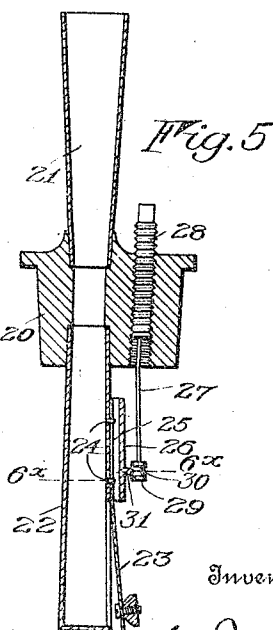
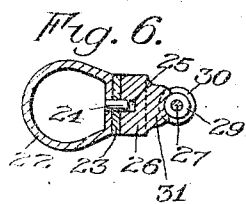
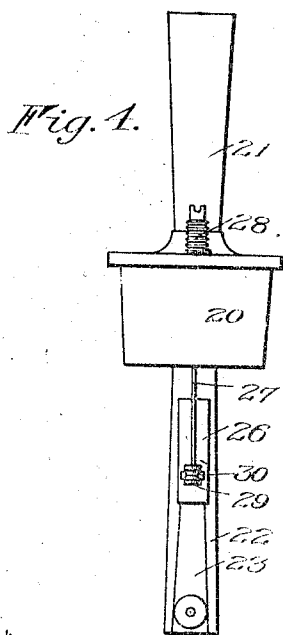
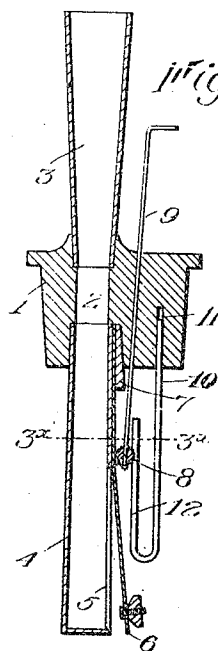
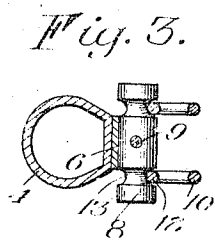
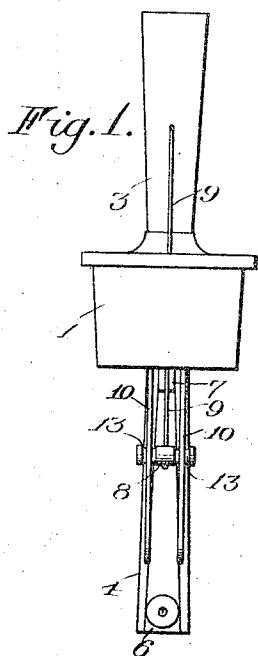


R. HOPE-JONES.
 DEVICE FOR TUNING REEDS.
 APPLICATION FILED JULY 15, 1910.

1,059,365.

Patented Apr. 22, 1913.



Witnesses
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BEST AVAILABLE COPY

UNITED STATES PATENT OFFICE.

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DEVICE FOR TUNING REEDS.

1,059,365.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Application filed July 15, 1910. Serial No. 572,083.

To all whom it may concern:

Be it known that I, ROBERT HOPE-JONES, a subject of the King of Great Britain, residing at North Tonawanda, county of Niagara, and State of New York, have invented certain new and useful Improvements in Devices for Tuning Reed; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention relates to reeds or reed pipes in which musical tones are produced by a vibrating reed or tongue, and it has for its principal object to provide improved means whereby the reeds may be quickly and conveniently tuned, and when once adjusted to the proper pitch will remain true and their liability to change will be reduced to a minimum.

To these and other ends the invention consists in certain improvements and combinations of parts all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings: Figure 1 is a side elevation of the lower portion of a reed organ pipe showing a tuning device constructed in accordance with my invention; Fig. 2 is a vertical sectional view thereof; Fig. 3 is a horizontal sectional view taken on the line 3*-3* of Fig. 2, and Figs. 4, 5 and 6 are similar views of a modification.

In illustrating my invention I have shown it in connection with the foot or lower end of an organ pipe in which the reed block or the block of the organ pipe, as it is sometimes called, is indicated by 1, which is provided with the aperture 2 from which rises the pipe proper 3. Beneath the latter is the shallot 4, which it will be understood projects from the block into the live wind chest of the organ and is provided with the mouth or aperture 5 through which the air escapes into the pipe. Arranged in front of this aperture is the vibrating tongue 6, the upper end thereof being rigidly secured to the block 1, as by means of a wedge 7. The tone or pitch of the pipe is controlled by the rate of vibration of the tongue 6, and

the latter is curved or curled slightly so that its lower end is separated from the mouth of the shallot and is easily influenced by the air under pressure seeking to escape through the latter.

The principal factor to be taken into consideration in the tuning of an organ pipe of this character is the accurate and delicate adjustment of the tuning member, by means of which the length of the free end of the vibrating tongue is controlled, and it is, therefore, particularly essential that the tuning member, while freely adjustable along the tongue, should also be accurately held in adjusted position and not be subject to vibration, by the change in atmospheric conditions or by the slight jar or trembling imparted to it by the vibrations of the tongue. In carrying out this feature of my invention, I have constructed the tuning member in the form of a short bar which is preferably, but not necessarily, circular in cross section, bearing against the tongue and extending transversely thereof. This member is attached to the tuning wire 9, which preferably extends through a central transverse aperture therein and projects upwardly through an aperture in the reed block 1. In forming the aperture it may be inclined slightly at an angle to the active face of the shallot, so that as the wire 9 is depressed to advance the member 8 it will normally exert a slight tendency to crowd the latter toward the adjacent face of the shallot and thus assist in holding the tongue tightly in engagement therewith. The wire 9 also closely fits the aperture in the block so that it will be retained in adjusted position by the friction between the wire and the walls of the aperture. The friction thus attained between the tuning member and the reed and shallot is not sufficient for the reeds of larger pipes, and I have, therefore, provided a bearing member which engages the tuning member and also serves as a guide for the latter. In the illustrations I have shown the bearing member as composed of two arms 10 depending from the reed block 1, which are preferably made of comparatively heavy spring wire secured to the block by embedding their ends in apertures 11, as shown in Fig. 2. The lower ends of the arms extend downwardly beyond the

lowest point to which it may ever be desired to adjust the tuning member and from this point their free ends are bent upwardly, as indicated at 12, and adjusted to engage in notches or recesses formed near the ends of the tuning member 8 and beyond the edges of the tongue. By making the bearing member in two parts and providing the tuning member with cooperating notches it will always be held in proper position on the tongue without other guiding means being employed, and the use of wires in the form shown permits the tuning member to be held firmly against the tongue in any adjusted position without in any way affecting the quality or pitch of the tone produced by the vibration of the tongue. The wires also being capable of yielding slightly permits their being sprung laterally to facilitate assembling the parts in the first instance.

The advantages attributed to the arrangement of the tuning devices described above may also be obtained by arranging the parts as shown in Figs. 4, 5 and 6. This modification is one which may well be adapted for the organ pipes having small reeds, such as those employed for producing the higher musical tones. In the figures last referred to, the reed block is indicated by 20, the pipe by 21 and the shallot by 22. The tongue 23 cooperating with the latter is secured to the shallot above the aperture therein by pins 24, the outer ends of which project into the longitudinally extending channel or way 25 formed in the tuning member 26, the lower end of which as it is adjusted upwardly or downwardly relatively to the free end of the tongue 23, will control the rate of vibration of the latter, as will be understood. In this form of the device, the tuning wire 27 is rigidly secured to a screw 28 threaded in an aperture in the block 20 and at the lower end of the wire is a head 29 provided with an annular recess preferably V-shaped which receives a small projection or bearing 31 on the tuning member 26. It will be noticed that the axis of the screw 28 may be made to extend at an angle to the direction of movement of the tuning member so that the wire 27 is always under a tension to force the tuning member against the tongue in whatever position of adjustment it may be.

Tuning devices constructed in accordance with my invention are simple in construction, may be manufactured cheaply and readily assembled. It will be observed that the tuning member is adjusted upwardly or downwardly to produce the desired variation in the rate of vibration of the tongue and that in all positions of adjustment it is held firmly against the tongue. Further, the arrangement of the parts and their shape are such that during the adjustment of the tuning member neither the tuning wire nor

the bearing member, or members, are distorted so as to be displaced out of their normal positions and thus subjected to strains causing them to temporarily exert more than the normal predetermined pressure upon the tuning member. When any of the parts are distorted at the time of adjustment an unnatural strain is imparted to them which will give way, or grow less, under the vibrating influence of the tongue, causing the tuning member to change its position.

The above devices are applicable to reeds of all kinds whether furnished with resonating pipes or not.

I claim as my invention:

1. In a device for tuning sound producing reeds, the combination with a block, a shallot and a tongue, of a tuning member engaging the tongue, and means for adjusting it on the tongue and a bearing member supported on the block having a portion extending parallel to the line of movement of the tuning member and cooperating therewith to yieldingly hold the tuning member against the tongue in its various positions of adjustment.
2. In a device for tuning sound producing reeds, the combination with a foot block, a shallot and a tongue, of a tuning member engaging the tongue, a tuning wire passing through the block and connected to said member and an arm depending from the block and holding the member in its adjusted position on the tongue.
3. In a device for tuning sound producing reeds, the combination with a block, a shallot and a tongue, of a tuning member engaging the tongue, and extending across the face thereof, a tuning wire extending upwardly from said member and passing through the block and a pair of spaced arms depending from the block and engaging the ends of the tuning member to hold its intermediate portion against the tongue.
4. In a device for tuning sound producing reeds, the combination with a block, a shallot and a tongue, of a tuning member extending across the face of the tongue, having guiding recesses spaced apart, a tuning wire for adjusting the member and a pair of wires secured in the block and lying in the recesses to form bearing guides for supporting the tuning member and holding it in firm engagement with the tongue.
5. In a device for tuning sound producing reeds, the combination with a block, a shallot and a tongue, of a tuning member extending across the face of the tongue, a pair of wires secured in and depending from the block having their extremities bent upwardly in front of the tongue and engaging the tuning member and means for adjusting the latter.
6. In a device for tuning sound producing reeds, the combination with a block, a

shallot and a tongue, of a tuning member movable longitudinally of the tongue, a tuning wire secured to the member and adjustable in an aperture arranged in the block at an angle to the direction of movement of the member to cause the latter to be forced toward the tongue, a bearing wire depending from the block having its extremity bent upwardly and engaging the member to force it laterally against the tongue.

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