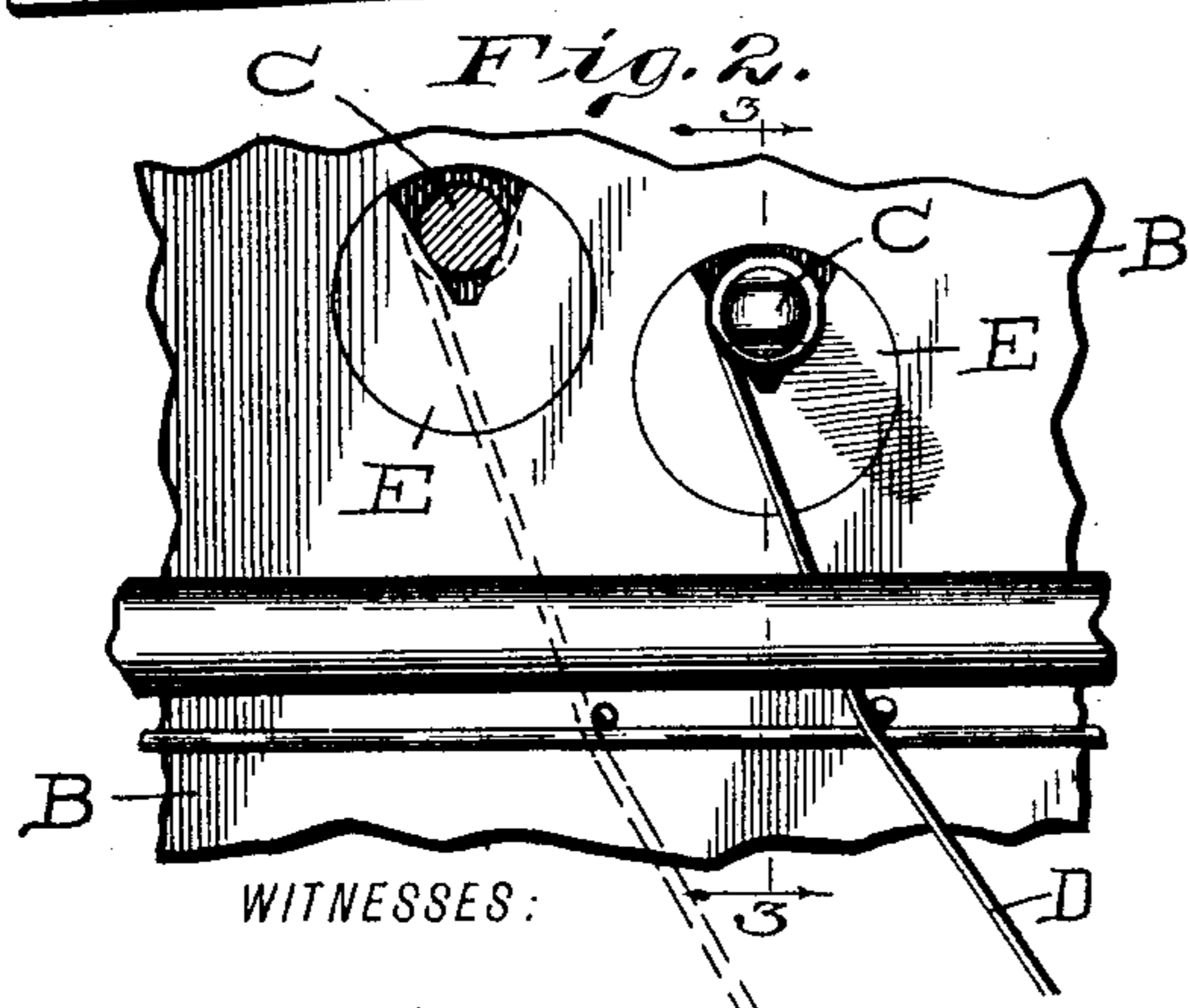
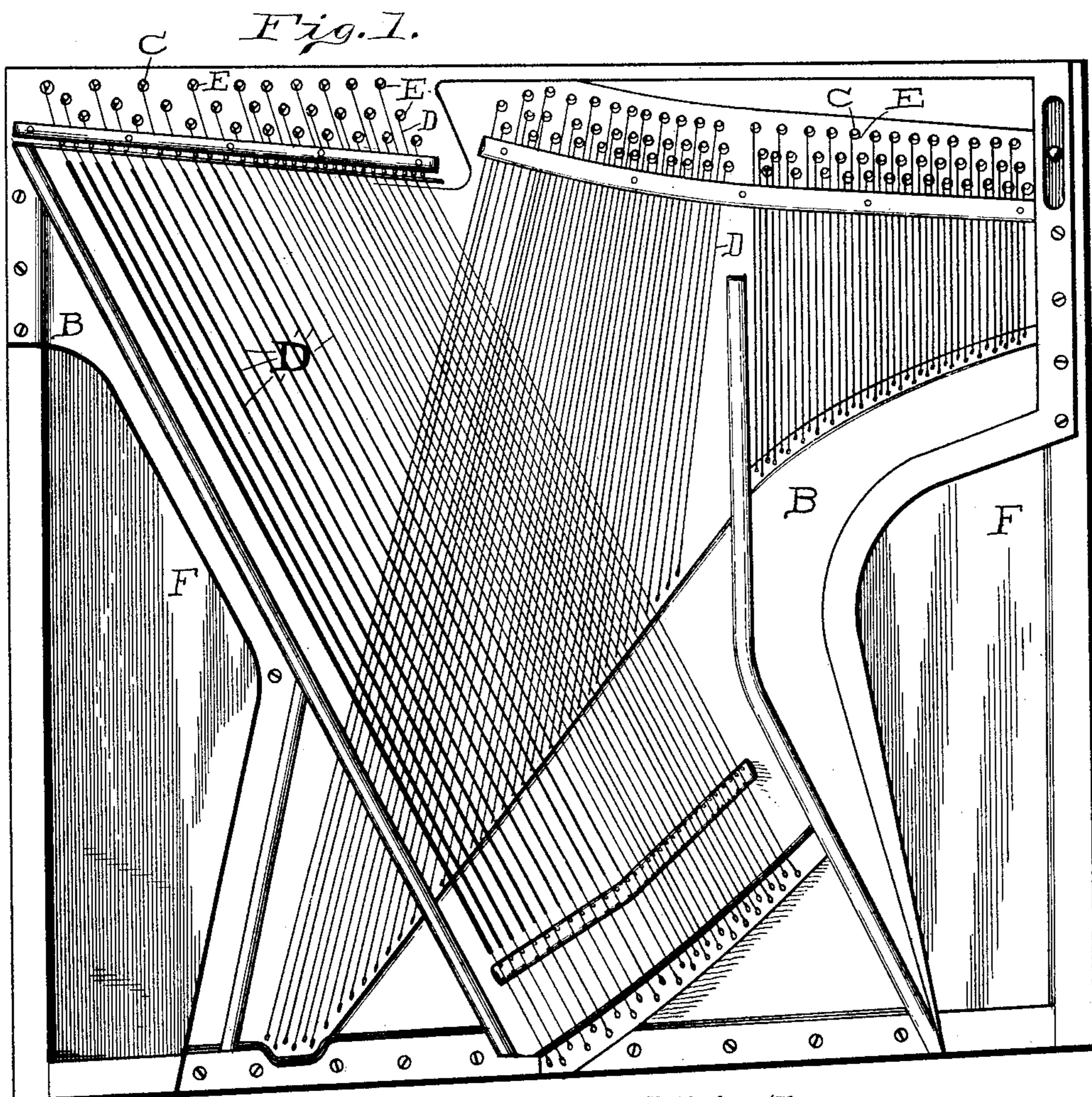


(No Model.)

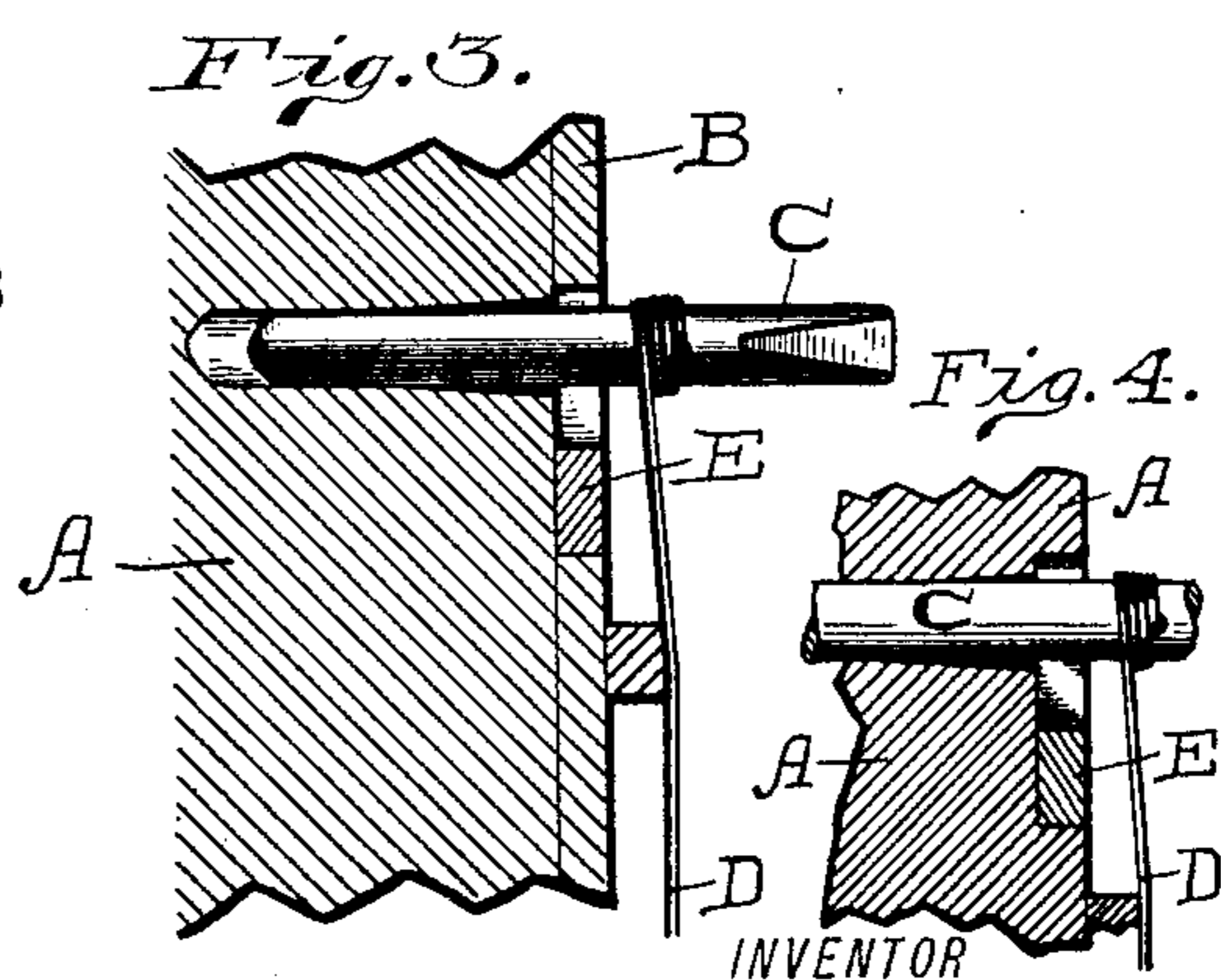
J. DIERDORF.
PIANO TUNING PIN HOLDER.

No. 602,680.

Patented Apr. 19, 1898.



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BY
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UNITED STATES PATENT OFFICE.

JOHN DIERDORF, OF INDIANAPOLIS, INDIANA.

PIANO-TUNING-PIN HOLDER.

SPECIFICATION forming part of Letters Patent No. 602,680, dated April 19, 1898.

Application filed October 4, 1897. Serial No. 654,024. (No model.)

To all whom it may concern:

Be it known that I, JOHN DIERDORF, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Piano-Tuning-Pin Holders, of which the following is a specification.

The object of my invention is to produce a device whereby the strings of pianos may be efficiently held so as to be prevented for a comparatively long time from getting out of tune. A further object is to provide a simple and inexpensive means of renewing the bearing parts when they become worn. These objects are accomplished by the construction of pin-bearings hereinafter more particularly described and claimed.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a plan view of a piano string-plate and sounding-board, showing the strings secured in accordance with my present invention; Fig. 2, a fragmentary plan view, substantially full size, illustrating the construction more plainly, one of the tuning-pins being shown in full and the other in section; Fig. 3, a detail sectional view on the dotted line 3 3 in Fig. 2; and Fig. 4, a detail view similar to a portion of Fig. 3, but showing my improved pin-holder when applied directly to a wooden pin-block without a metal plate.

In said drawings the portions marked A represent the pin-block of the piano; B, the iron frame which is usually placed over the sounding-board; C, the usual tuning-pins; D, the piano-strings; E, my improved pin-holder, and F the sounding-board. All these parts are or may be of any usual or desired construction, except the pin-holders E. In the principal drawings that construction is shown wherein there is no iron frame. The construction and operation of my improved pin-holders are, however, substantially identical in both cases.

The tuning-pins C, as is usual, enter the pin-block A. They are, however, supported by my improved pin-holders E. Said pin-holders are round disks with, preferably, V-shaped cuts or notches therein to receive the pins, and the pins bear against the sides of said cuts or notches, as shown. As will be

readily understood, when these pin-holders become worn and smooth they can be taken out and their bearing-surfaces roughened slightly, if desired, or they can be removed altogether and new ones inserted in their place, the expense of either work being trifling.

There are several disadvantages incident to the ordinary means and methods of securing the tuning-pins in the pin-blocks of pianos. When the pins are mounted in the wood alone and not supported by any metal bearing, the wood wears and yields in a comparatively brief time. The bearings thus become loose, so that the pins will not hold, and the instrument soon reaches such a condition that it rapidly gets out of tune. Where the pins bear against ordinary openings in the iron plates a similar result occurs in a somewhat greater time. In either case in order to correct the evil results a comparatively large expense must be incurred, as the pins require to be bushed or the pin-block or the plate, or both, renewed, any of which methods are quite expensive. In the old construction, also, the strings are attached to the pins at a point comparatively distant from where the pins enter the pin-blocks, so that the strain is much augmented on the bearing by reason of the increased leverage. Where the holes in the pin-block fit the pin tightly for the full length, great difficulty is generally experienced in extracting the remaining portions of pins after, as is frequently the case, the upper ends of the pins are broken off.

By the use of my invention these disadvantages are overcome. The pins impinge tightly between the opposing converging sides of the cuts or notches in the pin-holders, and are thereby held to position very accurately and with great strength. The upper bearing-point is also very close to the point where the strings are attached. The holes in the pin-blocks being tapered at the upper ends, the pins can be manipulated more easily and accurately, the friction being at the lower or inner ends of the pins and at a point near where the strings are attached only. With these tapered holes, as above stated, broken pins can also be extracted more easily.

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

1. The combination, in a piano, with the pin-block, the strings and the tuning-pins, of pin-holders consisting of disks E each formed with a V-shaped notch in the side thereof the
5 sides of which notches are of an angle to frictionally hold the pins when drawn thereinto by the tension of the strings, said pins being in contact with the two angle-faces of said notches only, substantially as set forth.
10 2. The combination, in a piano, of a pin-block having tapered pin-holes, pin-holders E secured at the upper side of the pin-block and having suitable notches in their sides to receive and hold the pins, said tuning-pins,
15 and the piano-strings connected thereto, all substantially as shown and described.

3. The combination, in a piano, of the strings, the tuning-pins, a pin-block having tapered pin-holes, and pin-holders consisting of disks having suitable notches in the sides
20 thereof to receive the pins and secured at the upper side of the pin-block, whereby said pins are supported at and near their points and at a point where the strings are attached thereto, substantially as and for the purposes set forth. 25

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 28th day of September, A. D. 1897.

JOHN DIERDORF. [L. S.]

Witnesses:

CHESTER BRADFORD,
JAMES A. WALSH.