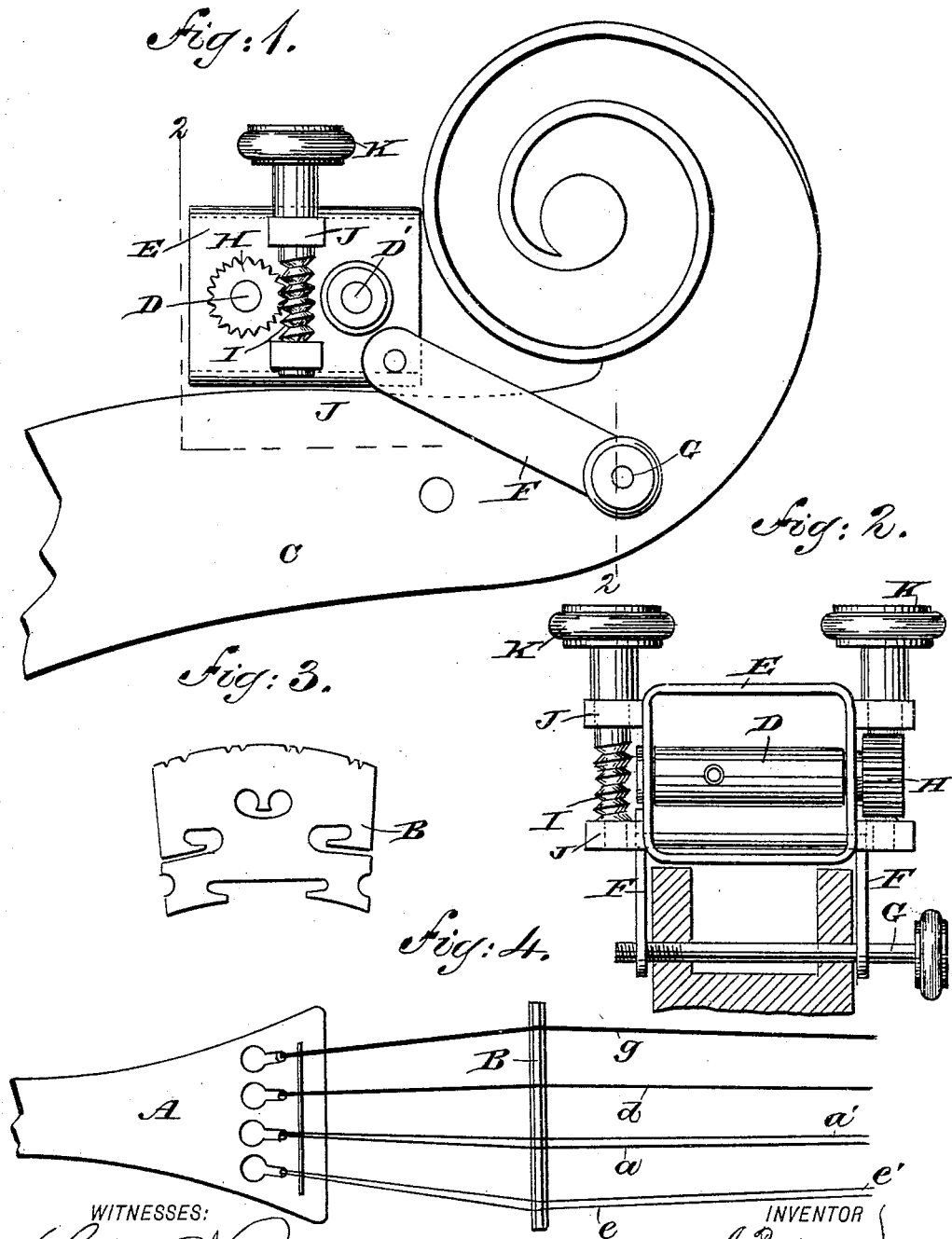


(No Model.)

A. PETTERSSON.  
MUSICAL INSTRUMENT.

No. 494,025.

Patented Mar. 21, 1893.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

AUGUST PETTERSSON, OF ESKILSTUNA, SWEDEN, ASSIGNOR TO HARVEY JOHNSON, OF DULUTH, MINNESOTA.

## MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 494,025, dated March 21, 1893.

Application filed October 31, 1892. Serial No. 450,477. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUST PETTERSSON, a subject of the King of Sweden and Norway, residing at Eskilstuna, Södermannland division of Sweden, have invented a new and Improved Musical Instrument, of which the following is a full, clear, and exact description.

The invention relates to stringed musical instruments such as violins, cellos, &c., and its object is to provide a new and improved stringed musical instrument, provided with additional strings to increase the volume of the instrument, and arranged in connection with the regular strings to produce additional harmonious sounds next to impossible on the ordinary violins.

The invention consists of a detachable casing held on the neck of the violin, and provided with spindles adapted to be turned, and connected with additional strings.

The invention further consists of additional strings arranged close to the ordinary strings so as to be sounded simultaneously with the latter to produce harmonious sounds.

The invention also consists of certain parts and details, and combinations of the same, as will be hereinafter described and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improvement. Fig. 2 is transverse section of the same on the line 2—2 of Fig. 1. Fig. 3 is a face view of the bridge; and Fig. 4 is a plan view of the tail piece, strings and bridge.

The musical instrument is provided with the usual set of strings *e*, *a*, *d* and *g*, alongside of which are arranged corresponding and similarly tuned strings adapted to be actuated by the violin bow simultaneously with the ordinary strings. As shown in Fig. 4, only two, such as strings *e'* and *a'* are arranged alongside the *e* and *a* strings. All the strings are secured in the usual manner to the tail piece A, and then pass through notches formed in the top of the bridge B, in such a manner that the additional strings lie close to the

corresponding ordinary strings, as will be readily understood by reference to Figs. 3 and 4. The ordinary strings are attached in the usual manner to the spindles in the neck C of the instrument, while the additional strings are attached to spindles D, D', journaled in a casing E set on top of the neck C and abutting the scroll as illustrated in Fig. 1. The sides of this casing E are pivotally connected with arms F, held on a screw rod G, passing transversely through the neck C of the instrument.

Each of the shafts of the spindles D and D' carries on one outer end a worm wheel H, engaged by a worm I, extending vertically and journaled in suitable bearings J, secured on the outside of the casing E. The upper end of each worm I is provided with a head K, for conveniently turning the said worm I so as to impart a rotary motion to the worm wheel H, which in turn rotates the corresponding spindle D or D', so as to wind up the respective additional string thereon until the string is properly tuned.

It will be seen that this device can be readily applied to any ordinary violin, it being however, expressly understood that the additional strings are tuned precisely the same pitch as the ordinary strings alongside of which they are arranged. By providing the instrument with double strings very melodious and most beautiful music can be produced.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A musical instrument provided with a detachable casing held on the neck of the instrument, and provided with spindles adapted to be turned, and connected with additional strings, substantially as shown and described.

2. An attachment for musical instruments consisting in a casing provided with spindles and adjusting devices therefor, and the attaching arms provided with a transverse securing bolt or screw, substantially as set forth.

3. A violin comprising a tail piece, a bridge, a set of ordinary strings, additional strings arranged alongside the ordinary strings and

tuned to the same pitch, a neck, and fasten-  
ing devices thereon for the ordinary strings,  
a casing held on the said neck and provided  
with spindles adapted to be turned, and con-  
5 nected with the additional strings, arms con-  
nected with the said casing, and a screw rod  
engaging the said arms and passing trans-

versely through the neck of the violin, sub-  
stantially as shown and described.

AUGUST PETTERSSON.

Witnesses:

CARSSUG SWENSSAN,

GUSTAF RAMSTROM,

PALIS REMMISSANI I ESBILSTUM.