

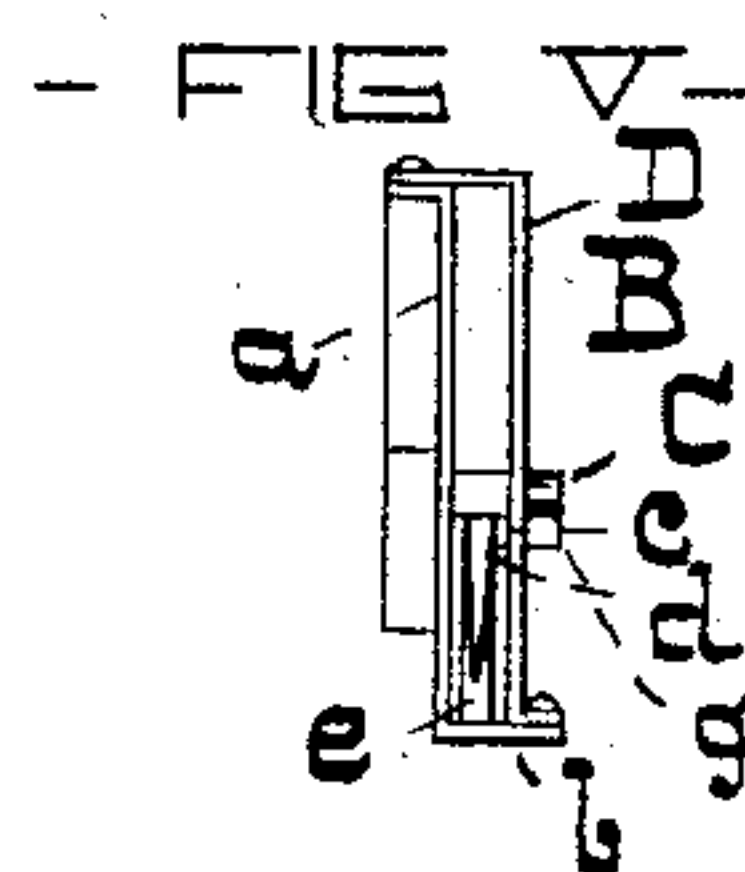
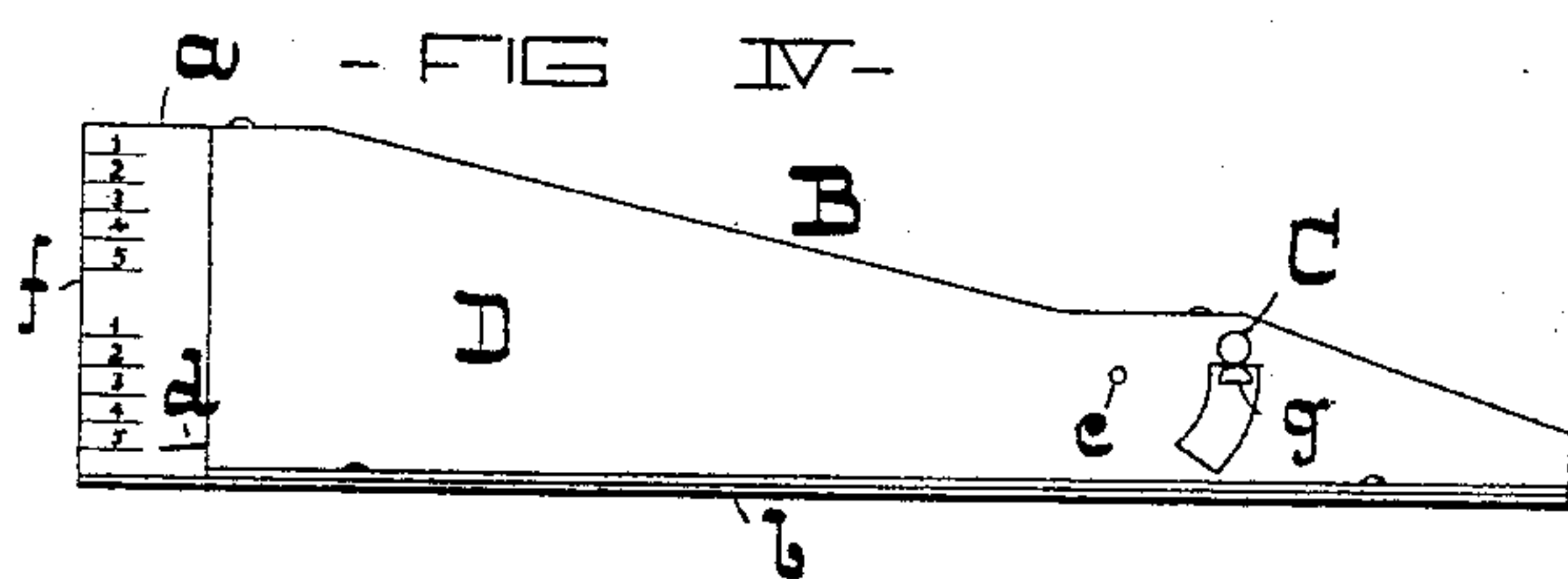
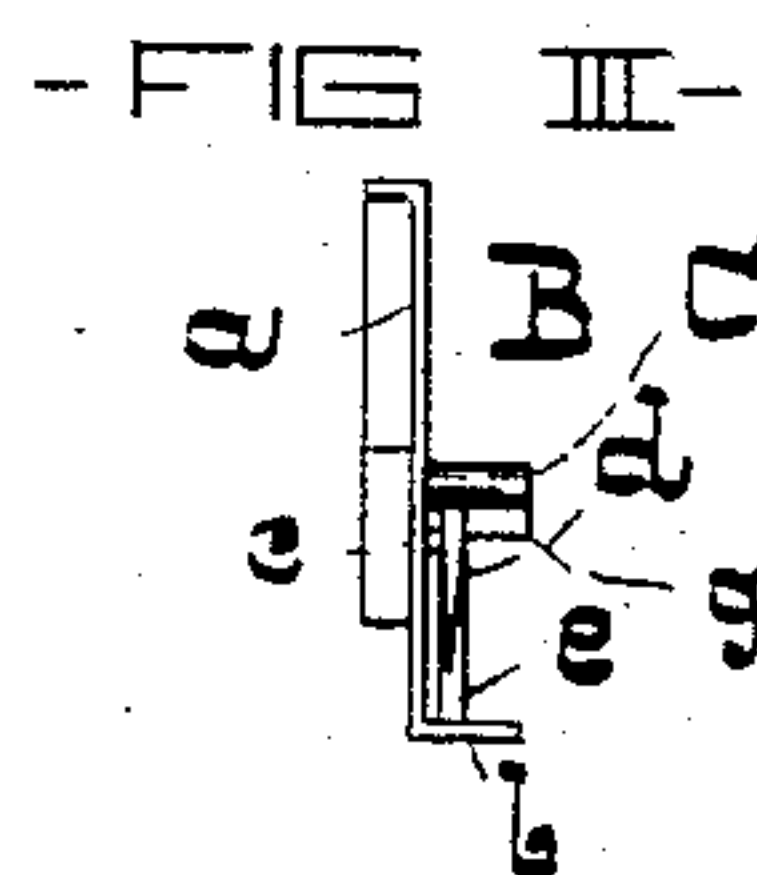
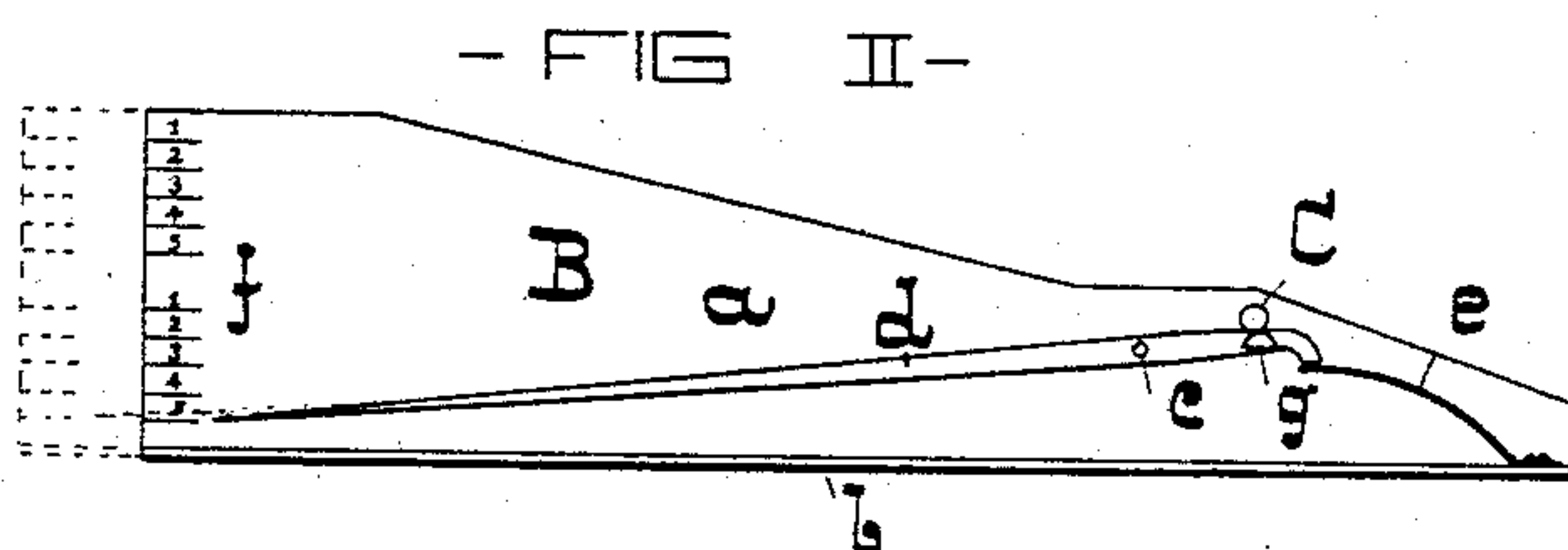
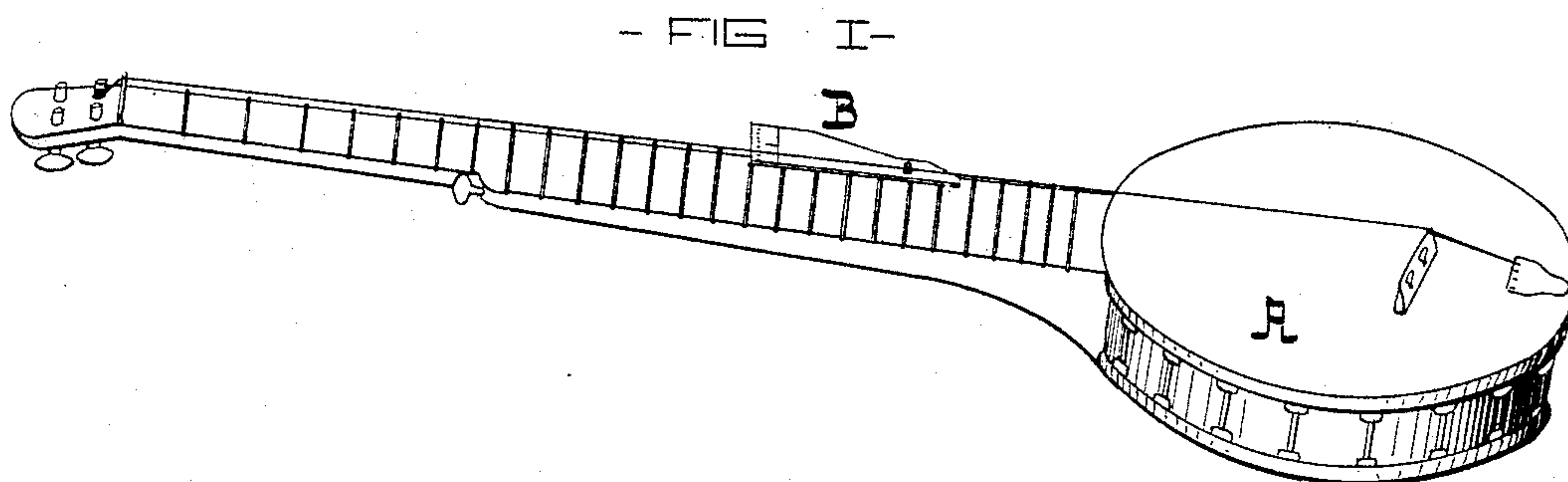
(No Model.)

A. M. D. HOME.

TUNING GAGE FOR STRINGED INSTRUMENTS.

No. 341,846.

Patented May 11, 1886.



- WITNESSES -

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UNITED STATES PATENT OFFICE.

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TUNING-GAGE FOR STRINGED INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 341,846, dated May 11, 1886.

Application filed December 10, 1885. Serial No. 185,224. (No model.)

To all whom it may concern:

Be it known that I, ALVORO M. D. HOME, of the city of Baltimore and State of Maryland, have invented certain Improvements in Sight-Tuners for Stringed Musical Instruments, of which the following is a specification.

This invention relates to an improved device adapted for application to banjos, guitars, violins, and other stringed musical instruments, to enable the player to ascertain by sight the proper tension to which each string is to be subjected to produce the requisite note. By this means persons not gifted with a musical ear and beginners are enabled to tune a stringed instrument as correctly as experienced musicians.

In the drawings forming a part hereof, Figure I is a perspective view of a banjo provided with my improved tuner. Figs. II and III are enlarged views of the invention alone. Figs. IV and V are also enlarged views of the invention, but they show in addition a protecting-casing for the movable parts of the same.

A represents a banjo, of ordinary description, which is shown as provided with one string only.

B is the sight-tuner, consisting of a plate, *a*, having a base-piece, *b*, and a shaft, *c*, projecting from one of its sides. On this shaft is hung a vibratory lever, *d*, the short arm of which is supported from the base *b* by means of a spring, *e*, of a known tension. The long arm of the lever *d* is free, and its pointed end is directly in front of a scale, *f*, on the plate *a*.

C is a stud, on one side of the plate *a*, against which a small projection, *g*, on the short arm of the lever *d* bears.

The scale *f* is in two sections, one above the other, and each section is divided into the same number of parts, which are marked alike, as shown in the drawings.

The tuner is placed on the arm of the instrument, and about midway between the supported ends of the strings.

It is necessary to the proper operation of the tuner that the distance between the under side of the stud C and the lower face of the base *b* should be greater than the vertical height of the strings above the upper face of

the arm of the instrument when the said strings are tightly drawn. Supposing the tuner to be situated on the instrument as described, the string to be tuned is first placed loosely between the stud C and the projection *g* on the short arm of the lever *d* to ascertain its thickness. This thickness is represented by the figure or number on the lower section of the scale *f*, to which the lever points, the upward movement of the long arm of the said lever being effected by the separation of the short arm of the lever from the stud C. The string is now tightened, which causes it to bear on the short arm of the lever, and the tightening operation is continued until the point of the lever reaches the corresponding number on the upper section of the scale *f*, when the tension required to bring the string into tune is obtained. The tuner is then removed, and it may be applied to another string in the manner above described.

It will be understood that in the manufacture of the tuner the distance between the corresponding numbers of the two sections of the scale *f* is made to bear a certain relation to the tension or strength of the supporting-spring *e*, and when the proper proportions are once obtained the tuner is fitted to give the same tension to all strings to which it may be applied, except that the said tension is modified in all cases by the thickness of the string.

To adapt the invention for banjos, to which professional players apply strings much thinner than those employed by amateurs, the lever is furnished with a second point, which extends beyond the first, and to a second scale, as indicated by the dotted lines, Fig. II.

In Figs. IV and V the lever is shown as protected against injury by means of a casing, D, through which the stud C and the projection *g* of the lever *d* project.

I claim as my invention—

In combination with the plate *a*, having the stud C, the pivoted lever *d*, spring *e*, and scale *f*, the said scale being in two sections, substantially as specified.

ALVORO M. D. HOME.

Witnesses:

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