(No Model.)

J. MUELLER.

ADJUSTING DEVICE FOR ORGANS.

No. 461,641. Patented Oct. 20, 1891.

Fig. I.

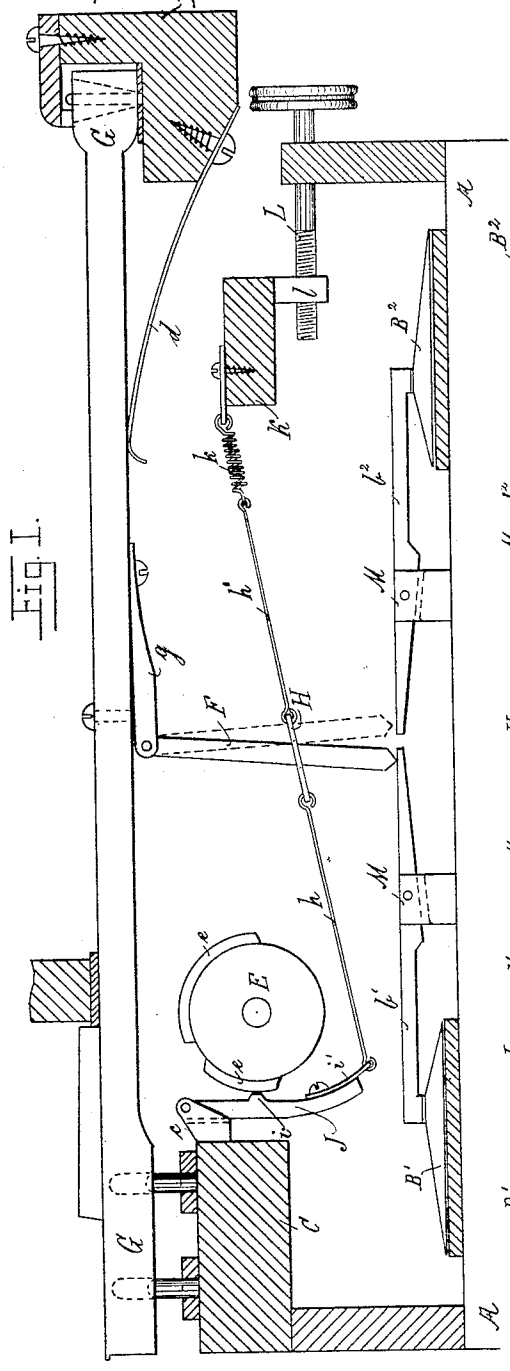
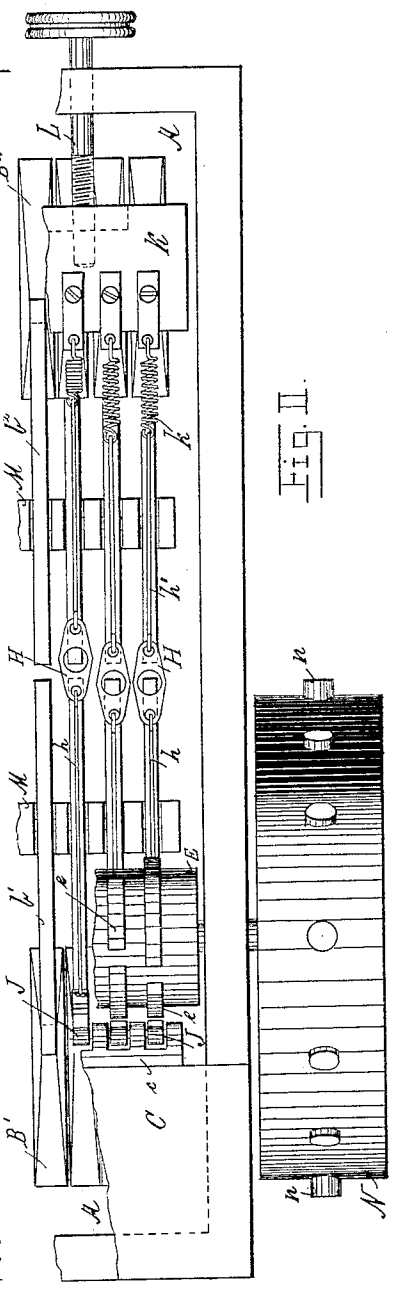


Fig. II.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHANNES MUELLER, OF RUDOLSTADT, GERMANY.

ADJUSTING DEVICE FOR ORGANS.

SPECIFICATION forming part of Letters Patent No. 461,641, dated October 20, 1891.

Application filed February 24, 1891. Serial No. 382,373. (No model.)

To all whom it may concern:

Be it known that I, JOHANNES MUELLER, a subject of the Prince of Schwarzburg-Rudolstadt, Germany, and a resident of Rudolstadt, Germany, have invented certain new and useful Improvements in Adjusting Devices for Organs, of which the following is a specification.

This invention relates to improvements in organs, harmoniums, and other similar wind instruments; and the object of my invention is to provide an attachment to the organs, by means of which attachment one and the same key can be used for producing a musical sound in a higher or lower pitch, according as the scale in which the melody or tune to be played requires it.

The invention consists in the combination, with a key, of two reeds of different pitch, valves, valve-levers, an adjustable finger adapted to act on both valve-levers corresponding to the key, and means for shifting and adjusting said finger to act on one valve or the other.

The invention also consists in the construction and combination of parts and details, which will be fully described hereinafter, and finally pointed out in the claims.

In the accompanying drawings, Figure I is a vertical longitudinal sectional view of a harmonium provided with my improvement, parts being omitted; and Fig. II, a plan view of the same, the cover being omitted.

Similar letters of reference indicate corresponding parts.

On the top of the wind-chest A a series of reeds are arranged in two rows, which reeds can be opened or closed by the valves B′ B^2, secured to the valve-levers b' b^2, pivoted at M M, the free ends of said valve-levers being adjacent to each other. The difference in pitch between the two reeds, which are both used for producing the same tone, is one-tenth of a tone, so that the same tone produced by the valve at the front of the instrument, for example, is one-tenth higher than the same sound when produced by the valve at the rear.

To the front rail C a notched bar *c* is secured, to which a number of levers J are pivoted, one for each key, each lever J being provided with a nose or projection *i*, on which the segmental cams *e*, of greater or less length, on the roller E, mounted parallel with the rail C, can act. A spring-strip *i′* is secured to the lower end of each lever J and connected by a wire *h* with a leather plate H, having an aperture, the other end of said leather plate H being connected by a wire *h′* with one end of a spiral spring *k*, secured to a rail K, having a lug *l*, provided with a screw-threaded aperture, through which aperture a screw L is passed, that is mounted to turn in the plate at the rear of the instrument and is used for adjusting the rail K. The key-levers G are pivoted to the rail D in the usual manner, and are pressed upward by the springs *d*. A clip *g* is secured to the under side of each key-lever, and to said clip an adjustable finger F is pivoted, said finger F passing through the aperture in the corresponding plate H, the free end of said finger being adapted to act on the adjacent free ends of the valve-levers b' b^2. The shaft of the roller E projects through the side of the instrument and carries a disk N, provided with a number of pegs *n* on its rim, each peg corresponding to a different key. By turning said disk N the roller E is turned and different cams *e* on the said roller act on different levers J. The said cams *e* are so arranged as to move the finger F to the right or left, so as to act on one valve-lever or the other and thus adjust the instrument so that all the tones produced while playing a tune in a certain key are in full harmony. When a cam acts on the lever J, the same is forced to the left and pulls the finger F to the left to act on the corresponding valve-lever b', the spring *k* being extended, and when the nose *i* on the lever J arrives at one of the notches between the segmental cams *e* the spring *k* contracts and pulls the lower end of the lever J to the right, whereby the finger F is moved to the right and acts on the other corresponding valve-lever b^2. The adjustment can be made while playing, and in case this adjustment is made while one valve-lever is depressed and the other raised the finger F would catch on the edge or end of the raised lever. The spring *i′* is provided to prevent injury to the parts when the finger thus catches, as said spring can then give more or less. The spring *i′* is more powerful than the spring *k*.

In larger instruments, especially organs,

the single reeds are replaced by groups of reeds, which, however, does not affect the mechanism, as the method of adjusting the fingers remains the same. Before beginning to play the parts are adjusted by hand; or, in case they need frequent adjusting while playing, a suitable contrivance can be used by means of which the adjustment can be made by means of the knees of the player.

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

1. In harmoniums and like wind instruments, the combination, with a key and separate reeds of different pitch, and valves and valve-levers for each key, of a finger connected with each key and a roller bearing cams for shifting the fingers on the several keys, so as to cause said fingers to act on one valve-lever or the other of each key, substantially as set forth.

2. In organs, harmoniums, and like wind instruments, the combination, with a key and reeds of different pitch, and valves and valve-levers for each key, of an adjustable finger connected with each key, an apertured plate through which the finger passes, a pivoted lever with which the said plate is connected, a spring connected with said plate, and a roller bearing cams adapted to act on said lever for the purpose of adjusting the key-fingers, substantially as set forth.

3. In an organ, harmonium, or like wind instrument, the combination, with a key, of reeds of different pitch, valves and valve-levers, an adjustable finger for each key, an apertured plate through which the finger passes, a pivoted lever for each key, wires connecting said apertured plate with the spring and one of the corresponding pivoted levers, a spring-strip on the lower end of the pivoted lever, with which spring-strip the wire is connected, and a roller bearing cams adapted to act on said levers, the finger of each key passing through the aperture of the corresponding apertured plate below said key, substantially as set forth.

4. In an organ, harmonium, or like wind instrument, the combination, with a key, of reeds of different pitch, valves and valve-levers, an adjustable finger connected with each key, an apertured plate below each key, through which apertured plate the corresponding finger passes, levers connected with said plates, a roller having cams adapted to act on said levers, a disk on one end of the shaft of said lever, and indicator-pins on said disk, substantially as set forth.

In witness whereof I have hereunto set my hand in presence of two witnesses.

JOHANNES MUELLER.

Witnesses:

A. BORNSCHEIM,

ALFR. FISCHER.