

P. BIALIK.
 TRANSPOSING KEYBOARD ATTACHMENT FOR PIANOS AND ORGANS.
 APPLICATION FILED FEB. 23, 1911.

1,004,350.

Patented Sept. 26, 1911.

3 SHEETS-SHEET 1.

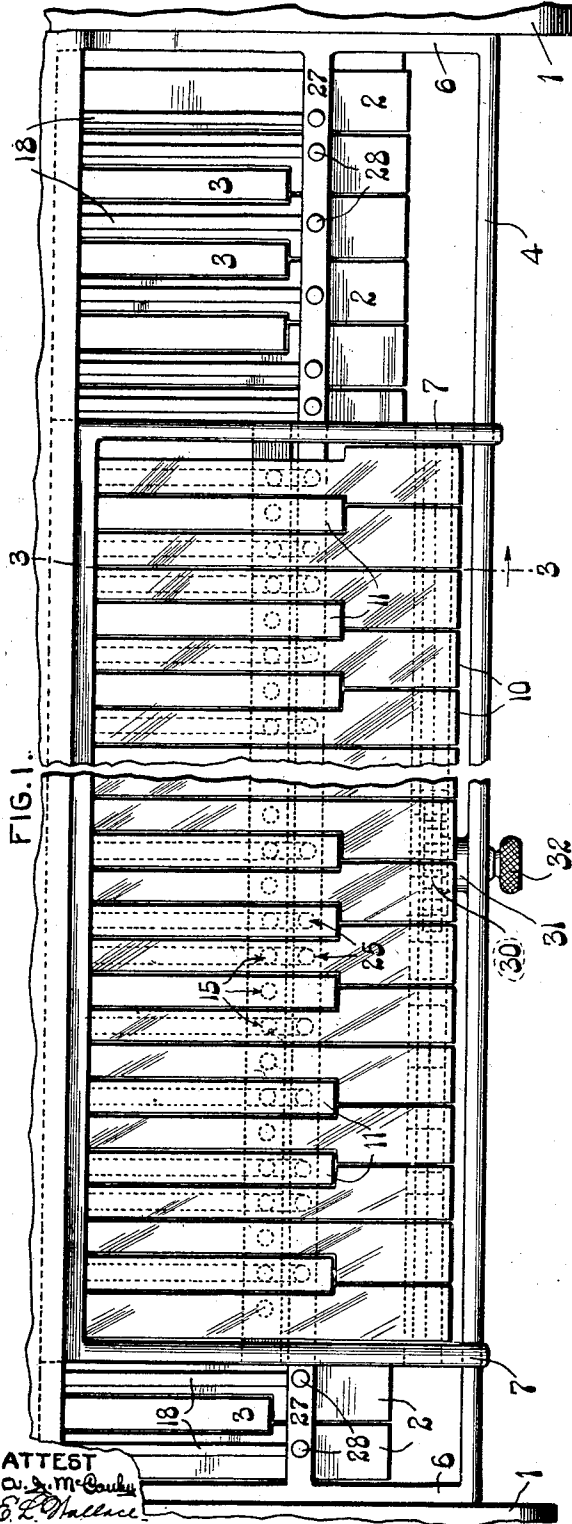
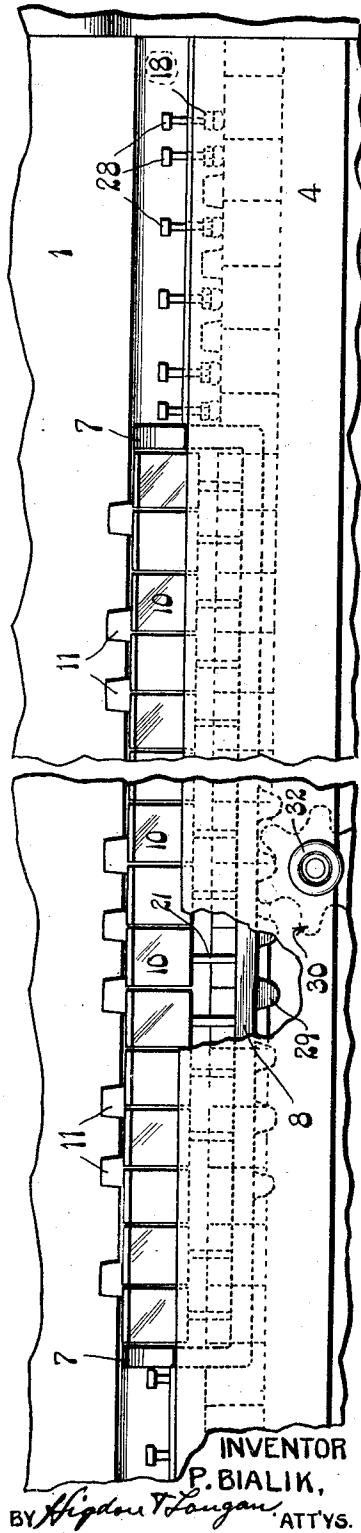


FIG. 2.



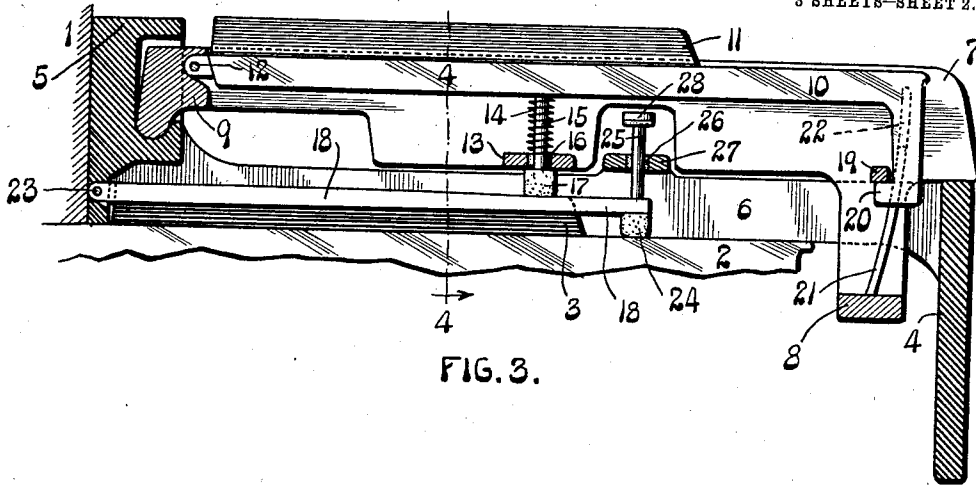


FIG. 3.

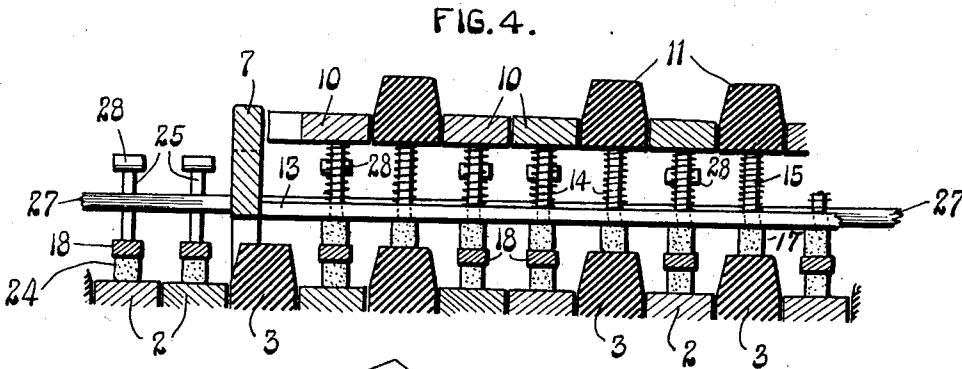


FIG. 4.

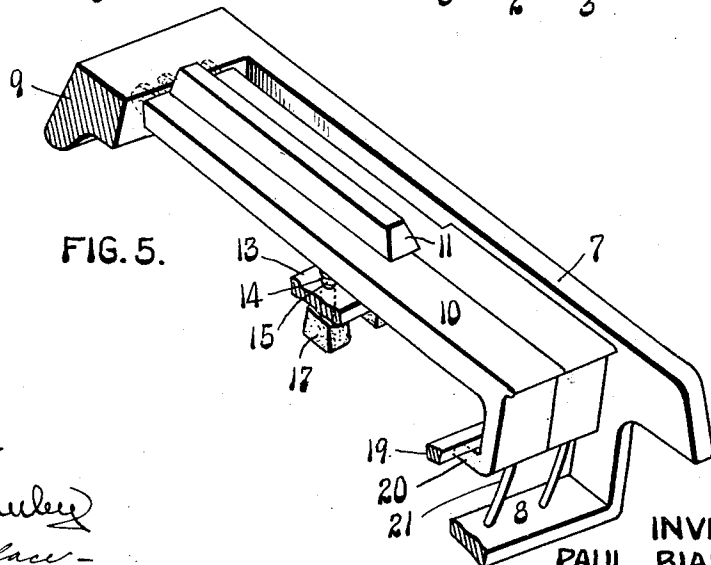


FIG. 5.

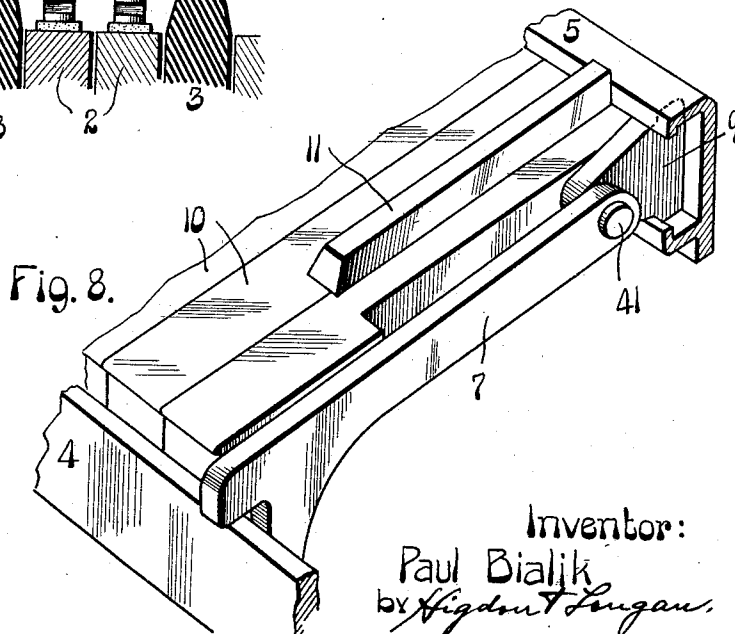
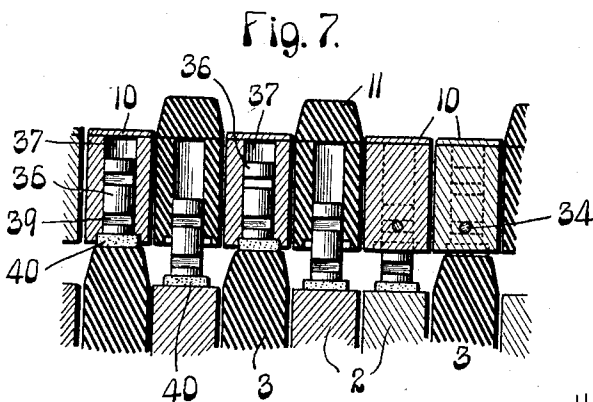
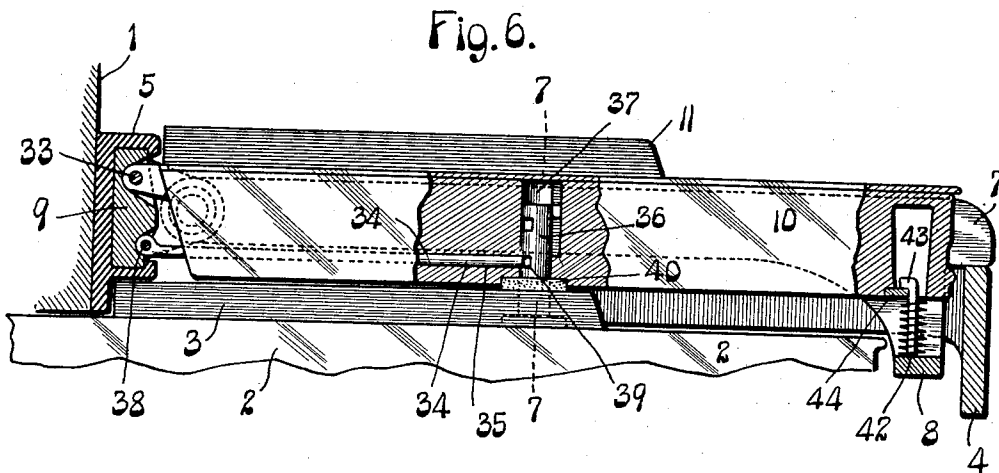
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UNITED STATES PATENT OFFICE.

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TRANSPOSING KEYBOARD ATTACHMENT FOR PIANOS AND ORGANS.

1,004,350.

Specification of Letters Patent. Patented Sept. 26, 1911.

Application filed February 23, 1911. Serial No. 610,184.

To all whom it may concern:

Be it known that I, PAUL BIALIK, a citizen of the United States, and resident of Pine Lawn, St. Louis county, Missouri, have invented certain new and useful Improvements in Transposing Keyboard Attachments for Pianos and Organs, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to an improved transposing keyboard attachment, for pianos and organs, and it consists in the novel construction and combination of parts hereinafter described and pointed out in the appended claims.

The object of my invention is to provide an improved attachment for pianos and other similar musical instruments, whereby transposition can be readily made to any desired key, without altering the piano in any manner; and which attachment may be readily applied to any piano or organ now in use, without altering the construction of the keyboard or any other part of said piano or organ.

In the drawings, Figure 1 is a top plan view of the keyboard of a common piano or organ, with parts broken away, and having my attachment applied thereto. Fig. 2 is a front elevation of same. Fig. 3 is a sectional side elevation, the section being taken on line 3—3 of Fig. 1. Fig. 4 is a detail-section on line 4—4 of Fig. 3. Fig. 5 is a perspective view of a portion of the sliding-carriage carrying the transposing keys. Fig. 6 is a sectional side-elevation of a modified construction of the attachment. Fig. 7 is a detail section on line 7—7 of Fig. 6, and Fig. 8 is a perspective view, illustrating the modified construction.

The numeral 1 indicates the frame or casing of the piano or other instrument, having the usual keys 2 and 3.

My attachment consists of the rectangular guide-frame adapted to be applied to the keyboard of a common piano or organ, and having the front guide-rail or bar 4, the rear guide-bar 5, end bars 6 connecting the ends of said guide bars, and a sliding carriage carrying an auxiliary transposing keyboard adapted to be adjusted to any desired position above the common keyboard of the

musical instrument, for transposing to any desired key.

The sliding carriage consists of a rectangular frame having end bars 7 which connect the ends of a depressed front bar 8, and also the ends of a rear bar 9. The rear ends of the transposing keys 10 and 11 are hinged at 12 (see Fig. 3) to the said rear bar 9 of said carriage. A key-supporting rail 13 extends beneath said keys 10 and 11 between the end bars 7 of said carriage, and supports the said keys in normal position, as shown. Springs 14 are interposed between said rail 13 and each of said keys 10 and 11, and push-pins 15 pass through said springs and through apertures 16 in said rail 13 and have pads 17 upon their lower ends to contact with the underlying black keys 3 and equalizing-bars 18, the purpose of which latter will be presently described. Said pads 17, contacting with the underside of said rail 13, prevent abnormal upward movement of the pins and keys. A stop-rail 19 extends from one of the said end-bars 7 of the carriage to the other one of said end-bars, and is engaged upon its underside by a hooked-portion 20 formed on the front ends of the said keys 10, to form an additional means for preventing abnormal rebound and to take the strain off of the pads 17 of this series of keys. Any undue lateral movement of the outer ends of the said keys 10 is prevented by the guide-pins 21, which have their lower ends fixed in the depressed front bar 8 of the carriage, and extend loosely up into passages 22 formed in the underside of the front ends of the said keys. (See Figs. 3 and 5.)

I will now proceed to describe the purpose and construction of the equalizing-bars 18, heretofore referred to. The purpose of said equalizing-bars is to equalize the height of all the keys 2 and 3 on the common keyboard of the piano or other musical instrument; or, in other words, to "fill in" or build upon the white keys 2 in such a manner that their height above their normal height will equal that of the adjoining black keys 3. This "building up" of the said keys 2 is very desirable, in order that the pushpins 15 and their pads 17 may all have a uniform length, and thereby permit the carriage to move without obstruction over the common keyboard, in adjusting the car-

riage for transposing. The rear ends of said equalizing-bars 18 are hinged or pivoted at 23 to the lower portion of said rear guide-bar 5, and their front ends are provided with pads 24 which rest upon the white keys 2 of the common keyboard of the musical instrument. The front ends of said equalizing-bars 18 are guided in their movements by a guide-pin 25, the lower end of which is fixed in its equalizing-bar at a point directly above the pad 24. Each equalizing-bar has a guide-pin 25, and all of said guide-pins pass upwardly and loosely through apertures 26 formed in a longitudinal pin-guide-rail 27, which extends from end-to-end of the said rectangular guide-frame, at a point about midway between the front guide-bar 4 and the rear guide-bar 5 of said guide-frame. The upper ends of said guide-pins 25 are surmounted by a head 28, which contacts with the upper surface of said guide-rail 27 to support the front ends of the equalizing-bars in moving the device about, before it has been placed in position on the piano, thereby preventing accidental breakage of said bars. The heads 28 are not intended to receive impact of the overlying keys 10 and 11, but they act mainly as stops and supports.

For the purpose of sliding the carriage upon its guide-frame, in adjusting said carriage for transposing, I have provided a rack-bar 29 of common construction on the underside of the depressed front bar 8 of the carriage, to be engaged by the teeth of a pinion 30, the bearing 31 of which is mounted on the front guide-bar 4 of the guide-frame. 32 indicates a knob for operating the carriage; said knob being fixed on the front end of the spindle which carries the said pinion 30 so as to project conveniently in front of front guide-rail 4 of the device.

Referring now to the modified construction of Figs. 6, 7 and 8; the object of such construction is to do away with the equalizing-bars 18, heretofore described, as well as to otherwise simplify and compact the device. The carriage keys 10 and 11 are hinged at 33 to the rear bar 9 of the carriage, and each of said keys is provided with a lock-bar 34 which passes loosely through a longitudinal way 35 formed in each of said keys and extending from their rear ends to the push-pins 36, one of which pins is mounted to slide loosely in a guide-bearing 37 formed in each key. The said lock-bars are hinged at 38 to the rear carriage-bar 9, at a point below the pivotal-point 33 of said keys, so that when said keys are abnormally elevated at their front ends the forward ends of said lock-bars will be withdrawn from the locking-notches 39 of said pins, and said pins will thereby be permitted to drop down upon the underlying

keys 2 and 3. The lower ends of said pins 36 are provided with pads 40, to prevent marring of the said keys. Said pins 36 have each two sets of notches in them, one set being located a distance above the notches 39 first-mentioned, so that the lock-bars 34 may engage either set of notches, depending on whether said pins rest on the white keys 2 or the black keys 3 of the piano. The end-bars 7 of the carriage are hinged at 41 to the rear bar 9 of the carriage, so that the front edge of said carriage, as well as the front ends of all the keys, may be raised and lowered. Abnormal upward movement of the keys 10 is prevented, and the front ends of said keys are guided by, guide-pins 42, the lower ends of which are fixed on the depressed front bar 8 of the carriage. Said guide-pins 42 are provided with a hook 43 at their upper ends, which engages a ledge 44 at the bottom of a recess 45 in said keys.

The operation is as follows: The device is first placed in position upon the piano or other musical instrument, as shown, and then the player grasps the knob 32 and rotates the same in either direction, as required, to move the carriage upon its guide-ways, until the keys 10 and 11 of the carriage rest directly above the proper or desired keys of the piano, the same being those marked 2 and 3, so that the desired transposition will be brought about.

The operation of the modified construction is as follows: This construction is operated in much the same manner as is that heretofore described, the principal difference being that the player, after placing the carriage in position to make the desired transposition, first elevates the front edge of the carriage a suitable distance to permit the push pins 36 to be released by the lock-bars 34, when said pins will drop automatically until those which are above the white keys 2 of the piano will rest upon said keys, while those that are directly above the black keys 3 will not drop so far, but will rest upon the said black keys, and then as the front edge of the carriage is lowered to its normal position, as shown in Fig. 6, the lock-bars 34 will engage the proper notches 39 in the said push-pins 36, and thereby lock the same to their respective keys.

I claim:

1. A transposing attachment for pianos or other musical instruments, comprising a carriage-frame adapted to fit over the piano key-board, carriage guides on said frame, a sliding carriage on said guides, the transposing keys hinged at their rear ends to said carriage, push-pins having each a notch at two different points in their length and carried by said keys, and lock-bars hinged at their rear ends to said carriage

in a plane below the hinge of said keys so their front ends will engage the notches in said push-pins to lock said pins to said keys.

2. A transposing attachment for pianos or other musical instruments, comprising a suitable frame, transposing keys hinged to said frame, and vertically adjustable push-pins having two notches and arranged to be locked to the said keys at two different heights thereon.

3. A transposing attachment for pianos or other musical instruments, comprising a suitable frame, transposing keys hinged to said frame, adjustable push-pins having two

notches in their sides, and lock-bars hinged at their rear ends in a plane below the hinge of said keys and arranged to engage the notches in said push-pins to lock and release said pins when the front ends of said keys are raised and lowered.

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

PAUL BIALIK.

Witnesses:

JOHN F. RUHLAND,
JOHN C. HIGDON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."