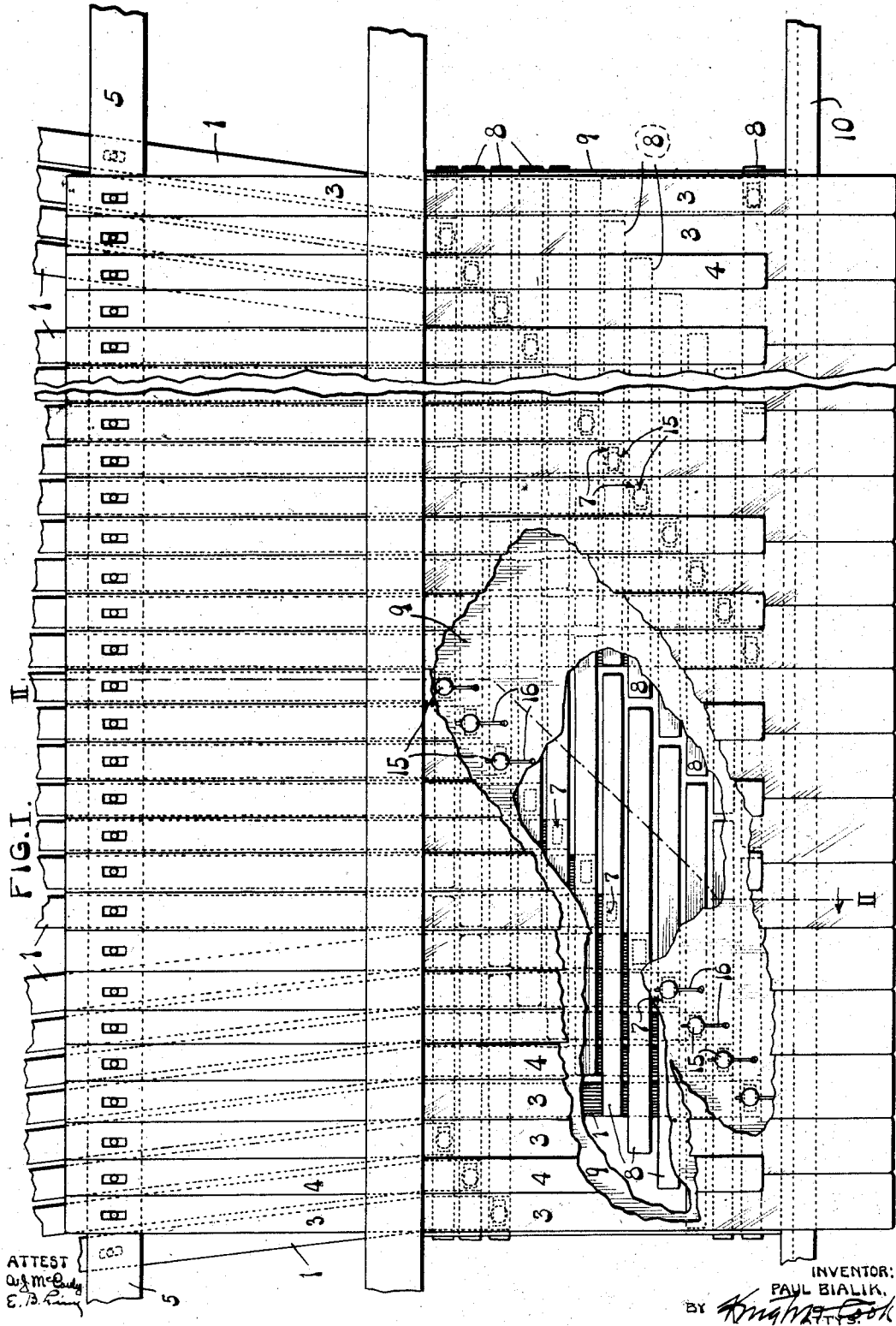


P. BIALIK.
 TRANSPOSING KEYBOARD.
 APPLICATION FILED JAN. 13, 1912.

1,043,504.

Patented Nov. 5, 1912.

2 SHEETS—SHEET 1.

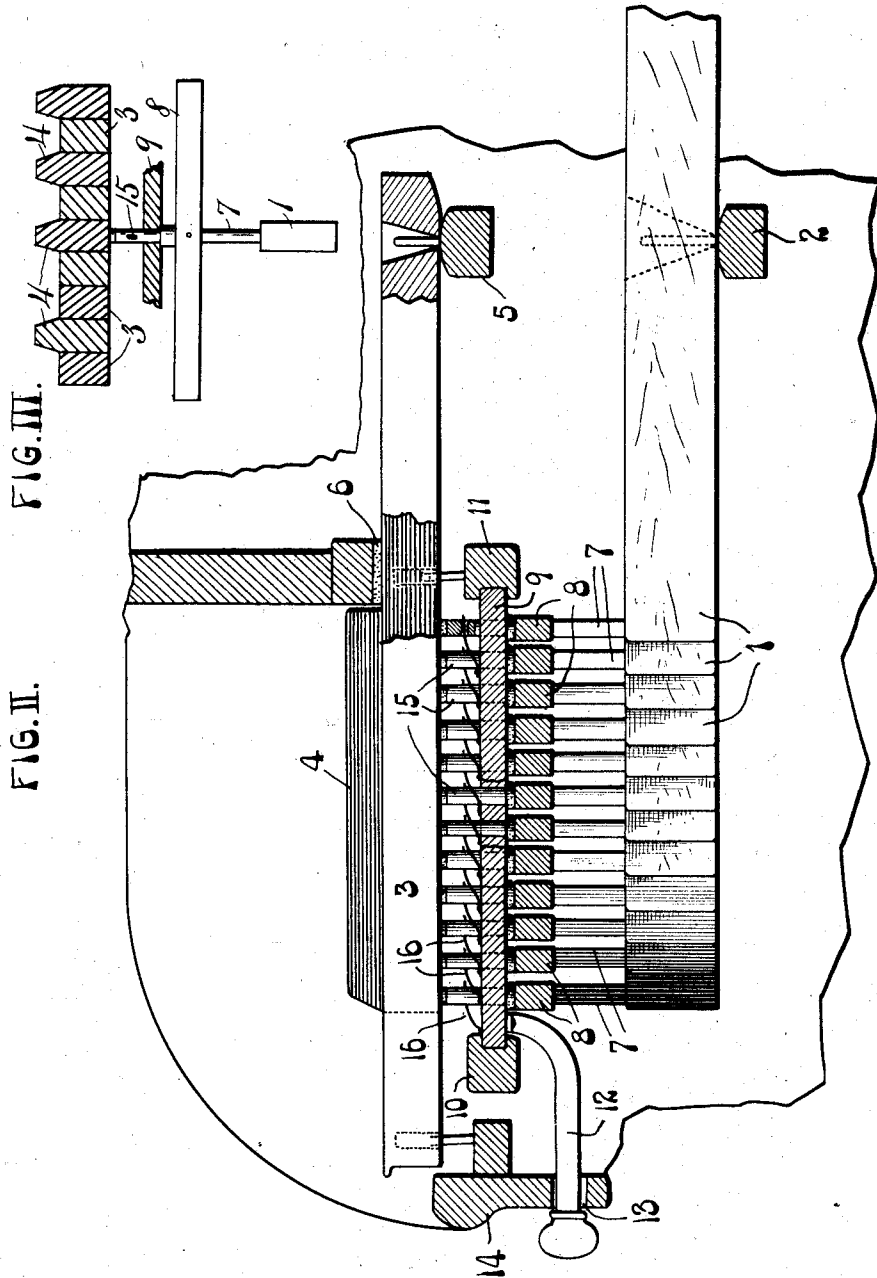


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ATTEST

a. j. m. Cauley
E. B. Lunn.

INVENTOR:

PAUL BIALIK.

BY

Wright & Cook
ATTYS.

UNITED STATES PATENT OFFICE.

PAUL BIALIK, OF PINE LAWN, MISSOURI, ASSIGNOR OF ONE-EIGHTH TO LOUIS BIALIK, ONE-EIGHTH TO BRUNO BIALIK, AND ONE-EIGHTH TO ANTHONY BIALIK, ALL OF PINE LAWN, MISSOURI, AND ONE-EIGHTH TO GEORGE BIALIK, OF THE UNITED STATES NAVY.

TRANSPOSING-KEYBOARD.

1,043,504.

Specification of Letters Patent.

Patented Nov. 5, 1912.

Application filed January 13, 1912. Serial No. 671,005.

To all whom it may concern:

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

My invention relates to a transposing keyboard for pianos, organs, or other musical instruments, by which a performer upon such an instrument is enabled to produce instrumental music in a lower or higher key than that in which music may be written, in order that the tone of the instrumental music may suit the voice of a vocalist accompanied by the instrumental music.

Figure I is a top or plan view of my transposing keyboard, certain portions being broken out to afford a view of the parts beneath them. Fig. II is a vertical cross section taken on irregular line II-II, Fig. I, the transmission pin carrier being partly broken out aside from said line to show the lower ends of two of the transmission pins in elevation, another of the transmission pins being shown partly in section. Fig. III is a front view of one of the transmission bars and the cooperating parts.

In the drawings: 1 designates the key levers of a piano, or other musical instrument, pivotally mounted upon a support 2. 3 and 4 are the white and black keys pivotally mounted upon a supporting bar 5 and adapted to seat at their upper faces against a felt pad 6 above the keys. The keys 3 and 4 are substantially parallel with the key levers and are held from lateral movement by suitable guide pins extending upwardly from the supporting bar 5 and guide bar 11, as illustrated in Fig. II.

The key levers 1 are provided with posts 7 that extend upwardly from said levers beneath the keys. The posts 7 serve as carriers for horizontally disposed transmission bars 8, arranged in series, one behind another. The bars 8 extend beneath a plurality of the keys and are adapted to be depressed by any of the keys thereabove through the medium of elements interposed between the keys and said transmission bars, as will hereinafter more fully appear.

9 designates a shiftable transmission device carrier located above the transmission bars 8 and between said bars and the keys, the said carrier being slidably mounted in suitable guide bars 10 and 11 that extend longitudinally of the keyboard. This carrier is adapted to be shifted longitudinally by any suitable means, such as a handle 12 that extends through the slot 13 in a part 14 at the front of the case of the musical instrument. In the carrier 9, which is preferably in the form of a flat board, are vertical pin holes, arranged in lines extending obliquely to the carrier beneath series of the keys to provide for one pin hole being located above the transmission bar 8 associated with one key lever, the next pin hole being stepped laterally and rearwardly relative to the first named pin hole and positioned above the transmission bar associated with the next key lever; and so on throughout a series of said transmission bars.

15 designates transmission pins loosely arranged in the carrier 9 and interposed between the keys and the horizontal transmission bars 8 to provide for the depression of said transmission bars upon the depression of the keys. The transmission pins are provided at their upper and lower ends with tips of felt, or other soft material, that contact with the keys and the horizontal transmission bars.

16 are lift springs on the carrier 9 arranged in engagement with the transmission pins 15 to hold them normally in elevated positions, and which may also serve to elevate the keys when they have been depressed, as well as to provide for the return or upward movement of the transmission pins after they have been lowered by the keys to depress the transmission bars 8 beneath them.

It should be explained that tilting of the key levers due to pressure of the transmission pins 15 against the transmission bars 8 near the ends of the latter, which might interfere with the operation of the levers is provided against by the provision of vertical slots extending longitudinally of the key levers, (see dotted lines Figs. I and II), and pins extending upwardly into these slots from the supports 2. If desirable, the key levers may be similarly slotted near their forward ends to receive suitably sup-

ported pins mounted in a support so located that it will not interfere with the vertical movements of the levers.

I claim:—

5 1. In a transposing keyboard, keys and key levers substantially parallel with each other, key lever operating members extending transversely of series of the keys, transmission devices interposed between the keys
10 and said operating members, and means for shifting said transmission devices transversely of the keys, whereby each transmission device may be adjusted from one key to another key in the same series and along
15 the respective operating member.

2. In a transposing keyboard, keys and key levers substantially parallel with each other, key lever operating members carried by said key levers and each normally disposed transversely of a plurality of the keys,
20 transmission devices interposed between the keys and said operating members, and means for shifting said transmission devices transversely of the keys and longitudinally of said operating members.
25

3. In a transposing keyboard, keys and key levers substantially parallel with each other, key lever operating members carried by said key levers and normally disposed
30 transversely of a plurality of the keys, transmission pins interposed between said keys and operating members, and means for shifting said transmission pins transversely of the keys and longitudinally of said operating members.
35

4. In a transposing keyboard, keys and key levers substantially parallel with each other, transmission bars carried by said key levers normally disposed transversely of a
40 plurality of the keys, transmission pins interposed between the keys and said transmission bars, and means for shifting said transmission pins transversely of the keys and longitudinally of said transmission
45 bars.

5. In a transposing keyboard, keys and key levers substantially parallel with each other, key lever operating bars extending transversely relative to said key levers and

transversely of a plurality of the keys, transmission devices interposed between the keys
50 and said operating bars operable singly by individual keys, and means for shifting said transmission devices transversely of the keys and parallel with said operating bars.
55

6. In a transposing keyboard, keys and key levers substantially parallel with each other, key lever operating bars extending transversely relative to said key levers stepped one back of another, transmission
60 pins interposed between the keys and said operating bars, the said pins being arranged in stepped relation beneath succeeding keys and above the stepped operating bars, and means for shifting said transmission pins
65 transversely of said keys and longitudinally of said operating bars.

7. In a transposing keyboard, keys and key levers substantially parallel with each other, key lever operating bars extending
70 transversely relative to said key levers and stepped one back of another, transmission pins interposed between the keys and operating bars, the said pins being arranged in stepped relation beneath succeeding keys
75 and above the stepped operating bars, means for shifting said transmission pins transversely of said keys and longitudinally of said operating bars; said last named means comprising a slidable carrier in which the
80 transmission pins are loosely mounted.

8. In a transposing keyboard, keys and key levers substantially parallel with each other, posts carried by said key levers, transmission bars carried by said posts and
85 extending transversely relative to the levers and beneath a plurality of the keys, a shiftable carrier between said transmission bars and said keys, and transmission pins loosely arranged in said carrier adapted to
90 be shifted by the latter to positions beneath different adjoining keys while remaining in alinement with said transmission bars.

PAUL BIALIK.

In the presence of—

LOUIS BIALIK,
E. B. LINN.