of Allen, in the State of Ohio, have invented new and useful Improvements in Harps, of which the following is a specification.

The object of this invention is to provide simple and effective means whereby the depression or actuation of a key will effect the release of certain strings on a harp or like instrument and to this end the invention consists 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 a harp containing my invention. Fig. 2 is a section along $x x$ Fig. 1. Fig. 3 is a section along $y y$ Fig. 1. Fig. 4 is a detail view similar to Fig. 3 showing a damper released. Fig. 5 is an inverted plan view of actuating bars.

In the drawings the letter A indicates a base or support having side pieces B, on which is a sounding board C. The strings D of the instrument stretch over the sounding board. Each damper E is shown fulcrumed on a bar F held by legs or supports G. To the pin H of each damper is connected a spring I having a hold on a bar K in the supports G, said spring serving to hold the damper in action to deaden or cut out its string. The tail L of the damper is exposed to the action of a releasing finger M extending from a slide N guided in side pieces O secured to the supports G. These supports G also have end pieces P and a top Q is supported on the pieces O P. The end pieces P guide the bars R which bars by means of their fingers S are adapted to actuate the slides N so as to release the dampers from the strings so that the latter can speak or sound. By having the fingers S on a bar arranged so as to release certain dampers, as for example the dampers of strings forming a chord, or arpeggio, such chord or arpeggio can be made to sound while the other strings remain at rest or damped. The finger buttons T guided in top Q serve to move the actuating bars R to free the strings, and when the finger buttons T are

free the restoring springs U I hold or move the parts to the normal position, in which the strings are damped. One of the actuating bars may be provided with sufficient fingers to actuate all the slides N and release all the dampers, as for example the bar R' (Fig. 5). From one of the side pieces O are shown depending wires or fingers V between which the dampers E are guided so as to properly engage the strings. The keys T are disconnected or loose from the dampers E so that any jarring or any sudden jerk or movement of the keys will not exert a disadvantageous influence on the dampers.

The device will be found very effective in the production of chords and arpeggios.

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

1. The combination with a stringed instrument, of a series of pivoted, rocking dampers, springs acting on the dampers and normally holding them in contact with the strings of the instrument, slides movable to and from the dampers and having fingers acting thereupon to rock them out of contact with the strings when said slides are pressed toward said dampers, means for guiding the slides in their movements, spring-retracted keys arranged at one side of the slides, and devices acted on by the keys for moving the slides and causing their fingers to move the dampers out of contact with the strings, substantially as described.

2. The combination with a stringed instrument, of a series of pivoted dampers having tail pieces, springs acting on the dampers and normally holding them in contact with the strings, vertically movable slides having fingers for acting on the tail pieces of the dampers to move the latter out of contact with the strings, vertically movable bars extending over the said slides and adapted to engage and depress the latter to rock the dampers and move them out of contact with the strings, and spring-pressed keys for actuating said bars, substantially as described.

3. The combination with a series of dampers, of releasing fingers for the dampers, an actuating bar provided with lugs S made to act on a portion of the fingers and to leave

the remaining fingers unactuated, and a key for the actuating bar, substantially as described.

4. The combination with a series of dampers, of releasing fingers for the dampers, slides from which the fingers extend, an actuating bar for the slides, and a key for actuating the bar substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WALTER J. RICHIE.

Witnesses:

JOHN N. HUTCHISON,
P. H. BROOKS.