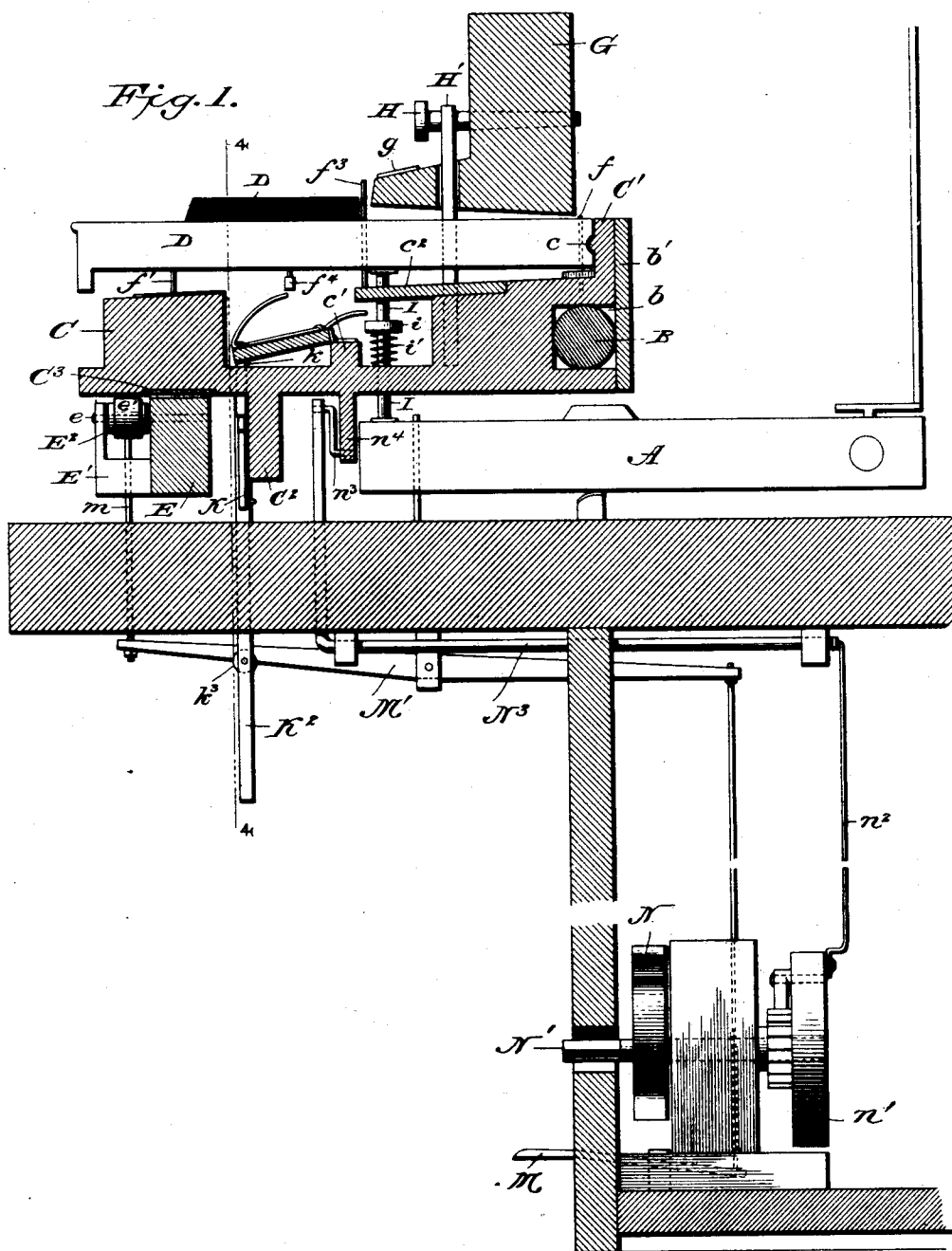


4 Sheets—Sheet 1.

No. 542,272.

Patented July 9, 1895.



William S. Moses
INVENTOR

WITNESSES

WITNESSES
L. S. Elliott,
E. W. Johnson.

— by *[Signature]*

Attorney

(No Model.)

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W. S. MOSES.
KEYBOARD FOR PIANOS OR ORGANS.

No. 542,272.

Patented July 9, 1895.

Fig. 2.

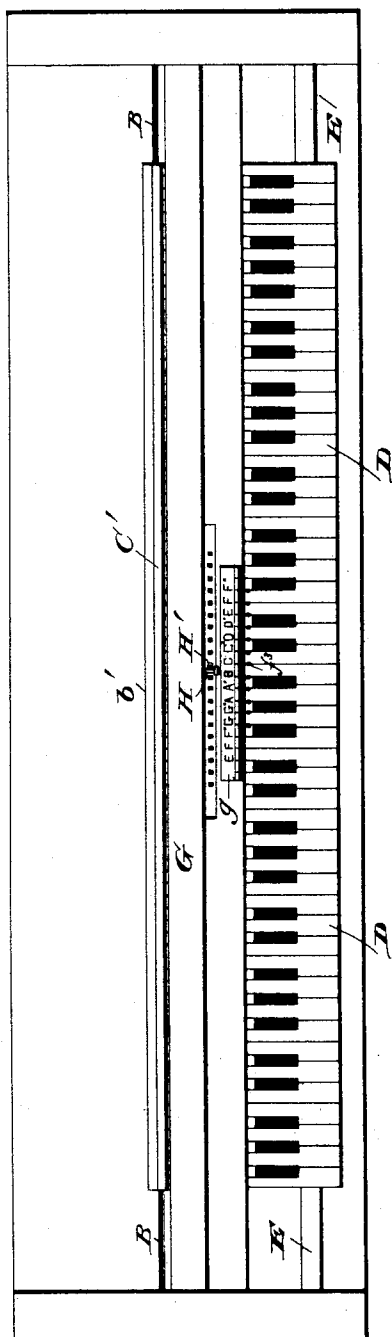
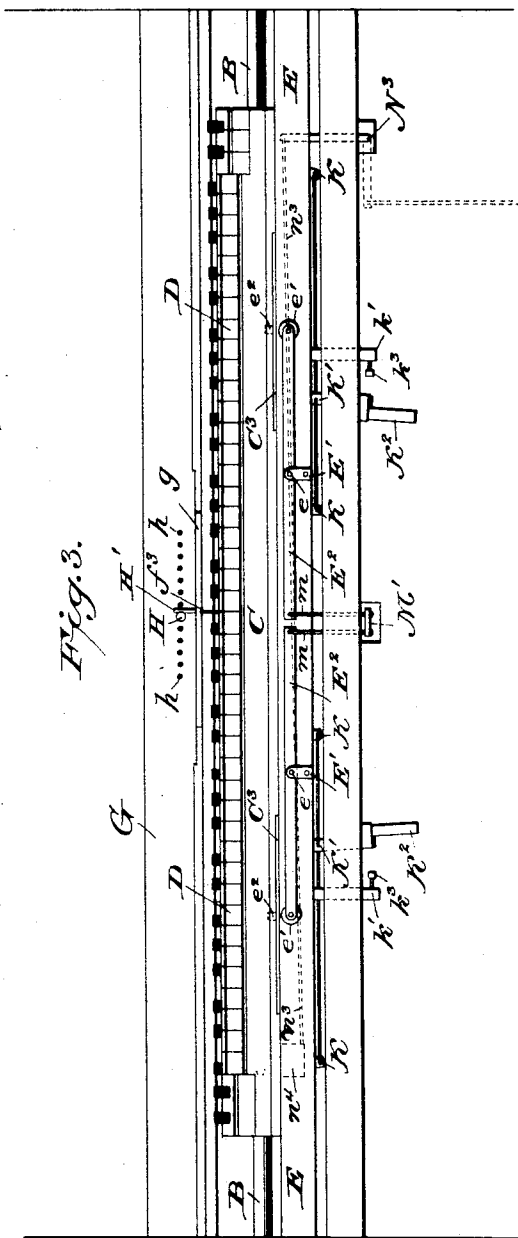


Fig. 3.



WITNESSES

L. S. Elliott.
W. Johnson.

William S. Moses
INVENTOR

by [Signature] Attorney

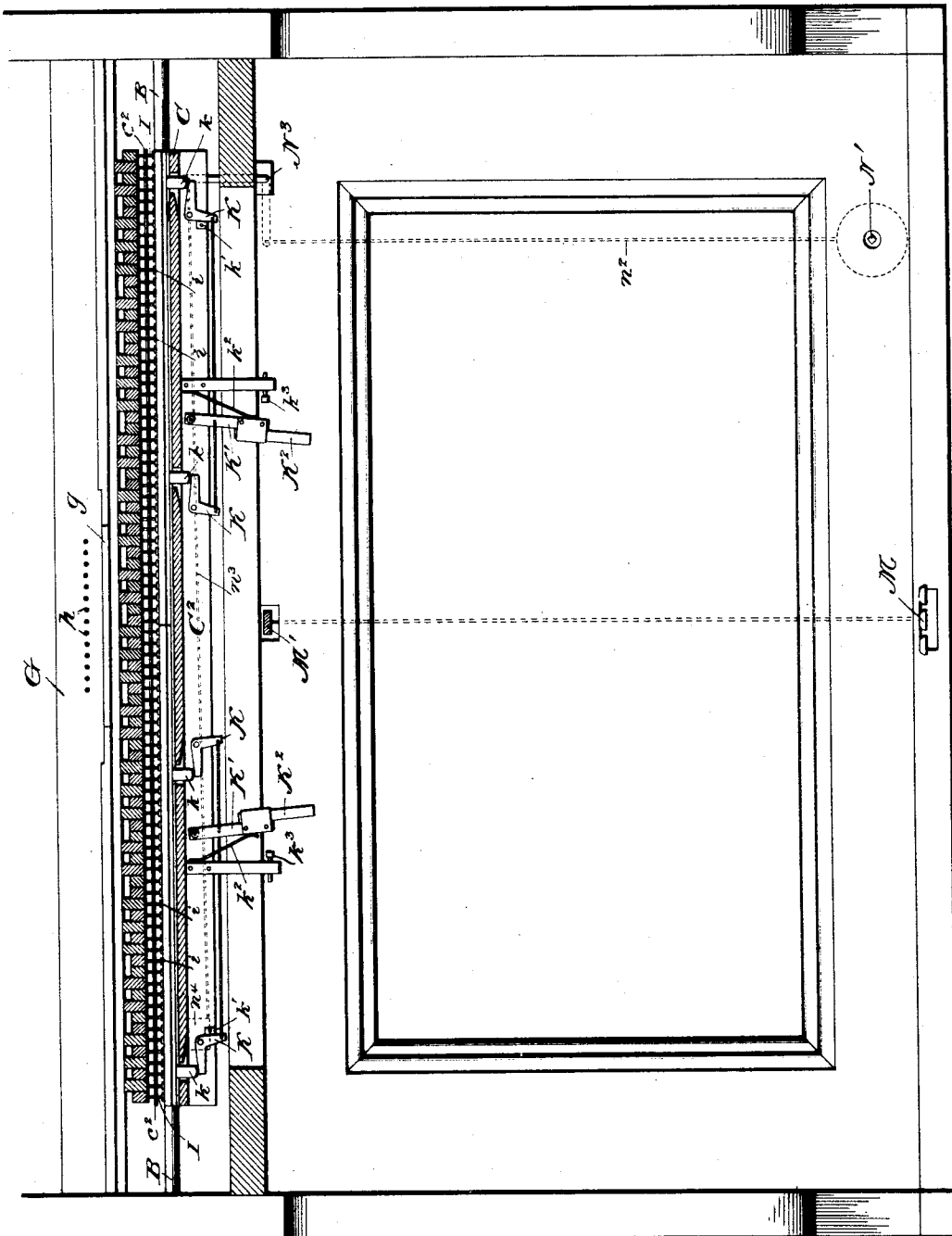
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WITNESSES
G. S. Elliott.
W. Johnson

Fig. 4.

William S. Moses
INVENTOR

—by *[Signature]* Attorney

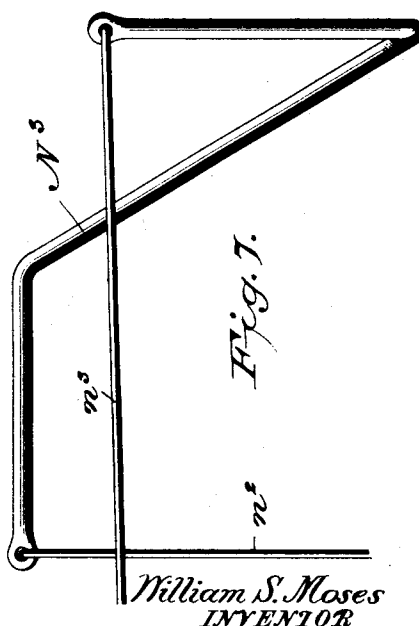
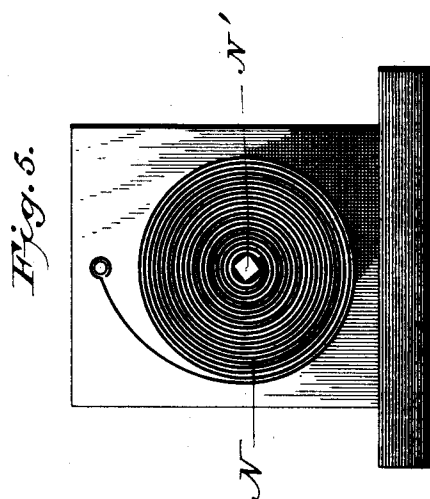
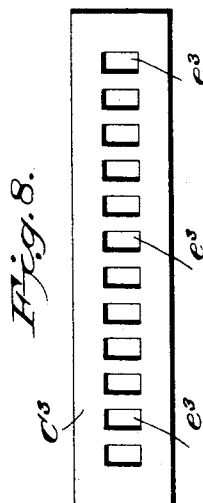
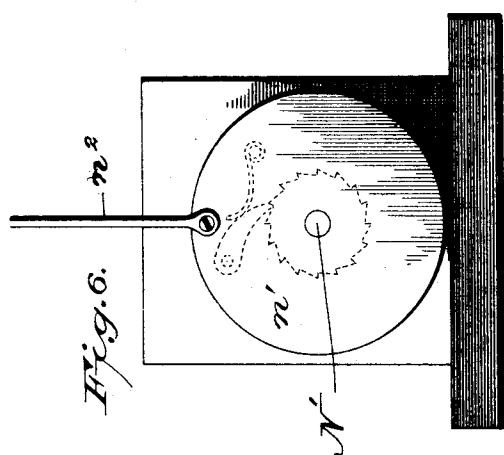
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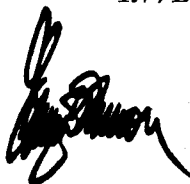
Patented July 9, 1895.



WITNESSES

G. S. Elliott.
T. M. Johnson

William S. Moses
INVENTOR

by  Attorney

UNITED STATES PATENT OFFICE.

WILLIAM S. MOSES, OF TRACY, MINNESOTA.

KEYBOARD FOR PIANOS OR ORGANS.

SPECIFICATION forming part of Letters Patent No. 542,272, dated July 9, 1895.

Application filed March 28, 1895. Serial No. 543,584. (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.

The object of my invention is to provide a substituting and transposing keyboard for musical instruments in which any major or minor scale may be relatively substituted for any other major or minor scale, and by means of the improvement the entire keyboard of a musical instrument can be readily reduced by practice to two scales and thereby the reading of music to two keys.

The invention consists in the construction and combination of the parts, as will be hereinafter fully set forth.

In the accompanying drawings, forming part of this specification, Figure 1 is a vertical sectional view showing my invention applied to a musical instrument having a keyboard of ordinary construction. Fig. 2 is a plan view. Fig. 3 is a front elevation. Fig. 4 is a sectional view on the line 4 4 of Fig. 1. Fig. 5 is a front view of the tension device for moving the transposer. Fig. 6 is a rear view of the tension device. Fig. 7 is a detail perspective view of the crank-rod which connects the tension device and transposer, and Fig. 8 is a plan view of the locking-plate of the transposer.

The case and framework of the musical instrument are of ordinary construction, and above the regular keys A, or levers therefor, is secured a rod B, upon which the rear end of the board C of the transposer is hung, the board being provided with a recess *b* in its rear edge, which fits snugly over the rod and is closed by a strip *b'*. The board C has an upwardly-projecting portion *C'* with a bead *c*, against which the supplemental keys D of the transposer bear, the bead forming the

pivotal point of said keys. The upper part of the board is cut away or recessed longitudinally, as shown, providing an upwardly-projecting ledge *c'*, to which the coupler-boards are hinged, and on the under side of the board C is formed a depending portion *c''*, which supports the connections for operating the coupler-boards.

E designates a rail or transverse bar, which is rigidly supported by the frame of the instrument in position below the front end of the board C, and this rail has attached thereto brackets *E'*, which support one end of pins *e*, upon which are pivoted levers *E''*, the other end of the pins being let into the rail E. The outer ends of the levers *E''* are provided with friction-rollers *e'*, which bear against the under side of the board C when the levers are operated to raise the same, the rail E being provided with upwardly-projecting pins *e''*, which enter perforations *e'''* in plates *c'''* on the under side of the board C, to hold said board against movement when lowered.

The supplemental keys D of the transposer are connected to the board C by pins *f* and are guided at their front ends by pins *f'*, and the board C has attached thereto a strip *C''*, which projects into the recess in said board and has secured to its outer end an upwardly-projecting pin *f''*, which extends between the supplemental keys and moves in front of a scale-plate *g*, carried by the rigid part G of the frame of the instrument. The part G has a suitable number of holes *h*, in which is adapted to be placed a stop-pin H, with which engages an arm or scale-bar *H'*, projecting from the board C. The scale-plate *g* and the perforations *e'''* in the plate on the board C, in which the pins *e''* fit, as well as the holes *h* in the part G, correspond to secure the proper positioning of the substituter and transposer.

Through the strip *C''*, which is secured to the board C, pass pins I, which also pass through openings in the lower part of the board C, so as to rest upon the regular keys or levers A of the instrument, the upper ends bearing against the under side of the supplemental keys D, and these pins are provided with collars *i*, which are rigidly attached thereto, helical springs *i'* being interposed between the collars and board C to hold the supplemental keys normally elevated, being

assisted by the counterbalance of the regular keys. The wires of the coupler-boards are adapted to engage with the upper face of the collars, the other end of said wires engaging with blocks f^4 , carried by threaded pins depending from the supplemental keys. These wires are pivoted to the coupler-boards and extend one octave, so that when one end is engaged by one of the blocks f^4 the other end will engage the collar of a key one octave above if in the treble or below if in the bass. The coupler-boards in this case are normally lowered, so that the wires will be out of engagement with the blocks f^4 and collar i , and each coupler-board is provided with depending portions k , against which one of the members of bell-crank levers K abut to raise the coupler-boards into an operative position, said bell-crank levers being pivoted to the depending portion C^2 of the board C , and each pair are connected to a pivoted lever or arm K' , so as to move in unison, a stop k' being provided to limit the movement in one direction. The lever or arm K' is pivoted at its upper end to the portion C^2 , and is provided at its lower end with a sliding extension K^2 , adapted to be pushed in when it is not desired to use the coupler-boards. The lever or arm K' is normally held to one side by a spring k^2 , carried by a bar depending from the portion C^2 , and said depending bar is provided with an adjusting-screw k^3 for limiting the movement of the lever. From the construction hereinbefore described it will be noted that when it is desired to bring either one of the coupler-boards into an operative position it is only necessary to move the corresponding lever or arm K' to one side, which is done by the performer's knee, such movement being transmitted to the bell-crank levers, which raise the coupler-boards and cause the wires thereof to engage the adjustable blocks of the supplemental keys D and the collars on the pins I . When pressure is removed from the levers or arms, the coupler-boards will be restored to their normal position by the springs k^2 .

When it is desired to shift the substituter and transposer, the first action is to depress a central pedal M , which lowers the outer end of a lever M' and draws upon connections m , attached to the levers E^2 , causing the outer ends of said levers to elevate the forward end of the substituter and transposer out of engagement with the pins projecting from the rail E and the pins I from engagement with the keys or levers A . Thus we have the transposer at an inclination, in which position it may be moved either to the right or left, as desired, and said movement is accomplished automatically by means of a spring N , the shaft N' of which is supported by a suitable block, the shaft having rigidly attached thereto a ratchet-wheel, and on the rear end of the shaft is a spring-actuated disk n' , which carries a pawl in engagement with the ratchet-wheel. To the disk is connected a rod n^2 , the

upper end of which is coupled to a bent arm N^2 , as shown in Fig. 7, which is suitably pivoted to the frame of the instrument, the upper end of said arm being connected by a rod n^3 to a lug n^4 , which depends from the board C of the transposer. It will thus be seen that when the transposer is free to move the spring will actuate the transposer-board, moving it to the right or left, according to the position of the disk. The shifting or moving of the transposer is limited by the stop-pin H , which is placed in the proper aperture or hole in the part G of the frame of the instrument, and after the substituter or transposer has been shifted by the means hereinbefore described it is ready to be operated or played upon.

The invention hereinbefore described can be readily applied to musical instruments already manufactured.

Having thus described my invention, I do not wish to be limited to the precise construction and arrangement of the parts as shown and described; but such construction may be modified in accordance with the spirit of my claims.

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

1. In a transposer for musical instruments, the combination, of a transposer board supported so that its forward end may be raised vertically and the transposer then moved longitudinally, of levers for elevating the front end of the transposer, and a spring-actuated frame connected to the transposer to shift the same longitudinally when raised, and means for holding the transposer against movement when lowered, for the purpose set forth.

2. In a transposer for musical instruments, the combination, of a transposer board C supported at its rear end so that it may be tilted to disengage it from its other supports and its locking means, means for automatically moving the transposer longitudinally when elevated, and pins carried by the transposer board, said pins being adapted to engage the keys of the transposer and of the instrument, and springs which abut against the transposer board and collars on the pins to exert an upward pressure on the pins and hold them out of engagement with the regular keys when the front end of the transposer board is elevated.

3. In a transposer for musical instruments, the combination, of a transposer board supported so as to be tilted and then moved longitudinally, of spring-actuating means for moving the transposer board in either direction when elevated.

4. In a transposer for musical instruments, the combination, of a transposer board having pins carried thereby and of sufficient length to engage with the keys of the transposer and with the regular keys of the instrument, an upwardly-projecting bar carried by the transposer board, said bar being positioned in front

of a rigid portion of the frame said rigid portion having a series of holes for the reception of a stop-pin, and means for automatically reciprocating the transposer board when raised, substantially as shown.

5. In a transposer for musical instruments, the combination, of a rigid frame having a series of apertures, a corresponding scale-plate carried by said rigid frame, of a movable transposer having attached thereto a scale-bar and an indicator-pin, the scale-bar being in line with the holes in the rigid frame and the indicator-pin in line with the scale-plate, a removable stop-pin adapted to engage the holes in the rigid frame, and pins carried by a rail or bar adjacent to the front of the transposer, said pins being adapted to engage with apertures in the transposer, for the purpose set forth.

6. The combination, with a transposer mounted at its rear end upon a rod so that it can be moved longitudinally and the front portion raised and lowered, of a fixed support beneath the front part of the transposer and pins projecting therefrom to engage apertures in the transposer, and levers pivoted to the fixed support and provided with means for moving them in unison, the ends of the levers which engage the transposer being provided with rollers, substantially as shown and for the purpose set forth.

7. The combination, with a transposer constructed substantially as shown and provided

with coupler-boards each having a series of wires bent as shown to engage with the keys 35 of the transposer and with pins interposed between the supplemental and regular keys or levers, of means for raising the forward ends of the coupler-boards, said means consisting of bell-crank levers connected to each other 40 and to depending levers or arms, said levers being actuated below the keyboard of the instrument, substantially as shown and for the purpose set forth.

8. In a transposer for musical instruments 45 constructed substantially as shown, the combination with a pair of coupler-boards hinged to the transposer board, said coupler-boards having depending portions, of bell-crank levers pivoted to the transposer board and connected so as to move in unison, one end of the bell-crank levers engaging with depending 50 portions formed on or attached to the coupler-boards, and operating levers each having a sliding extension, a spring for holding the 55 coupler-boards normally out of an operative position and set-screws for limiting the movement of the operating levers in one direction, substantially as shown and for the purpose 60 set forth.

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

WILLIAM S. MOSES.

Witnesses:

CHAS. W. MAIN,
KITTIE A. JONES.