

(No Model.)

2 Sheets—Sheet 1.

E. H. HÖFINGHOFF.
KEY BOARD FOR MUSICAL INSTRUMENTS.

No. 426,812.

Patented Apr. 29, 1890.

Fig. 1

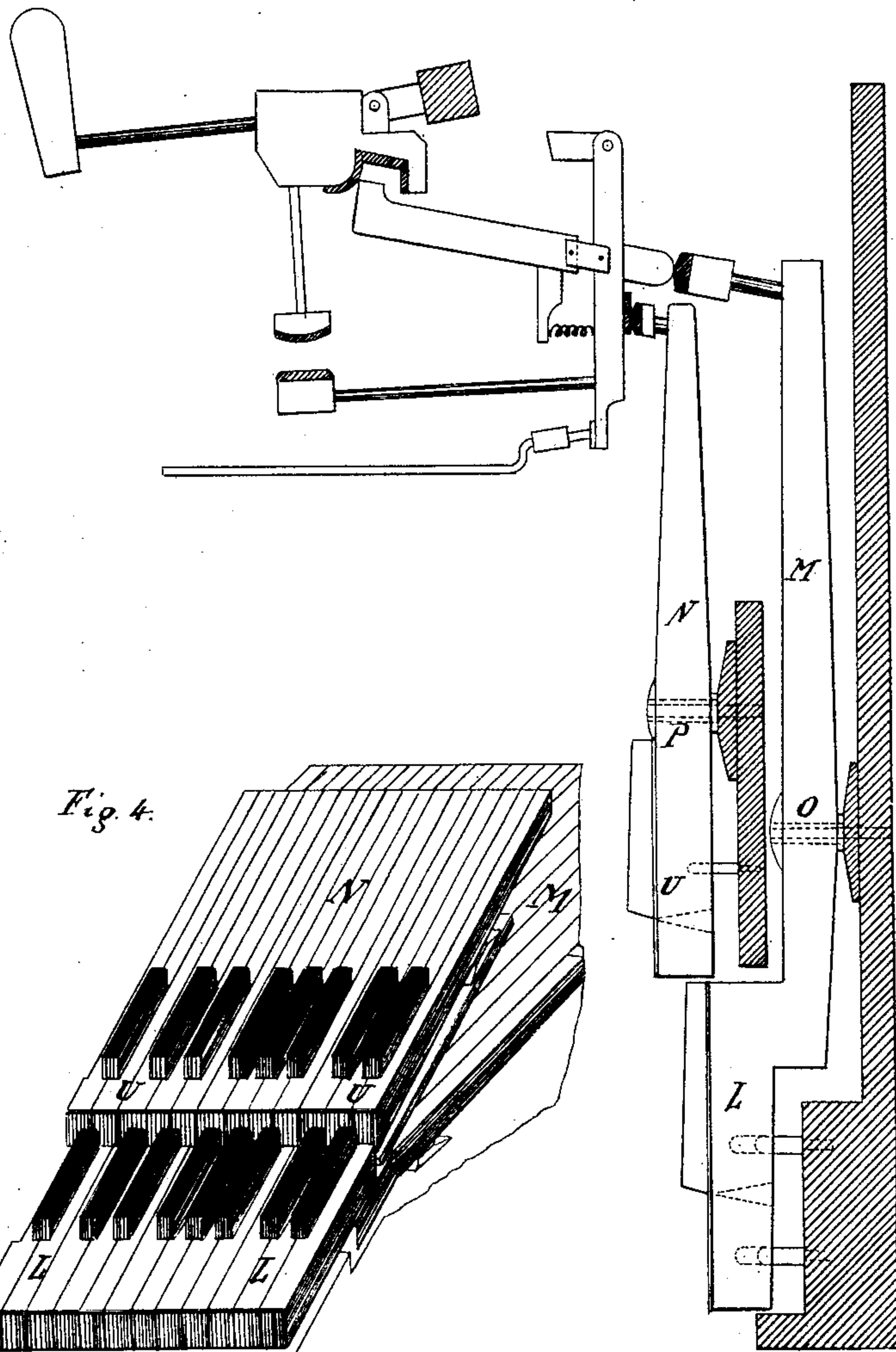


Fig. 2

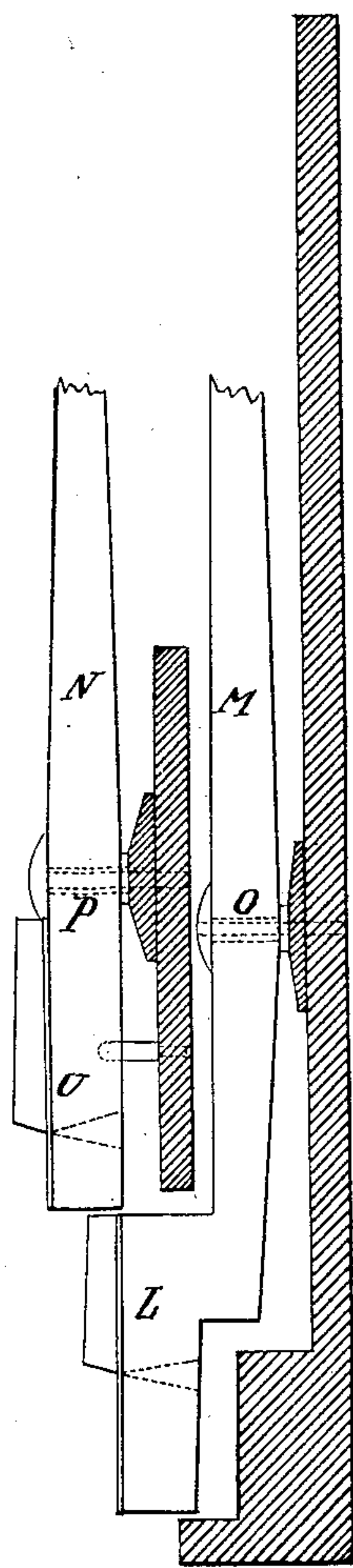
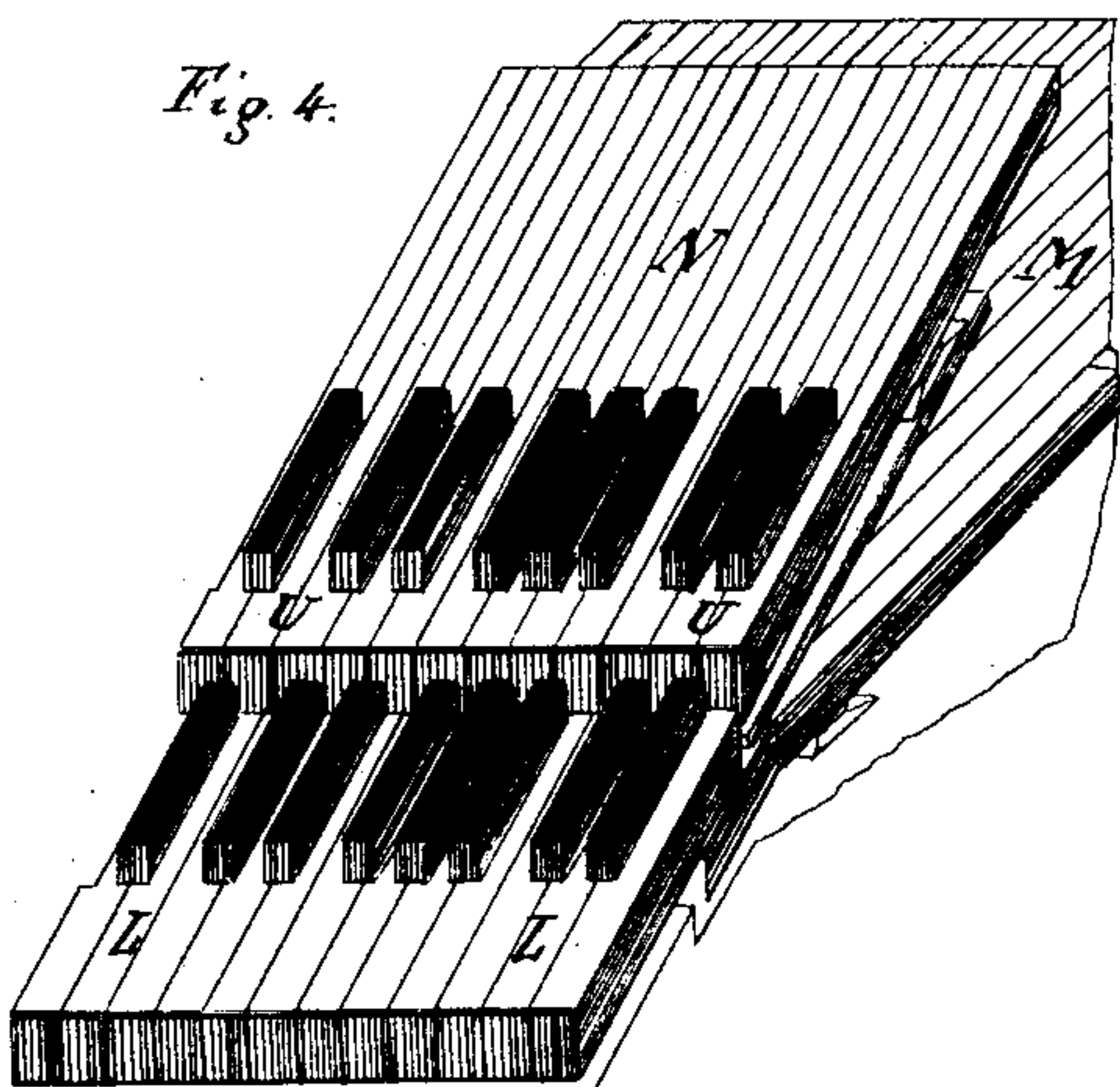


Fig. 4



Witnesses.

Ernest Horn
Karl L. May

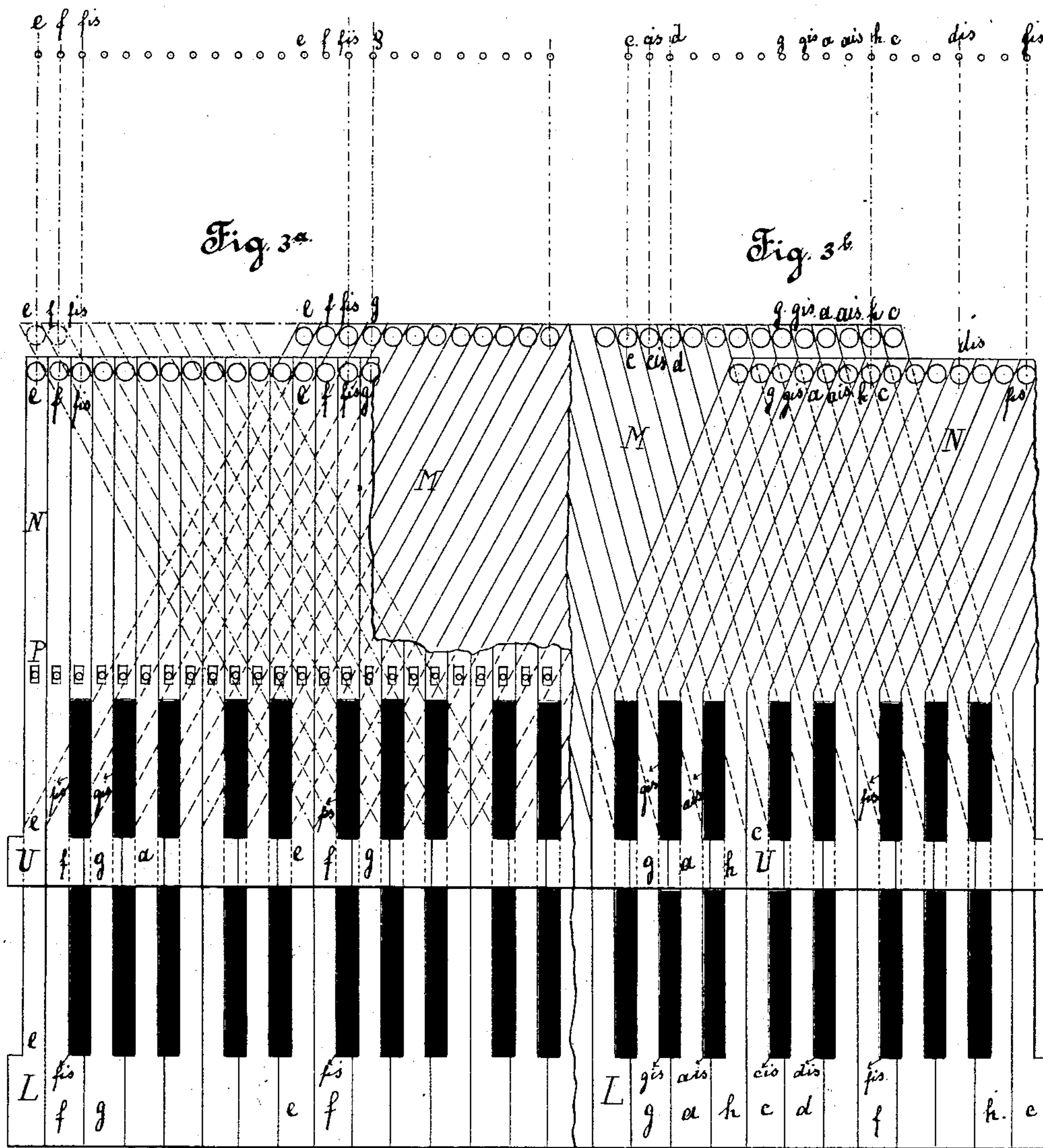
Inventor.

Emil H. Höfinghoff
per
Karl L. May
Attorney

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Inventor

Emil B. Höfinghoff
Karl J. Mayer
Attorney

UNITED STATES PATENT OFFICE.

EMIL HUGO HÖFINGHOFF, OF BARMEN, PRUSSIA, GERMANY.

KEY-BOARD FOR MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 426,812, dated April 29, 1890.

Application filed December 29, 1887. Serial No. 259,340. (No model.) Patented in Germany March 11, 1887, No. 42,566; in England December 3, 1887, No. 16,640, and in Belgium December 14, 1887, No. 79,918.

To all whom it may concern:

Be it known that I, EMIL HUGO HÖFINGHOFF, a subject of His Majesty the Emperor of Germany, residing at Barmen, in the Province of Rhenish Prussia, Germany, have invented new and useful Improvements in Key-Boards for Musical Instruments, (for which I have obtained patents in Germany, No. 42,566, bearing date March 11, 1887; in England, No. 16,640, bearing date December 3, 1887, and in Belgium, No. 79,918, bearing date December 14, 1887,) of which the following is a specification.

My invention consists of a new arrangement of the keys of key-instruments, such as pianos, harmoniums, cottage-organs, church-organs, and similar instruments.

The chief advantage which my new key-board offers to the player is that an average hand can strike on it one octave more than on the key-board hitherto in use. To give an instance I may say that a hand which can strike on the ordinary key-board the "contra C" and the "great D" at the same time is able to strike on my new key-board the "contra C" and the "small D" simultaneously. From this it appears that on my new key-board compositions can be played which it would be impossible to execute on the ordinary key-board. There are, besides, a great many combinations of tones in existing compositions which offer great difficulties to the performer playing on the ordinary key-board, and which are easily played if the player performs them on an instrument with my key-board.

Hitherto it was impossible to perform compositions composed for organ with organ-pedal on instruments having no organ-pedal. Most of these compositions can be performed on my new key-board. I attain this object by arranging the keys of my new key-board as illustrated in the accompanying drawings, in which—

Figure 1 is a vertical sectional view of the new key-board for a piano-forte. Fig. 2 is a vertical sectional view of the new key-board for a harmonium. Fig. 3^a is a plan of my new key-board having the prolongations of the lower keys bent in an obtuse angle to the right. Fig. 3^b is a plan of my new key-board

having the prolongations of both sets of keys in an obtuse angle, one set to the right and the other set to the left, so that the prolongations of the corresponding keys run in converging lines and meet at the point where they act upon the inner mechanism of the instruments, be it for strings, valves, stops, &c., of pianos, harmoniums, or organs, respectively. Fig. 4 is a perspective view of a part of my new key-board.

My new arrangement of keys consists of two sets of keys U U and L L in diatonic order placed one immediately behind the other, the back or upper one U U being placed only so much higher than the front or lower one L L that both of them form together but one uninterrupted key-board and that the keys of both can be struck conveniently by one hand at the same time, for the purpose of which the white keys of the upper set and the semi-tones of the lower set are made shorter than usual. In this my new key-board differs materially from the two manuals of an organ, on which it would be impossible, for instance, to strike the white keys of the lower manual and semi-tones (black keys) of the upper manual simultaneously and conveniently by the same hand, and on which it would be impossible to play compositions like those composed especially for my key-board.

This new key-board has two keys for each tone of the instrument—i. e., one key in the front set and one key in the back set of keys. The keys are arranged in such a manner that the keys of the back set give a tone sounding just one octave higher (or deeper) than the tone brought to sound by touching the key lying in a straight line before the corresponding key of the back set of keys. This is obtained by bending the inner prolongations of the keys either of the lower or of the upper set M or N, respectively, oscillating on the pins O and P, respectively, in such a way, either to the right or left side, that the prolongations of the keys of the lower set do not run parallel with the prolongations of the keys of the upper set, but that the prolongation of each key of the upper set brings in action the same hammer (piano-forte) or the same mechanism for opening the valves (harmonium) which is connected with that key

of the lower set that lies an octave higher up or lower down.

My invention does in no way relate to the inner mechanism of key-instruments, whether
5 they be wind-instruments with pipes or tongues and valves, or string-instruments acting by hammers and strings, and I make no claim on any arrangement of this inner mechanism, which, as a matter of course, in every
10 case, is prescribed by the nature and construction of the instrument.

My invention consists solely in the new arrangement of the double set of keys forming but one uninterrupted key-board, by means
15 of which it is possible to strike with one hand over two octaves and to play an unlimited number of accords and combinations of tones between this reach, which it was hitherto impossible to perform on the instruments with
20 the ordinary arrangement of keys.

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

A key-board composed of two sets of keys

of the usual diatonic system U U and L L, of 25 which the upper set U U is placed immediately behind the lower set L L and only so much higher that both sets form but one uninterrupted key-board having for each tone
30 two keys—viz., one in the lower and one in the upper set arranged in such a manner that (a) each key of the lower set gives a tone sounding either one octave deeper or one octave higher than the tone produced by striking that key of the upper set which lies in 35 the direct prolongation of it, and that (b) the white keys of the lower set and the semitones (black keys) of the upper set can be struck conveniently by one hand simultaneously. 40

In testimony that I claim the foregoing as my invention I have signed my name in presence of two witnesses.

EMIL HUGO HÖFINGHOFF.

Witnesses:

ROB. SCHMITZ, Jr.,
C. BONSEL.