

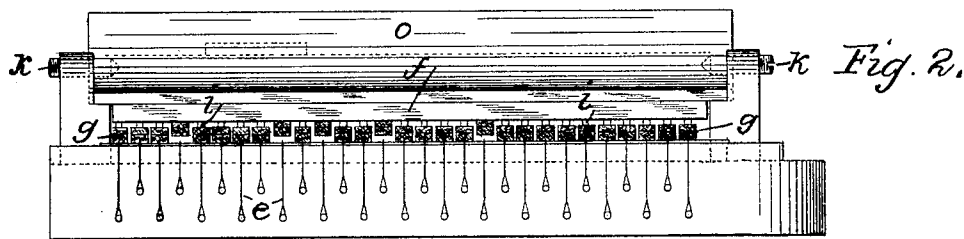
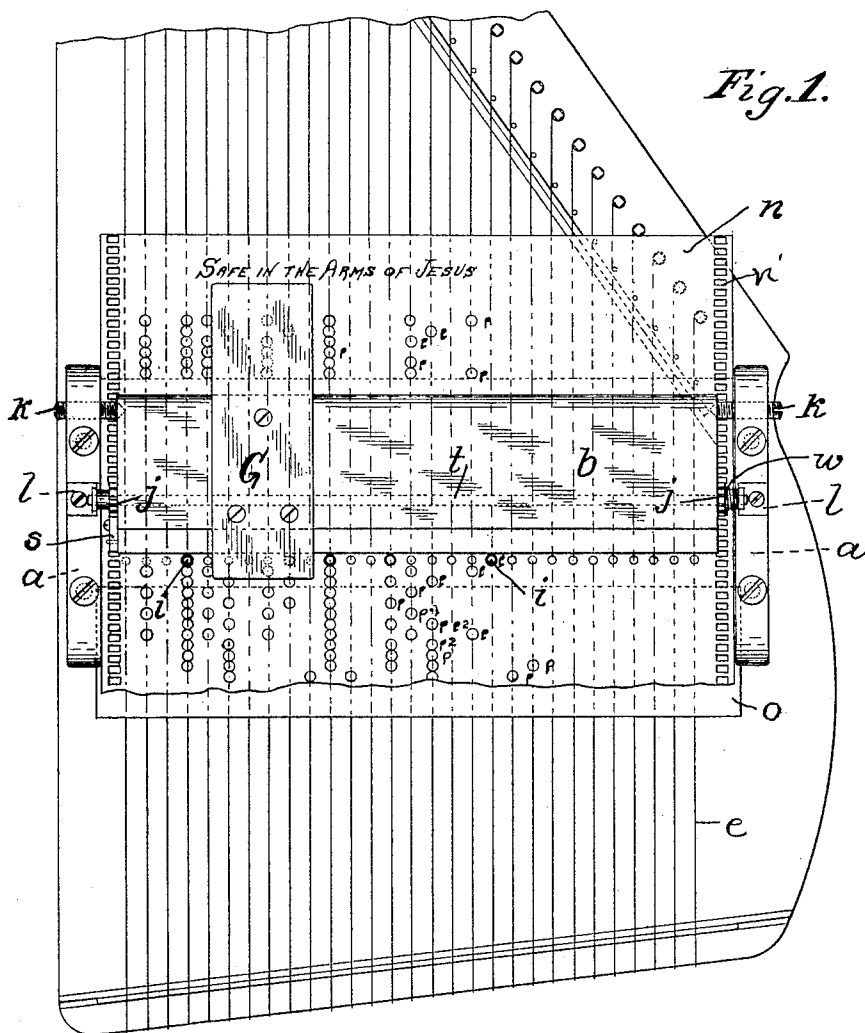
(No Model.)

3 Sheets—Sheet 1.

P. LOCHMANN.
MUSICAL INSTRUMENT.

No. 582,866.

Patented May 18, 1897.



WITNESSES:
Eugenie A. Persinger.
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INVENTOR
Paul Lochmann
BY *Attestation*
ATTORNEY

(No Model.)

3 Sheets—Sheet 2.

P. LOCHMANN.
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Fig. 3.

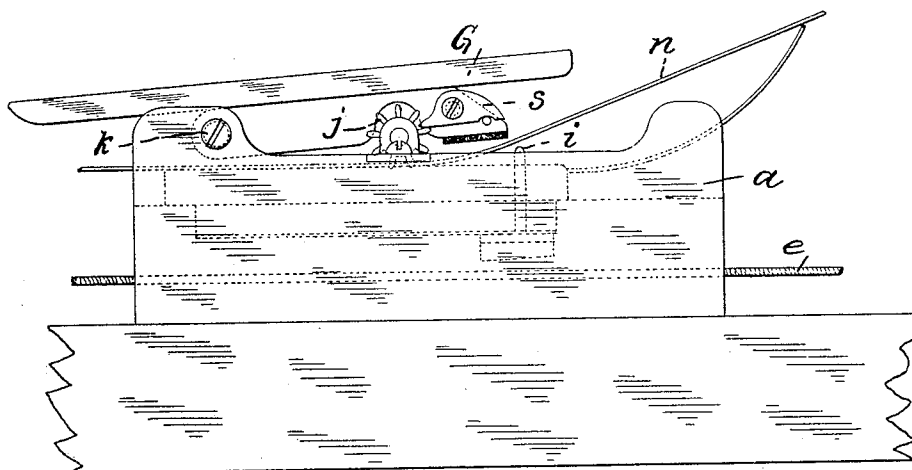
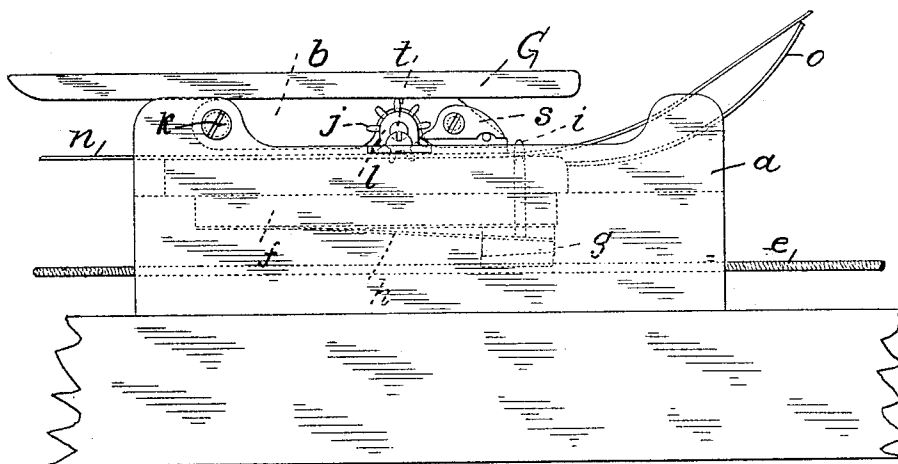


Fig. 4.

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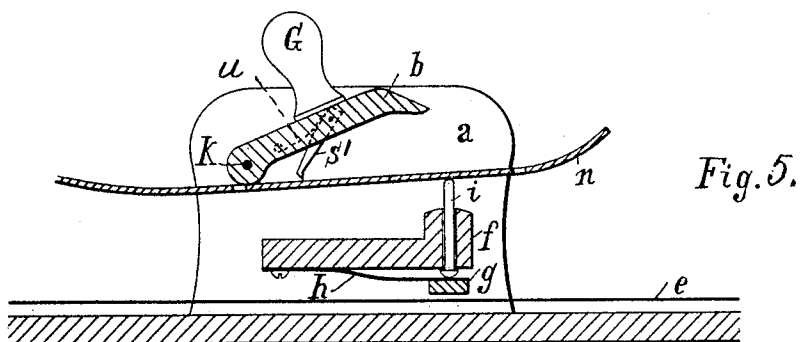


Fig. 5.

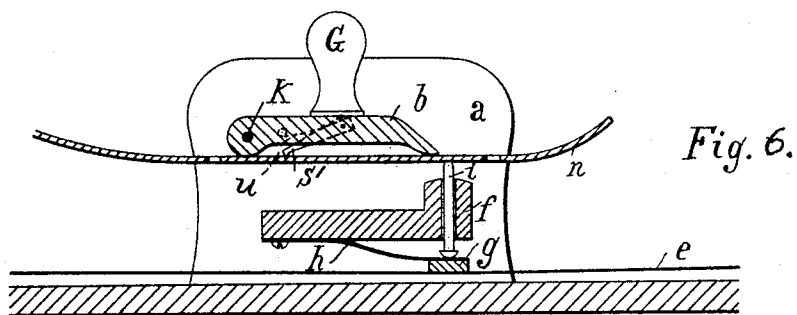


Fig. 6.

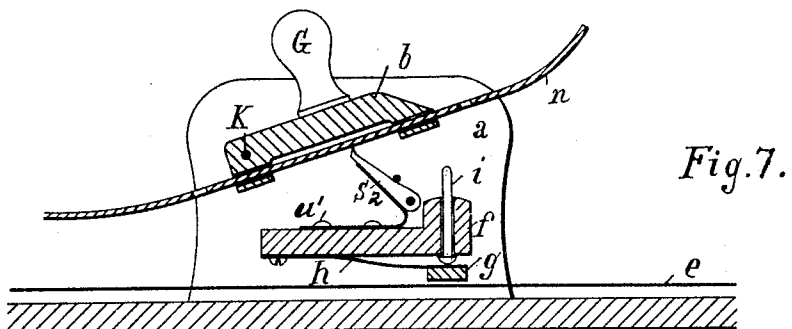


Fig. 7.

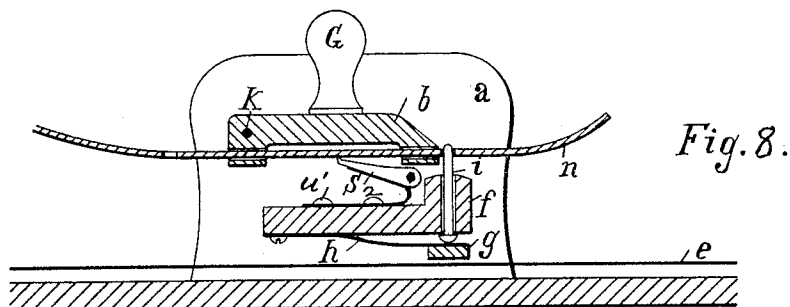


Fig. 8.

Witnesses:
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Inventor:
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by A. F. W. D. [Signature]

UNITED STATES PATENT OFFICE.

PAUL LOCHMANN, OF LEIPSIK, GERMANY.

MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 582,866, dated May 18, 1897.

Application filed April 11, 1896. Serial No. 587,070. (No model.)

To all whom it may concern:

Be it known that I, PAUL LOCHMANN, a subject of the King of Prussia, residing at Leipzig, Saxony, German Empire, have made a new and useful Improvement in Musical Instruments, of which the following is a clear and exact specification.

My invention has reference to improvements in devices for feeding the music-sheets of mechanical musical instruments, it having for its object to insure ease of operation and correctness of rendering.

To this end my invention consists in the combination, with a cithern or like string instrument, of a swinging finger-board arranged transversely to the strings and engaging with the music-sheet, and a pawl operated by the finger-board and placed in operative connection with notches or perforations provided in the music-sheet.

The nature of my invention will best be understood when described in connection with the accompanying drawings, in which—

Figure 1 represents a plan or top view of a cithern provided with my improvement, part being broken away. Fig. 2 is an end view. Figs. 3 and 4 are side views, on an enlarged scale, illustrating the operation of the feeding device. Figs. 5, 6, 7, and 8 are longitudinal cross-sections of the cithern, illustrating my invention embodied in modified forms.

Similar letters of reference designate corresponding parts throughout the several views of the drawings.

Referring at present to Figs. 1 to 4 of the drawings, the letter *b* designates the finger-board placed transversely to the strings *e* and hinged by pivots *k* to two lateral brackets *a*, secured to the body of the cithern. A suitable handle or finger-piece, as *G*, may be attached to the finger-board to facilitate the movement of the same. Above the strings *e* are arranged dampers *g*, carried by flat springs *h* and engaged by pins *i*, guided in the bridge *f*. According to the holes in the music-sheet *n* the depression of said music-sheet by the finger-board will cause some of the pins *i* to be depressed to silence the corresponding strings, while the remaining pins will pass through the holes in the music-sheet and the corresponding strings will be sounded. The particular construction of the damping de-

vices is old and forms no part of my present invention.

To feed the music-sheet forward during each depression of the finger-board, I provide said music-sheet with feed notches or perforations *n'* along its opposite sides, which in the example shown in Figs. 1 to 4 are engaged by pinions *j*, mounted on a shaft *l*, extending across the instrument and having bearings in boxes *l*, secured to the brackets *a*. A spiral spring *u*, coiled about the hub of one of the pinions, constantly presses the shaft *l* in its longitudinal direction. To one side of the finger-board and above and in line with one of the pinions *j* is arranged a gravitating pawl *s*, adapted to engage and turn the corresponding pinion when the finger-board is depressed, while when the finger-board rises the pawl slides over the teeth of the gear. On each depression of the finger-board the music-sheet is consequently advanced by one row of perforations. In practice the pawl may be made of comparatively hard rubber to render the operation noiseless. A curved guide-plate, as *o*, is used to direct the music-sheet upward, so that the strings are unobstructed.

In Figs. 5 and 6 I have shown the pawls *s'* attached directly to the finger-board and engaging with the feed notches or perforations on the opposite sides of the music-sheet *n*, said pawls being subjected to the action of springs *u*, which hold them downward. When the finger-board is vibrated, the pawls *s'* engage one of the notches or perforations and feed the music-sheet end forward.

In Figs. 7 and 8 I have shown the music-sheet carried by the finger-board and the pawls *s''* carried by the bridge *f*. The operation is in this instance the same as before.

I do not wish to restrict myself to any particular construction for the cithern in general, the essential feature of my invention being the mechanism for feeding the music-sheet simultaneously with the depression of the finger-board.

What I claim as new is—

1. In a mechanical string instrument, the combination of a swinging finger-board arranged transversely to the strings, a shaft provided with pinions at opposite ends adapted to engage with notches in the music-sheet,

a pawl hinged to the finger-board and adapted to engage with one of said pinions, and damping devices operated by the finger-board on its depression, substantially as described.

5 2. In a mechanical string instrument, a swinging finger-board arranged transversely to the strings, an operative pawl, means intermediate of said pawl and the music-sheet in position to be engaged by said pawl for advancing the music-sheet line by line on the depression of said finger-board, and damping devices operated by the finger-board on its depression, substantially as described.

10 3. In a mechanical string instrument, a

swinging finger-board, combined with an operative pawl, a music-sheet provided with feed notches or perforations for its propulsion through the medium of said pawl, and damping devices operated by the finger-board on its depression, substantially as described. 15 20

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PAUL LOCHMANN.

Witnesses:

ED. BRESLAUER,
RUDOLPH FRICKE.