

L. J. FREMAUX.  
Piano and Organ Attachments.

No. 145,793.

Patented Dec. 23, 1873.

Fig. 1.

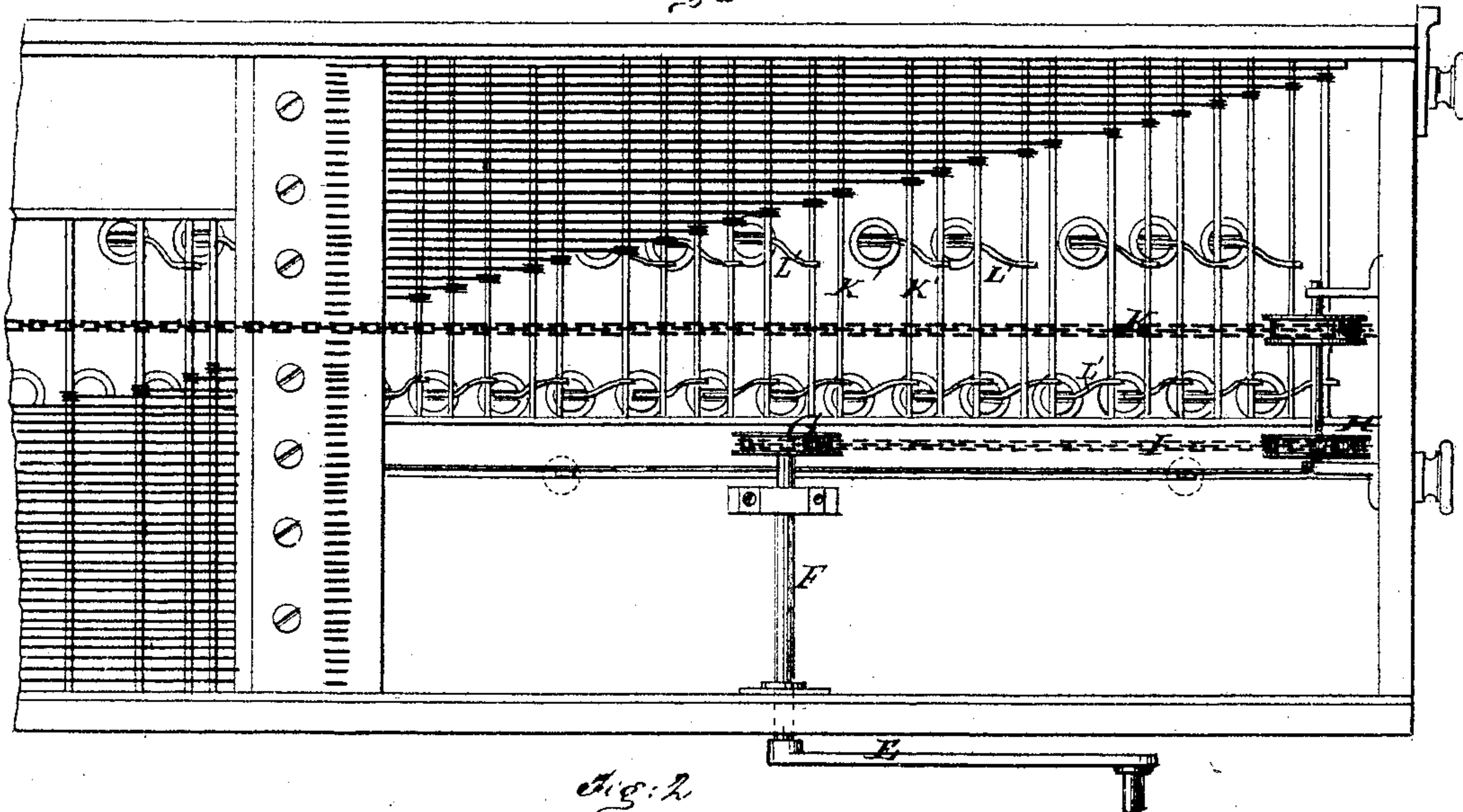


Fig. 2.

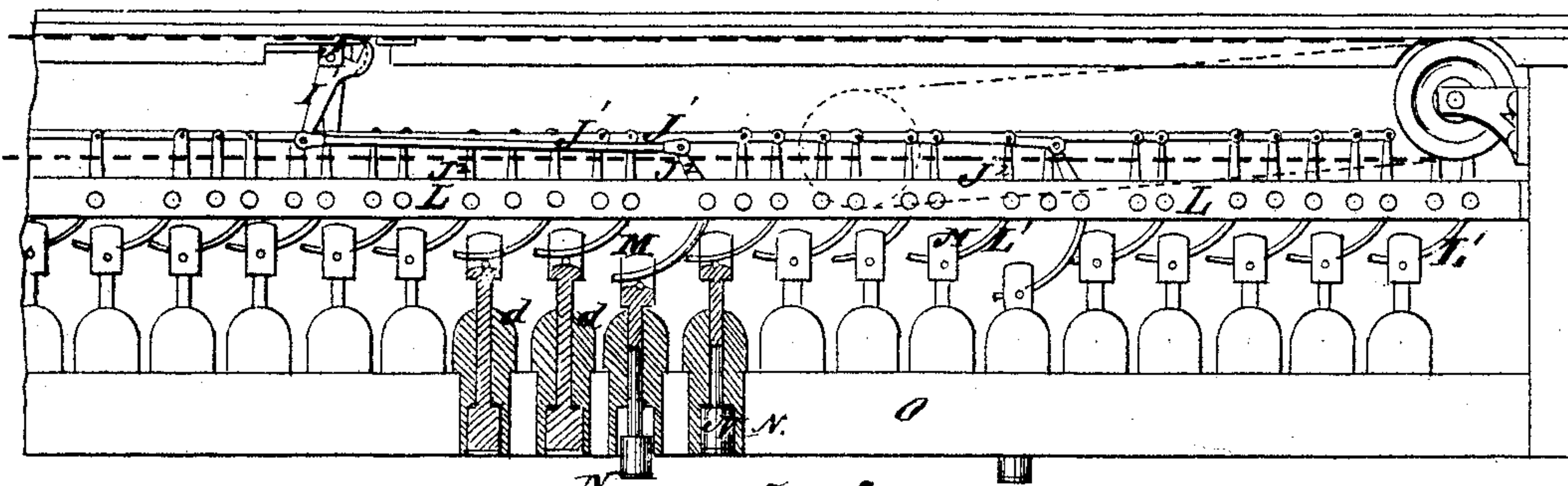
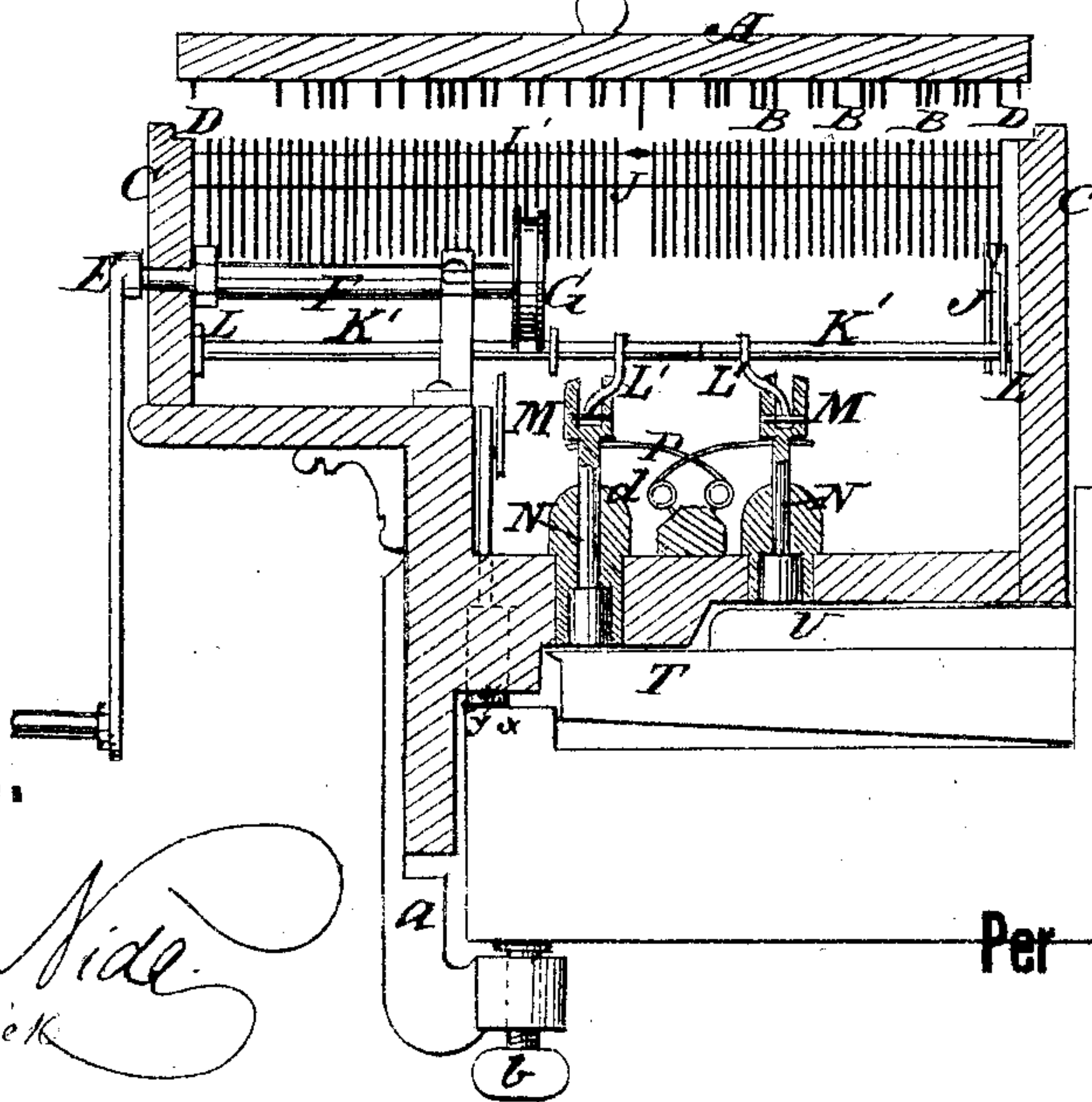


Fig. 3.



Witnesses.

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# UNITED STATES PATENT OFFICE.

LÉON J. FRÉMAUX, OF NEW ORLEANS, LOUISIANA.

## IMPROVEMENT IN PIANO AND ORGAN ATTACHMENTS.

Specification forming part of Letters Patent No. **145,793**, dated December 23, 1873; application filed July 26, 1873.

*To all whom it may concern:*

Be it known that I, LÉON J. FRÉMAUX, of New Orleans, in the county of Orleans and State of Louisiana, have invented a new and Improved Mechanical Playing Attachment to Pianos and Organs, of which the following is a specification:

My invention consists of movable boards, having pins and bridges arranged on one side in the order of the music, like the projections of the barrel of a music-box, which is caused to slide along the top of a box by a hand-crank and suitable gearing, in which said box are levers corresponding to all the keys of the piano and organs, connected by suitable contrivances with cushioned plungers or hammers, which are made to strike the keys of the piano and organs when the projections on the moving board come in contact with the levers, thus causing the piano and organs to play the piece represented on the board by the projections. Different boards will be used for different tunes.

The box containing the apparatus is so contrived that it can be applied to any piano and organ by simply placing it on the front above the keys, and securing it by clamps and adjusting devices attached to the box.

Figure 1 is a plan view of the apparatus with the sliding board, whereon the projections for actuating the levers are mounted, removed. Fig. 2 is mainly a side elevation of the apparatus, and partly a sectional elevation. Fig. 3 is a transverse section. Fig. 4 is an end elevation of the apparatus and part of a piano, showing the application of the attachment; and Fig. 5 is a detail section, showing the contrivance for adjusting the attachment for regulating the hammers to the keys.

Similar letters of reference indicate corresponding parts.

A represents the movable board, carrying the projections B on the lower side, which are arranged, as aforesaid, like the projections of the barrel of a music-box, in the order required for the particular tune to be played. The board moves along the open top of the box C, in the ways D, and is actuated by the hand-crank E, shaft-pulleys G H, and endless chains I K. Immediately below this movable board, and at about the middle of the box length-

wise, is a row of levers, I', pivoted on a rod, J, extending across the box, there being a lever for each key of the piano. Said levers are connected at the lower end of the long arm, (which projects downward from the rod, while the short arm extends directly upward,) by rods J<sup>1</sup>, with the arms J<sup>2</sup> of rock-levers K, arranged horizontally across the box in the bars L, attached to the sides of the box. They extend from end to end of the box, and are distributed so that one is apportioned to each key of the piano, and each rod has an arm, L', which is connected with the stem M of plunger or hammer N, which is arranged in a socket in the under side of the bottom board O of the box, directly over the piano-key. Said hammers are arranged in two rows, one for white keys and the other for the ebony keys. They are held up above the keys by springs P until forced down by the systems of contrivances above described, which are set in motion by the pins of the moving boards striking the short arm of the levers I'. The hammers are cushioned upon the lower ends, similarly to the ordinary piano-hammers, to prevent noise and wear. The bottom of the box is arranged in the three different planes Q R S, necessary to rest on the front and extend over the keys T U without pressing on them, and it is provided with adjustable horizontal bearing-pieces V at the back of the ends to rest on the ledge W. The front is supported on the part X of the piano-frame by the vertically-adjustable bearers Y, on which the attachment is raised or lowered (to adjust the hammers to the keys) by means of the shifting-bar Z, elbow-levers Z<sup>1</sup>, and the adjusting-screw Z<sup>2</sup>. After being adjusted to the height required, the front is clamped fast by the brackets a and clamp-screws b. The sockets for the plungers or hammers N are formed in knobs d, inserted in the bottom board of the attachment to guide the hammer-stems, which pass through the knobs. These knobs are made of hard solid wood turned up in a lathe; they form better and more perfect bearings for the hammers than could be made by holes bored in the bottom board.

It will require four or more boards for each tune, as the parts are always repeated alternately, and each board will be used in the or-

der in which its part of the tune is played, the others being removed.

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

1. The combination of the adjustable bearers Y, adjusting-bar Z, elbow-levers Z<sup>1</sup>, and the adjusting-screw Z<sup>2</sup> with the box of the playing attachment, substantially as specified.

2. The combination of said adjustable bearers Y, adjusting-bars V, and the clamps *a b* with the box of the said playing attachment, substantially as specified.

3. The combination of the socket-knobs *d* with the hammers and the box-bottom, substantially as specified.

4. The combination of a movable music-board, containing pins and bridges, as described, with levers I, for communicating mo-

tion to the key-hammers of an attachment for playing pianos, substantially as specified.

5. The arrangement of rods J<sup>1</sup>, arms J<sup>2</sup>, rock-levers K', arms L', and springs P with the key-hammers and the transmitting-levers I, substantially as specified.

6. A mechanical attachment for playing pianos and organs, comprising the detachable box, movable music-board, mechanism for moving said board, the hammers or plungers, and the levers, rods, rock-shafts, arms, and springs, combined and arranged substantially as specified in the foregoing clauses of claim, and for the purpose set forth.

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Witnesses:

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