(No Model.)

B. FRENCH.

TRANSPOSING KEYBOARD.

No. 490,194. Patented Jan. 17, 1893.

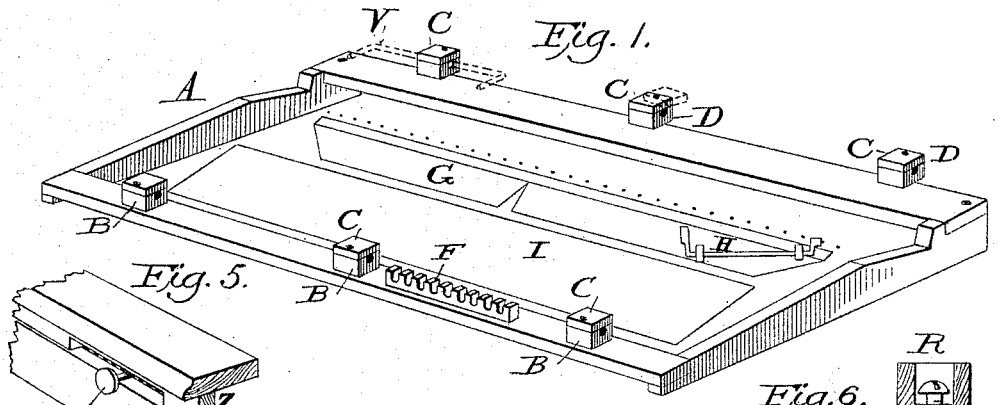


Fig. 1.

Fig. 5.

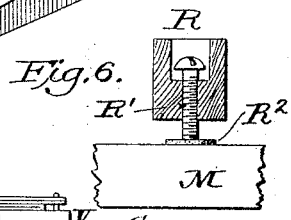
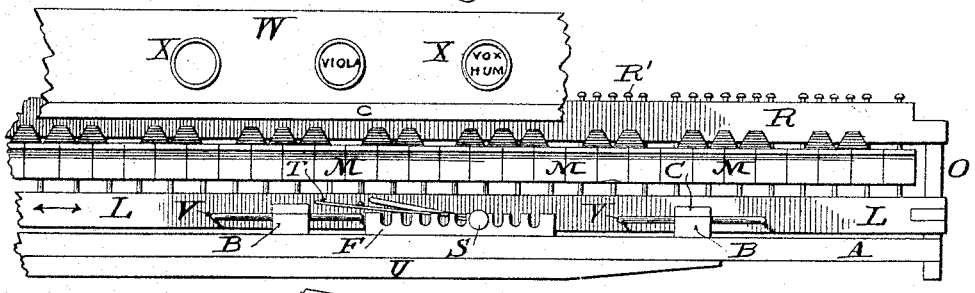


Fig. 6.

Fig. 2.

Fig. 3



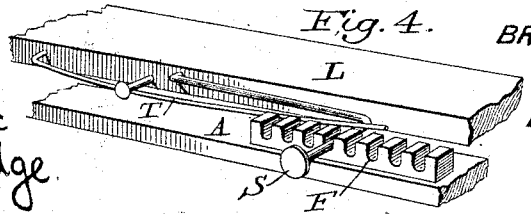


Fig. 4.

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UNITED STATES PATENT OFFICE.

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TRANSPOSING-KEYBOARD.

SPECIFICATION forming part of Letters Patent No. 490,194, dated January 17, 1893.

Application filed January 2, 1892. Serial No. 416,909. (No model.)

To all whom it may concern:

Be it known that I, BROOKS FRENCH, a citizen of the United States, residing at Sioux City, in the county of Woodbury and State of Iowa, have invented certain new and useful Improvements in Independent Transposing-Keyboards for Reed-Organs; and I do 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 the letters of reference marked thereon, which form a part of this specification.

My invention has relation to improvements in reed organs, and the object is to provide a new and improved means for moving the key board for the purpose of quickly transposing music from one key to another, making an independent transposing key board.

I am aware that similar inventions are now in existance, but I claim that by a new arrangement of parts and the addition of several new parts, notably of an extra spring for supporting each key independently of the pitman, and in connection therewith a bar running horizontally across the keys and a little above them, said bar being provided with a regulating screw for each key for the purpose of keeping the keys in position and regulating their "dip," results are attained which were impossible under former constructions. I also claim that the new means for permitting the key board to be easily raised or swung back, or to be wholly removed; also for permitting it to slide easily in either direction for the purpose of transposing from one key to another, possess material advantages over prior constructions. By this means music written in one key may be readily played in a higher or lower key as desired. All similar inventions now require two operations to effect a transposition, viz., to lift the weight of the keys away from the pitmen, and then to shift the frame while the keys are thus suspended. It will be readily seen that all such devices must necessarily easily get out of order, and that the shifting of the keys to a different set of pitmen, as follows from any transposing device, would badly disarrange the "level" of the keys, and thus make the keys uneven, unsightly, and somewhat discordant. My invention obviates all of these difficulties, by allowing the key board to move freely in either direction independent of the pitmen. Moreover, in my invention the mechanism employed is simple inexpensive and in its operation, the change from one key to another can be made instantly.

My invention therefore consists in the novel construction and arrangement of the parts and the combination thereof, as will be hereinafter fully described and particularly pointed out in the claims.

I have fully and clearly illustrated my invention in the accompanying drawings, wherein:

Figure 1 is a perspective view showing the main frame for supporting the key frame, with block bearings and caps, and notched adjusting piece, also bent rod in dotted lines, Fig. 2 is a sectional view from front to rear, Fig. 3 is a front view with parts broken away showing the appearance of a key board with my device attached, and Figs. 4, 5 and 6 detail views.

Referring now to the illustrations, wherein like parts are designated by similar letters of reference:

A designates a supporting frame for the key board to rest upon. Grooved block bearings as B with adjustable caps as C are provided and suitably secured on the front of said supporting frame. Similar blocks as D are also provided on the back of said frame. The grooves in these blocks are adapted to receive the rods V projecting from the front and rear bars of the key frame, said key frame being adapted to be raised or lowered as a whole, or to slide upon said frame A when desired to change the key to a higher or lower pitch.

F designates a notched bar suitably secured on the front of the supporting frame A, and adapted to receive the knob lever S.

G designates the divided octave coupler; H a lever; *a a* pitman holes, I the swell, all arranged in the usual manner.

J designates the ordinary supporting block, K the valve, K′ the valve spring, L the key frame, M the key, N the push pin or pitman, all constructed and arranged in the ordinary manner. Wooden bridges as O are suitably

secured at each end of the key frame, and in each of these there is cut a deep notch as *a'* near the center to allow the key frame to freely pass over the pitmen.

P designates one of the main features of my invention, and is a coil spring bent as shown and having its rear end suitably secured on the under side of the back part of the key frame L, its front end passing through and resting in a small bushed bearing Q secured on the under side of key M. This spring is constructed and set with just enough tension to hold the weight of the key against the screw, which is so ajusted in the regulating cross bar R as to regulate the upward movements of each key. The pitman used under each key is provided with a rounded upper end and is of just sufficient length to clear the under side of the key, so that when the key board is moved in either direction the keys are allowed to pass freely over the pitman. Each key is supported by one of these springs. The object of this extra spring for each key is to remove the weight of the key from the pitman that ordinarily supports it. The valve spring K' is intended to be made of enough lighter tension to counteract the weight of the key which is thus removed.

R designates a cross bar passing or extending horizontally across the key frame and suitably secured at its ends to the bridges O secured on the ends of said key frame. The bar R is provided with a series of regulating screws, R' one for each key, each screw passed through said bar so that its under rounded end rests on a washer or clothed surface R^2 provided on its respective key, as shown in Fig. 6. By means of this series of screws resting on the upper face of the keys, the keys are leveled to secure the usual dip, and said keys are kept in position by means of the series of coil springs on their under side. By means of this arrangement the key board is allowed to move freely in either direction without any interference on the part of the keys with the pitmen or the octave coupler, and also without changing their "dip" or "level," and without the liability of disarranging the "level" of the keys in any way.

S designates a lever pivoted loosely in the front edge of the key frame L and bent as shown, its outer end being provided with a small knob for easy adjustment, the outer end of said lever being adapted to rest in any of the notches of the bar F and be held in position there by means of a spring as T as shown in Fig. 3. Spring T is a bent wire spring having its inner end suitably secured in the front edge of the key frame, and its outer free end resting upon or against said lever S.

U Fig. 3 designates a supporting piece consisting of an iron or wooden bar suitably secured to the under side of the front of the key frame to rigidly hold said frame so as to prevent it from sagging, a similar support being provided for the back end of the frame if desired.

V designates a U shaped rod of iron or other suitable material having its ends firmly secured in the edge of the key frame L. Three of these rods are provided on the back and three on the front, one for each block bearing B of the supporting frame A. These rods rest in the grooves provided in said block bearings and allow the key frame and keys to be turned back or moved as a whole. The three rods on the back act as hinges to permit the key board to be turned back, and used in connection with the front rods, they permit the key frame to slide easily in either direction as a whole, said rods sliding readily in the grooved blocks for the purpose. By turning back the caps as C on each of the block bearings, the whole key frame may be readily removed. By simply lifting on the knob lever S, which as before stated is secured at its inner end to the key frame, the whole key frame with the keys easily moved in either direction, and when the lever is dropped into any desired notch on the piece F, and a transposition is thus made to a higher or lower pitch as desired and the frame is prevented from changing its position.

W designates the ordinary name board, which consists of a thin wooden plate extending over or across the key board, and is secured at its ends to the organ case independent of the key board. Stop knobs as X are arranged on this board in the usual manner. On the lower front beveled edge of this board as shown in Fig. 7 an indicating letter C is placed directly back of and over the "organ key C." The object of this is that when the "organ key C" is directly under the indicating letter C, it indicates that the key board is in its natural position. When the key board is moved one notch to the right, the pitch is raised one half step or tone; two notches, a whole step or tone, and so on. When the key board is moved one notch to the left, the pitch is lowered one half step or tone; two notches, a whole step or tone, and so on. The removal of the "organ key C" from the indicating letter C in either direction indicates the transposition. When the key board is moved in either direction, the "organ key" then under the letter C indicates the transposed key.

The knob lever S is intended to pass through the key slip so as to be operated from the outside as shown in Fig. 8, a slot being provided in said key slip for this purpose. The ordinary key slip is made in one piece, but to suit my invention I construct the key slip in two pieces, viz., a lower piece Y and an upper piece Z. The object of this is as follows: When the supporting frame and key board are desired to be removed as a whole, by simply removing the upper part Z this can readily be done without interfering with the lower portion of said key slip. A slot is made in said upper piece Z to allow the knob lever to

move freely back and forth for adjustment in the notched adjusting piece F.

The operation of my device has been previously explained.

Having thus fully and clearly illustrated my invention, what I claim and desire to secure by Letters Patent is:

1. In a reed organ, the combination with a main frame provided with bearing blocks at front or rear, of a key frame provided with keys, and elongated bearing rods as V projecting from the key frame and seated in the bearing blocks, whereby the said key frame may be moved laterally, and may also be tipped from the front or back.

2. In a reed organ, the combination with a main frame, of a key frame provided with keys, a bar extending across the keys a little above the same, and a series of adjusting screws,—one for each key,—carried by the bar and bearing upon the keys.

3. In a reed organ, the combination of a main frame, a key frame provided with keys and movable laterally with reference to the main frame, bridges or supports O upon the key frame, a cross bar carried by the bridges, and a series of adjusting screws,—one for each key,—carried by the bar and bearing upon the keys.

4. In a reed organ, the combination of a main frame, a key frame provided with keys and movable laterally with reference to the main frame, bridges O secured to the key frame and slotted as shown, a bar carried by the bridges and extending across the keys at a distance above the latter, and the adjusting screws carried by the bar.

5. In a reed organ the combination with the key frame, the keys, and the usual valve springs, of a series of supplemental springs,—one for each key—and adapted to support the latter, all substantially as shown and described.

6. In a reed organ, the combination with the sliding key-frame, the pitmen, and the usual valve spring, of a series of additional springs of light tension,—one for each key,—so adjusted as to hold the keys just clear of the pitmen; the combined tension of the valve spring and the supplemental springs being equal to the usual tension of the common valve spring.

7. In a reed organ, the combination with a main frame, of a key frame provided with keys, a light spring,—in addition to the usual valve spring,—for supporting the keys and holding them above the pitmen, said key frame being adapted to slide laterally with reference to the main frame without raising or lifting the key frame and without affecting the "level" of said keys.

8. In a reed organ, the combination with the main frame of a key frame, and keys, a sliding connection between rods placed at suitable intervals along the sides of said key frame, said rods having their ends bent at right angles and secured in the edges of said frame, and an extra supporting frame provided with grooved block bearings secured at suitable distances apart along the sides of said frame, said rods of the key frame being adapted to rest freely in the grooves of the block bearings of the supporting frame and to be held in place by movable caps provided on said bearings, all substantially as and for the purpose set forth.

9. In a reed organ, the combination with the keys and key frame, of bridges suitably secured to the ends of said key frame, each of said bridges having a deep cut in it near its central part as shown, and an adjusting bar extending horizontally across and a little above the keys, its ends being suitably secured to said bridges, said bar being provided with a series of adjusting screws the bottom rounded ends of which are adapted to lie against cloth washers provided on the upper face of the keys, all as set forth.

10. In a reed organ, the combination of a supporting frame A provided with grooved block bearings B and D having movable caps C, with the key frame L provided with rods as V as shown, said rods being adapted to rest freely in the grooves of the block bearings so as to allow the key frame to be readily moved on the rods either to the right or to the left as desired, all substantially as set forth.

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

BROOKS FRENCH.

Witnesses:
T. A. BLACK,
GEORGE L. HUDSON.