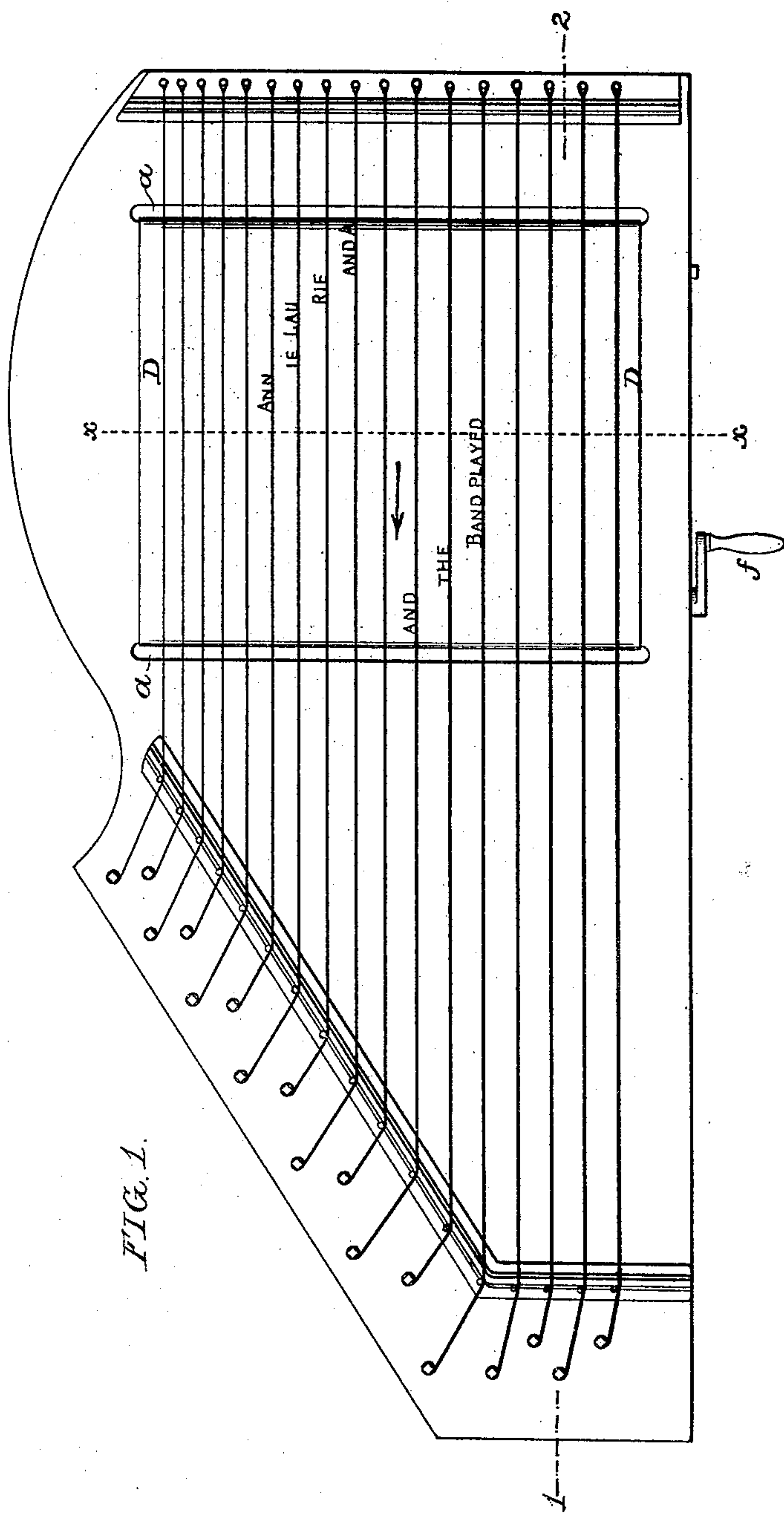
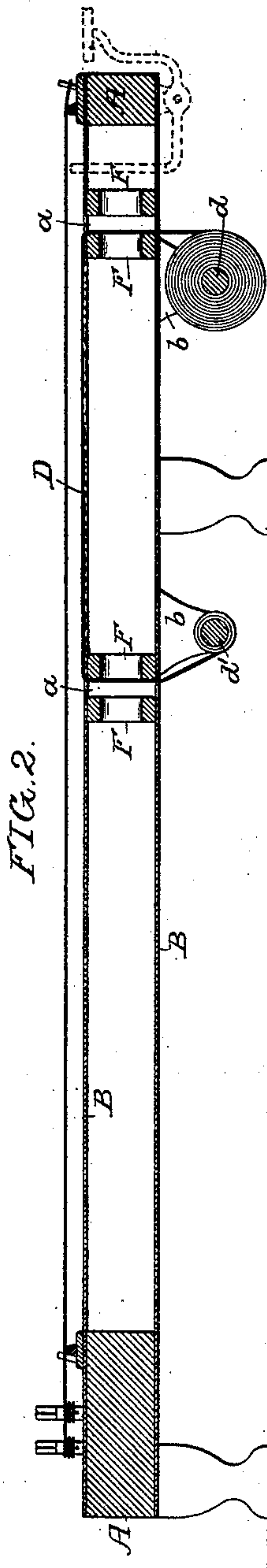


(No Model.)

F. J. HAFNER.  
STRINGED MUSICAL INSTRUMENT.

No. 467,802.

Patented Jan. 26, 1892.



Witnesses  
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# UNITED STATES PATENT OFFICE.

FREDERICK J. HAFNER, OF PHILADELPHIA, PENNSYLVANIA.

## STRINGED MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 467,802, dated January 26, 1892.

Application filed October 26, 1891. Serial No. 409,834. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK J. HAFNER, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Stringed Musical Instruments, of which the following is a specification.

The object of my invention is to provide a stringed musical instrument with a guide or chart, whereby an unskilled player is so instructed concerning the proper strings to be struck or manipulated as to be enabled to readily and accurately play any piece of music for which said chart has been designed. This object I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of a musical instrument with my improved playing guide or chart applied thereto, and Fig. 2 is a longitudinal section of the instrument on the line 1 2, Fig. 1.

The instrument which I have selected to illustrate my invention is a well-known instrument of the harp or zither type, although it should be understood that my invention is applicable to stringed instruments generally.

The instrument shown in the drawings has a hollow body consisting of a comparatively heavy outer frame-work A and thin top and bottom shells B B, the strings being mounted upon the hollow body, as usual, and provided with appropriate tuning-pins. In those portions of the shells B B which are beneath the strings, however, I form transverse slots *a*, extending laterally to or beyond the outer strings and located at some distance apart, and in suitable bearings *b* on the under side of the instrument I mount shafts or spindles *d d'* for carrying the sheet or strip D, which constitutes the chart, both spindles being preferably squared at one end for the reception of a crank-handle *f*, by which they may be turned. Upon the strip D are suitable indicating-marks, one for each note (either whole note or fractional note) of the piece of music for which the chart is intended, the indicating-mark for each note occupying a transverse position on the strip corresponding with the string of the instrument which represents that note, and the indicating-marks

following each other longitudinally on the strip, either closely or with longer or shorter intervals, in accordance with the character of the music.

Before starting to play the strip D is wound upon the spindle *d* and the blank front end of the strip is passed up through the slot *a*, adjacent to said spindle, thence along beneath the strings to the other slot *a* and down through the same to the spindle *d'*, to which it is secured in any suitable manner. The crank-handle *f* is then applied to the end of the spindle *d'*, and the latter is turned so as to carry the strip forward in the direction of the arrow, Fig. 1. As each of the indicating-marks of the moving chart passes beneath an imaginary line—for instance, the line *x* in Fig. 1—the string above said mark is picked or played upon by the performer, the left hand being used for turning the crank-handle *f* and the right hand for manipulating the strings of the instrument. It will therefore be seen that when the chart is properly prepared an unskilled performer can by the aid of said chart readily and accurately play any piece of music for which said chart has been designed.

If after once playing the piece it is desired to repeat the same, the crank-handle *f* may be transferred to the spindle *d* and the strip D may be rewound onto the latter, or, if desired, each of the spindles *d d'* may be provided with a permanent crank-handle. By removing the spindle *d* from the strip wound thereon said strip can be removed and another rolled strip inserted in its place, the spindle being passed through the new roll and the latter adjusted as before.

When the piece which it is desired to play is a song or other words set to music, I prefer to use the words themselves as the indicating-marks on the chart, so that said chart may be used as an aid in teaching vocal music as well as an aid in playing the instrument.

It is desirable to brace the thin shells B B of the instrument at the points where the slots *a a* are formed therein for the passage of the strip D, and I use for this purpose perforated or slotted transverse bars F, one on each side of each slot, as shown in Fig. 2, the perforating or slotting of the bars being intended to



prevent them, as far as possible, from interfering with the resonance of the hollow body of the instrument.

If desired, hammers provided with or connected to suitable keys may be used for striking the strings, the chart indicating which string is to be struck, in the same manner as before. Such a plan is illustrated by dotted lines in Fig. 2.

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

1. The combination of a stringed musical instrument with a chart-strip mounted there-  
15 on so as to be traversed longitudinally in the direction of and close to the strings, said chart-strip having marks indicating the successive notes of a piece of music, said marks being arranged in line with the strings corresponding to the respective notes, substantially  
20 as specified.

2. The combination of a stringed musical instrument having a body with transverse slots beneath the strings with a chart-strip  
25 having marks indicating the successive notes of a piece of music and arranged in line with the strings corresponding to said notes, and means for traversing said strip longitudinally beneath the strings, substantially as specified.

30 3. The combination of a stringed musical instrument, a guide having indicating-marks corresponding with the successive notes of a

piece of music and arranged in line with and close to the strings representing said notes, spindles upon which said guide-strip is mount- 35 ed, and means for turning one of said spindles so as to cause the guide-strip to travel longitudinally or in the direction of the strings, substantially as specified.

4. A stringed musical instrument having a 40 hollow body with transverse slots beneath the strings for the passage of a guide strip or chart and slotted or perforated bracing-bars interposed between the shells of the hollow body on opposite sides of the slots, substan- 45 tially as specified.

5. The combination of a stringed musical instrument with a guide strip or chart mount-  
ed upon said instrument and adapted to be traversed longitudinally or in the direction of 50 the strings, said guide-strip having indicating-marks consisting of words or syllables corresponding with the successive notes of the piece of music to be played, each of said words or syllables being in line with the string rep- 55 resenting its proper note, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERICK J. HAFNER.

Witnesses:

EUGENE ELTERICH,  
HARRY SMITH.