

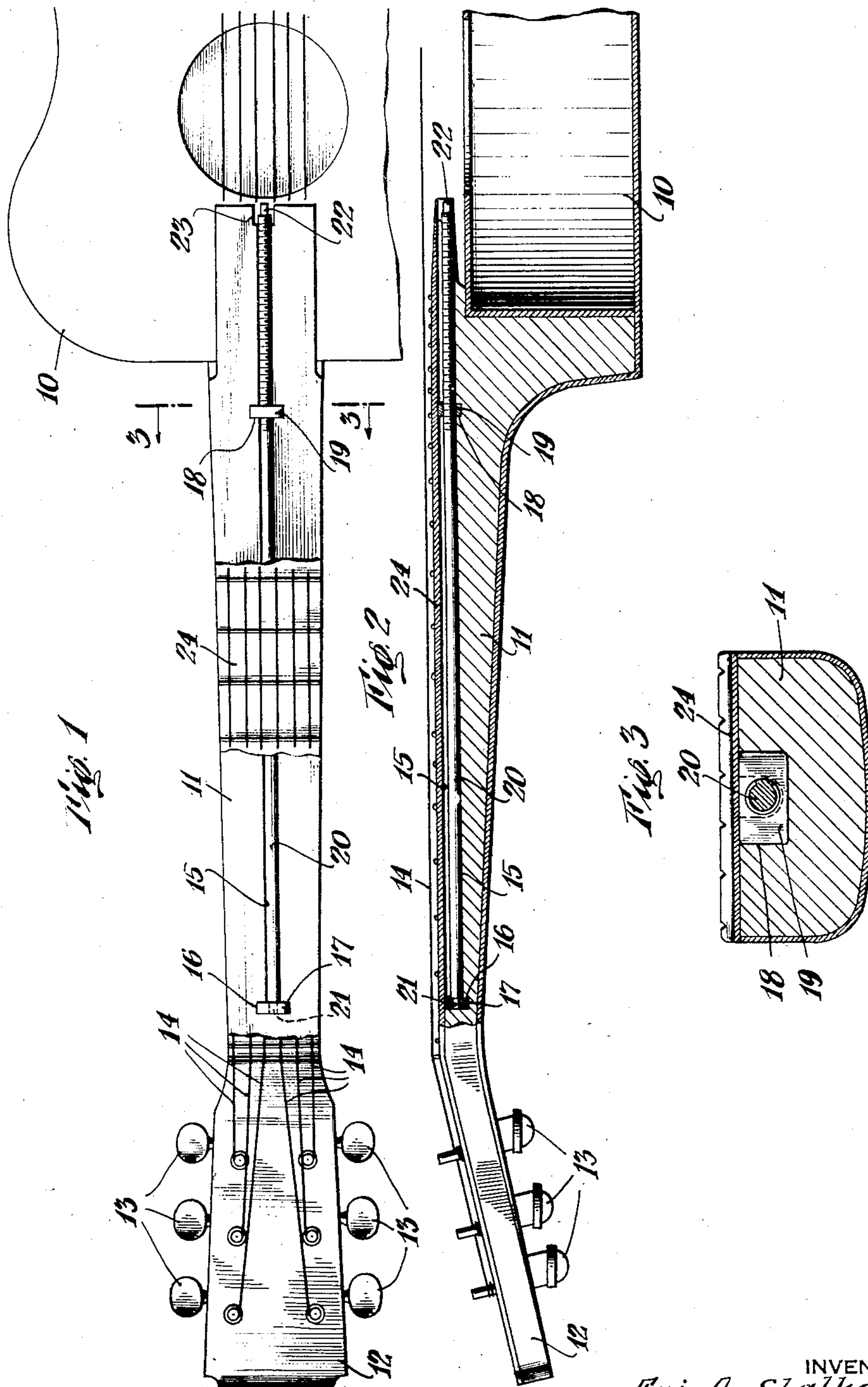
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NECK CONSTRUCTION OF STRINGED MUSICAL INSTRUMENTS

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NECK CONSTRUCTION OF STRINGED
MUSICAL INSTRUMENTSEpi A. Stathopoulos, New York, N. Y., assignor
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The present invention relates to stringed musical instruments such as guitars, banjos, violins and the like, and more particularly to the neck construction of such instruments.

5 The principal object of the present invention is to provide an improved neck construction of stringed musical instruments which will effectively resist the severe strain to which it is subjected by the strings, and thus avoid the liability of the neck, which is generally constructed of wood, to bend and twist out of its proper shape and alignment due to such strain. Another object of the present invention is to provide such improved neck construction, which will also resist the tendency of the neck to warp as a result of changing climatic and atmospheric conditions. A further object of the invention is to provide means for the purposes aforesaid which is simple in structure, inexpensive to manufacture and efficient in use. Other objects and advantages of the present invention will in part be pointed out hereinafter and will in part be obvious to those skilled in the art to which the present invention relates.

With the above and other objects in view, the present invention consists of the novel features of construction, combination of elements, and arrangement of parts hereinafter described and illustrated in the accompanying drawing, wherein there is shown the preferred embodiment of my invention.

In the accompanying drawing which forms an integral part of this specification,

Fig. 1 is a top plan view of a neck portion of a guitar, the fingerboard being partly broken away to show the underlying construction which is in accordance with the present invention;

Fig. 2 is a longitudinal sectional view of the neck portion of said guitar; and

Fig. 3 is a cross-sectional view taken on the line 3-3 of Fig. 1.

Referring now to the drawing wherein like reference characters indicate corresponding parts throughout the several views, 10 represents the body of the instrument and 11 represents the neck thereof which is connected to the body in the conventional manner. The neck 11 terminates at its outer end in a head portion 12 which carries the pegs 13 for tensioning of the strings 14.

In my improved neck construction the neck 11 is provided with a longitudinal channel 15 formed along the fingerboard side thereof, which channel extends substantially parallel to and near the fingerboard side of the neck and is arranged centrally of the neck and extends from a point near the outer end of the neck, preferably slightly re-

moved from the head portion, 12, to the opposite or inner end of the neck. At the outer end of the channel 15 there is provided a transverse recess 16 which is adapted to receive therein an apertured bearing block 17 and a similar transverse recess 18 is provided intermediate the ends of the channel 15, preferably near the inner end thereof, which recess is adapted to receive therein another bearing block 19 which has a threaded aperture therein. The channel 15 is designed to receive therein a rigid metal rod 20 which is threaded through the threaded aperture in the block 19 and is provided at one end with a reduced portion 21 which is journaled in the block 17 and at the other end with a wrench-faced portion 22 which is adapted to be engaged by a suitable key for rotating the rod 20. At the lower end of the channel is a recess 23 to permit access of the key to the rod.

The channel 15 and the transverse recesses 16 and 18 are preferably of such depth that the rod 20 and the blocks 17 and 19 which are arranged therein lie substantially flush with the fingerboard side of the neck. The channel and said recesses may however be further depressed if desired, and in that event a suitable filler-piece may be set over the rod and blocks but it is essential to the proper operation of the device that the rod 20 be substantially parallel to the fingerboard side of the neck and that the blocks 17 and 19 and rod 20 be disposed near said fingerboard side. Covering the upper side of the neck is the fingerboard 24.

The metal rod 20 and the blocks 17 and 19 serve to resist bending and twisting of the neck from its normal position and to counteract the strains to which the neck is subjected by the strings. Should the neck have a tendency to bow due to the constant strain of the strings, the condition may be conveniently corrected by applying the key to the end portion 22 of the rod 20 and rotating the rod. In so doing the blocks will be forced apart and the rod 20 will exert a tensioning or stretching force along the fingerboard side of the neck which force will restore the neck to its desired straight condition. The blocks 17 and 19 being transversely disposed relative to the neck and imbedded therein will also tend to resist twisting and warping of the neck which may result from either strain or climatic and atmospheric conditions.

From the above it will be apparent that my improved neck construction of stringed musical instruments as described and illustrated is simple in structure and effective for the purposes afore-

mentioned. It is however to be understood that I do not desire to limit myself to the specific embodiment of my invention hereinabove described and illustrated in the accompanying drawing, for
 5 I am aware that variation may be made in the details of construction which will nevertheless fall within the scope of my invention as defined in the appended claims.

Having thus illustrated and described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a stringed musical instrument, an elongated neck having a fingerboard side; a first bearing block secured to said side near one end thereof
 15 and held against outward axial movement with respect to said neck, said block being disposed near said fingerboard side; a second bearing block secured to said side near the opposite end thereof and held against outward axial movement with
 20 respect to said neck, said block being disposed near said fingerboard side and having a threaded aperture therein; a rigid rod of a length greater than the distance between the first and second bearing blocks, disposed near and substantially
 25 parallel to the fingerboard side of said neck, one end of said rod being journaled for rotation in the first bearing block and held against axial movement with respect to said block, and the opposite end of said rod being threaded for a substantial
 30 portion of its length and threadedly engaging the threaded aperture in the second bearing block; and means for rotating said rod in the event that the outer end of the neck should bow upwardly, rotation of said
 35 blocks apart to thus exert an outward axial tension along the fingerboard side of the neck, which tension will restore the neck to its desired straight condition.

2. In a stringed musical instrument, an elongated neck having an elongated axially extending
 40 channel along the fingerboard side thereof; a first bearing block secured in said neck near one end of said channel and held against outward axial movement with respect to said channel, said block
 45 being disposed near said fingerboard side; a second bearing block secured in said neck near the opposite end of said channel and held against outward axial movement with respect to said channel, said block being disposed near said fingerboard
 50 side and having a threaded aperture therein; a rigid rod of a length greater than the distance between the first and second bearing blocks, disposed within said channel and positioned near and substantially parallel to the fingerboard side
 55 of said neck, one end of said rod being journaled for rotation in the first bearing block and held against axial movement with respect to said block, and the opposite end of said rod being threaded for a substantial portion of its length and threadedly
 60 engaging the threaded aperture in the second bearing block; and means for rotating said rod within said channel in the event that the outer end of the neck should bow upwardly, rotation of said rod forcing the bearing blocks apart to thus exert an axial outward tension along the
 65 fingerboard side of the neck, which tension will restore the neck to its desired straight condition.

3. In a stringed musical instrument, an elongated neck having an elongated axially extending
 70 channel along the fingerboard side thereof, said channel being closed at one end and open at its

opposite end, said neck having a recess near the open end of the channel extending transversely across and communicating with said channel; a
 first bearing block having its outer face disposed against the wall defining the closed end of said
 5 channel, said block being disposed near said fingerboard side; a second bearing block rigidly retained within said recess and having its outer face disposed against the wall defining the outer end
 10 of said recess, said block being disposed near said fingerboard side and having a threaded aperture in alignment with said channel; a rigid rod of a length greater than the distance between the first and second bearing blocks, disposed within said
 15 channel and positioned near and substantially parallel to the fingerboard side of said neck, one end of said rod being journaled for rotation in the first bearing block and held against axial movement with respect to said block, and the opposite
 20 end of said rod being threaded for a substantial portion of its length and threadedly engaging the threaded aperture in the second bearing block; and means for rotating said rod within said channel in the event that the outer end of the neck should bow upwardly, rotation of said
 25 rod forcing the bearing blocks apart to thus exert an outward axial tension along the fingerboard side of the neck, which tension will restore the neck to its desired straight condition.

4. In a stringed musical instrument an elongated neck having an elongated axially extending
 30 channel formed along the fingerboard side thereof, said neck having a first recess near one end thereof extending transversely across and communicating with said channel, and having a second
 35 recess near the opposite end thereof extending transversely across and communicating with said channel; a first bearing block rigidly retained within the first recess and held therein against outward axial movement with respect to
 40 the length of said neck by engagement with the wall defining the outer end of said recess, said block being disposed near the fingerboard side of the neck and having an aperture in alignment with said channel; a second bearing block rigidly
 45 retained within the second recess and held therein against outward axial movement with respect to the length of said neck by engagement with the wall defining the outer end of said recess, said block being disposed near the fingerboard side of
 50 the neck and having a threaded aperture in alignment with said channel; a rigid rod of a length greater than the distance between the first and second bearing blocks, disposed within said channel and positioned near and substantially parallel
 55 to the fingerboard side of said neck, one end of said rod having a reduced portion journaled for rotation in the aperture in the first bearing block and held against outward axial movement with respect to said block, and the opposite end of said
 60 rod being threaded for a substantial portion of its length and threadedly engaging the threaded aperture in the second bearing block; and means for rotating said rod within said channel in the event that the outer end of said neck should bow
 65 upwardly, rotation of said rod forcing the bearing blocks apart to thus exert an outward axial tension along the fingerboard side of the neck, which tension will restore the neck to its desired straight condition.

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