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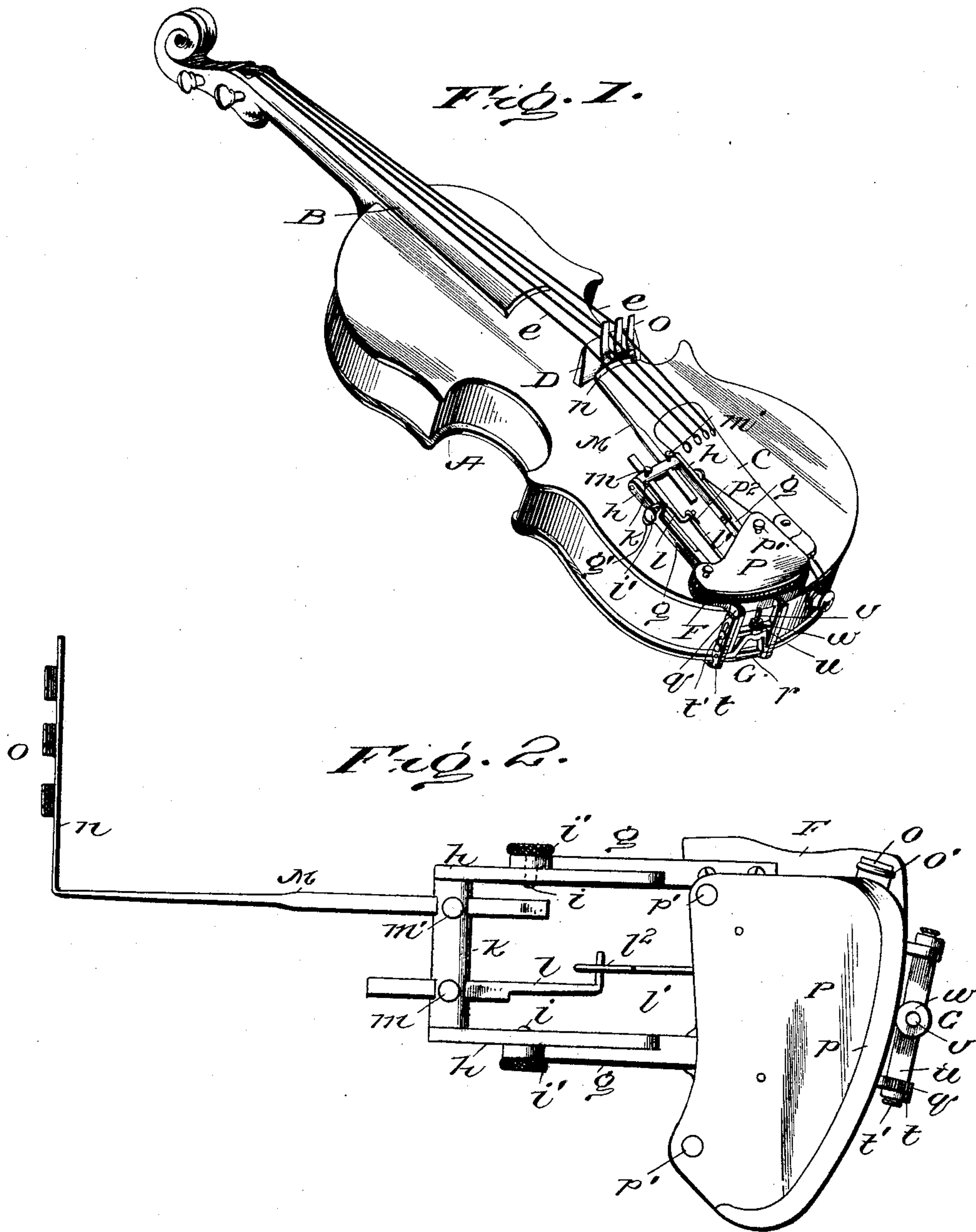
Patented Dec. 13, 1898.

C. C. HARLAN & C. C. B. MULLIN.  
COMBINED CHIN REST AND MODULATOR.

(No Model.)

(Application filed Feb. 2, 1898.)

2 Sheets—Sheet 1.



Witnesses:  
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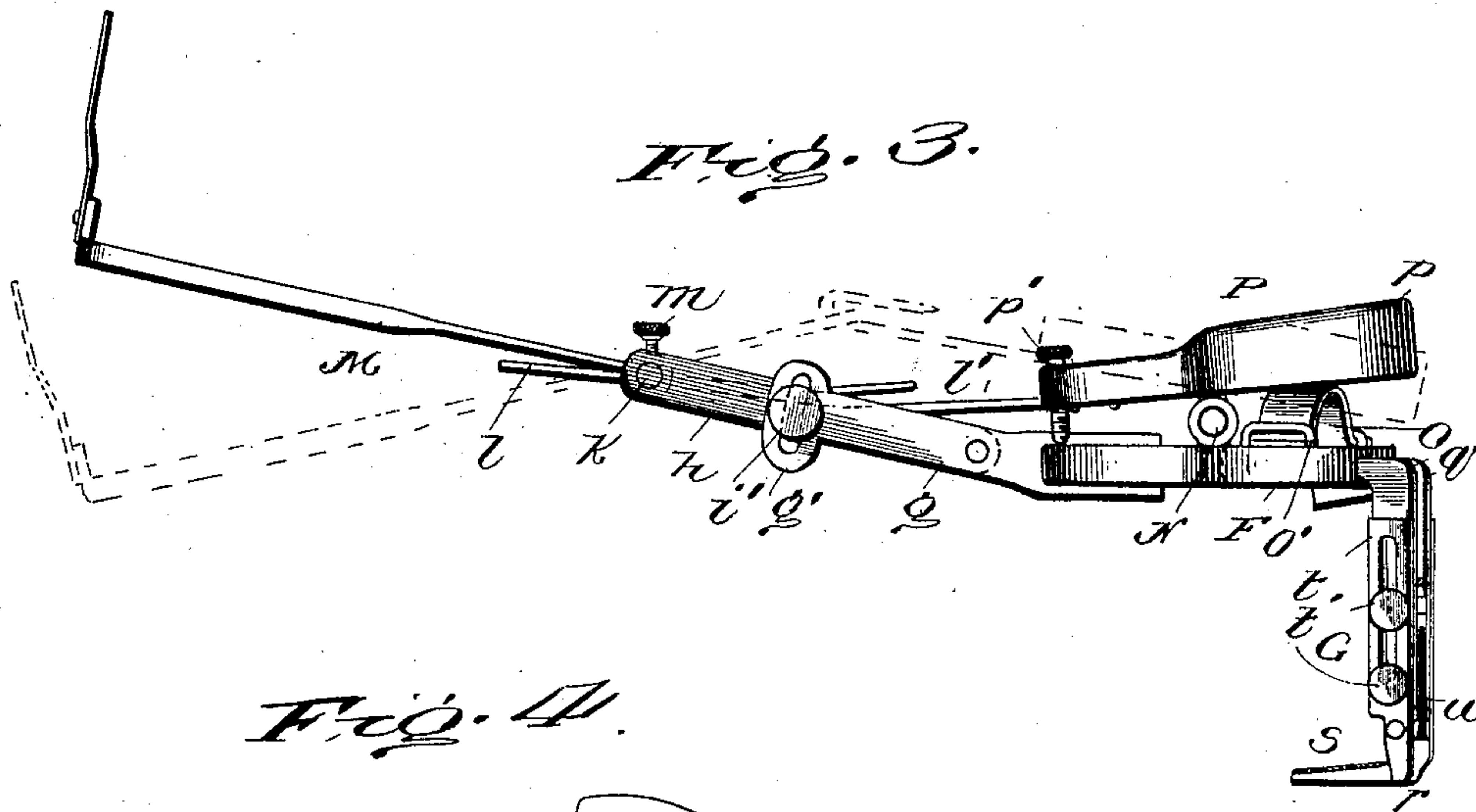
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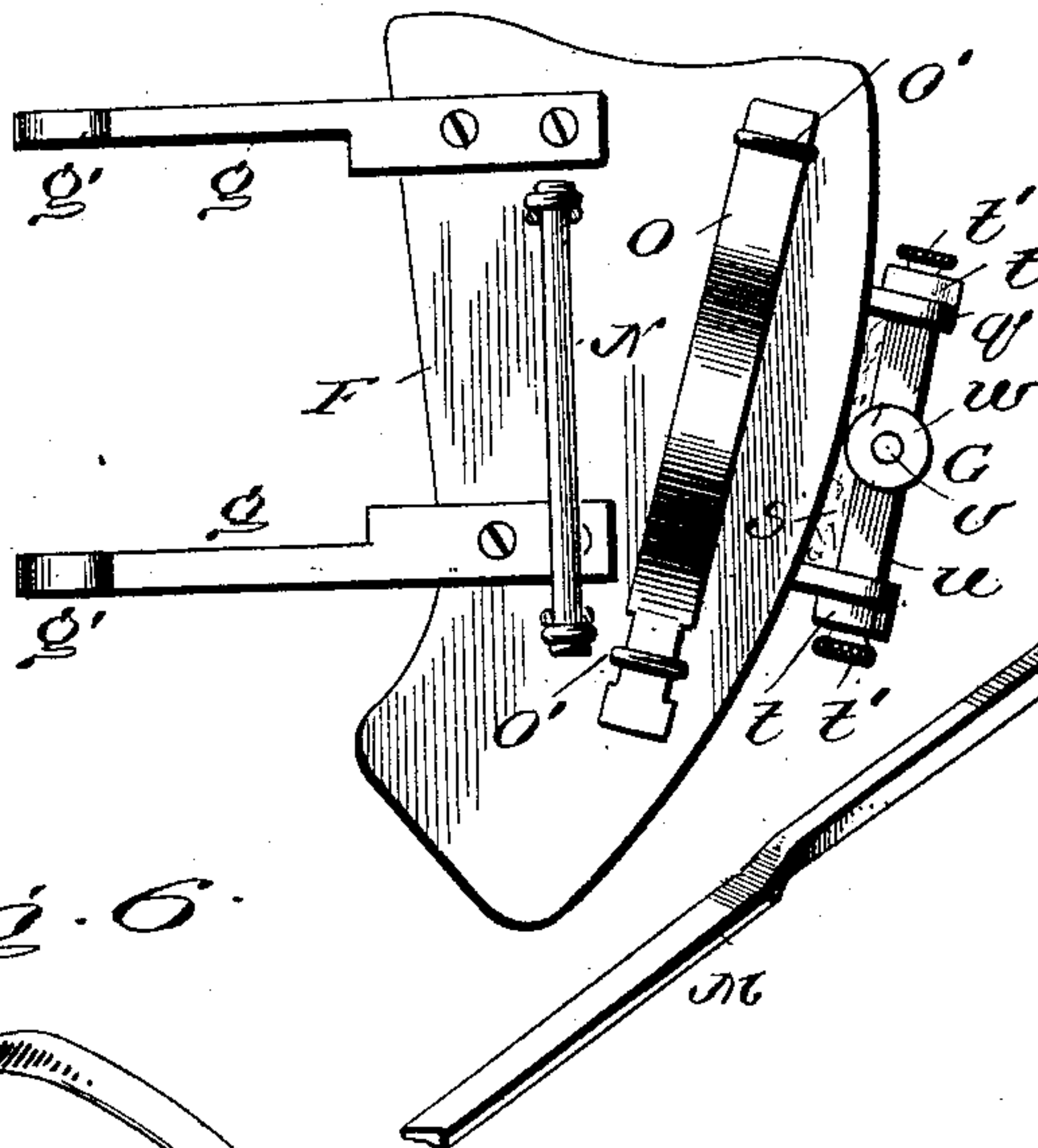
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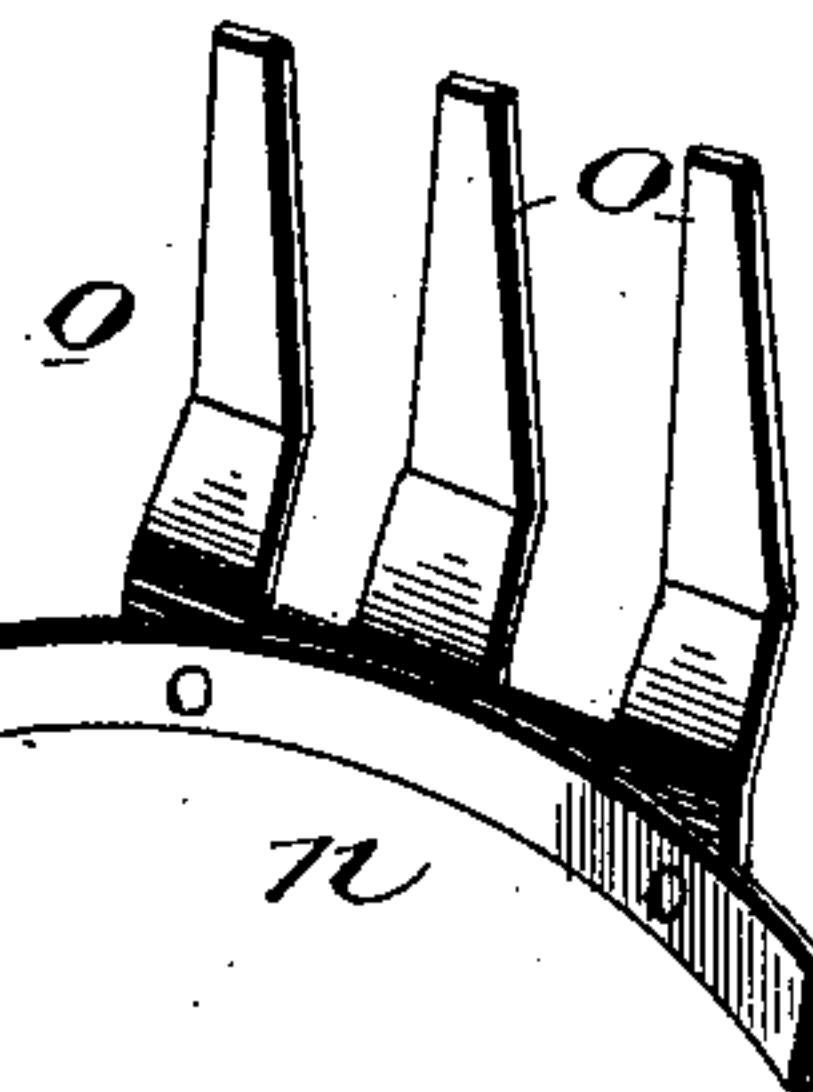
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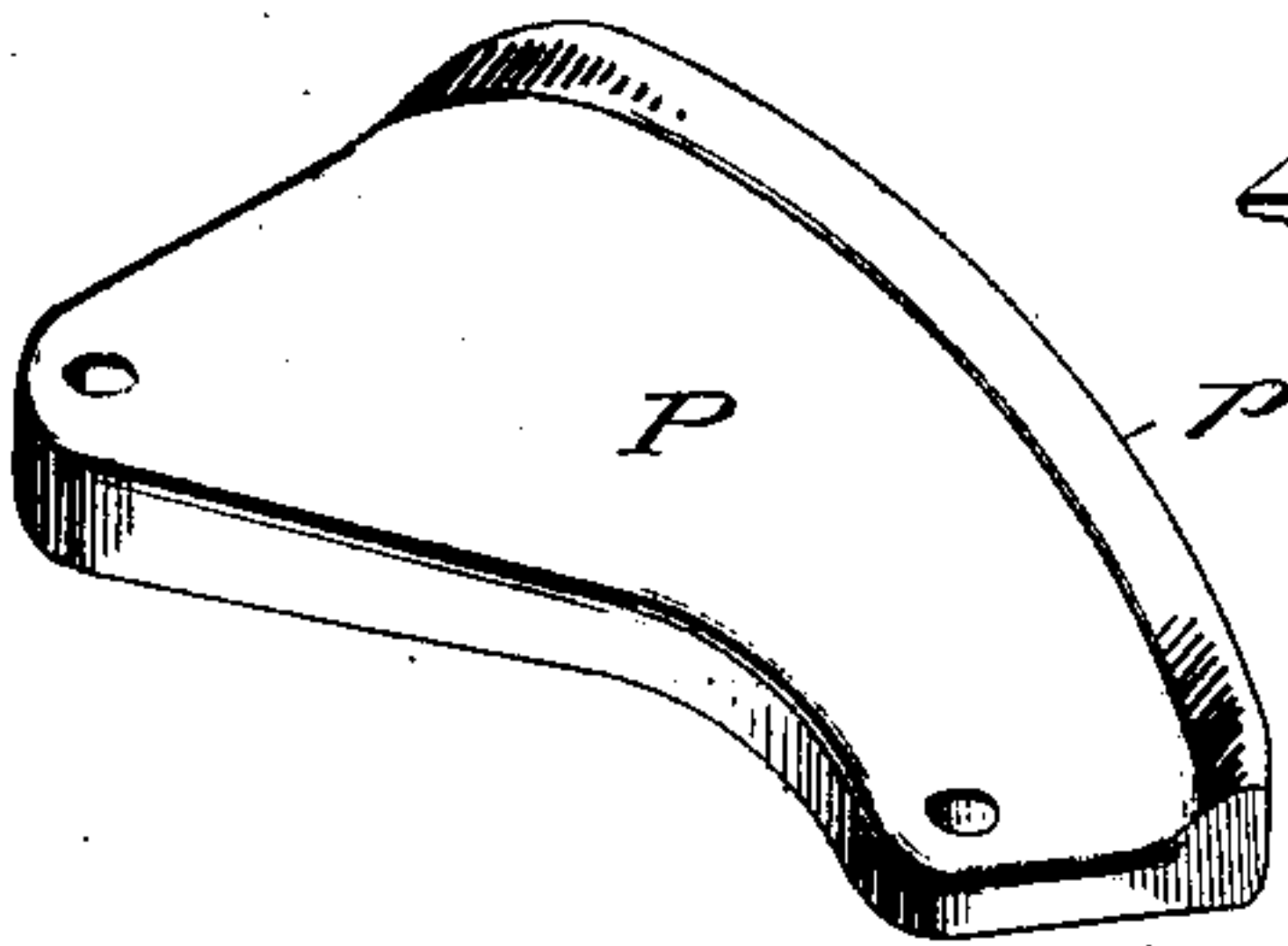
*Fig. 4.*



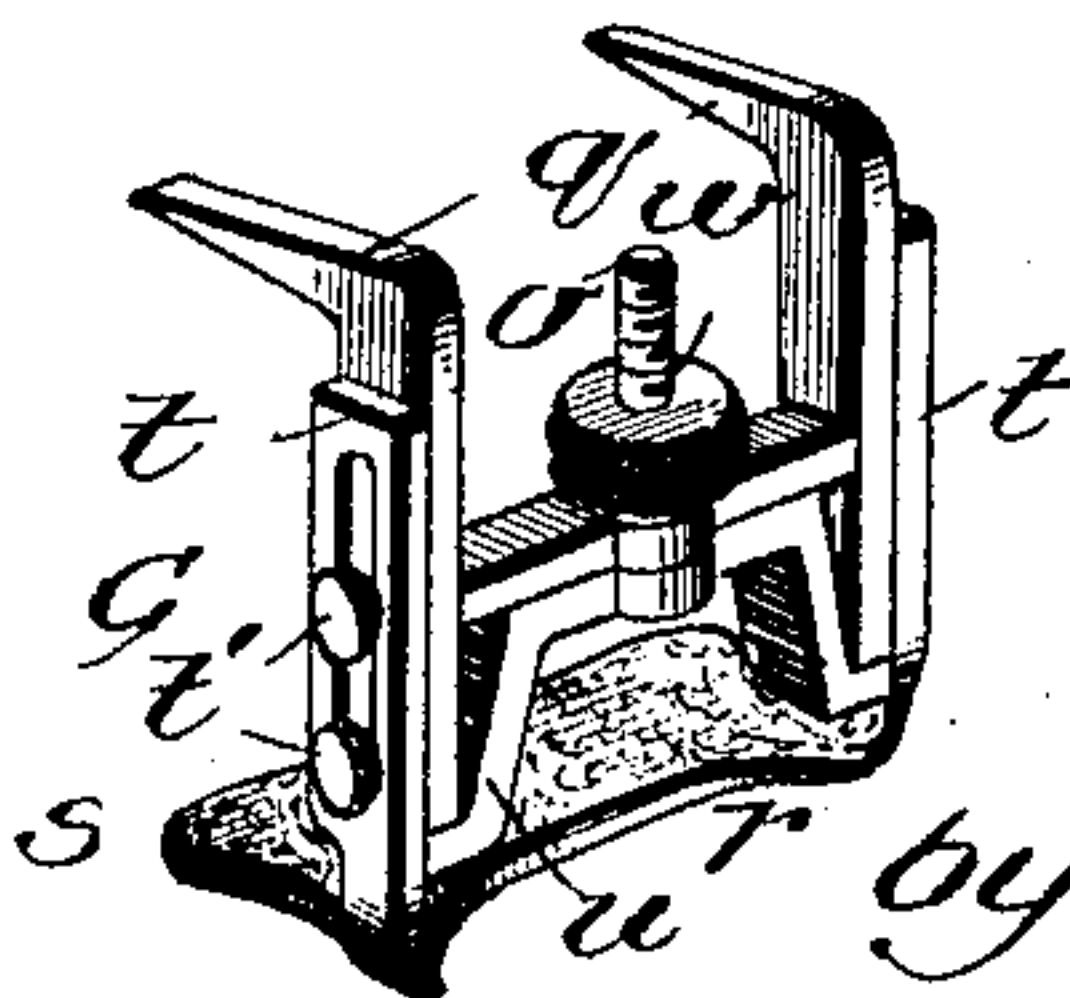
*Fig. 5.*



*Fig. 6.*



*Fig. 7.*



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# UNITED STATES PATENT OFFICE.

CALVIN C. HARLAN AND CHARLES C. B. MULLIN, OF EATON, OHIO.

## COMBINED CHIN-REST AND MODULATOR.

SPECIFICATION forming part of Letters Patent No. 615,848, dated December 13, 1898.

Application filed February 2, 1898. Serial No. 668,897. (No model.)

*To all whom it may concern:*

Be it known that we, CALVIN C. HARLAN and CHARLES C. B. MULLIN, citizens of the United States, residing at Eaton, in the county of Preble and State of Ohio, have invented certain new and useful Improvements in a Combined Chin-Rest and Modulator; and we 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.

Our invention relates to improvements in mutes or modulators for use in connection with stringed instruments, particularly violins; and the primary object of the invention is to provide a combined chin-rest and modulator constructed and arranged so that when the chin-rest is operated the modulator will be thrown into and out of action to vary the tone of the instrument.

The detailed objects and advantages of the invention will appear in the course of the subjoined description.

To the accomplishment of these ends the invention consists in certain novel features of construction, combination, and arrangement of parts, as will be hereinafter more fully described, and particularly set forth in the appended claims.

In the drawings hereto annexed and forming part of this specification, Figure 1 is a perspective view of a violin embodying our invention. Fig. 2 is a top plan view of our improved combined chin-rest and modulator detached. Fig. 3 is a side elevational view of same, showing in dotted lines the mode of operation of the parts. Fig. 4 is a plan view of the base-plate and connecting parts with chin-rest removed. Fig. 5 is a perspective view of the movable mute or modulator-arm and modulator carried thereby. Fig. 6 is a perspective view of the chin-rest, and Fig. 7 a perspective view of the adjustable clamp.

Referring now more particularly to the said drawings, A represents a violin, to which our invention is shown applied; B, the fret or finger-board thereof; C, the tailpiece; D, the bridge, and *e* the strings, stretched over and connected with said parts in the usual manner.

The improved modulator comprises in its construction a base-piece F, arranged along-

side the tailpiece and connected to the violin by a clamp G, and projecting forward from this base-piece are two horizontal parallel bracket-arms *g*, formed at their outer ends with vertical slotted guides *g'*. Pivoted at their inner ends to said arms are two bars *h*, provided with lateral guide-pins *i*, which project through the said guides and are threaded for the reception of thumb-nuts *i'*, whereby said bars may be clamped. Journaled in the outer ends of these bars is an oscillatory shaft *k*, and projecting through slots in this shaft is a connecting-plate *l* and modulator carrying-arm M. This plate and arm are adapted to be adjusted, by sliding them in said slots, to adapt the device for use on different-sized instruments, and set-screws *m m'* are provided to hold them in adjusted position.

The arm M projects forward of the tailpiece C and is provided at its free end with a lateral extension *n*, which projects beneath the strings *e*, adjacent to the rear face of the bridge D, and this extension carries a series of spring-metal modulating fingers or tines *o*, which extend up between the strings and are adapted to be brought into contact with the bridge to completely or partially arrest vibration of the bridge and strings to soften and vary the tone of the instrument in the manner well understood. The upper free ends of these tines or fingers are preferably bent outward beyond the plane of their lower ends, so that when the arm M is moved downward in the manner hereinafter described the extension *n* will clear the bridge while the upper flexible ends of the fingers will alone come in contact therewith.

On the base-piece F is a shaft N and in rear of the shaft a bowed plate-spring O, secured in guides O'. Mounted to tilt on said shaft is a chin-rest P, formed at its rear edge with a raised bead or rim *p* to hold it in contact with the chin of the performer. The spring O bears against the under side of the chin-rest adjacent to the rear end thereof, so as to normally project the front edge of the rest downward, and set-screws *p'* are provided to limit this downward movement. The shaft *k* is turned to project the modulator-arm downward and bring the fingers or tines *o* in contact with the bridge through the medium of a connecting rod or wire *l'*, connected to



the chin-rest, and which is jointed at  $l^2$  to the connecting-plate  $l$ . By this construction it will be seen that when the rear end of the chin-rest is depressed by the performer the front end of said rest will be elevated and the modulator arm and fingers moved downward to cause said fingers to bear against the bridge and that the extent of this movement may be varied as desired by the performer to vary the tone of the instrument. It will also be seen that the connecting-plate  $l$  and modulator-arm  $M$  may be adjusted to adapt the device for use on different-sized instruments and that the bars  $h$  and chin-rest may be adjusted to vary the throw or extent of movement of these parts.

The clamp  $G$  consists of an approximately H-shaped bracket  $q$ , connected at its upper end to the base-piece  $F$  and hanging pendent therefrom. To this bracket is adjustably secured a U-shaped clamp  $r$ , having an inward-projecting bottom plate  $s$ , which bears against the bottom of the violin, two vertical slotted arms  $t$ , adjustably connected to the side pieces of the bracket by thumb-screws  $t'$ , and a yoke-plate  $u$ , provided with a screw extension  $v$ , which projects through the cross-bar of the bracket and is fitted with a milled adjusting-nut  $w$ . The manner of adjusting, applying, and removing this clamp will be apparent.

From the above description, taken in connection with the accompanying drawings, the construction and mode of operation of our improved modulator will be readily understood, and it will be seen that it provides a simple and effective device which may be conveniently operated and is at all times under control of the performer.

It will of course be understood that the invention is not confined to the particular details or combination of parts constituting its preferred form, but that various modifications may be resorted to, such as circumstances or the judgment of those skilled in the art may dictate.

Having thus fully described our invention, what we claim as new and useful, and desire to secure by Letters Patent, is—

1. A mute or modulator for stringed instruments, consisting of a vertically-movable arm provided at one end with a lateral extension carrying modulating tines or fingers having

their upper free ends bent outwardly beyond the plane of their lower ends, and means for operating said arm, substantially as described.

2. A mute or modulator for stringed instruments, comprising a base-piece provided with a clamp and a pair of arms projecting forward therefrom, bars adjustably connected to said arms, a rock-shaft journaled in said bars, a chin-rest mounted upon a shaft supported by the base-plate, a spring on the base-plate in rear of said shaft acting to hold the front end of the chin-rest normally inclined downward, an adjustable connection between the chin-rest and rock-shaft, and a modulator-arm connected to said shaft and projecting forward therefrom and provided at its front end with an extension carrying a series of upwardly-projecting tines or fingers, substantially as described.

3. A mute or modulator for stringed instruments, comprising a base-piece carrying bracket-arms, bars adjustably connected to said bracket-arms, a shaft mounted in said bars, a modulator-arm connected with said shaft and carrying modulating tines or fingers, a depressible chin-rest pivoted to said base-piece, a connection between the shaft and chin-rest, and means for returning the chin-rest to its normal position and retracting the shaft and modulator-arm, substantially as described.

4. A mute or modulator for stringed instruments, comprising a base-piece provided with a clamp and carrying bracket-arms, bars adjustably connected to said arms, a shaft mounted in the bars, a modulator-arm connected at one end to said shaft and provided at its free end with an extension carrying modulating tines or fingers, a depressible chin-rest pivoted to the base-piece, a connection between the chin-rest and shaft to move the latter and modulator-arm, and a spring to restore the chin-rest to its normal position and retract said shaft and arm, substantially as described.

In testimony whereof we affix our signatures, in presence of two witnesses, January 12, 1898.

CALVIN C. HARLAN.  
CHARLES C. B. MULLIN.

Witnesses:

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ISAAC E. HOMAN.