

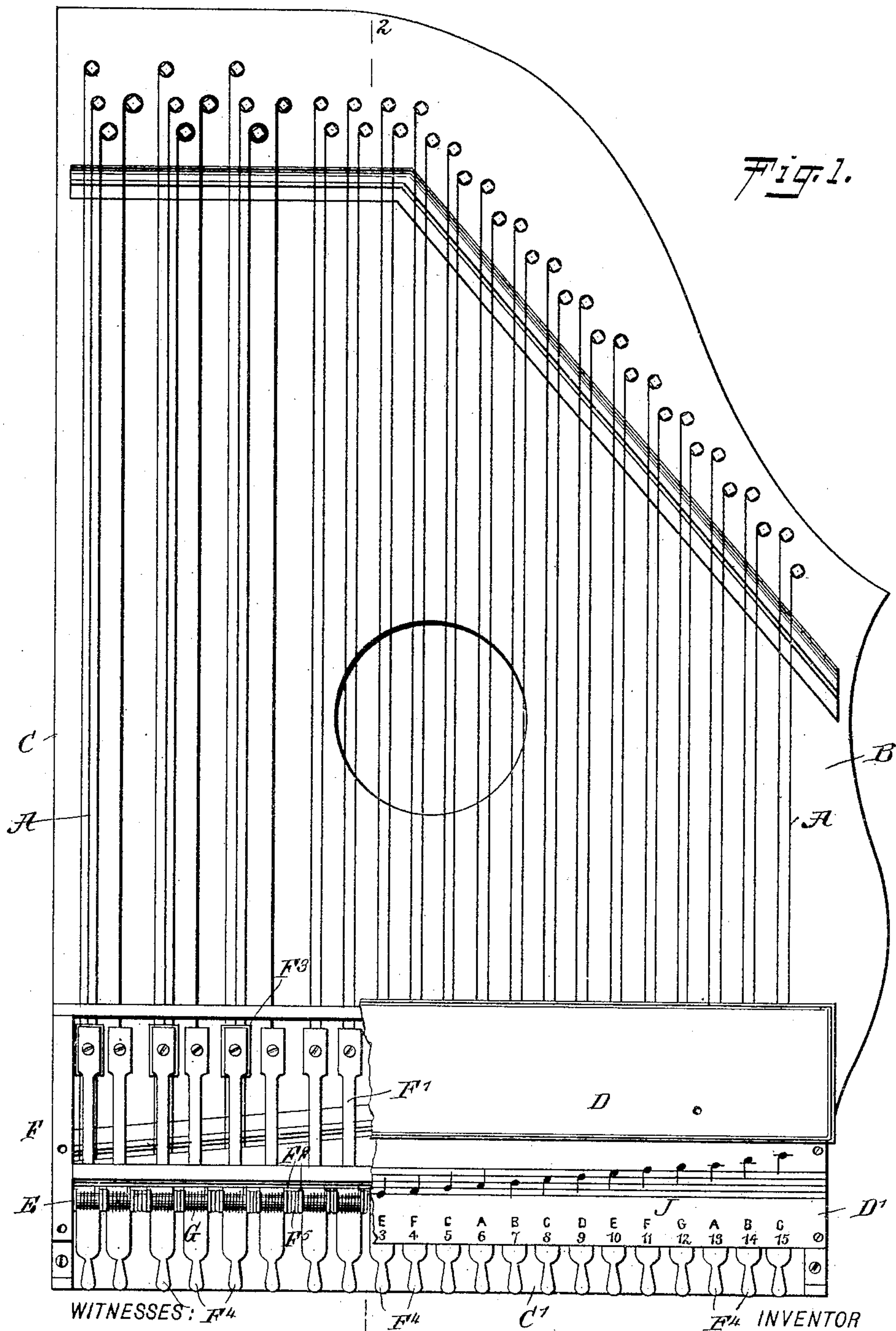
No. 702,224.

Patented June 10, 1902.

H. LANGFELDER.
MUSICAL INSTRUMENT.
(Application filed July 11, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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Geo. J. Koster.

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ATTORNEYS

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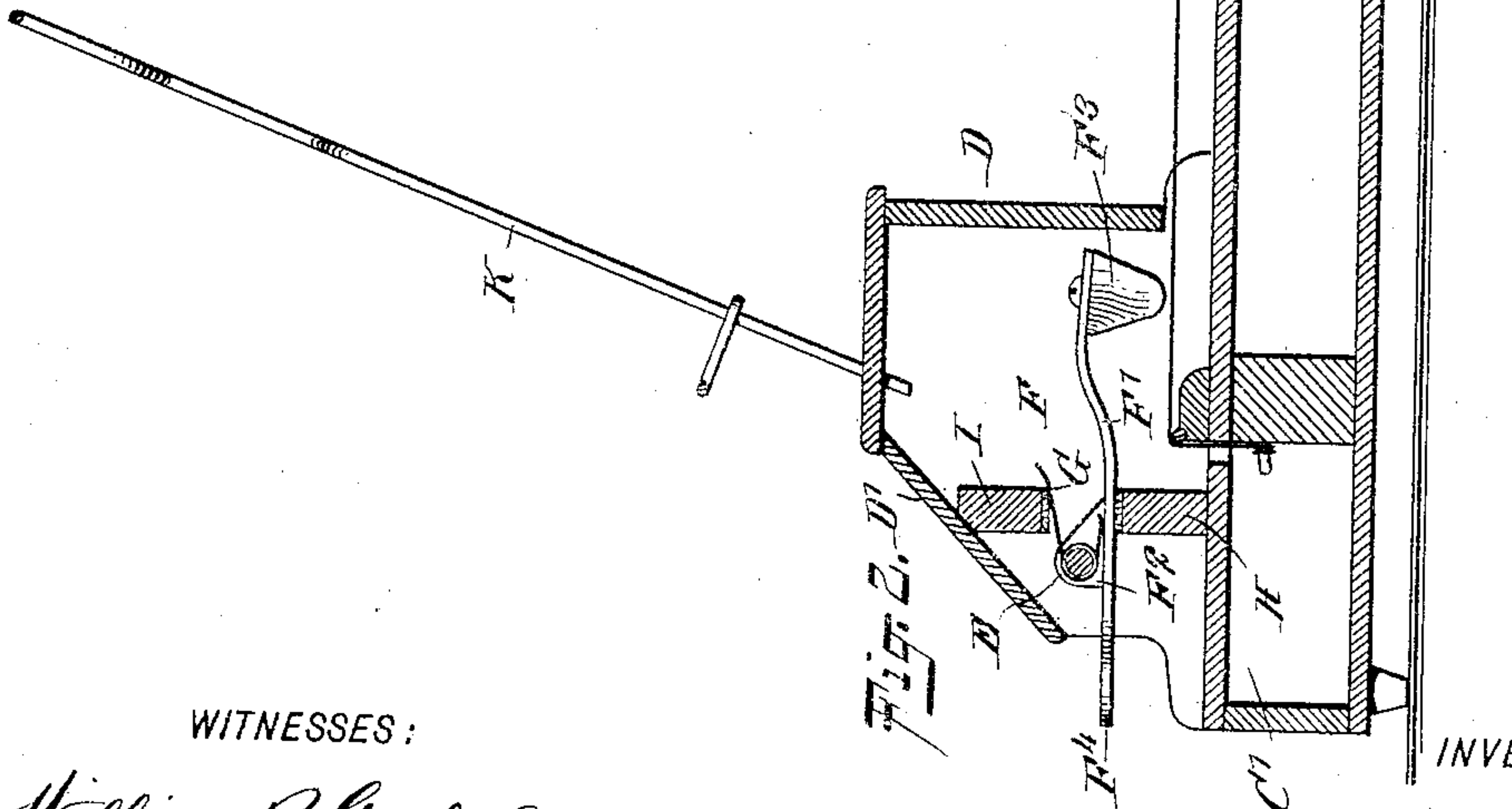
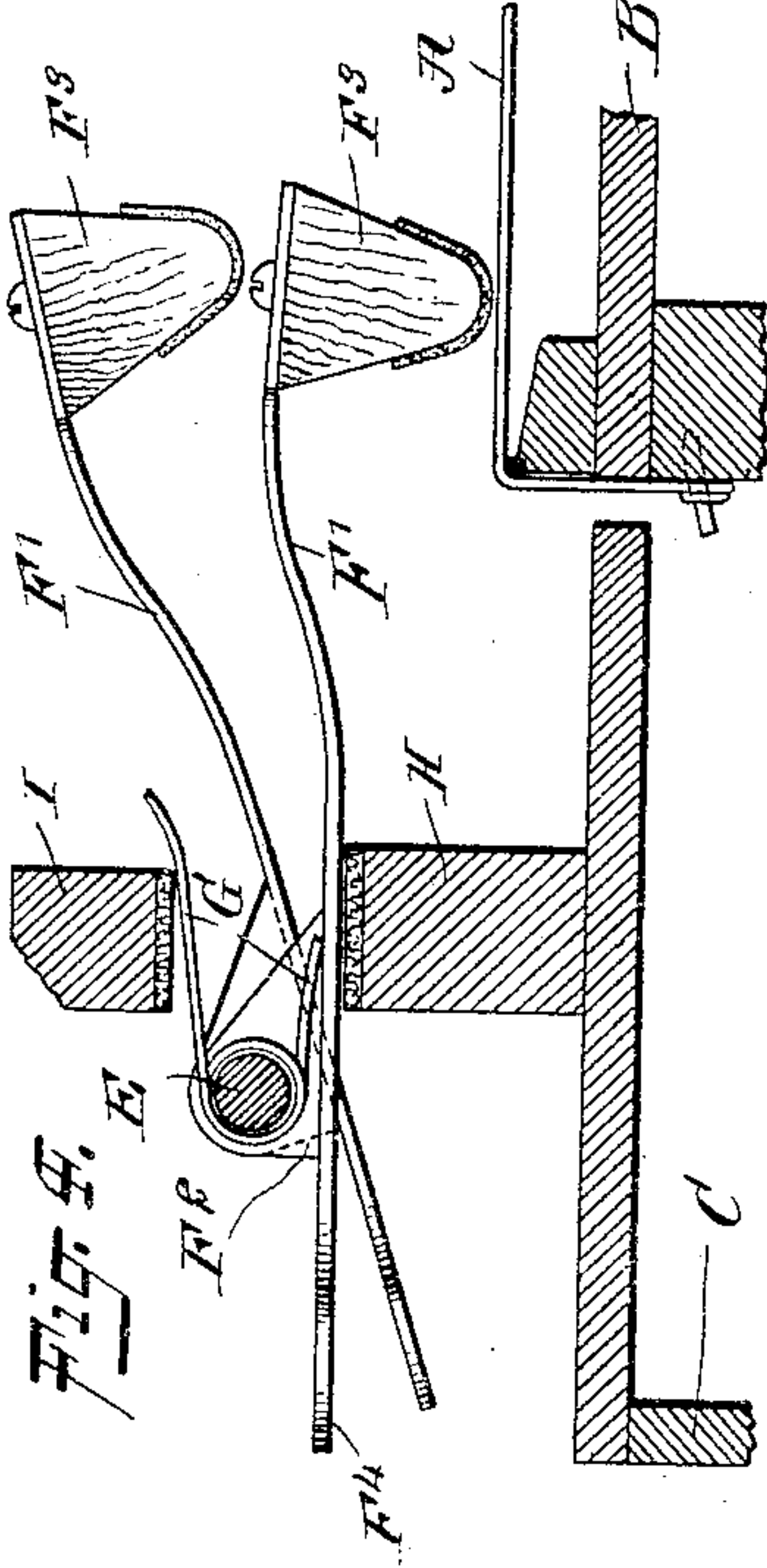
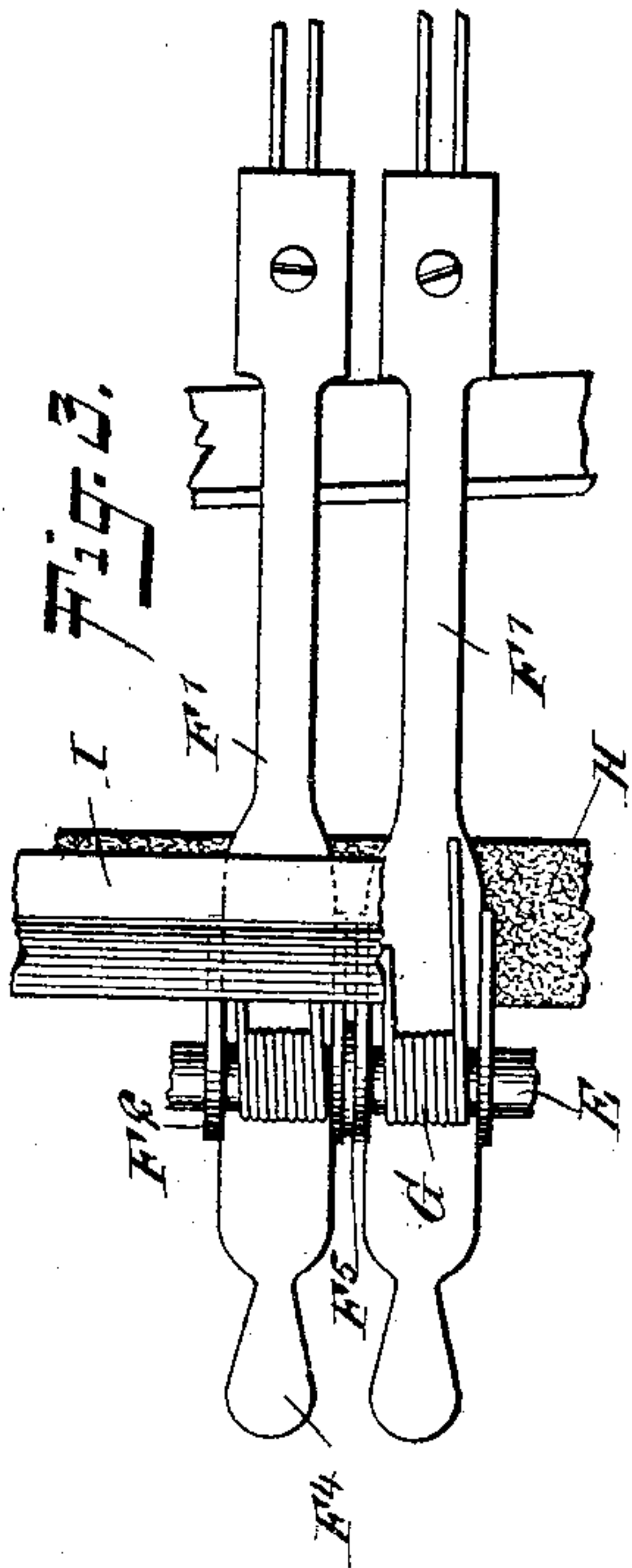
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WITNESSES:

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UNITED STATES PATENT OFFICE.

HENRY LANGFELDER, OF BERLIN, GERMANY, ASSIGNOR TO OSCAR SCHMIDT, OF JERSEY CITY, NEW JERSEY.

MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 702,224, dated June 10, 1902.

Application filed July 11, 1901. Serial No. 67,876. (No model.)

To all whom it may concern:

Be it known that I, HENRY LANGFELDER, a citizen of the United States, and a resident of Berlin, Germany, have invented a new and
5 Improved Musical Instrument, of which the following is a full, clear, and exact description.

The invention relates to citherns, guitar-citherns, and the like; and its object is to provide a new and improved musical instrument
10 arranged to permit of readily sounding the strings by the use of flexible hammers pressed and released by the fingers of the performer.

The invention consists of novel features
15 and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings,
20 forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the improvement with part broken out. Fig. 2 is a transverse
25 section of the same on the line 2 2 in Fig. 1. Fig. 3 is an enlarged plan view of sundry of the hammers, their supports, and stop-rails; and Fig. 4 is a sectional side elevation of the same.

30 The musical instrument shown in the drawings is preferably in the form of a cithern, and consists, essentially, of the strings A, extending over the sounding-board B, carried by the body C, having its front end C' extended beyond the front ends of the strings,
35 as will be readily understood by reference to Figs. 2 and 4. The strings A are preferably grouped in sets of melody-strings and accompaniment-strings, with the sets arranged one alongside of the other, as is plainly indicated
40 in Fig. 1.

On the top of the body C, at the front end thereof, is secured a housing D, extending over the front ends of the strings A, and in
45 the sides of the said housing is secured a rod E, arranged above the level of the strings, on which rod are fulcrumed the hammers F, each consisting of a practically straight spring-metal handle F', made in one piece, having
50 upturned lugs F² fulcrumed on the rod E, the inner ends of the spring-handles carry-

ing felted wooden hammer-heads F³, normally standing over the strings, out of engagement therewith, as shown in Fig. 2. The outer or front ends of the spring-handles F' 55 are formed into finger-pieces F⁴, reaching outside of the housing D and standing above the top of the end C', so that the performer can readily press and release the finger-pieces to swing the hammers upward and allow the same to swing back for the heads F³ to strike the strings A. Each hammer-handle is pressed on in the rear of the rod E by a spring G to cause a quick return movement of the hammer after the operator releases the finger- 65 piece F⁴, the hammer-handle in rear of the rod E then striking a lower felted stop-rail H, arranged in the housing. It is evident that when this takes place the inner or head end of the pressed and released hammer-handle by the force of the impact of the handle 70 with the said rail swings farther downward, owing to the resiliency of the spring metal in the handle, to cause the hammer-head F³ to strike and sound the corresponding string A. 75 As soon as this has taken place the resiliency in the spring-hammer handle returns the head F³ to its normal position above its string. Each spring G is coiled on the rod E between the lugs F² of the corresponding hammer, and one end of the said spring presses the hammer-handle F' in rear of the rod E, while the other end abuts against a felted upper stop-rail I, likewise arranged in the housing D and serving to limit the upward swing- 85 ing motion of the hammer-handle F' when the corresponding finger-piece is pressed by the performer. The hammers are spaced apart to allow the performer to conveniently engage the finger-pieces F⁴ properly, and for 90 this purpose washers F⁵ are held on the rod E between the lugs F² of adjacent handles F'. (See Figs. 1 and 3.)

The front D' of the housing D is beveled, as is plainly shown in Fig. 2, and on this beveled front is secured or formed a scale J, 95 having a notation for the strings A, the notes and numerals forming the notation being arranged in alinement with the finger-pieces F⁴, and consequently with the strings, so that the performer can readily execute the desired music by pressing the finger-pieces F⁴ indicated 100

by the notation and corresponding to the notation of the piece of music to be executed. By having the front D' inclined upwardly and rearwardly above the finger-pieces F⁴ it is evident that the notation is brought close to the finger-pieces and is readily visible to the performer, thus greatly facilitating the proper execution of the music.

On the top of the housing D is removably arranged a rack K for supporting the sheet of notes or other music to be performed on the instrument.

In using the musical instrument the performer presses and releases the finger-pieces F⁴ in proper order, according to the music to be executed, so that the hammer-heads F³ strike and sound corresponding strings A.

The musical instrument shown and described can be very cheaply manufactured, and by having the notation arranged as mentioned a person can quickly learn to successfully play the instrument in a very short time.

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

1. In a cithern, the combination with the sounding-board, and strings; of two stop-rails H and I arranged one above the other beyond the ends of the strings and spaced apart and cushioned on adjacent edges as described, a horizontal rod E arranged in front of the stop-

rails and opposite the opening between them, the horizontal hammer-keys having upturned ears F², and coil-springs G wound around the rod between the ears of each hammer-key and having their upper free ends bearing against the bottom of the upper stop-rail substantially as described. 35

2. In a cithern, the combination with the sounding-board and strings; of two stop-rails H and I arranged one above the other beyond the ends of the strings and spaced apart and cushioned on adjacent edges as described, a horizontal rod E arranged in front of the stop-rails and opposite the opening between them, the horizontal hammer-keys having upturned ears F², coil-springs G wound around the rod between the ears of each hammer-key and having their upper free ends bearing against the bottom of the upper stop-rail, a housing D inclosing the stop-rails and hammers and having an inclined front portion D' for receiving a scale, and an inclined rack K mounted upon the housing for holding the music-sheets above the scale substantially as described. 40 45 50 55

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

HENRY LANGFELDER.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.