

(No Model.)

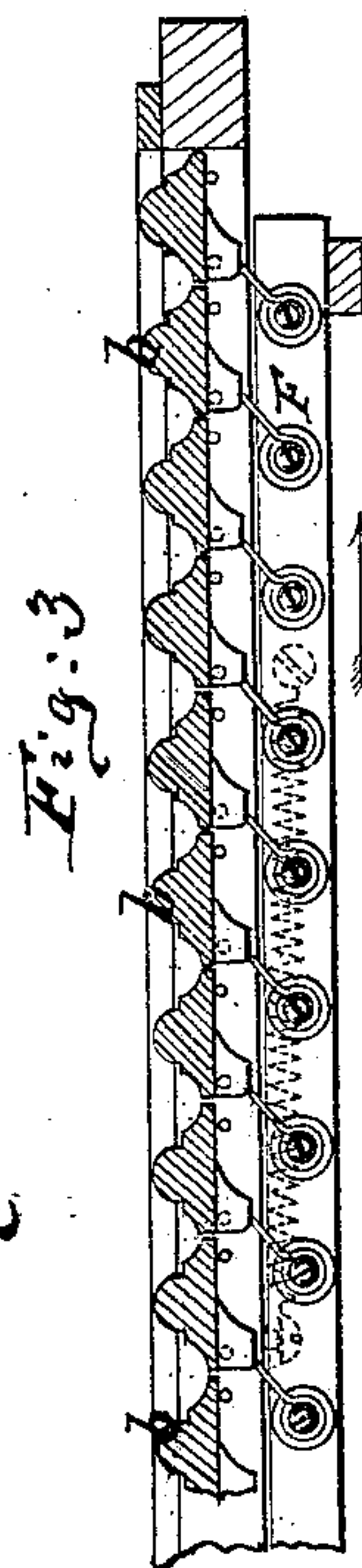
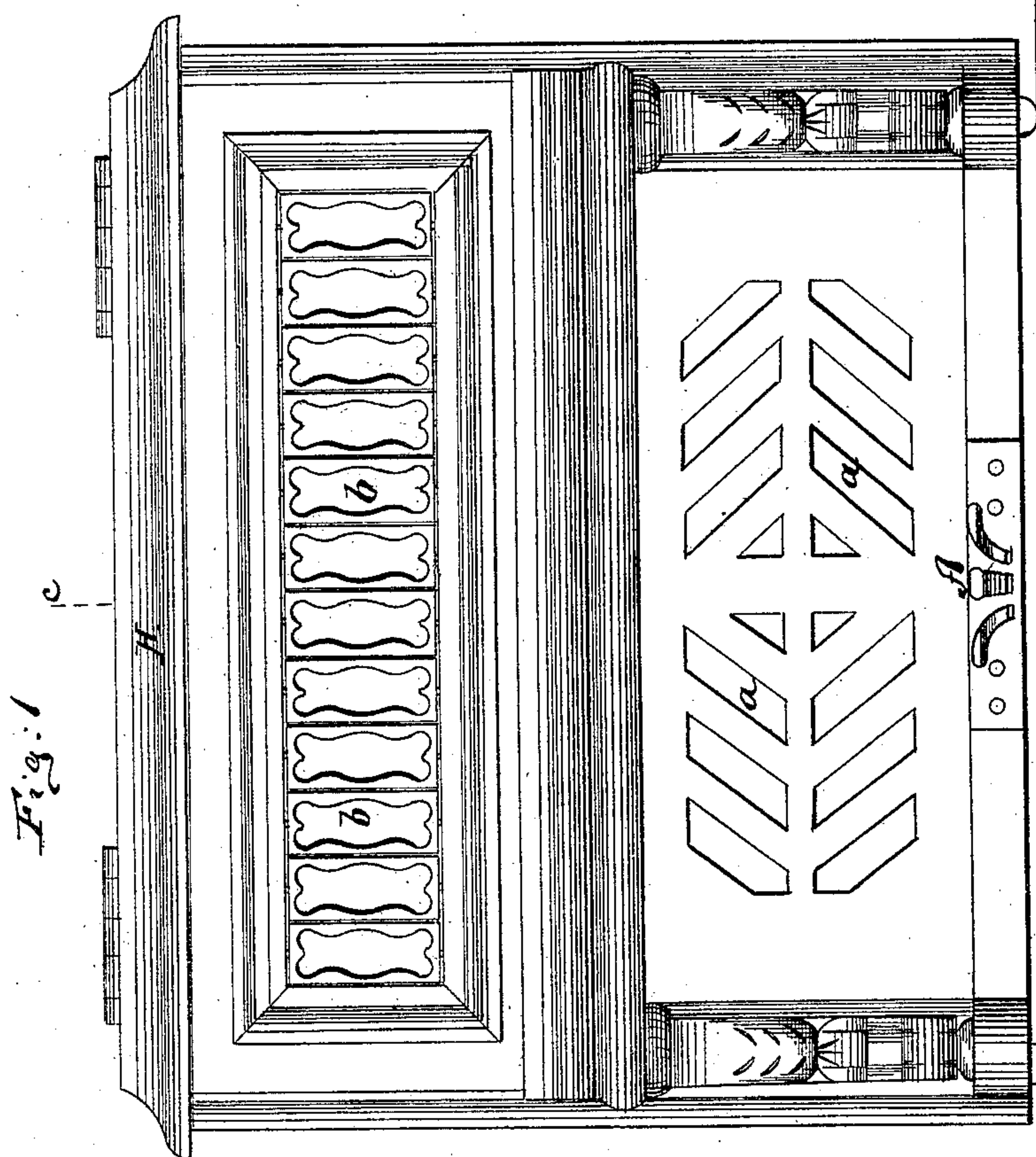
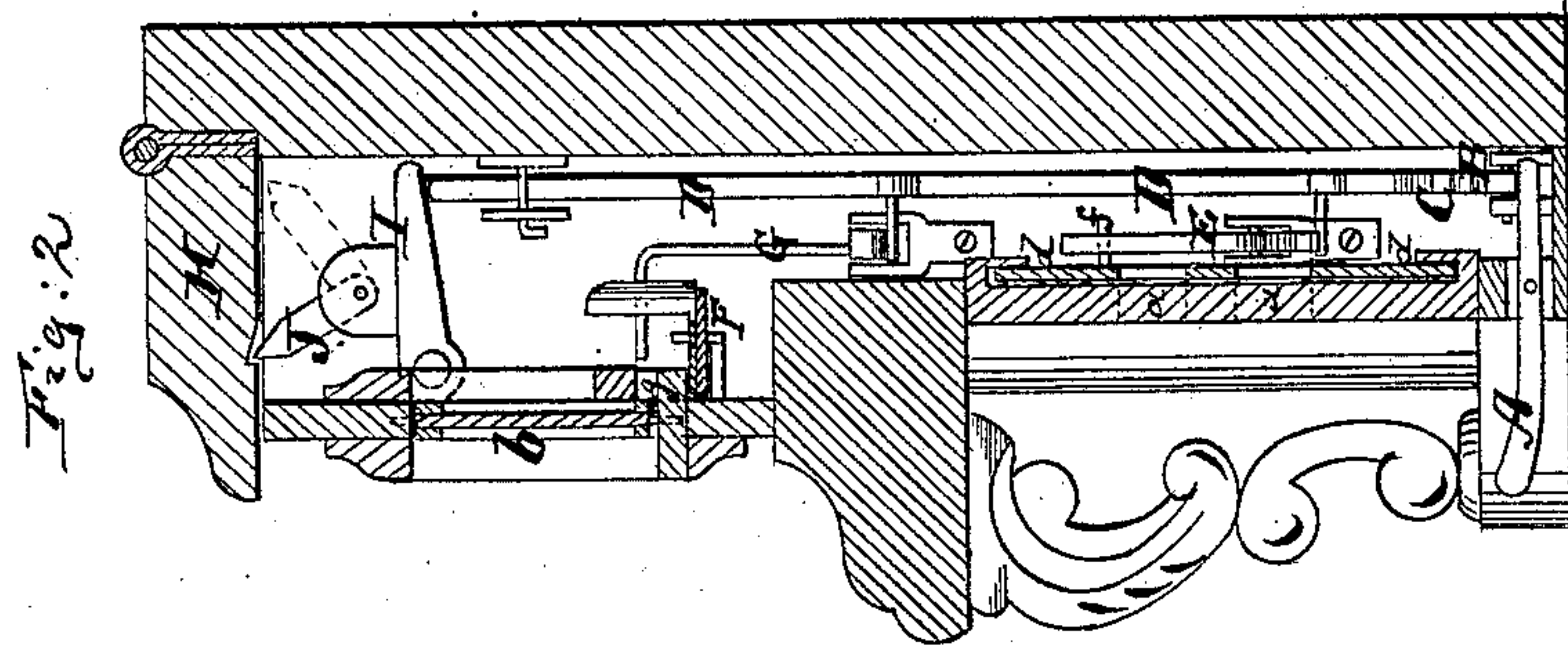
2 Sheets—Sheet 1.

L. STREMMELL.

PIANO FORTE.

No. 245,672.

Patented Aug. 16, 1881.



Witnesses:

Witnesses:  
John C. Turnbridge  
Henry F. Parker

*Inventor:*

Louis Stremmel  
by his attorney  
A. Briesen





# UNITED STATES PATENT OFFICE.

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GABLER, OF NEW YORK, N. Y.

## PIANO-FORTE.

SPECIFICATION forming part of Letters Patent No. 245,672, dated August 16, 1881.

Application filed April 27, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS STREMMELL, of Lynchburg, Campbell county, and State of Virginia, have invented an Improvement in Piano-Fortes and other key-board instruments, of which the following is a specification.

Figure 1 is a front elevation of an upright piano-forte containing my invention. Fig. 2 is a vertical cross-section of the same on the line *c c*, Fig. 1. Fig. 3 is a detail horizontal section of a modification of the movable slat arrangement. Fig. 4 is an inner face view of the front wall of the piano-forte. Fig. 5 is a horizontal section of said piano-forte, taken on the plane of the line *K K*, Fig. 4. Fig. 6 is a similar section of the slat portion which is shown in Fig. 5, with the parts in different positions.

The object of this invention is to provide an upright or other piano-forte with means for regulating and graduating the size of the openings through which the waves of sound leave the instrument on their way to the ear of the hearer, so as to enable a skillful player, by correct manipulation of the treadle, key, or lever that connects with the adjusting mechanism, to increase or reduce the "swell," as it is termed, of the sound, and insure an entirely novel and superior musical effect.

The invention consists, principally, in providing the instrument with suitable lids or plates by means of which the openings in its front or top can be closed, and in combining said lids or plates with mechanism by means of which they can be gradually or suddenly and more or less opened to regulate the size of the discharge-openings for the waves of sound, all as hereinafter more fully described.

In the drawings I have represented an upright piano-forte, which, at its lower part below the key-board, has series of holes, *a*, and at its upper part series of slats, *b*. The holes *a* are closed normally by a slide, *d*, that is placed at the inner or outer side of the instrument, as may be desired, preferably at the inner side. The slide *d* is perforated in similar style to the face of the instrument against which it is placed, and it can be so moved as

to bring its holes in line with the holes *a* or out of line, as desired. A suitable spring, *e*, (shown in Fig. 4,) holds the slide *d* normally so as to close the holes *a*; but by means of a treadle, *A*, a pair of levers, *B C*, can be moved to lift an upright rod, *D*, which, when lifted, tilts an elbow-lever, *E*, so as to crowd the same against a projecting pin, *f*, of the slide *d*, thereby causing the slide to be moved so as to more or less bring the openings in it in line with the openings *a* that are in its front. The swell arrangement *a d*, being entirely below the key-board, is practically out of sight, and can be operated by a skillful player with surprising effect.

The upper slats, *b b*, are all pivoted in the framing of the instrument, and united like the slats of Venetian blinds to a connecting-bar, *g*, which joins them by suitable arm, *h*, with a sliding bar, *F*. A suitable spring, *i*, connects with the bar *F*, so as to hold the slats in line or shut, (see Fig. 5;) but by moving the slide *F* the slats can be swung into the open position shown in Fig. 6. The upright bar *D* can be conveniently used to move the slide *F* in manner stated, by causing it to strike in its upward motion an elbow-lever, *G*, that connects with said slide in manner shown in Fig. 4. Now, whether or not the slat arrangement *b* is used, or the slide arrangement *a d*, the effect will be substantially the same—to wit, the player can, by means of the treadle, at all times more or less open or shut the openings through which the sound-waves escape from the instrument. The moment he releases the treadle the springs will cause the slides to shut their respective openings. The moment he touches the treadle more or less he will more or less cause these openings to open, and consequently increase or decrease, at pleasure, the swell of the sound.

The slats may be of the kind shown in Fig. 3. They may be moved horizontally or vertically, the effect in all cases being substantially the same upon the hearer. The lid *H* of the instrument can also be lifted more or less for the like purpose in like manner—to wit, by causing the upright bar *D* in rising to strike a

lever, I, which carries a trigger, J, that enters a notch in the under side of the lid, thereby lifting the latter more or less for the purpose of furnishing a greater or smaller opening for the sound-waves.

I do not limit myself to the use of a pedal for effecting this purpose, as instead of a pedal a suitable lever that can be reached by the knee of the player, or one that can be pulled by the hand, may be substituted, although, of course, a pedal is perhaps the most convenient plan.

I do not claim a swell-regulating contrivance for organs, as such have previously been made.

I claim—

1. The combination of the pedal A and intermediate lever or levers, B C, with the rod D, lever E, spring *e*, and slide *d*, having pin *f*, for operation substantially as described.

2. The combination of the pedal A and intermediate levers, B C, with the rod D, lever G, slide F, slats *b b*, and spring *i*, substantially as described.

3. The movable lid H, combined with the trigger mechanism J I D, and with a treadle or lever for moving the same, substantially as described.

4. The combination, in a piano, of the pedal A with the levers B C, rod D, levers E G, slides *d* F, spring *e i*, triggers I J, and movable lid H, for operation substantially as herein shown and described.

This specification of my invention signed by me this 23d day of April, 1881.

LOUIS STREMMELL.

Witnesses:

WILLIAM H. C. SMITH,  
WILLY G. E. SCHULTZ.