(No Model.)

E. GRILL.

VIOLIN ATTACHMENT.

No. 448,229. Patented Mar. 17, 1891.

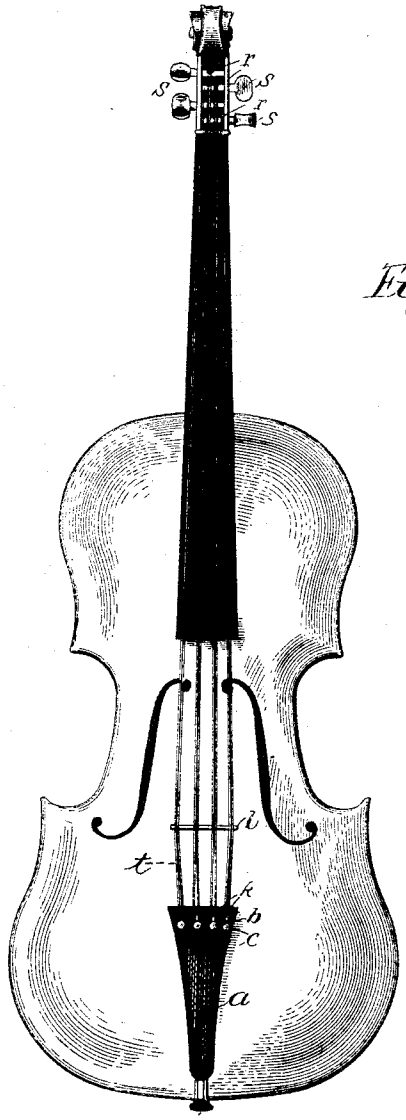
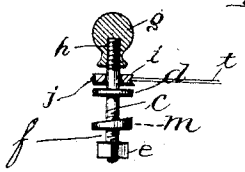


Fig 1

Fig 2



Witness
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UNITED STATES PATENT OFFICE.

ENOCH GRILL, OF ORONO, MICHIGAN.

VIOLIN ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 448,229, dated March 17, 1891.

Application filed September 2, 1890. Serial No. 363,756. (No model.)

To all whom it may concern:

Be it known that I, ENOCH GRILL, a citizen of the United States, residing at Orono, in the county of Osceola and State of Michigan, have invented certain new and useful Improvements in Violin Attachments; 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.

My invention relates to a device for tightening, holding, and arranging the strings of violins and other stringed instruments, and my object is to provide a more simple, cheap, durable, and ornamental means for equalizing the tension of the strings, a further object of my invention being to improve the tone of the instrument.

With these ends in view my invention consists in the peculiar features and combinations of parts more fully described hereinafter, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a top view of a violin provided with my arrangement, and Fig. 2 a detail view of one of the fastening devices or studs.

The tail-piece *a* may be of any ordinary form provided with a series of perforations *b*, formed to receive a stud *c* for holding the strings. This stud is provided with a collar *d*, adapted to be drawn down upon the top of the tail-piece by means of a nut *e*, located under it. This nut screws upon an integral thread *f* in the lower end of the stud, and a wedge-shaped washer *m* is interposed between the nut and tail-piece, so that the pressure of the nut will come squarely against the under side of the latter when the nut is screwed up to hold the stud rigidly in place. The top *h* of the stud above the collar has a screw-thread cut in it to receive a nut *g*, which consists of a spherical body having a central female screw cut therein only part way through. An anti-friction roller or pulley *i* is interposed between the nut *g* and collar *d* and fits loosely around the top *h*. This roller has a grooved periphery *j* to receive the string *t*, which passes around it. A series of these studs, with their attachments, are placed in the rear end of oblong slots *k*, which extend lengthwise of the tail-piece. The bridge *l*, over which the strings pass, is provided with notches so placed that the strings are held in pairs, and so that each pair will be close enough together to simultaneously receive the bow during a single stroke, yet be sufficiently spaced to permit of free vibration without striking each other. By this arrangement the instrument is given a sweeter, softer, stronger, and more melodious tone.

In applying and using my device each string, instead of having its opposite ends secured, respectively, to the tail-piece and key in the old way, is passed around the roller and its two ends brought together and passed into the holes *r* of the keys *s* to be wound thereon, the middle of the string being around the pulley. When the keys are turned to tighten the strings, the roller, being free to rotate, permits each strand to be drawn up with equal tension, so that the sound of each will be exactly the same. In other words, the strings are paired or doubled, so that each note is the sum of both strings, thereby increasing the volume of sound given off at each stroke, as well as increasing its quality.

It is evident that my invention could be varied in many slight ways that might suggest themselves to a skillful mechanic. Therefore I do not limit myself to the exact construction herein shown, but consider myself entitled to all such variations as come within the scope and spirit of my invention.

What I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a violin tail-piece, a stud rigidly secured thereto, in combination with a roller located upon the stud above the tail-piece, and a nut for holding the roller in place, substantially as described.

2. In combination with a violin tail-piece, a stud rigidly secured thereto, said stud having a thread and nut upon its under side, a collar adapted to bear upon the top of the tail-piece, a threaded extension above said collar, a roller upon the extension, and a nut for holding the roller in place, as and for the purpose described.

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

ENOCH GRILL.

Witnesses:
RANSOM COOPER,
H. DE LONG.