

(No Model.)

3 Sheets—Sheet 1.

W. S. MOSES.

SUBSTITUTING AND TRANSPOSING KEYBOARD FOR PIANOS OR ORGANS.

No. 542,271.

Patented July 9, 1895.

Fig. 6.



Fig. 1.

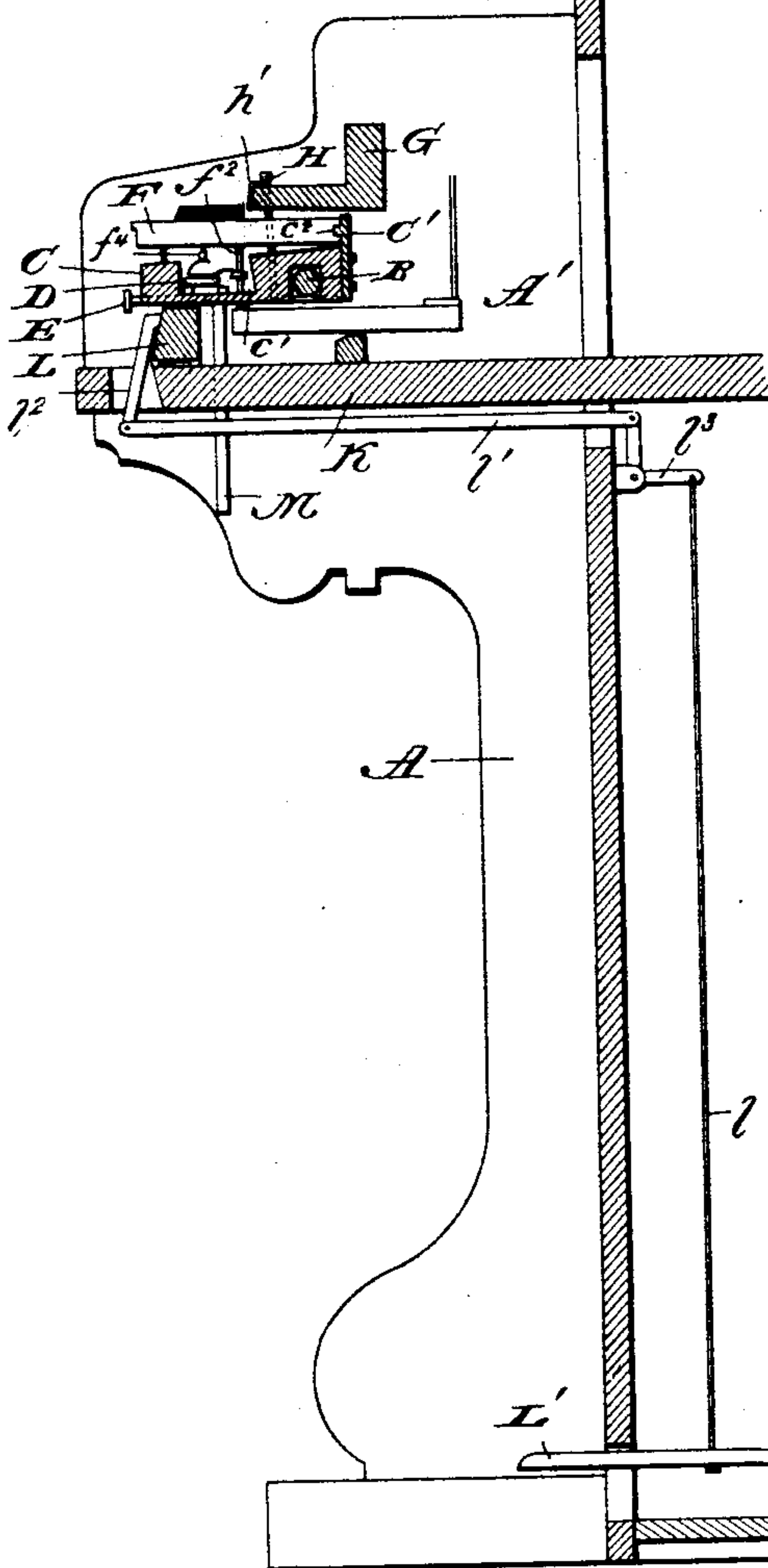
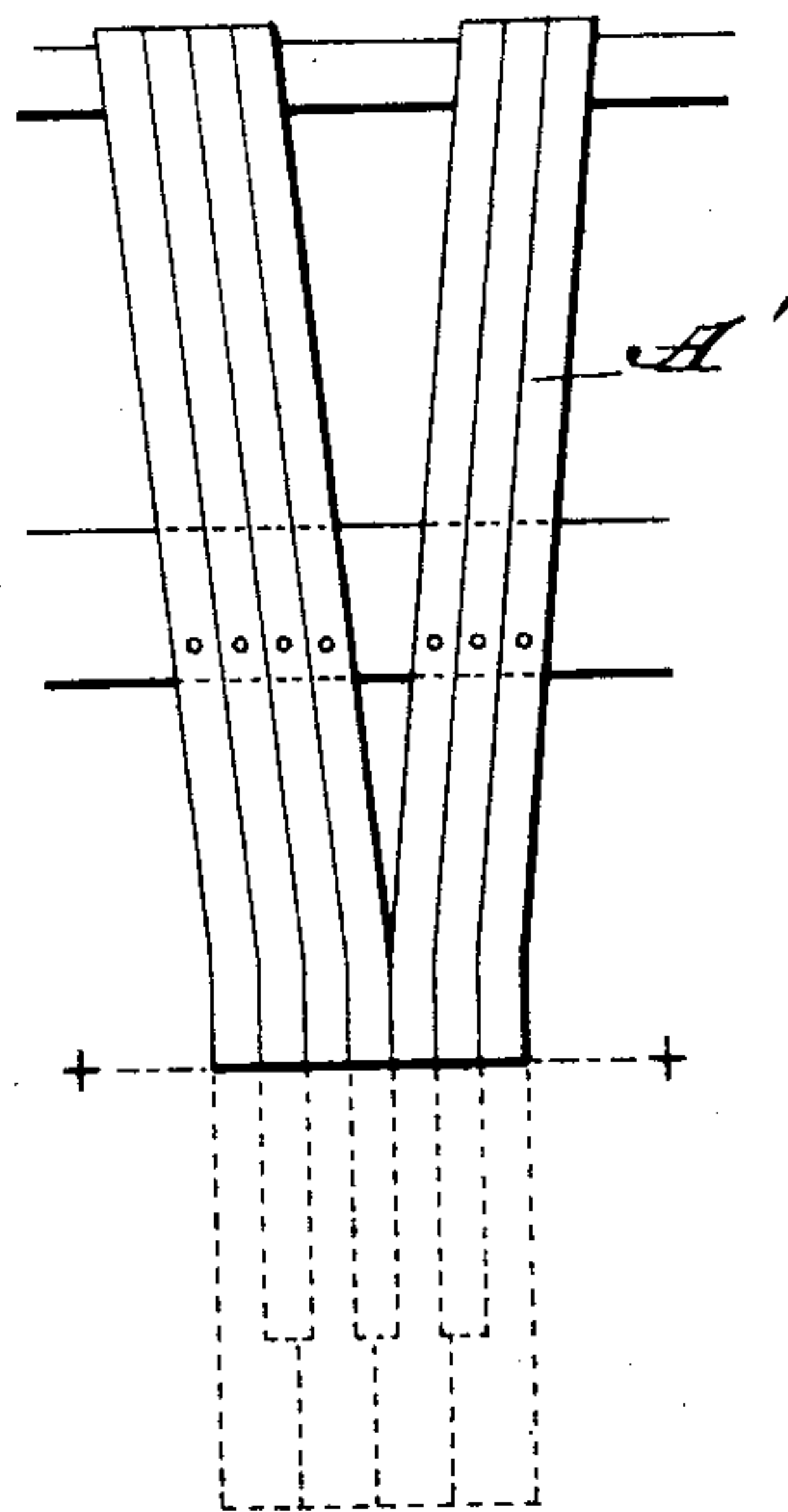



Fig. 7.



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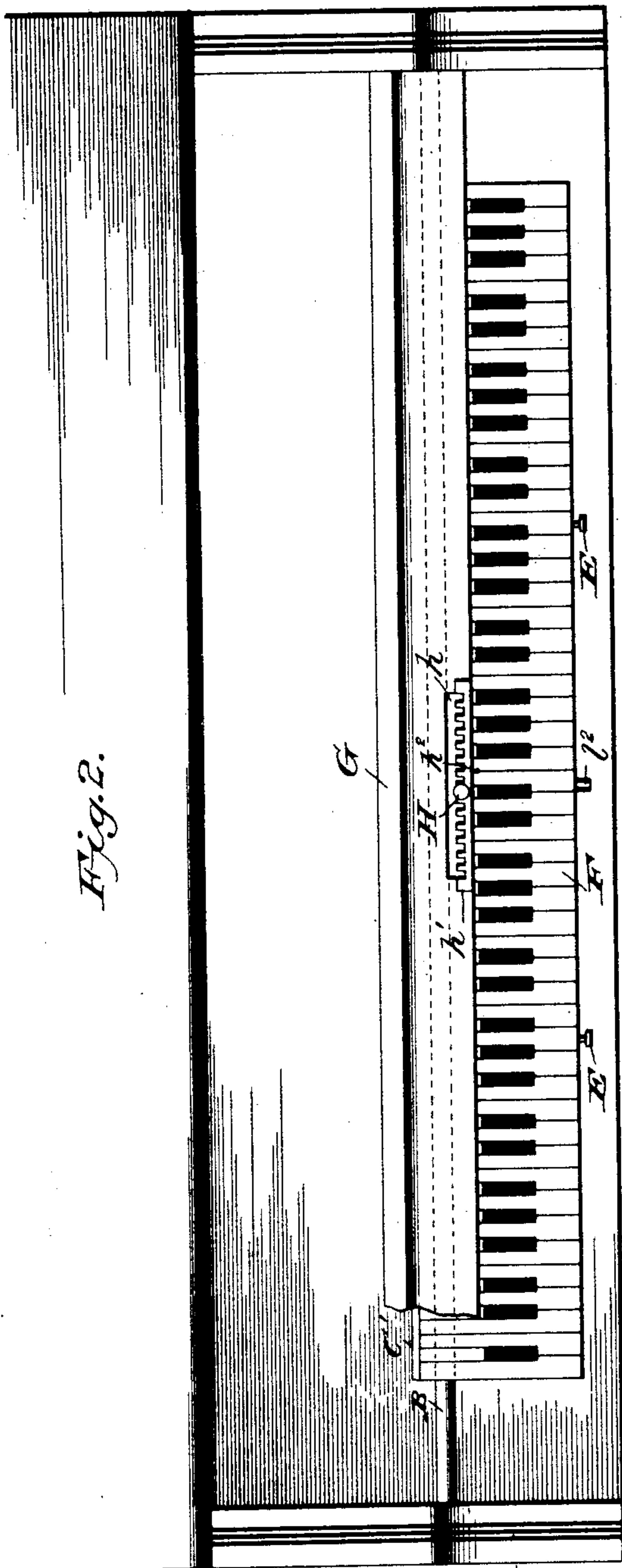


Fig. 2.

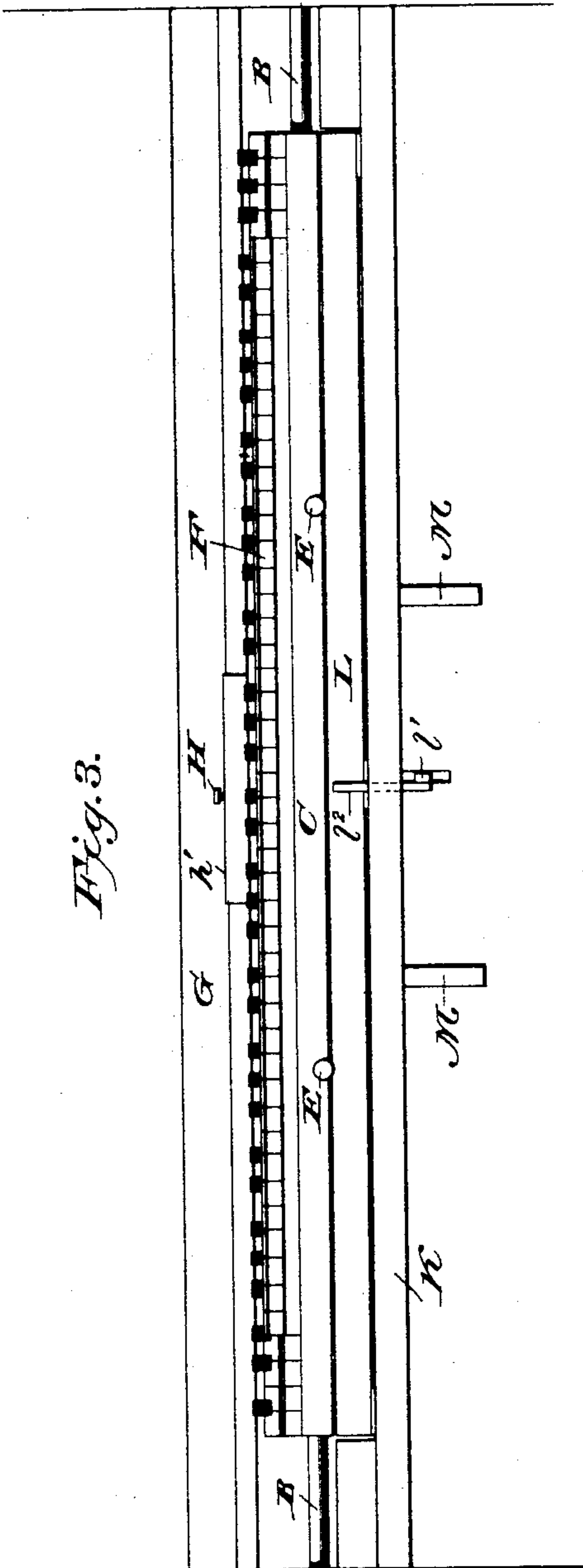


Fig. 3.

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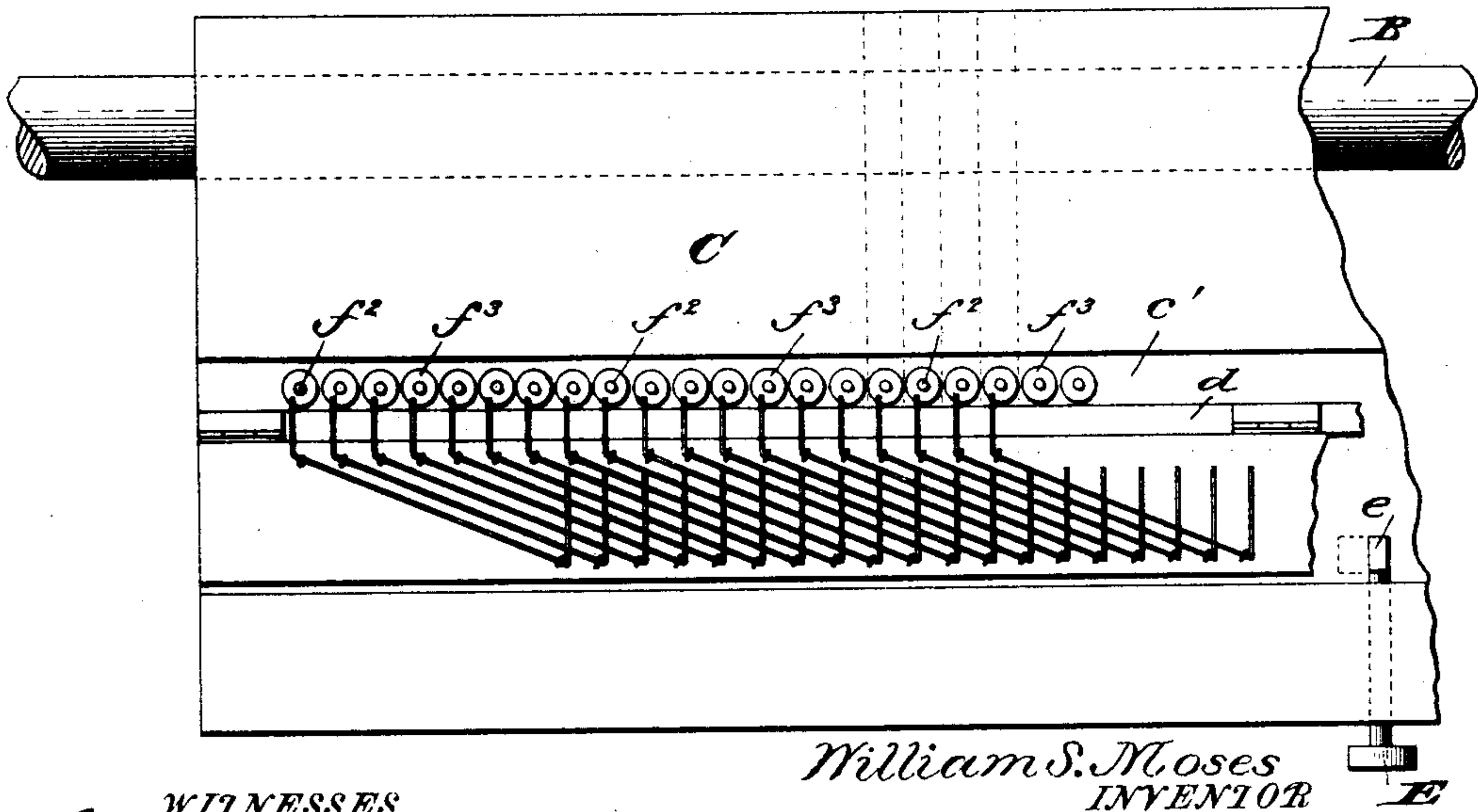
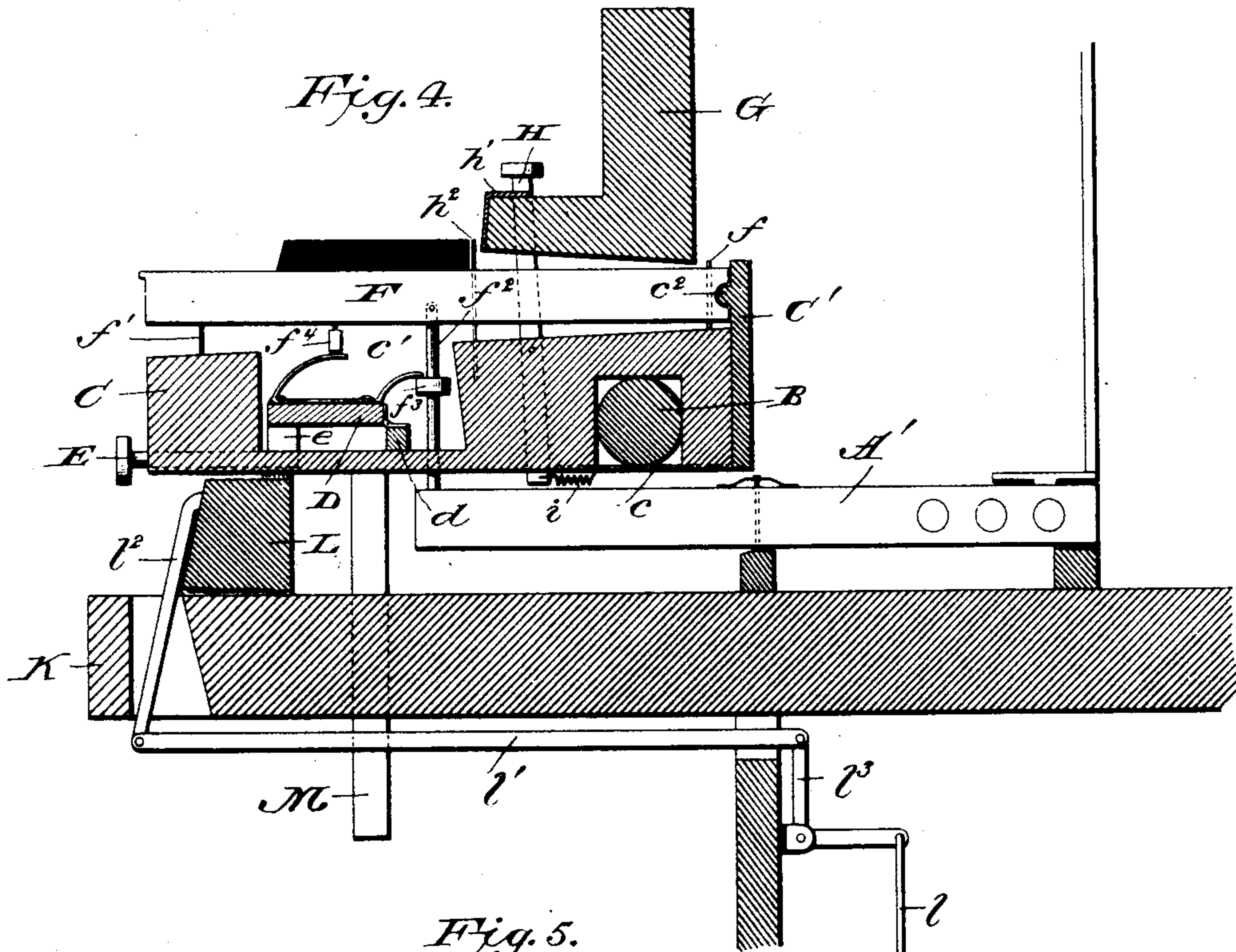
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Attorney

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3 Sheets—Sheet 3.

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UNITED STATES PATENT OFFICE.

WILLIAM S. MOSES, OF TRACY, MINNESOTA.

SUBSTITUTING AND TRANSPOSING KEYBOARD FOR PIANOS OR ORGANS.

SPECIFICATION forming part of Letters Patent No. 542,271, dated July 9, 1895.

Application filed November 1, 1894. Serial No. 527,667. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. MOSES, a citizen of the United States of America, residing at Tracy, in the county of Lyon and State of Minnesota, have invented certain new and useful Improvements in Substituting and Transposing Keyboards for Pianos or Organs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in keyboards for playing pianos, organs, or any musical instrument operated by a keyboard.

The object of the invention is to simplify keyboard practice and the reading of music in the various keys, reducing the number of scales so that by substitution one major scale of the keyboard (C major) may be employed to play all major keys which are written on the staff in the old position for writing C major, and also one minor scale (A minor) is employed to play all minor keys which are written on the staff in a position, a minor has, giving music in two positions only on the staff to be played by two scales all of which is accomplished by the peculiar construction hereinafter described, and particularly pointed out in the claims.

The invention also relates to a transposer conjointly with the substitute keyboard, both having the same mechanism and operated alike, a coupler being provided as well as a sliding board, as hereinafter described.

In carrying out the invention I provide a supplemental keyboard, which operates above the regular keyboards in pianos, the keys of the supplemental keyboard being extended at both ends and suitably pivoted to a sliding board, which is designed to be moved to the right or left a distance equal to the width of the keys in the extension, means being employed to elevate and slide the said board and lock the same in any desired position.

With the above ends in view, the invention consists in the construction and combination of the parts, as will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a vertical sectional view of the forward part of a piano-frame, showing my improvements applied thereto. Fig. 2 is a plan view of the transposer in position. Fig. 3 is a front elevation of the same. Fig. 4 is a vertical sectional view. Fig. 5 is a plan view of a part of the sliding board, showing the coupler board and wires. Fig. 6 is a front elevation of the scale or indicator-plate; and Fig. 7 is a plan view of the regular keyboard, showing in dotted lines the parts which are removed in applying my invention.

A designates the frame of an upright piano, the regular keys A' thereof being cut away at their forward ends, as shown in Fig. 7. Across the front of the piano, just above the regular keyboard is secured a rod B, upon which the board C of the transposer is adapted to slide, said board being grooved on its under side to fit over the rod, and is held thereon by cross-bars c. The forward part of the board C is provided on its upper side with a longitudinal recess c', in which is supported the coupler-boards D with their connections, said coupler-boards being hinged at their rear ends to a strip d, attached to the board C, the forward ends of the same being raised and lowered by turnkeys E, which pass through apertures therefor in the board C and are provided at their rear ends with lugs e, which engage with the coupler-boards.

To the rear edge of the sliding board C is attached an upwardly-projecting strip C', having a bead c², with which the rear ends of the supplemental keys F are held in engagement by means of the pins f and f'. The supplemental keys are each provided with a depending pin f², which passes through the block C and engages with the forward end of the regular key A' immediately beneath the same, so that in depressing the supplemental keys the regular keys will be depressed simultaneously. The depending pins f² are provided with rigid collars f³, and to the under side of the supplemental keys forward of the depending pins are secured screw-threaded pins, upon which are adjusted blocks f⁴, each block engaging with one of the bent ends of a coupling-wire on the coupler-block, while the other end of said wire rests upon the rigid collar of a key one octave above (if in the

treble) or below, (if in the bass,) so that when the coupler-blocks are in operative position, by depressing a single key the key an octave above or below will be depressed simultaneously. The coupler-boards are thrown out of operation by turning the keys E.

G designates a rigid frame which lies over the rear portions of the keys F of the transposer, and said frame is provided at or near its center with a longitudinal slot h , on one side of which is a rack-plate h' , the front portion of which is bent to lie over the front edge of the frame G, said front portion having a scale marked thereon as shown in Fig. 6, and in connection with this scale is an indicator h^2 , which extends from the sliding board C between two of the keys F and indicates the position of the supplemental keyboard with relation to the regular keyboard.

H designates a locking-bar, which is pivoted within a vertical slot in the sliding board C, the upper end thereof projecting through the supplemental keyboard and through the slot h , so as to engage the rack-plate h' and hold the sliding board in an adjusted position. The lower end of this locking-bar is provided with a helical spring i , which is attached thereto and to the sliding board, so as to throw the upper end of the bar in engagement with the rack-plate, as hereinafter described.

Upon the horizontal board or platform K of the piano is hinged a strip L, which supports the forward end of the sliding board C and is connected to a pedal L' by means of rods l , l' , and l^2 and an interposed bell-crank lever l^3 . By this connection the strip L can be tilted by the foot-pedal to raise and lower the forward end of the sliding board C, and the raising of the sliding board will disengage the depending pins f^2 from the regular keyboard A' , and also the locking-bar H from the rack-plate, so that the said sliding board can be shifted to right or left, which is done by the operator pressing a knee against one of the depending bars M, said bars extending from the sliding board and passing through the platform K.

In lowering the sliding board, should the locking-bar strike one of the teeth of the rack-plate, the spring i will allow the said locking-bar to give and prevent injury to the same. When the pedal L' is partially depressed the sliding board will be slightly elevated, so that the depending pins f^2 of the supplemental keys will not depress the regular keys to their fullest extent, and consequently a lighter blow would be imparted to the hammers. This pedal is very desirable, as it provides a transposer with means for varying the force or power which is transferred from the supplemental keys to the regular keys.

At each end of the supplemental keyboard are five or six additional keys, so that when the keyboard is slid to one side the additional keys at one end will overlies the end keys of the regular keyboard, while the keys at the other end of the supplemental key-

board will drop down beyond the limit of the regular keyboard. The extension of the supplemental keyboard is very necessary in a transposing and substitute keyboard, as without it the slide would uncover a portion of the regular keyboard, and that part would become inoperative in consequence.

In using this transposer and substitute keyboard it is only necessary to be acquainted with the two scales C major and A minor, as all of the major keys can be played in the one scale and all of the minor keys in the other scale by substituting those scales for the scales required in the old way. The music used in connection with my transposer and substitute keyboard has all the major keys written on the staff in the position that the key of C major is customarily written and all the minor keys in the position that the key of A minor is written, the music being provided with characters corresponding with the characters on the indicator-plate, and in playing a piece of music so marked it is only necessary to move the sliding board so that the indicator will be positioned opposite the character on the indicator-plate corresponding with the character at the beginning of the music. Therefore a novice will be able to play in any scale as soon as these two scales are mastered, and may proceed at once to practice exercises in the various scales, which is a great advantage over the old method both in reading and playing music.

It will be noted that the supplemental keyboard may be used to play in the regular way as well as transposing and substituting in any desired key.

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

1. A transposer and substitute keyboard for musical instruments, comprising a longitudinally adjustable board mounted on a fixed support and provided with keys, of a strip suitably supported below the transposer and adapted to be actuated by a pedal to change the inclination of the transposer, for the purpose set forth.

2. In a transposer, the combination, of a frame which is movable longitudinally and pivotally upon a support, said frame having keys F, pins extending from said keys so as to bear upon the regular keys A' , a locking-bar carried by the transposer frame and extending through a slot in the rigid board of the piano frame to engage with a rack-plate and a spring connected to the lower end of the locking-bar and to the frame, together with the rack-plate, scale or indicator-plate and indicator, substantially as shown and for the purpose set forth.

3. In a transposer for musical instruments, the combination, of a frame C the rear end of which is supported by a bar or rod B, a strip L hinged to a suitable support and connected to a pedal so that the angle of the transposer can be varied, the transposer keys hav-

ing pins which engage with the regular keys of the instrument, substantially as set forth.

4. In a transposer for musical instruments, the combination, of a frame C the rear end of which is supported by a bar or rod B, a keyboard carried by the frame and located over the regular keys, the keys of the supplemental keyboard extending beyond the ends of the regular keyboard, a strip L hinged to a suitable support and connected to a pedal so that the angle of the transposer can be varied, the supplemental keys having pins which engage with the regular keys of the instrument, substantially as set forth.

5. In a transposer for musical instruments, the combination, of a transposer mounted at its rear end upon a rod so that it can be moved longitudinally and the front portion thereof raised and lowered, a support beneath the front portion of the transposer, and means for varying the height of said support, substantially as shown and for the purpose set forth.

6. In a musical instrument having fixed supporting means for a transposer, the combination, of a transposer consisting of a frame C recessed to lie over the fixed supporting rod, coupler-boards hinged within a recess in the upper side of the frame C, wires pivoted

on the coupler-boards and having bent ends one of which engages with depending pins 30 extending from the transposer keys and the other with adjustable blocks carried by said keys, together with means for raising the coupler-boards, said means consisting of turn-keys E having lugs which engage with the 35 under side of the coupler-boards, the parts being combined and organized, substantially as shown and for the purpose set forth.

7. In combination with a musical instrument, of a transposer pivotally supported at 40 its rear end and laterally movable, a locking-bar pivoted to the transposer and extending through a slot in the frame of the instrument, a rack-bar with which the locking-bar engages and a spring connected to the lower end of 45 the locking-bar and to the transposer, together with bars M depending from the transposer and adapted to be operated upon by the knees of the operator, for the purpose set forth.

In testimony whereof I affix my signature 50 in presence of two witnesses.

WILLIAM S. MOSES.

Witnesses:

ANNA M. STAFFORD,
MARY A. STARR.