

No. 722,967.

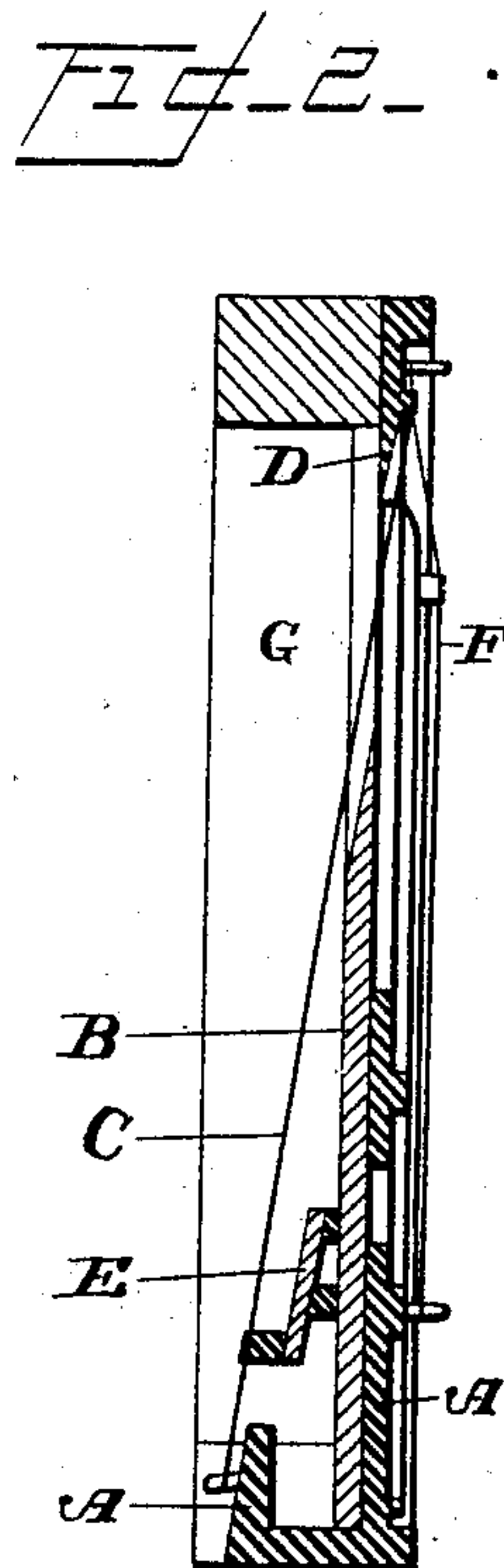
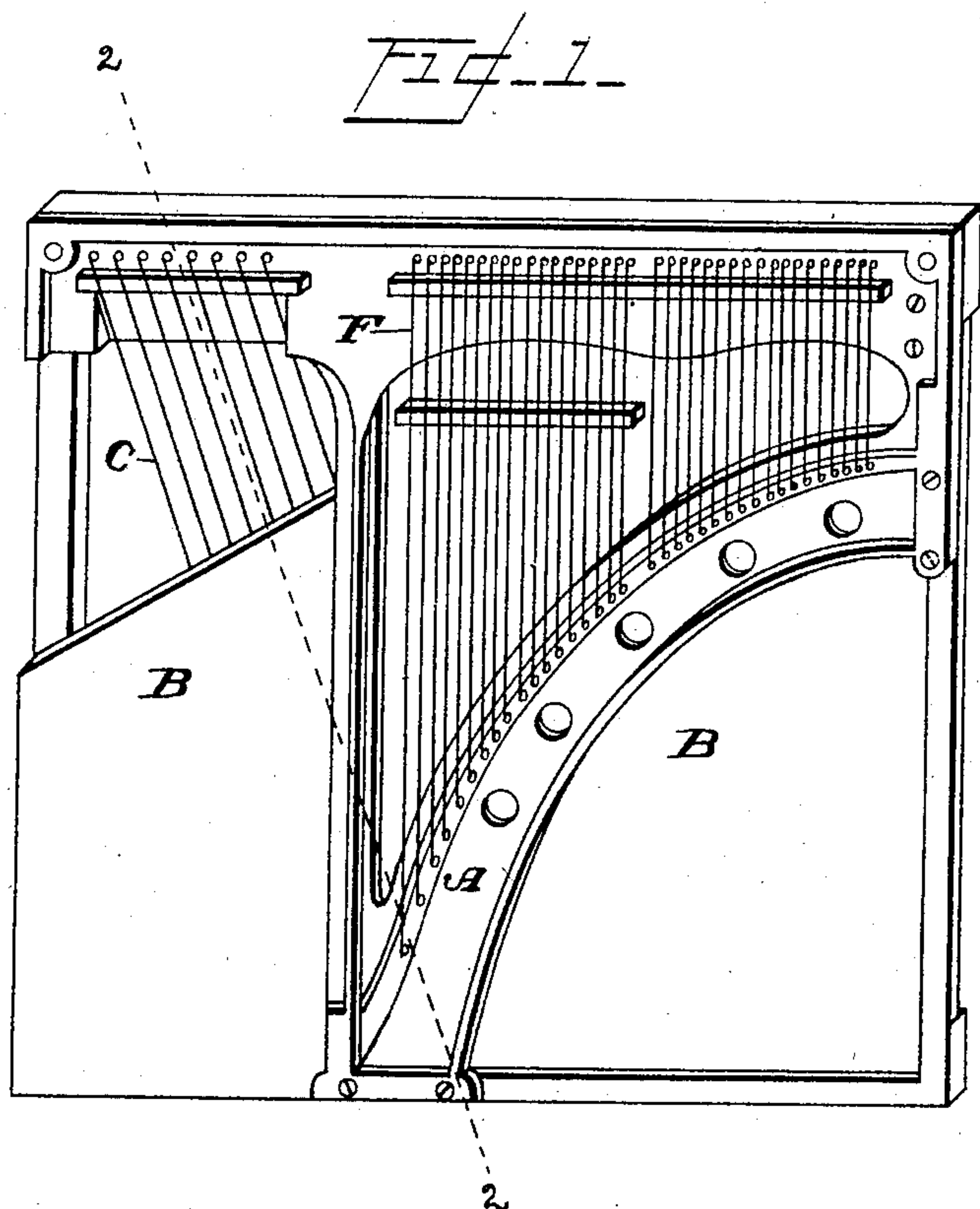
PATENTED MAR. 17, 1903.

A. G. GARDNER.
UPRIGHT PIANO.

APPLICATION FILED MAR. 18, 1901.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES

Chas. L. Hyde.
Mattie McGinnis

INVENTOR

Alphonse G. Gardner
BY HIS ATTORNEYS
Hazard & Harpham

No. 722,967.

PATENTED MAR. 17, 1903.

A. G. GARDNER.
UPRIGHT PIANO.

APPLICATION FILED MAR. 18, 1901.

NO MODEL.

2 SHEETS—SHEET 2.

FIG. 3.

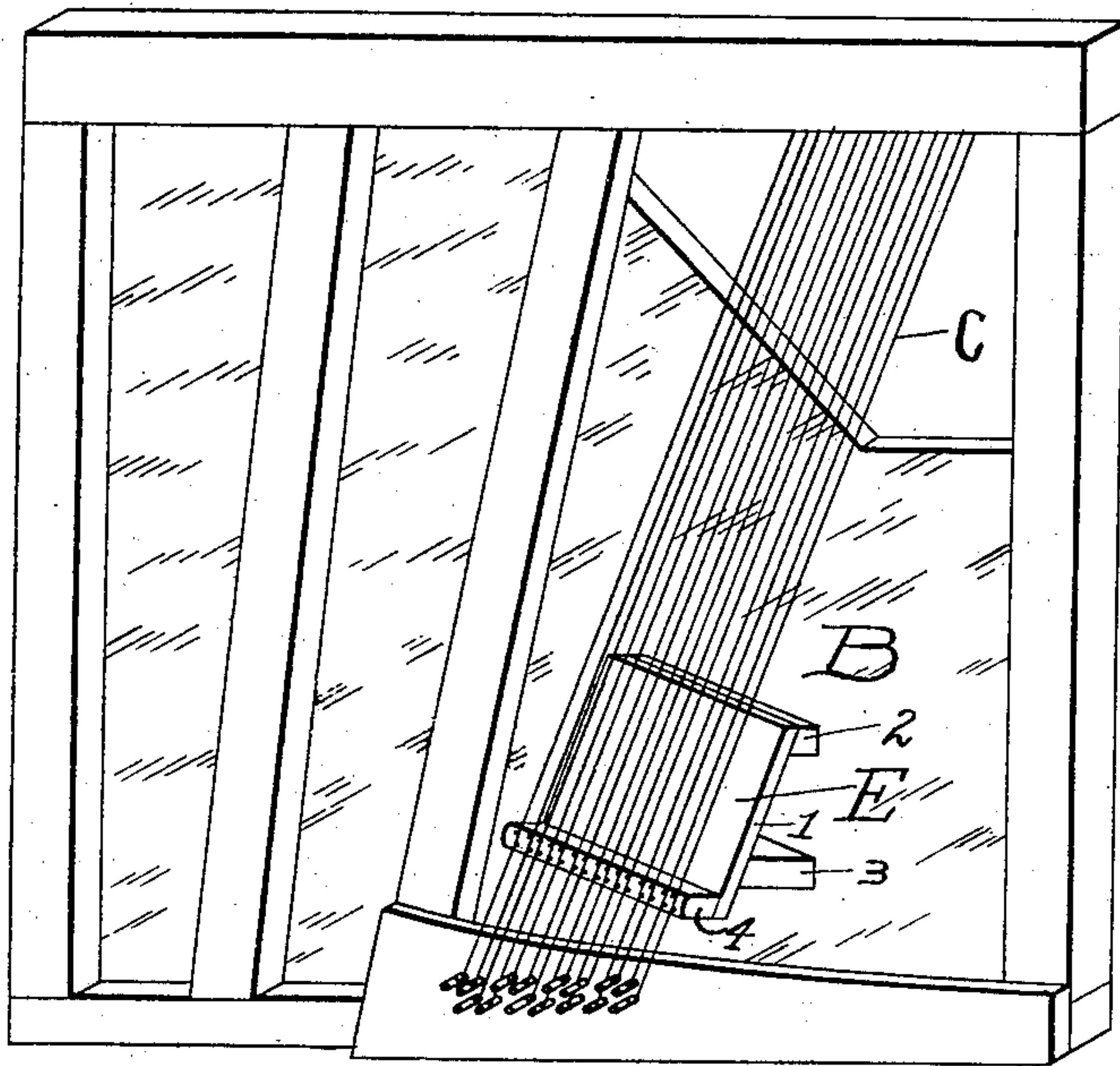
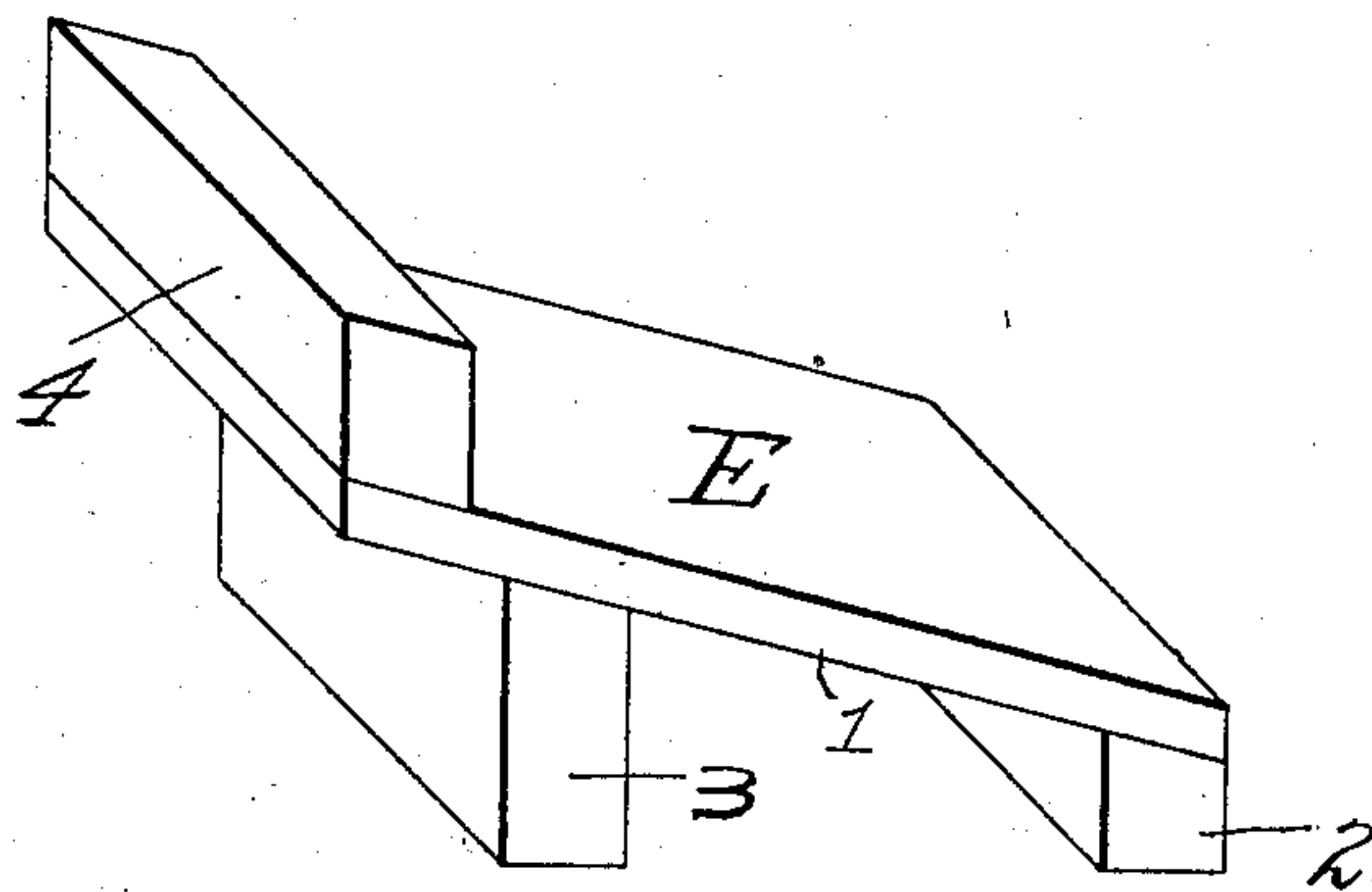


FIG. 4.



WITNESSES

Chas. L. Hyde.

Mattie McGinnis.

INVENTOR

Alfonso G. Gardner.

BY HIS ATTORNEYS

Hazard & Harpham.

UNITED STATES PATENT OFFICE.

ALPHONS G. GARDNER, OF LOS ANGELES, CALIFORNIA.

UPRIGHT PIANO.

SPECIFICATION forming part of Letters Patent No. 722,967, dated March 17, 1903.

Application filed March 18, 1901. Serial No. 51,772. (No model.)

To all whom it may concern:

Be it known that I, ALPHONS G. GARDNER, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Upright Pianos, of which the following is a specification.

My invention relates to an improvement in the construction of upright pianos, and more particularly to the bridges employed on the sounding-board of a pianoforte.

My invention resides more particularly in the combination, with the understrung bass-strings of a piano, of a bridge so constructed that it inclines forwardly, having the same inclination as do the strings—that is, running parallel therewith and beneath them and located on the rear of the sounding-board—over which bridge the bass-strings pass and are in contact.

The objects attained by this construction are that a sweeter and purer tone is given to the strings, owing to the fact that the bridge upon which they rest is not in contact with the sounding-board, but is supported upon a table which is itself raised above the sounding-board by means of narrow supporting-legs, which construction is calculated to permit the strings to have a greater amount of vibration and a resonance and fullness of tone never before attained. This elevated bridge permits the production of a solid responsive and mellow tone by the string when struck on account of the comparatively small amount of contact between the strings and bridge and of the bridge with the sounding-board, permitting the latter to attain a greater vibration than heretofore.

In the accompanying drawings, Figure 1 is a front elevation of a pianoforte, showing the string-frame and sounding-board of an upright piano and the frame to which they are affixed. Fig. 2 is a section on line 2 2 of Fig. 1, showing my improved bridge in cross-section. Fig. 3 is a rear elevation showing the manner of stringing the wires over the bridge, and Fig. 4 is an enlarged detail of the bridge and its supports.

A is the string-frame, which lies partly in front of and partly behind the sounding-board B. The upper left-hand corner of the sounding-board is cut away to afford clearance for

the bass strings C. These strings are fastened to the tuning-block at the top of the string-frame in the usual manner and pass downward and behind the sounding-board, their opposite ends being fastened to that portion of the back of the string-frame behind the sounding-board, as shown in Figs. 2 and 3. In this arrangement of strings it is necessary to recess or bevel the wrest-plank D slightly to afford additional clearance for the strings. The back rails are arranged to permit the placing of the bass strings at the back of the sounding-board. In those instruments where the bass consists of more than one octave very good results may be obtained by understringing the lowest octave only of the bass strings, which permits the remainder of the bass strings to be strung in the same manner as are the treble strings, although this is not necessary.

As a means for supporting the strings composing the understrung bass I provide a bridge of peculiar and novel design, as follows: This bridge E consists of an inclined table 1, which is composed of any suitable material and extends parallel to the strings. This table is located nearer the center of the sounding-board B than to the edges on account of the fact that a flat tone is obtained when the bridges are near the edges. The table is supported upon two blocks 2 and 3, respectively, of the sounding-board, which are glued to the approximate center of the sounding-board. By this arrangement the strings give out the best tone possible with a greater vibration than heretofore, and the piano will preserve a mellow tone even after many years' usage. The block 2 is of much less height than block 3, thus supporting the table 1 of the bridge at an incline which is greatest at the base thereof, and the blocks are suitably beveled at their upper or outer ends, whereby to fit squarely against the underface of body portion 1. The bridge proper, 4, is secured to the extreme lower edge of the table, the lower edge of the bridge proper being beveled in order that it may fit squarely upon the table 1. This bridge is so arranged as to bear up against the bass strings in their inclining position and is set in a diagonal direction on the sounding-board to correspond with the direction of the bass strings or ex-

tending parallel therewith. The bass strings, it will be observed, are fastened to the tuning-block in front and in line with the tuning-block for the treble strings, thus making both
 5 easily accessible and bringing the strings forward close to the action. Thus the action does not have to be divided or the hammers for the bass strings made longer, which would overbalance them and result in a very hard
 10 and awkward touch. The bridge extends across the sounding-board to accommodate the entire number of bass strings understrung.

It will of course be understood that changes
 15 and alterations might be made in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact construction herein set forth; but,

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

1. A bridge for understrung bass strings
 25 of pianos, comprising a table, supports for retaining the table in an inclined position on the rear face of the sounding-board and a bridge proper secured upon and projecting some distance above the face of the table for
 30 the support of the inclined bass strings.

2. A bridge for understrung bass strings of pianos comprising a table, blocks of unequal height upon which the table rests in an inclined position with reference to the rear
 35 face of the sounding-board, the blocks secured to the sounding-board, and located at or near the edges of the table and a bridge proper lo-

cated on the face of the table and projecting some distance thereabove.

3. A bridge for understrung bass strings
 40 of pianos comprising a table, blocks for supporting the table above the rear surface of the sounding-boards, the blocks being of unequal length and beveled at their upper ends whereby a square contact with the rear face
 45 of the table is afforded, a bridge proper located upon the face of the table and projecting some distance thereabove, the bridge proper being beveled or cut away on its upper and lower faces, causing the lower edge
 50 to contact squarely with the inclined table, the table extending longitudinally underneath and parallel with the strings and inclined with respect to the rear surface of the sounding-board.
 55

4. A bridge for understrung bass strings of pianos, the bridge located upon the rear face of the sounding-board and comprising a table, a bridge proper supported thereupon, and projecting some distance thereabove,
 60 blocks of unequal height upon which the table is supported on an incline above the rear face of the sounding-board, the inclination of the bridge being of the same degree as the inclination of the bass strings and extending
 65 longitudinally underneath and parallel therewith.

In witness that I claim the foregoing I have hereunto subscribed my name this 12th day of March, 1901.

A. G. GARDNER.

Witnesses:

G. E. HARPHAM,
 MATTIE MCGINNIS.