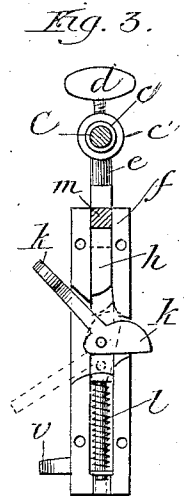
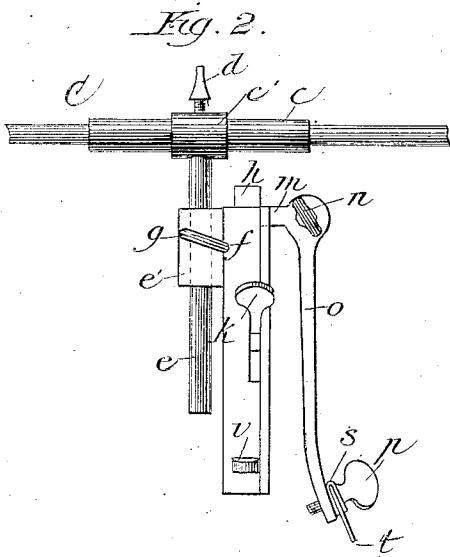
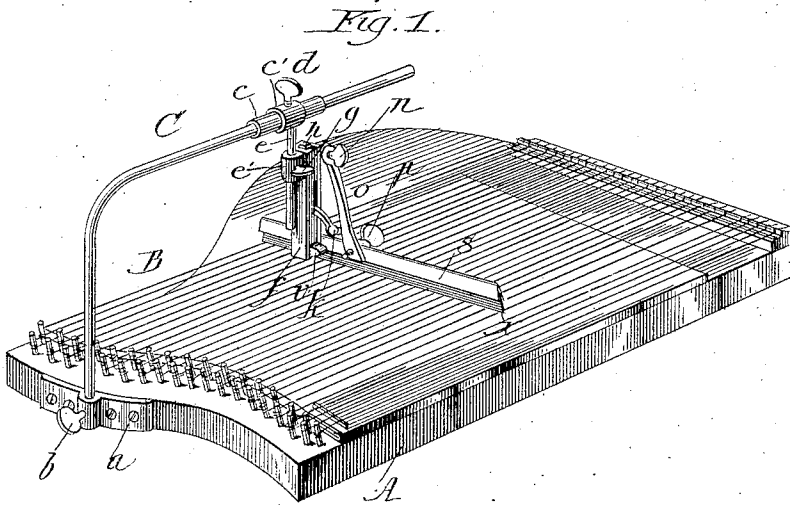


C. H. RAHN.

ZITHER.

No. 336,158.

Patented Feb. 16, 1886.



Witnesses:
 Frank Blanchard
 Louis Nolting.

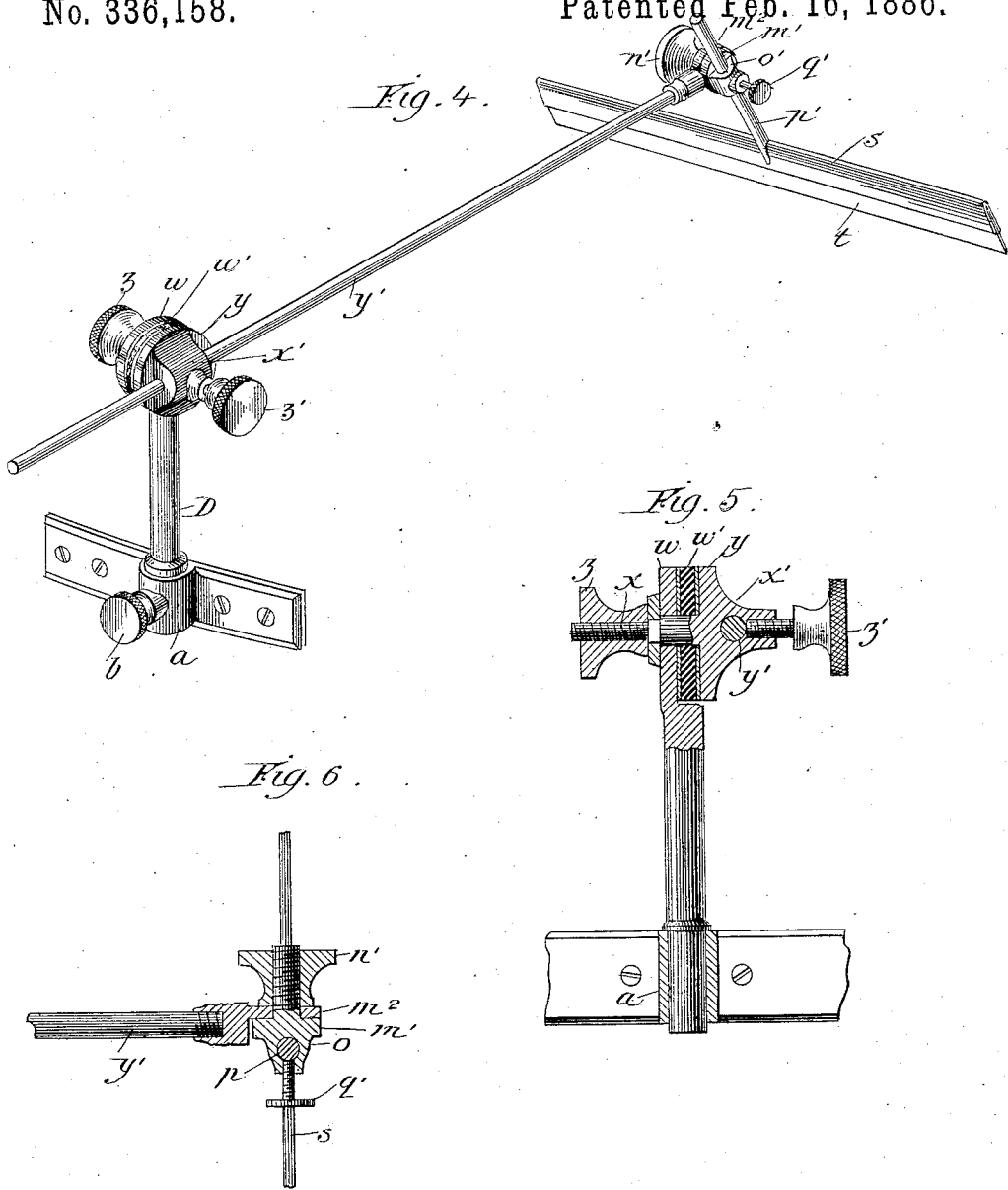
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UNITED STATES PATENT OFFICE.

CARL H. RAHN, OF CHICAGO, ILLINOIS.

ZITHER.

SPECIFICATION forming part of Letters Patent No. 336,158, dated February 16, 1886.

Application filed February 24, 1885. Serial No. 156,862. (No model.)

To all whom it may concern:

Be it known that I, CARL H. RAHN, a subject of the Emperor of Germany, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Zither Attachments, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to an improved attachment for zithers and like instruments, its object being to provide suitable means by the use of which the flageolet or harmonic tones may be produced.

To the accomplishment of the above the invention consists of an attachment adjustably mounted upon the instrument and itself adjustable and adapted, when desired, to contact with the strings of the instrument, as will be described and claimed.

Reference will be made to the accompanying drawings, in which Figure 1 is a view in perspective of an instrument with the attachment in position; Figs. 2, 3, views in detail of parts of the attachment, and Figs. 4, 5, and 6 views showing a modified arrangement.

Like letters refer to like parts in each view.

A represents the base of the instrument, upon which the strings B are strung in the usual manner. To one end of base A there is secured a bracket, *a*, in which a bent arm, C, is adjustably and removably secured by a set-screw, *b*. Arm C extends vertically a suitable distance, and is then bent and occupies a horizontal position over strings B. Mounted upon the horizontal extension of arm C are sleeves *c c'*, held in position and rendered adjustable by a set-screw, *d*. Secured to sleeve *c'* is a vertical rod, *e*, which passes through a bracket, *e'*, formed upon a frame, *f*, said frame being thus adjustably suspended upon rod *e* through the medium of a set-screw, *g*. Frame *f* is hollow, open at its top, but provided with a solid bottom, as shown clearly in Fig. 3. Situated within frame *f* is a bar, *h*, provided at or about its center with a suitable opening, in which a lever, *k*, is pivoted, the handle of this lever protruding out through a slot made in one side of frame *f*, and a cam-head, *k'*, with which it is provided, protruding slightly through a corresponding slot formed in the opposite side of the frame,

the upper edge of the last-named slot being curved slightly to afford a hold for the cam-head, as will be described.

A spiral spring, *l*, is situated upon rod or bar *h* below the pivot of lever *k*, while upon the upper end of said rod there is formed an arm, *m*, to which is secured by a set-screw, *n*, an arm, *o*, (shown clearly in Figs. 1 and 2,) and which extends downwardly toward the strings.

Secured to the lower end of arm *o* by a set-screw, *p*, is an angle-iron, *s*, situated at right angles with respect to arm *m* and transversely placed a rubber strip, *t*, held in position by the set-screw *p*, which is passed through it.

The operation and manner of using the device will be readily understood. When the attachment is not in use, the lever *k* occupies the position shown in full lines in Fig. 3, all pressure being thus removed from the spiral spring and the rod *h* thus occupying its highest position, and thereby elevating the rubber strip from the strings. When it is desired to produce the tones referred to, the attachment is first adjusted upon the arm C and its vertical adjustment accomplished through the medium of the set-screw *g*, this adjustment determining with what force the rubber strip will press upon the strings when lowered. These several adjustments being determined, the lever *k* is operated, and in its movement its cam-head serves to force or draw the rod *h* down, and with it the rubber strip, the parts being firmly held in place because of the relative form of the cam-head *k'* and the slot in frame *f*, in which it works, as shown in dotted lines, Fig. 3.

Formed upon one side of frame *f* is a projection, *v*, upon which the thumb of the operator may rest during the adjustment of the device.

In Figs. 4, 5, 6 I have shown another style of the attachment, which I will describe. There is a straight rod, D, held adjustably by the set-screw *b*. Formed upon the upper end of rod D is a circular piece, *w*, through the center of which an opening is formed for the passage of a stem, *x*, formed with an adjustable piece, *y*, similar in form to piece *w*. The outer end of stem *x* is screw-threaded, and is provided with a thumb-nut, *z*, by the operation of which the

disk *y* is drawn toward the disk *w* and the parts tightened, there being a suitable packing, *w'*, between the two. Formed with disk *y* is a bracket, *x'*, in which a rod, *y'*, is adjustably held by a set-screw, *z'*.

By the arrangement described it will be seen that rod *y'* may be adjusted longitudinally, and also that its outer end may be caused to describe the arc of a circle, thereby carrying such end to or from the strings of the instrument.

Upon the outer end of rod *y'* there are provided disks *m' m''*, which are arranged as are the disks *w y*, above referred to, being operated by a set-screw, *n'*. Disk *m'* is formed with a bracket, *o'*, in which a rod, *p'*, is held adjustably by a set-screw, *q'*. Upon the lower end of rod *n'* the angle-iron *s* and strip *t* are secured.

What I claim is—

1. In a zither, the combination, with the strings thereof, of rubber strip *t* and angle-iron *s*, the former held removably in the latter and horizontally and vertically adjustable with respect to the strings, as set forth.

2. In a zither, the combination, with vertical rod *D*, provided on its upper end with circular plate *w*, perforated, as described, of stem *x*, provided with adjustable plate *y*, the latter provided with a bracket, *x'*, horizontal rod *y'*, vertical rod *p'*, strip *t*, and angle-iron *s*, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CARL H. RAHN.

Witnesses:

M. J. CLAGETT,
LOUIS NOLTING.