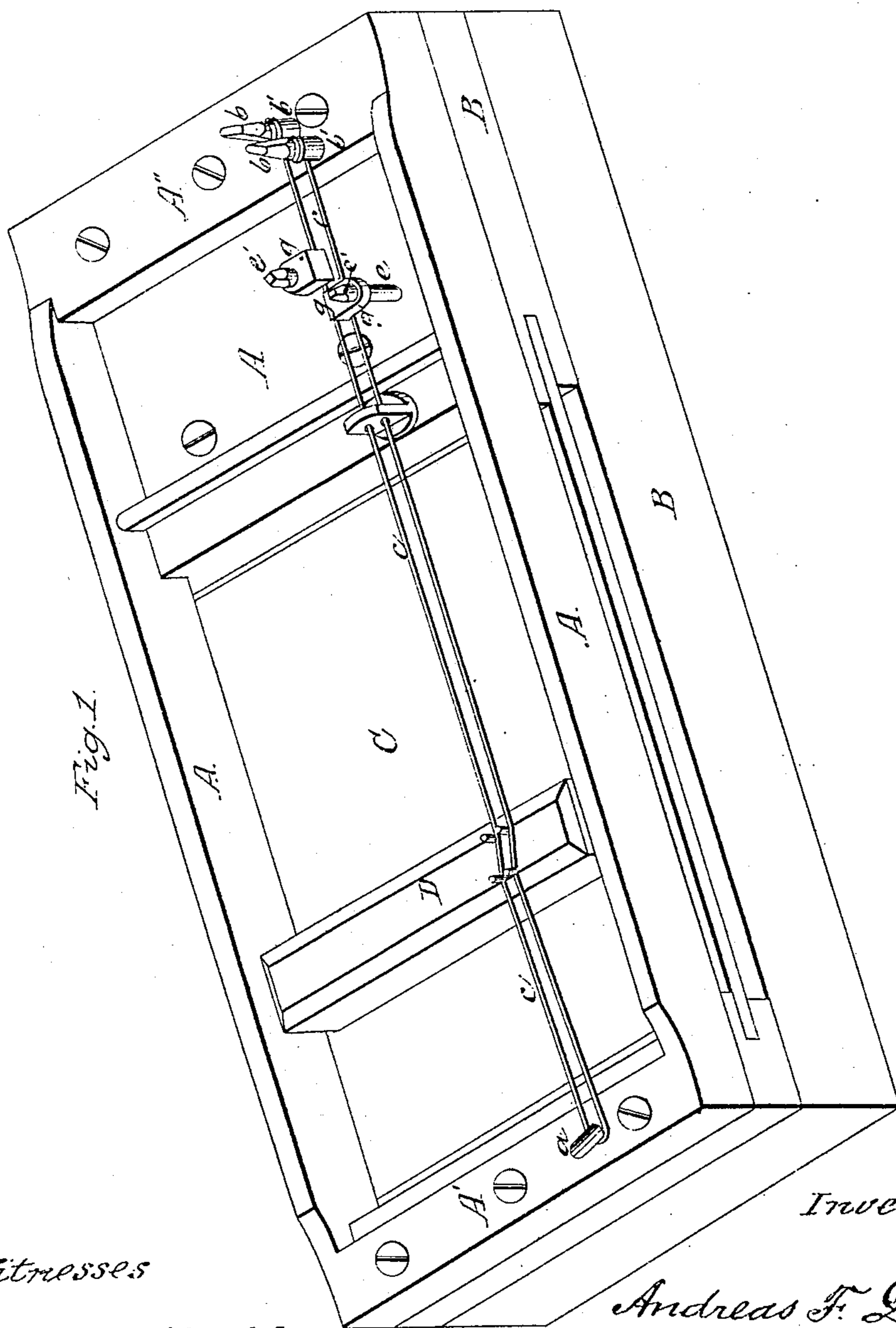
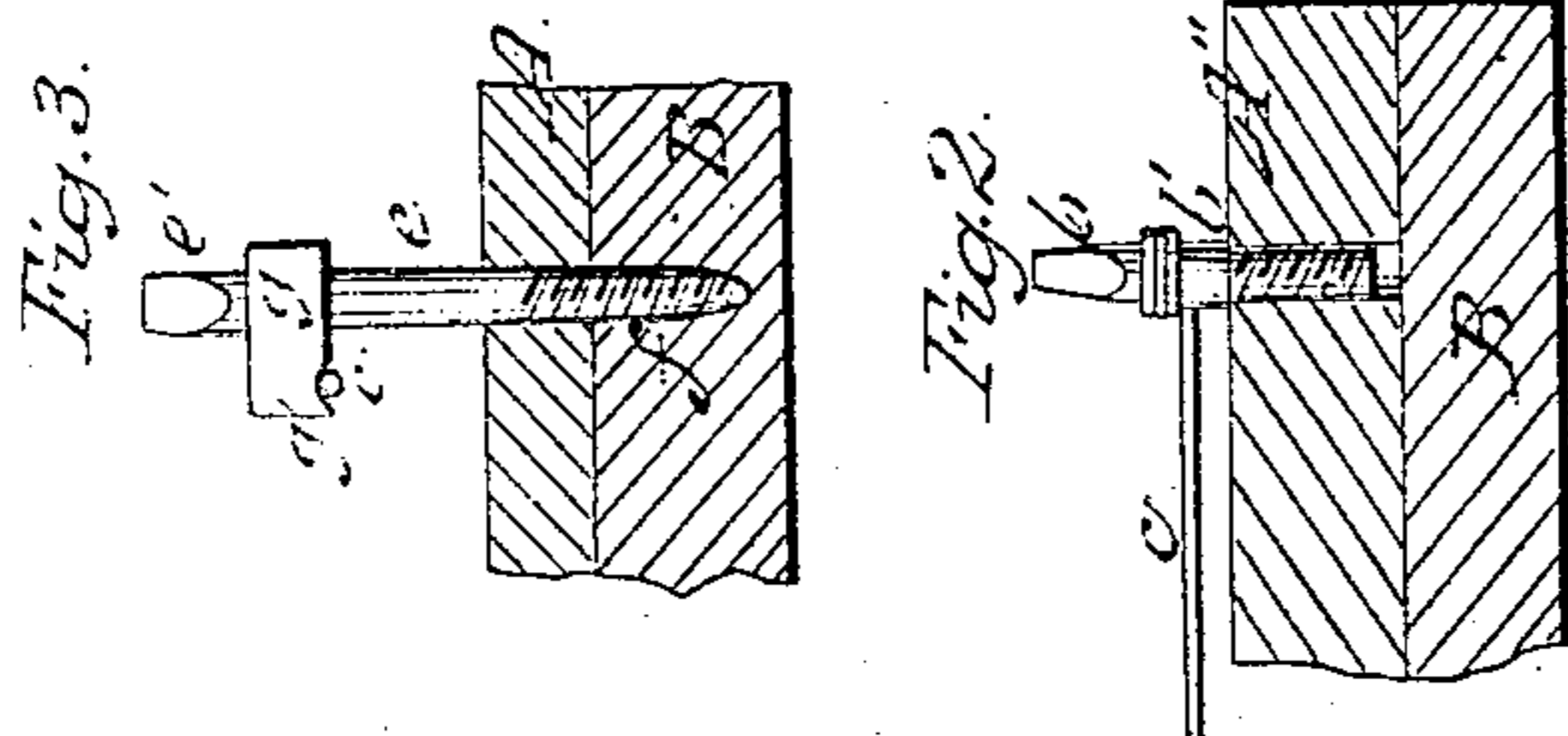


A. F. Dessau.

Stringing Pianos.

Nº 99,655.

Patented Feb. 8, 1870.



Inventor.

Witnesses

*William Wansleben.
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United States Patent Office.

ANDREAS F. DESSAU, OF WASHINGTON, DISTRICT OF COLUMBIA.

Letters Patent No. 99,655, dated February 8, 1870.

IMPROVEMENT IN PIANOS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, ANDREAS F. DESSAU, of the city and county of Washington, in the District of Columbia, have invented a new and useful Improvement in Pianos; and I do hereby declare the following to be a full and correct description of the same, sufficient to enable others skilled in the art to which my invention appertains, to fully understand and use the same, reference being had to the accompanying drawings, which make part of this specification, and in which—

Figure 1 is a perspective view of my improvement in pianos, and

Figures 2 and 3 are partly-sectional detached views of parts of the same.

Like letters of reference indicate like parts in the several figures.

The nature of my invention consists in the manner of tuning, and keeping in tune, the strings of a piano, by means of separate tuning-pins, and in the manner of fastening the strings.

A, in the drawings, may represent the metal frame of a piano, on the wooden frame B.

C is the sounding-board, on which the bridge D is secured.

At the end A', of the frame A, are secured the inclined pins *a*, around which the strings *c* pass, their free ends passing through holes in pins *b*, in part A" of frame A, around which they are coiled in tightening the strings.

These pins *b*, as usually constructed, are entirely smooth, and thicker at one end than at the other, and pass through the metal frame into the wood, in which they are held by friction, the holes in the metal frame, through which they pass, being larger than the pins, to allow them to pass freely. In pianos provided with these pins, the wood in which their lower ends are held frequently shrinks by the temperature, thus loosening the pin, which thus is allowed to move, if only a very little, in the metal hole, and this is a common and frequent cause of pianos getting out of tune.

I construct my pins *b* with a shoulder, *b'*, below which they end in a straight screw, which screws

firmly into holes *d*, provided with female-screw threads, until the shoulder *b'* rests firmly on the metal part A". The strings are so apportioned that when the shoulder *b'* rests on the metal frame A", the string gives a tone a shadow lower than it is intended to have. The tension of the strings is not powerful enough to turn the pins *b* in their holes, and thus no shrinking of the wood can have any effect on the strings.

To give the string its proper tone, I use additional pins *e*, provided with a head, *e'*, and a screw-end, *f*. On this pin slides freely a small block, *g*, having, on its under side, a groove, *g'*, which seizes over the strings *c*. These pins *e* are screwed into the metal frame A, between part A" and bridge E.

As the tone of the string is given by that part of it between the bridges D and E, it will be easily understood that by screwing in pins *e*, and thus depressing that part of the string between frame A" and bridge E, by means of blocks *g*, the strings between the bridges D and E will be tightened, and thus a higher pitch of tune obtained.

It will be easily understood that the slightest turn of pins *e* will exert an influence on the strings *c*, and that an infinitely finer shade of tuning can be obtained than by turning the pins *b*.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The tuning-pins *e*, when operating substantially as and for the purposes set forth.

2. The string-holding pins *b*, when constructed with a shoulder, *b'*, and a screw-end, in combination with the tuning-pins *e*, substantially as and for the purpose set forth.

3. The pins *b*, when operating and secured in the metal frame A", without passing into the wood-frame, substantially as and for the purposes set forth.

ANDREAS F. DESSAU.

Witnesses:

ALEXR. A. C. KLAUCKE,
JOHN P. SUWERKROP.