(No Model.) 2 Sheets—Sheet 1.

W. K. WHEELER.

TEMPERAMENT ADJUSTER FOR MUSICAL INSTRUMENTS.

No. 256,524. Patented Apr. 18, 1882.

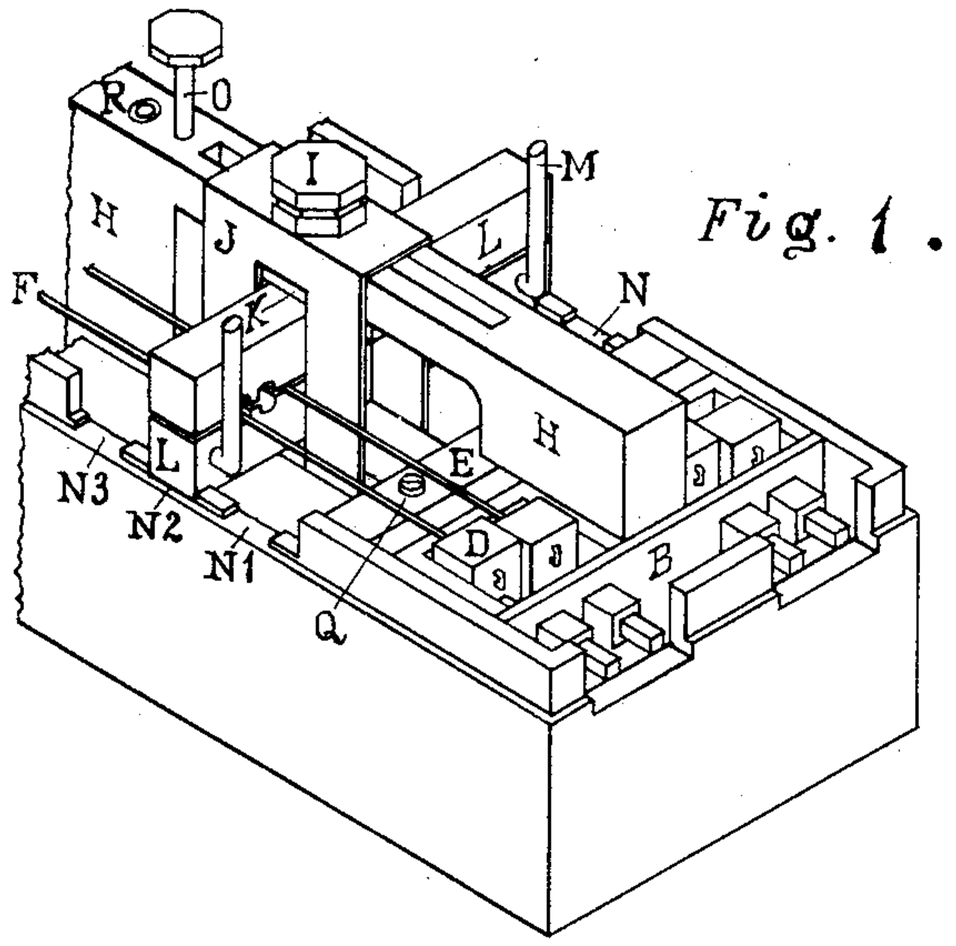


Fig. 1.

Fig. 2

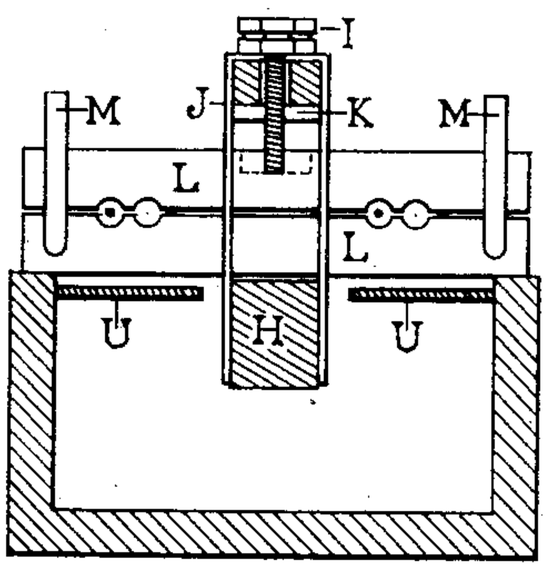


Fig. 3

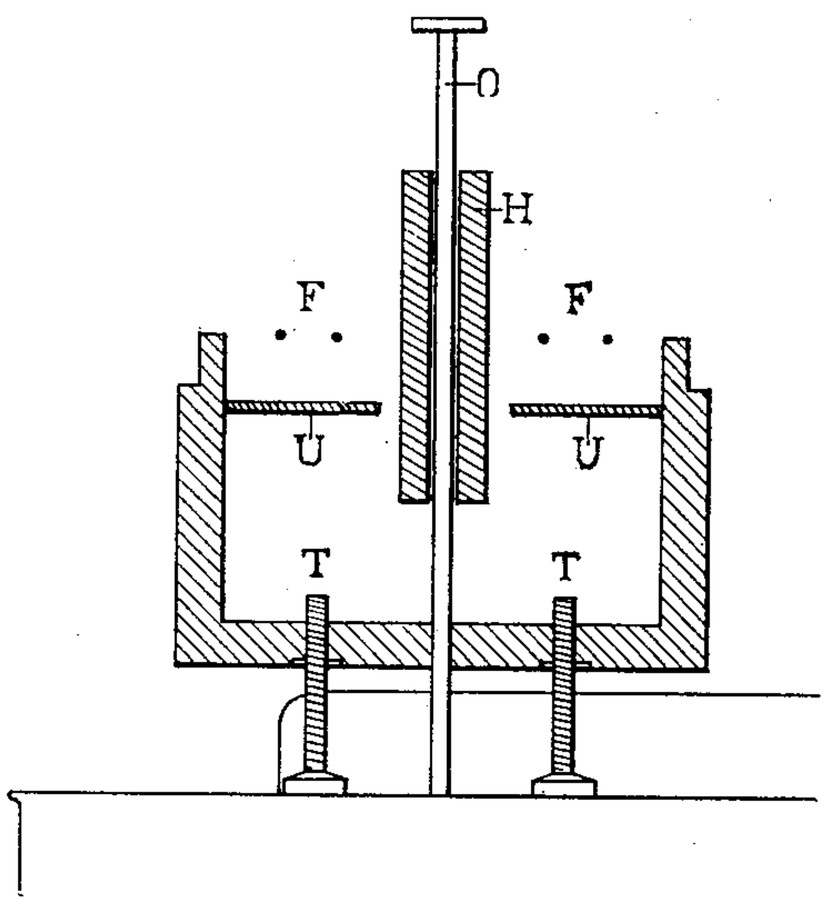
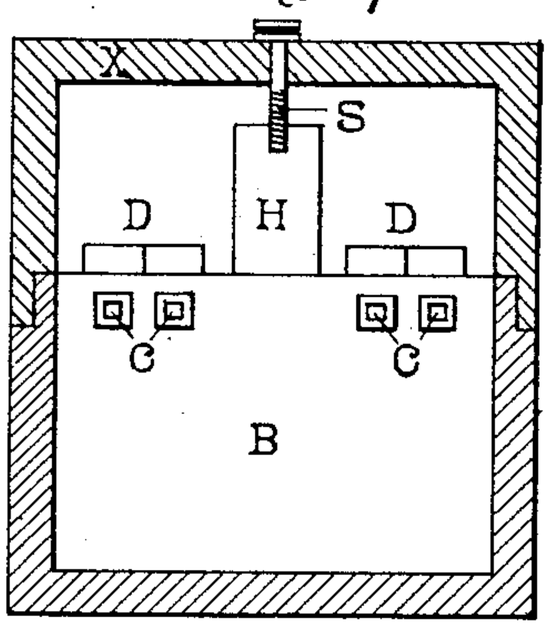


Fig. 4.



Witnesses:
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J. Wesley Newcum.

Inventor:
Walter Knox Wheeler.

(No Model.) 2 Sheets—Sheet 2.

W. K. WHEELER.

TEMPERAMENT ADJUSTER FOR MUSICAL INSTRUMENTS.

No. 256,524. Patented Apr. 18, 1882.

Fig. 5.

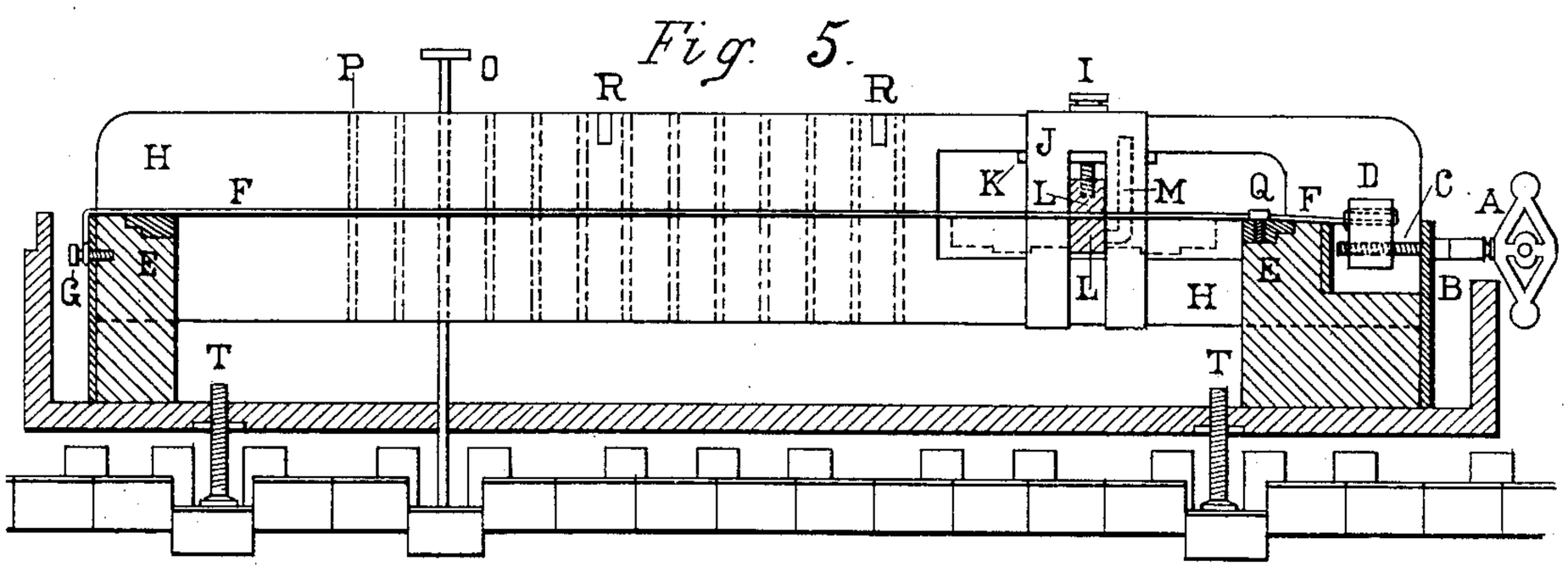
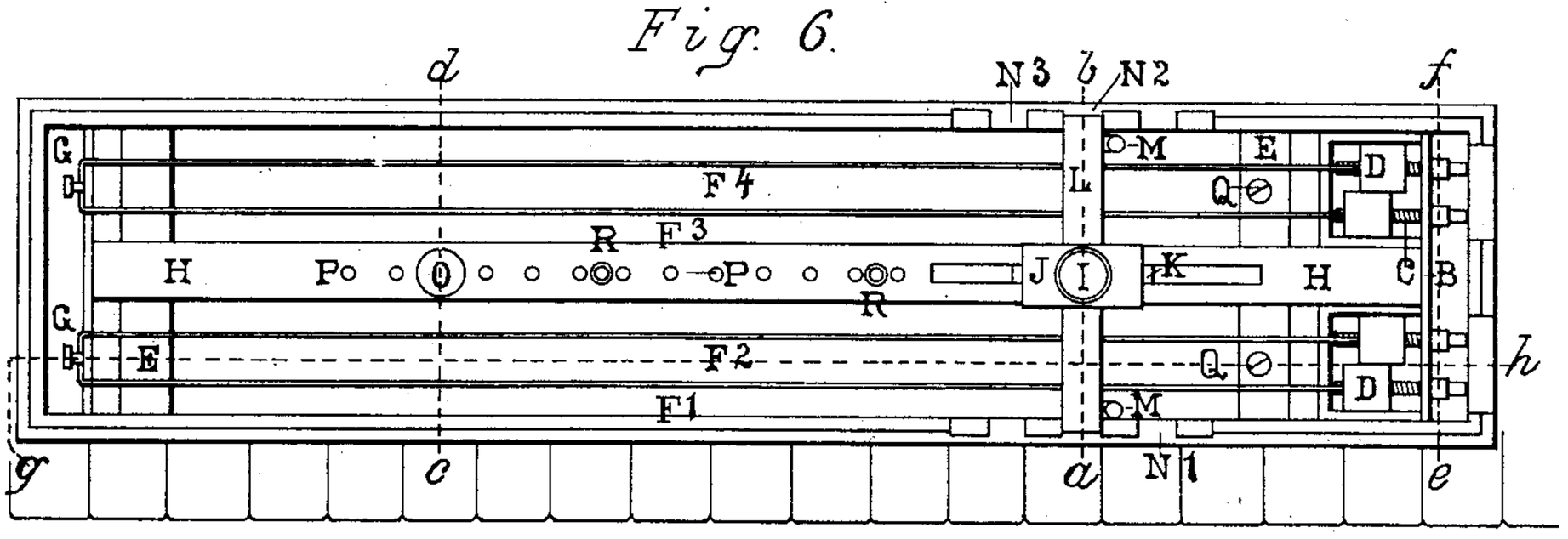


Fig. 6.



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UNITED STATES PATENT OFFICE.

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TEMPERAMENT-ADJUSTER FOR MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 256,524, dated April 18, 1882.

Application filed August 18, 1881. (No model.)

To all whom it may concern:

Be it known that I, WALTER KNOX WHEELER, of the city and county of San Francisco, California, have invented an improved and useful instrument named by me a "Temperament-Adjuster" for setting the temperament in tuning piano-fortes and organs, this temperament-adjuster giving any desired pitch and the correct division to all the scales or tones in the range of an octave, of which the following is a specification.

Heretofore the method of tuning adjusted all the scales or tones of an octave by the use of chords dependent on the accuracy of the ear, which is liable to deceive. This adjuster is so constructed that unisons are used in place of chords.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a perspective view of the working portion of my invention. Fig. 2 is a cross-section through *a b;* Fig. 3, a cross-section through *c d;* Fig. 4, a cross-section through *e f*, and Fig. 5 a longitudinal section through *g h* of Fig. 6; and Fig. 6 is a top view when cover is removed.

The key A fits the shoulder-head of screws *c*, which pass through the screw-support B, moving the nuts D forward and backward for the purpose of adjusting the strings F to the required pitch, which strings are fastened at the opposite end to the string-pins G. The bridges E are stationary and support the strings F at each end, with regulating-screws Q to correct the levels of the strings. The girder H extends from screw-support B to screw-pins G in opposite ends of the adjuster, through which the adjustable bridge L and the grip-screw I is moved. The girder H also guides the stroker O through the holes P, striking down the desired key on the piano-forte or organ, and prevents any contraction occasioned by the strain of the strings. The grip-screw I, which passes through the cap J and elevates a nut-plate, K, passes down into a slot in the upper jaw of the adjustable bridge L. The adjustable bridge grips the strings F between its jaws, and is moved into the positions necessary to give the desired tones by the handles M. The lower jaw of the adjustable bridge rests in the slots N at each side of the instrument. The cover X is held in place by the cover-screws S passing through the cover into the holes R in girder H.

The screw-legs T can be shortened or lengthened at pleasure. U is a sounding-board.

To set a temperament, place the temperament-adjuster on the key-board, as shown in Figs. 3, 5, and 6, and place the adjusting-bridge L into slot N^3. In this position the temperament-adjuster is tuned. By moving the adjusting-bridge to and from you the open strings, vibrating their whole length when tuned will give C, D♯, F♯, and A. Thus string F′, when vibrating its whole length, gives C at the pitch desired. By moving the bridge from you the string F′, if gripped, gives D♯. The string F^2 in this position vibrates free its whole length, and is tuned in perfect unison to string F′ and gives D♯. By moving the bridge to you the string F^2, if gripped, gives F♯. The string F^3 in this position vibrates free its whole length, and is tuned in perfect unison to string F^2 and gives F♯. By moving the bridge from you the string F^3, if gripped, gives A. The string F^4 in this position vibrates its whole length, and is tuned in perfect unison with F^3 and gives A. By gripping F^4, F′ will vibrate its whole length, giving middle C, while the string F^4, being gripped, will give the C an octave above and prove the correctness of the four divisions of the scale described—viz., C, D♯, F♯, A; and thus the temperament-adjuster is set in perfect tune and completes the use of slot N^3. By the two motions of the bridge and the grip-screw in slot N^2, D, F, C♯, and B of the scale are given. In the same manner in slot N′ the bridge-adjuster gives C♯, E, G, A♯, thus completing the temperament to which the piano-forte or organ is tuned by unisons and without the use of chords.

What I claim as my invention is—

The temperament-adjuster, or device for aiding in tuning key-board musical instruments, consisting of the body or support provided with four strings, and having upon its upper side edges the slots N′ N^2 N^3, in combination with the bridge L, composed of the gripping-jaws having string-slots and adapted to be moved and placed in either of the slots N′ N^2 N^3, and to be adjusted transversely, whereby the twelve chromatic tones of an octave may be obtained.

WALTER KNOX WHEELER.

Witnesses:
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J. WESLEY NEWCUM.