To all whom it may concern:

Be it known that I, GEORGE W. STEWART, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Musical-Note-Indicating Attachment, of which the following is a full, clear, and exact description.

This invention relates to an attachment for musical instruments, and has for an object the provision of means whereby a person may very readily and quickly learn to play and to read music.

A further object resides in the provision of means whereby a musical instrument may be provided with means on its body portion to indicate a musical scale or musical notes in connection with which the attachment embodies my invention is operated.

Another object resides in the provision of means whereby a single support is used to hold the music to be played as well as an indicator adapted for use in connection with a scale on the body of the instrument.

A still further object resides in the particular mechanical arrangement and construction of the parts which shall be hereinafter described and claimed in the accompanying drawings.

In operating musical instruments, with particular reference to instruments having a hollow body portion and a piston operating therein, it requires considerable experience in manipulating the piston to produce the proper note. My invention is aimed directly to provide associated with the body portion of the instrument musical notations so situated with respect to the various positions of the piston that the notes so designated will be produced when the piston is placed in these positions. I provide means in connection with the operation of the piston which gives a clear indication of the position thereof at any particular instant. This invention, of course, is not limited in its application to wind instruments having hollow bodies and co-operating pistons. It is equally adaptable to musical instruments, associated with the body portion of which, positions of some sort or other may be designated and in connection with which positions a piston is operated to vary the pitch of the notes produced.

The invention is illustrated in the drawing, of which—

Figure 1 is a side view of the instrument;

Figure 2 is a plan view with the mirror omitted;

Figure 3 is a section taken on the line 3-3 of Figure 1 showing the reflection of the scale in the mirror and—

Figure 4 is a partial view of a modified form of the portion of the instrument adjacent the operating slide.

Figure 5 is a detail view of the hollow body portion, the slidable stem and the piston.

As shown in the drawings, the invention comprises a musical instrument which embodies my invention in the form of a wind instrument having a hollow body 1 and a mouthpiece 2 of any suitable material. Adjacent the mouthpiece is an aperture 3, connecting with the interior of the hollow body 1 and in relation to which the propulsion of air by the mouth of the operator thereby causes the air within the body 1 to vibrate and produce musical tones. In a portion of the body 1, near the aperture, a hole 4 is provided which normally is covered by an elastic band 5. This band may not necessarily be elastic, although it should have some degree of flexibility. The end of the body portion 1 opposite the mouthpiece 2 is provided with a head portion 6 which is movable therefrom. This head portion is provided with an aperture in which the stem 7 of an operating piston 7’ is adapted to move. The stem is provided with a handle portion 8 by means of which it can be operated. It will be noticed with reference to Figure 5 that in this particular embodiment the stem 7 is made square in cross section to register with a similarly-shaped aperture in the head 6. This provides means whereby the stem 7 can be reciprocated without angular movement around its axis. A frame 9 of any suitable material, such as stamped metal or wire, is provided to support a bar 10 the outer end of which is provided with a pointer 11. The end of bar 10 may be bent down, as shown in Figure 1, so as to lie closely adjacent the body portion. The body of the instrument adjacent the path of movement of the pointer 11 as the stem 7 moves back and forth may be provided with a plurality of notations, such as 12, which may.
be in the form of letters representing musical notes. These notations may, however, be placed on a sheet of any suitable material separate from the body portion, which sheet can then be associated therewith in any desired manner. By varying the position of the scale or sheet with respect to the body portion, the same tune may be played in different keys, using the same notations on the scale or the same sheet of music. These letters are so placed that when the end of the pointer coincides with the position of each letter, the piston 7' within the body portion 1 is in such position as to produce the musical note designated when the instrument is operated.

Fastened to the body portion 1 adjacent the head 6 is a frame made preferably although not necessarily of wire in a single piece for the sake of simplicity. This frame is made up of a portion 13 of a single piece of wire which is wrapped tightly around the body portion as shown. The wire is formed into a loop 14 so as to receive the bar 10 in its movement and thereby guide it. This portion 14 extends above the bar 10 and is so located with respect to the main body portion 15 of the wire frame as to be adapted to receive an indicating device, such as 15', between itself and the body portion 15, whereby such device is firmly gripped therebetween. This device may be, as shown, a mirror. The upper end of the mirror 15' is gripped by a turned over portion 16 of the wire frame. Above the portion 16 of the frame the wire separates into two portions, marked 17, and then each extends upwardly in vertical portions 18 and reversely curved portions 19 whereby a device or support for-holding sheet music is formed. This particular manner of supporting sheet music is, of course, well known in the art. The wire frame extending along the mirror 15' is inclined at an angle, in acute angled relation with respect to the body portion so that one who is operating the instrument upon moving the stem 7 back and forth can see in the mirror 15' the relative position of the pointer 11 with respect to any one of the notations on the body portion. This will enable him to read and accurately note the position of the slide, even when the indicator is close to his eyes. Also, by having this slide constantly under his ready observation, he can quickly learn the operation of the instrument. By having a sheet of music in the above-mentioned frame so marked as to indicate the musical notes corresponding to the notations on the body, a person can very quickly learn to read music as well as to operate this particular instrument. When a tremolo is to be produced with respect to any particular note, the person places his finger on the band 5 over the aperture 4 and moves it slightly, whereby the air within the body portion is vibrated to produce the desired effect.

It will be noted in Figure 3 that by placing the letters or notations reversely on the body portion, as seen in Figure 2, they will be read in their proper direction when viewed in the mirror, as seen in Figure 3.

In Figure 4 a modification is shown in which the pointer 11 and the bar 10 are done away with, and the frame supporting the mirror 15' is moved with the stem 7. In this case, therefore, the mirror 15' is made much smaller, so that the position of the stem 7 is accurately determined by registering any notation seen in the small mirror with a mark or line seen on the mirror. It may also be that the lower edge of the mirror will be the determining line to denote the proper position of the stem. The music support, represented by 18' and 19', is in this figure mounted on the body portion 1 or the head portion 6 separate from the wire 15' supporting the indicator 15'. The wires 20 and 21 connect the indicator support to the stem 7 and handle 5 as shown.

What I claim is:

1. In a musical instrument, the combination of a body bearing a scale having notations, a piston within the body and having a piston rod, an indicating rod connected to said piston rod and playing over said scale whereby to visually indicate the position of the piston, and a mirror to reflect the images of the scale and the indicating rod thereon for view by the operator.

2. In a musical instrument, the combination of a body bearing a scale having notations, a piston within the body and having a piston rod, an indicating rod connected to said piston rod and playing over said scale whereby to visually indicate the position of the piston, a mirror to reflect the images of the scale and the indicating rod thereon for view by the operator, and a mirror supporting bracket carried by said body and having means to guide said indicator rod.

3. In a musical instrument, the combination of a body bearing a scale having notations, a piston within the body and having a piston rod, an indicating rod connected to said piston rod and playing over said scale whereby to visually indicate the position of the piston, a mirror to reflect the images of the scale and the indicating rod thereon for view by the operator, a mirror supporting bracket carried by said body and having means to guide said indicator rod.

4. An attachment for wind musical instruments comprising a scale arranged on the body of the instrument, an indicator playing over the scale and connected with
the piston of the instrument, and a mirror arranged at the forward portion of the body to reflect the images of the scale and the indicator for view by the operator when playing.

5. An attachment for wind musical instruments comprising a scale arranged on the body of the instrument, an indicator playing over the scale and connected with the piston of the instrument, a mirror arranged at the forward portion of the body to reflect the images of the scale and the indicator for view by the operator when playing, a mirror supporting bracket having means whereby the same may be secured to the body of the instrument, said bracket being provided with indicator guiding and supporting means, and sheet music supporting means carried by said bracket at a point adjacent said mirror.

7. In a musical instrument, the combination of a tubular body having a scale provided with notations, said scale being extended longitudinally of the body, a piston within the tubular body and having an actuating rod, a second rod connected to said actuating rod and extending longitudinally of said body, and a mirror arranged above the body and the notations thereon and adapted to reflect the images of the notations on the scale for view by the operator.

GEORGE W. STEWART.