

May 29, 1928.

W. BARTHOLOMAE

1,671,882

MUSICAL INSTRUMENT

Filed Sept. 8, 1926

2 Sheets-Sheet 1

Fig. 1

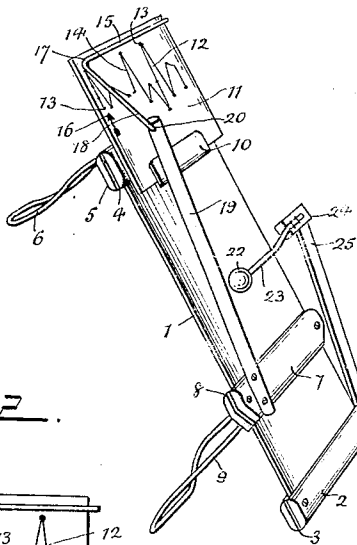


Fig. 4

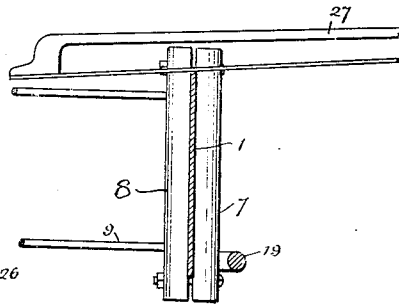


Fig. 2

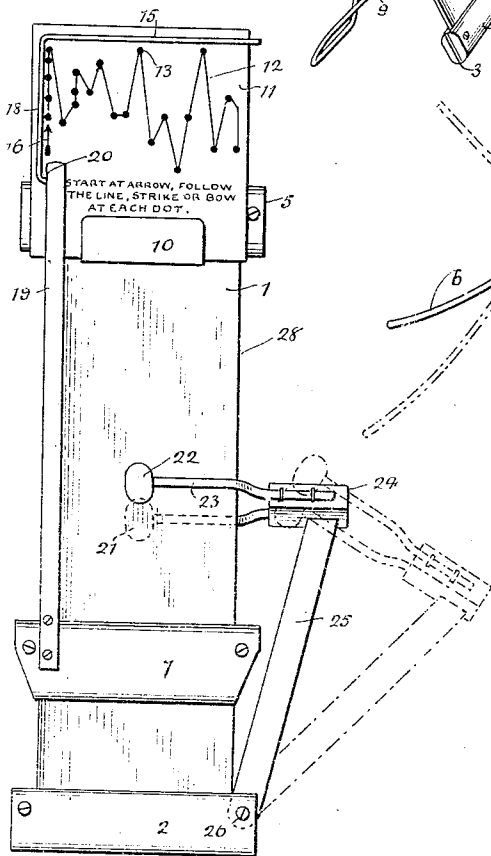
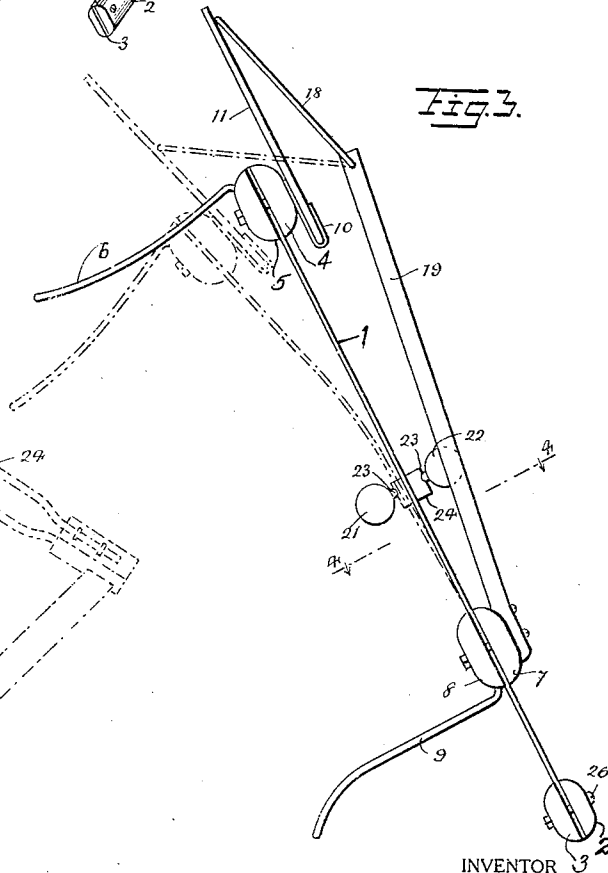


Fig. 3



WITNESSES

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2 Sheets-Sheet 2

Fig. 5.

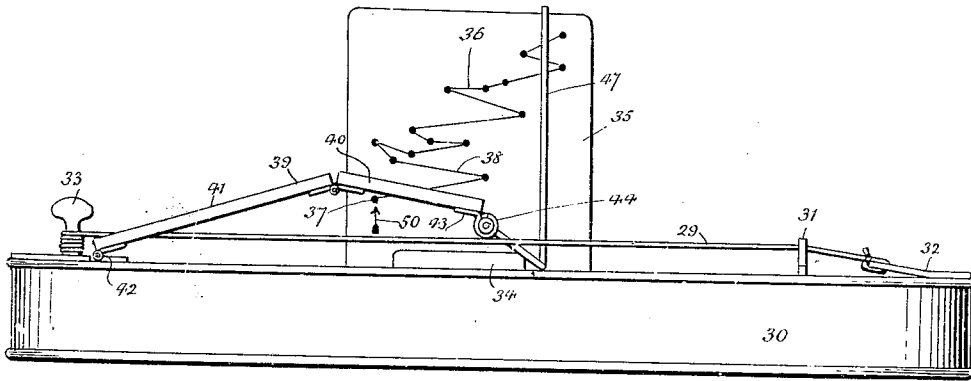
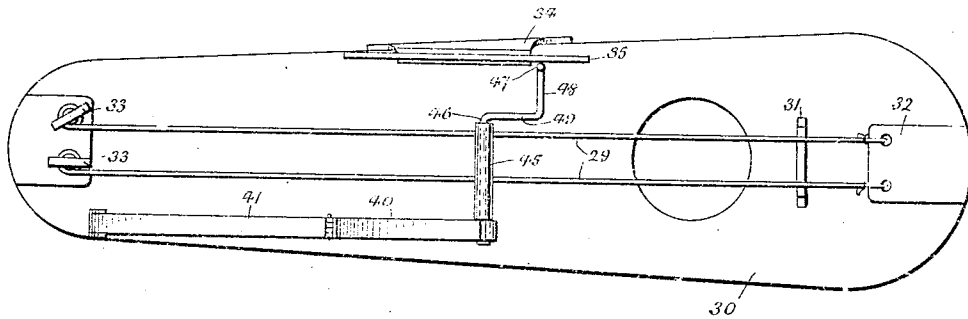


Fig. 6.



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## MUSICAL INSTRUMENT.

Application filed September 8, 1926. Serial No. 134,289.

This invention relates to musical instruments and has for an object to provide a vibratile member and means associated therewith whereby the pitch of the vibratile member may be changed and the change indicated on a diagram or special sheet of music.

Another object of the invention is to provide a musical instrument wherein a vibratile member is provided for producing a sound with means associated therewith including a special sheet of music for permitting playing a tune by varying the action of the vibratile member with the variations indicated on the sheet of music.

A still further object of the invention is to provide a musical instrument in which there is a vibratile member and a special sheet of music associated therewith together with a hinged swinging structure for indicating on the sheet of music the particular note produced by the vibratile member.

In the accompanying drawings—

Figure 1 is a perspective view of a musical instrument disclosing an embodiment of the invention.

Figure 2 is an enlarged top plan view of the instrument shown in Figure 1.

Figure 3 is an edge view of the instrument shown in Figure 2.

Figure 4 is a sectional view through Figure 3 on line 4—4, the same showing a modified operating member for the vibratile member.

Figure 5 is a side view of a modified form of musical instrument to that shown in Figure 1.

Figure 6 is a top plan view of the musical instrument shown in Figure 5.

Referring to the accompanying drawings by numerals, 1 indicates a flat vibratile member formed of metal, wood or other vibratile material whereby the same will produce a sound when struck. A pair of plates 2 and 3 is clamped to one end of the vibratile member 1, said plates being preferably wood. A second pair of plates 4 and 5 is clamped by screws or any desired means with the opposite end of the vibratile member 1, said plates 4 and 5 being of wood and acting to not only grip the vibratile member 1 but to receive a hand operated member 6. This member may be a wooden handle or may be a metal wire bent to a desired shape and secured to plate 5 for instance. This handle is grasped and swung toward

the opposite end of the vibratile member as shown in dotted lines in Figure 3 when the device is in operation. A third set of clamping plates 7 and 8 is provided a short distance from the plates 2 and 3, said third set carrying an abutment or handle 9 which may be wood or a looped piece of wire, said abutment acting to normally rest against the leg of the person using the instrument. Ordinarily, the handle 9 rests against the left leg of the person using the instrument and the handle 6 is grasped by the left hand of the person using the instrument. By moving the handle 6 toward and from handle 9, the vibratile member 1 will be bowed more or less and when struck or operated on by a violin bow will produce a sound, the sound varying in pitch according to the amount of bending provided. Plate 4 carries a holder or clip 10 which is adapted to hold in a given position a sheet 11 having a special musical outline 12 provided thereon. This outline consists of a number of dots 13 indicating the notes and a line 14 connecting these notes.

When the instrument is being played, the cross bar 15 is brought to the note 13 near the head of arrow 16 and the vibratile member 1 caused to function. After this note has been produced, the handle 6 is moved slightly until the bending of the vibratile member 1 brings the second note 13 beneath bar 15. The vibratile member is then caused to function again by being struck or by being operated on by a bow. This action is continued until all of the notes on the sheet 12 have been produced. By producing these notes in the proper time, a piece of music is correctly played and may be played by a person not familiar with music. It will be noted that bar 15 is bent at 17 and forms an arm 18 which is pivotally connected to the bar 19 at 20. The bar 19 is rigidly secured to the plate 7, though if desired, it could be swingably or hingedly connected with said plate.

In order to easily strike the vibratile member 1 and to produce a double sound, balls 21 and 22 are provided, each of said balls being connected to a resilient member 23, said resilient members being preferably a strip of thin steel. The ends of members 23 are rigidly secured to a block 24 which in turn is rigidly secured to a bar 25 swingably connected with the plates 2 and 3 by a suitable pivotal pin 26, which pin may be in the

nature of a screw and may be part of the means for clamping the plates 2 and 3 in place.

When the device is in operative position, the balls 21 and 22 are in the position shown in Figures 1 and 2. When these balls are not desired they may be swung out of the way as shown in dotted lines in Figure 2. When the balls are swung out of the way as shown in Figure 2, a bow of any kind, as for instance, a violin bow 27, may be rubbed across the edge 28 of the vibratile member 1 and a sound produced. By bowing the vibratile member 1 as indicated in dotted lines in Figure 3 and at the same time operating the bow 27, the music indicated on sheet 11 may be played. It is also evident that the bow 27 could be used while the balls 21 and 22 are in the position shown in Figure 2. This would result in the music being played by the bow 27 with the balls 21 and 22 acting in a certain sense as an accompaniment by reason of the shaking of the device as handle 6 is moved back and forth. The balls 21 and 22 are positioned near the vibratile member 21 and the shaking action just mentioned would permit these balls to gently strike the vibratile member.

In Figures 5 and 6, a modified form is shown wherein the vibratile structure consists of one or more strings 29 mounted on a hollow sounding member 30. This may be of the kind shown or may be built like a violin, mandolin or banjo. The essential feature is to have one or more vibratile members 29, which are preferably supported by a bridge 31 and held at one end by supports 33, said supports 33 being of a kind to vary the tension on the vibratile members for the purpose of tuning. A holder or clip 34 is connected with the sounding member 30, said holder carrying a sheet 35 having specially formed music indications 36. The music indications or legends 36 consist of a number of dots 37 indicating the notes and a line 38 connecting said notes, said line guiding the operator in going from one note to the other. A swinging member 39 is associated with the vibratile members 29 and the sounding member 30. This swinging member is formed with sections 40 and 41, section 41 being hingedly connected at 42 to the sounding member 30 while section 40 is hingedly connected to section 41. Section 40 is provided with a fitting 43 which is formed with a tubular portion 44 adapted to receive one end of the tube 45. The tube 45 may be made from celluloid or any desired material and is adapted to rest on the various vibratile members 29 while at the same time presenting means for receiving the end portion 46 of the guiding bar 47. This bar is provided with a vertical section adapted to pass in front of the sheet 35 with a hori-

zontal section 48 adapted to slide along the top of the sounding member 30 or along a specially prepared support and a connecting section 49 for connecting section 48 with the end section 46. The end section 46 may be of any desired length but is preferably long enough to extend entirely through the tubular member 45. The tubular member 45 is important in that it acts in a certain sense as a fret.

When the device is being played, section 40 is grasped near the tubular member 45 and this tubular member is slid back and forth while in contact with the vibratile member 26. When it is desired to play the music shown on sheet 35, the parts are shifted until the bar 47 covers the dot 37 nearest to the arrow 50. When bar 47 is in this position, the vibratile members 29 are either struck by a pick or with the fingers whereby they will vibrate and produce a sound. As soon as this sound has been produced and held for the desired time, member 45 is quickly moved over to the second dot 37 and the action repeated. After the second note has been produced, member 45, together with the bar 47, again move until bar 47 is over a third dot 37. The vibratile member 29 is then sounded as just described. This action is continued until a sound has been produced for each of the dots 37 and if these sounds are produced in the desired time, the music will be correctly played as the shifting of the tubular member 45 acts substantially in the same manner as the proper fingering of a string instrument having frets.

What I claim is:

1. A musical instrument comprising a body, a vibratile sound producing member extending across said body, a bridge for said vibratile sound producing member, a swinging member positioned with one end resting on said vibratile sound producing member, said end being movable along the vibratile sound producing member for at least half of the length of the vibratile sound producing member, a guide carried by said swinging member, and means co-acting with the guide for indicating the particular note produced when the vibratile sound producing member has been actuated.

2. In a musical instrument provided with a vibratile sound producing member a swinging member co-acting with said vibratile sound producing member formed with means normally resting on the vibratile sound producing member, said swinging member being jointed so that the end resting on the vibratile sound producing member may be moved longitudinally of the vibratile sound producing member while in contact therewith and thereby vary the pitch of the vibratile sound producing member, a guide carried by said swinging member, and means co-acting with said guide for indi-

cating the particular note produced when the vibratile sound producing member has been actuated.

3. In a musical stringed instrument 5 a swinging member hingedly mounted and formed into a plurality of parts hingedly connected together, means on one of said parts positioned to engage the strings of the instrument and be moved longitudinally 10 thereof for varying the pitch, and a guide carried by one of said parts for indicating by its position the particular pitch of the stringed instrument at any one actuation.

4. In a musical instrument provided with 15 a vibratile sound producing member, a swinging member formed with a hingedly mounted section adapted to swing independently of the remaining part of the swinging member, a contact member movable longi- 20 tudinally of the vibratile member and carried by the hinged section positioned to contact with said vibratile sound producing member whereby the pitch of the vibratile sound producing member will be varied as 25 said contact member is moved longitudinally thereof and in contact therewith, a guide

movable longitudinally of the vibratile sound producing member carried by said contact member, said guide extending substantially at right angles to the vibratile 30 sound producing member and means co-acting with said guide for indicating the particular note produced when the vibratile sound producing member has been actuated.

5. In a stringed musical instrument, a 35 swinging member positioned so that one end will normally rest on the strings of said stringed musical instrument, said swinging member comprising a body divided into a 40 fixed section hingedly mounted at one end and free at the opposite end and a free section hingedly connected at one end to the free end of said fixed section, a bracket carried by the free end of said free section, a 45 contact member carried by said bracket, and a guide carried by said contact member, said guide having a portion extending into the contact member, a second portion acting as a support and a third portion acting as an indicating arm.

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