

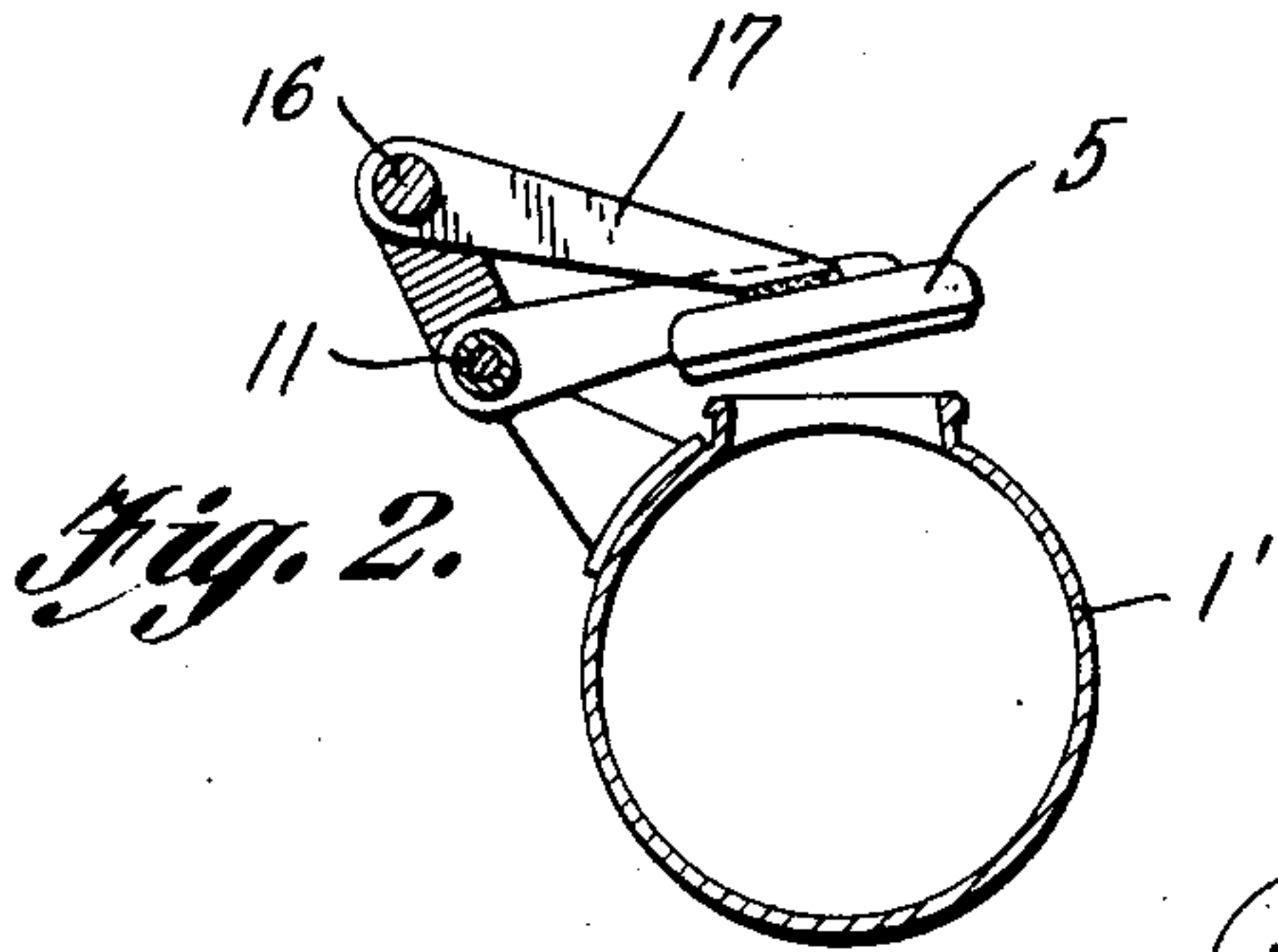
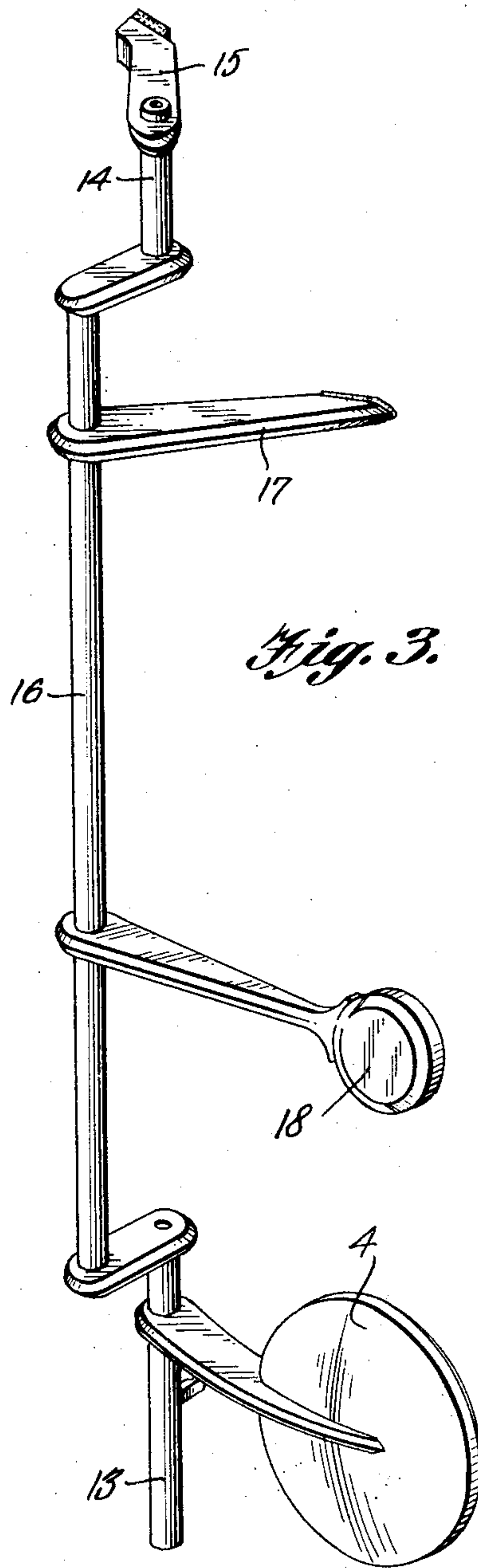
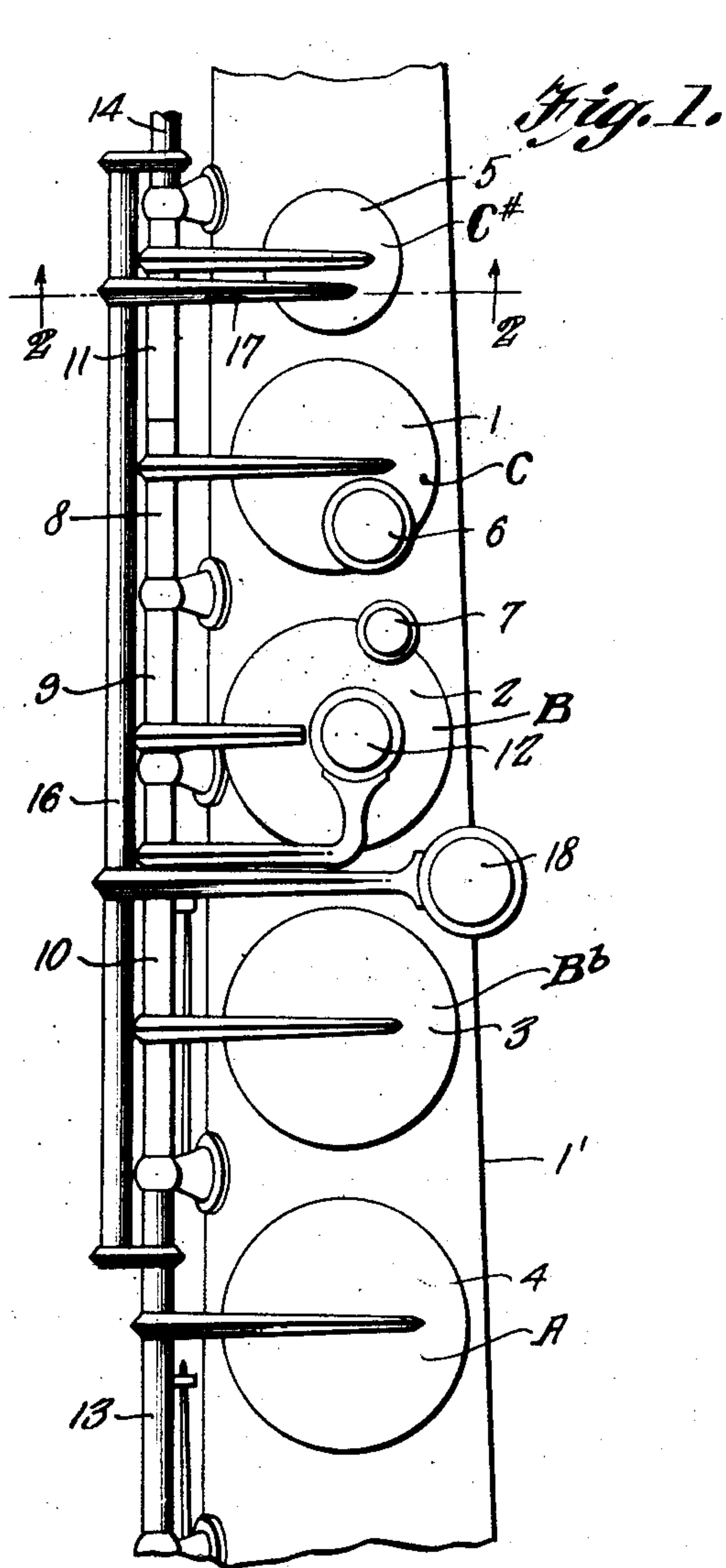
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SAXOPHONE

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## UNITED STATES PATENT OFFICE

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## SAXOPHONE

Application filed November 15, 1926. Serial No. 148,499.

This invention relates to saxophones, and the object of the invention is to provide certain improvements in the key mechanism adapted to permit a novel way of fingering the note C (3rd space) in addition to the usual ways of making that note, so that the passing from B to C may be accomplished in a simpler, easier and more ready and expeditious manner.

10 In the accompanying drawing,—

Figure 1 is a view of a part of the body portion of a saxophone embodying the invention.

15 Figure 2 is a transverse section on the line 2—2 of Figure 1.

Figure 3 is a perspective view of one of the shafts and parts applied thereto.

Referring now more particularly to the drawing 1' represents a portion of the body of a saxophone of conventional construction provided with the pads or valves 1, 2, 3, 4 and 5 controlling note producing holes in the body 1'. The pads 1 and 2 are provided with the buttons or finger plates 6 and 7 whereby 25 they are adapted to be independently fingered and closed. Pads 1, 2, 3 and 5 are connected with independently operable shafts 8, 9, 10 and 11, and a key 12, fastened to shaft 10 and overlying pad 2, is provided so that while 30 pad 3, like pad 2, may be independently closed, both of said pads may be simultaneously closed, by depression of the key 12, in certain finger actions. Pad 4 is carried by a section 13 of a shaft including also a 35 section 14, carrying an upper octave controlling lever 15, and an intermediate or offset section 16. This offset shaft section carries a lever 17, overlying pad 5, and a key 18, lying on a line between pads 2 and 3, whereby pads 4 and 5 may be independently 40 fingered and closed in the usual manner but may also be closed simultaneously by depression of key 18.

The pads 1, 2, 3, 4 and 5 are normally 45 held open by springs respectively controlling holes in the body 1' for producing the following notes: pad 1 makes C when open and B when closed, pad 2 makes B when open and B flat when closed, pad 3 makes B flat when 50 open and A when closed, pad 4 makes A when

open and G when closed, and pad 5 makes C# when open and C when closed, and in the playing of the instrument these pads and the keys 12 and 18 are controlled by the first, 55 second and third fingers of the left hand.

The ordinary instrument is so constructed that when the first finger closes pad 1 by pressing button 6, the pad 5 also closes and the note B is made. When the first finger 60 is raised pads 1 and 5 both open and C sharp is made. In order to produce C natural the pad 5 must be closed and the pad 1 must be open. Now the only way to do this as the instrument is normally constructed, is to press 65 button 12 with the second finger which closes pads 2 and 3, and through a connection not shown in the drawing, also pad 5, pad 1 remaining open. It is not necessary that pads 2 and 3 be closed in making C but it is unavoidable when the second finger presses 70 button 12, the real object of which is to close pad 5 and still allow pad 1 to be open.

It is quite evident then that in order to pass from B to C natural it is necessary to raise the 75 first finger from pad 1 and at the same time place the second finger on button 12, because if the second finger was not pressed on button 12 the pad 5 would open with pad 1 and C sharp would be produced.

Thus in order to pass from B to C natural 80 as the instrument is ordinarily constructed it is necessary to lower the second finger on button 12 simultaneously with the raising of the first finger from button 6, which in rapid 85 passages is difficult because of the reverse motion of the first and second fingers. This manner of making C is practicable in trills and certain other passages, but is not so in passages where the note C is followed or preceded by a note requiring the use of first finger 90 of right hand, as is the case in all notes produced in the lower part of the tube, as the right hand is thrown slightly from its normal position in making C with the lever mentioned which causes difficulty in playing 95 rapid passages as above described. To obviate this opposite movement of two fingers I attach the lever 17 to the shaft 16 which is actuated by the third finger pressing button 100 18. This lever 17 is so adjusted that when the



third finger presses button 18 it (17) will press upon and close pad 5 and produce C natural since pad 1 remains open. The pad 4 will also be closed, not of necessity, but unavoidably, as is the case with pads 2 and 3 when the second finger presses button 12.

My device therefore makes it possible to produce C with the third finger by pressing button 18 which closes pad 5 through the medium of lever 17, which is attached to the shaft 16 which is found on all soprano, alto and tenor saxophones, the object of this shaft being to actuate the automatic register keys in the upper portion of the instrument.

In passing from B to C with the addition of my auxiliary lever 17, it is only necessary to hold down button 18 by a constant pressure of the third finger while the first finger alone is raised and lowered to open and close pad 1 smoothly and easily and with any necessary speed.

Having thus fully described my invention, I claim:—

1. In a soprano, alto or tenor saxophone, a normally open C sharp valve, and means whereby said valve may be closed to sound C by the third finger of the left hand normally positioned to operate another valve at a lower point on the body of the instrument.

2. In a soprano, alto or tenor saxophone, normally open A, B, C and C sharp valves, the first two arranged to be closed by the first and second fingers of the left hand, and means whereby the C sharp valve may be closed to sound C by the third finger of the left hand without changing the operative positions of the first and second fingers with relation to the B and C valves.

3. In a soprano, alto or tenor saxophone, C sharp, C and B flat valves, and a key operated means for actuating the first-named valve by means of the third finger of the left hand without changing the order of arrangement of the first and second fingers of the same hand used to actuate the two latter-named valves.

4. In a soprano, alto or tenor saxophone, a C sharp valve, B and C valves arranged in order below said C sharp valve and operable independently of each other by the first and second fingers of the left hand, means for simultaneously operating said B and C valves by said second finger of the left hand, and means adapted to be operated by the third finger of the left hand without changing the relative positions of the first and second fingers of said hand.

5. In a soprano, alto or tenor saxophone, C sharp, C and B valves, a rock shaft for actuating the automatic register keys, and means for passing from B to C without reversing the first and second fingers of the left hand as usually employed in actuating the C and B

valves, said means comprising a key arranged to be operated by the third finger of the left hand to rock said rock shaft, and a member on said shaft acting when the shaft is so rocked to close the C sharp valve.

In testimony whereof I affix my signature.  
MURRAY A. STOVER.

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