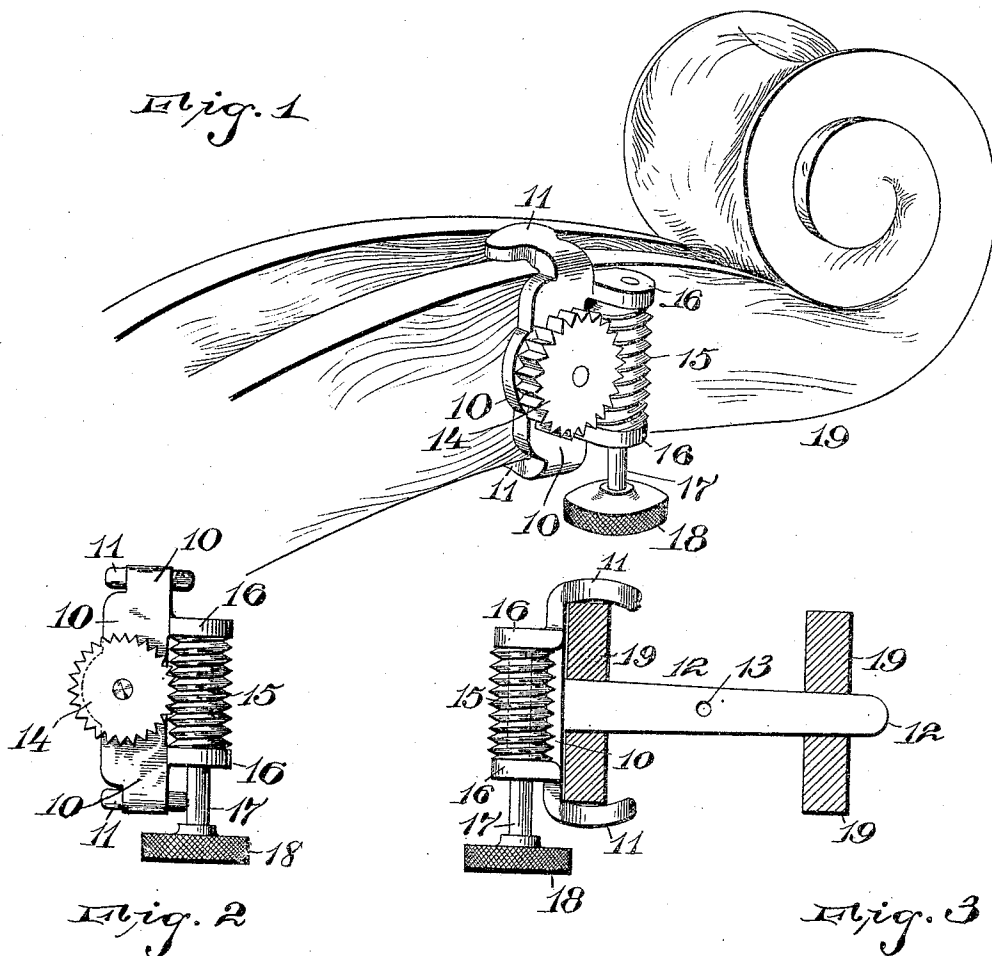


941,196.

H. HARMER.
VIOLIN KEY.
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WITNESSES:
E.A. Pell
M.A. Johnson

INVENTOR
Henry Harmer,
BY
Wm. H. Campfield,
ATTORNEYS

UNITED STATES PATENT OFFICE.

HENRY HARMER, OF NEWARK, NEW JERSEY.

VIOLIN-KEY.

941,196.

Specification of Letters Patent.

Patented Nov. 23, 1909.

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To all whom it may concern:

Be it known that I, HENRY HARMER, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Violin-Keys; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

This invention relates to an improved key for musical instruments and is designed to provide a key that is adapted particularly for violins, although it can be used on other stringed instruments. The pin of the key is removable from the opening in which it is placed and is designed to be secured to a plate having fingers to embrace the neck of the instrument, thus holding the key against twisting, and being provided with means for manually manipulating the pin so that the strain of the string on the pin will have a tendency to cause the fingers to turn on the neck and then will thus be bound.

The invention is illustrated in the accompanying drawing, in which—

Figure 1 is a perspective view of the head and part of the neck of a violin with my improved key in place. Fig. 2 is a face view of the key, and Fig. 3 is a side view of the same showing the neck of the instrument in section. Fig. 4 is a top view of the key.

The key consists of a plate 10 which is provided on its opposite ends with the fingers 11, which fingers project in substantially parallel relation, but are preferably curved slightly and if necessary may be provided with a spring action so that they can be placed over instruments, the necks of which vary slightly in width. Projecting from the plate, in the same direction as the fingers, is a pin 12 which is provided with a perforation 13 for the reception of a string, which will be seen from Fig. 3, the key pin being adapted to be inserted the same as an ordinary violin key. In violin keys as now made, they are made tapered with a finger-piece on the end and very often slip after a string is tightened, and if made tight enough so that they do not accidentally slip are then hard to manipulate when it is necessary to

turn the key slightly to tighten or loosen the string.

The present key is adapted to make an easy operation of the tuning of an instrument, and is adapted to be placed on any instrument as now made with the ordinary straight tapered key. The pin 12 projects through the plate 10 and is provided with a small cog or worm-gear 14 which meshes with a worm 15 which is supported between the bearings 16 which are preferably struck up integral with or may be attached to the plate 10. The worm 15 is on a shaft 17 which has a finger piece 18 of any desired configuration or shape, the finger-piece being adapted to operate the worm and the worm in turn being adapted to turn the worm-gear 14. It will be seen that when the string is put in the hole 13 of the key and is tightened, the tension of the string will have a tendency to twist the pin, and the pin being fastened to the plate by reason of its worm-gear and worm connection, transmits its strain to the plate, and the fingers 11 are thus brought to bear tightly on the top and bottom of the neck 19 of the instrument as shown in Fig. 1 and as shown in Fig. 3.

The fingers 11 keep the key from being accidentally misplaced and take any strain that is apt to cause binding of the pin in the perforation from the pin, and these fingers, by binding on the edge of the head of the instrument, permit the free turning of the pin in its perforation.

If desired I may provide the pin 12 with its projecting end split as at 20, this split extending part way into the pin and terminating in a perforation 21, this pin being preferable in some ways, it being easier to put the string in the hole 21 by passing it through the slit, than it would be by threading the string through the perforation.

Having thus described my invention, what I claim is:—

1. A detachable key for stringed instruments comprising a plate having fingers projecting from its top and bottom edge, the fingers projecting in the same direction, a pin projecting from the plate between the fingers and in the same direction, a worm-gear on the end of the pin, a worm engaging the worm-gear, and a finger-piece on the worm for operating it.

2. A detachable key for stringed instru-

ments comprising a plate having integral
fingers projecting from its top and bottom
edges, the fingers being slightly curved to-
ward each other and projecting from the
5 plate in the same direction, bearings integral
with the plate and projecting from the front
thereof, a worm mounted between the bear-
ings, a finger piece to operate the worm, a
worm-gear on the face of the plate and in
10 mesh with the worm, and a pin secured to

the worm-gear and projecting through and
beyond the plate between the fingers.

In testimony, that I claim the foregoing,
I have hereunto set my hand this 5th day of
April 1909.

HENRY HARMER.

Witnesses:

WM. H. CAMFIELD,
E. A. PELL.