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WOODWIND INSTRUMENT

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My invention relates to woodwind instruments and more particularly to a woodwind instrument of the saxophone type in which the G-sharp key is or is not actuated in sequence with the B, B-flat, and C-sharp keys as desired.

Woodwind instruments of the saxophone type typically include flat adjacent G-sharp, B, B-flat, and C-sharp keys, all operated by the little finger of the left hand of the operator. The instrument is provided with openings corresponding to each of these keys and pads operable to close these openings during playing. Actuating elements connect each pad with the corresponding keys.

Heretofore the operating elements for the G-sharp pad have been interconnected with the operating elements for the B-flat, B, and C-sharp pads so that when any of the latter elements are actuated the G-sharp pad is likewise actuated. However, some players prefer the lighter action of the key mechanism when the G-sharp pad is not actuated in unison with the B-flat, B, and C-sharp keys and for these players the above construction is undesirable.

In accordance with the present invention a single saxophone type instrument is provided with elements interconnecting the G-sharp pad and the B, B-flat and C-sharp pads and capable of adjustment to render ineffective the interconnection. The instrument is therefore playable either by players who prefer the interconnection operation or by players who prefer operation without the interconnection.

It is therefore a general object of the present invention to provide an improved saxophone type instrument including elements adjustable to interconnect the G-sharp pad with the B-flat, B, and C-sharp pads as desired.

Another object of the present invention is to provide an improved saxophone type instrument having conventional construction and operating elements but in which adjustable means are provided to interconnect the G-sharp pad with the B-flat, B, and C-sharp pads as desired.

Another object of the present invention is to provide adjustable actuating mechanism for a saxophone.

The novel features which I believe to be characteristic of my invention are set forth with particularity in the appended claims. My invention itself, both as to its organization and method of operation, together with further objects and advantages thereof, may best be understood by reference to the following description taken in connection with the accompanying drawings, in which:

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Figure 1 is a side view with parts in phantom showing a saxophone constructed in accord with the principles of the present invention;

Figure 2 is a somewhat diagrammatic enlarged fragmentary developed view of a key portion of the saxophone of Figure 1;

Figure 3 is a fragmentary portion of the view of Figure 2 with parts broken away to show more clearly portions of the mechanism underlying same; and,

Figures 4 and 5 are fragmentary cross sectional views through the indicated cross sections of Figure 3.

Referring now to the side view of Figure 1, the saxophone is formed with the usual tubular body 16 of gradually increasing cross section and having a flaring bell 12 at one end and a mouthpiece 13 at the other end. The present invention relates to the interconnection of the G-sharp key 14, the low B-flat key 16, the low B key 18, and the low C-sharp key 20.

The instrument illustrated in Figure 1 includes keys and other mechanism in addition to those to which the present invention relates. However, this mechanism is shown only in phantom in the drawing to avoid the complexity otherwise associated with the explanation of the present invention. It will, of course, be understood that the additional mechanism, though not shown in detail, is in fact provided.

The four keys 14, 16, 18 and 20 are preferably in the form of flat members defining a common plane, and are provided with rollers 16a, 18a and 20a to facilitate transfer of the finger of the operator from one key to another.

The key 14 is arranged to operate a normally closed G-sharp pad or stopper 24. The key 14 is secured to the rockable shaft 26 to which also is secured the arm 28. The latter extends transversely of the instrument and overlays a mating arm 30 affixed to the rockable shaft 32. Pad 24 is attached to shaft 32a. Arm 32c is attached to the shaft 32 and overlays arm 32b attached to shaft 32a. Shaft 32a is biased in direction to open pad 24 by the spring 33a which is held at one end by post 33 and at the opposite end engages that shaft.

When the key 14 is depressed, shaft 26 is rocked to cause arm 28 to bear on arm 30 and thereby rock shaft 32 in direction to raise arm 32c. The resultant lifting of arm 32c frees shaft 32a for rocking movements under the bias of spring 33a to open pad 24.

The B-flat key 16 is connected by arm 16a to the shaft 34 which is rockably supported by posts