

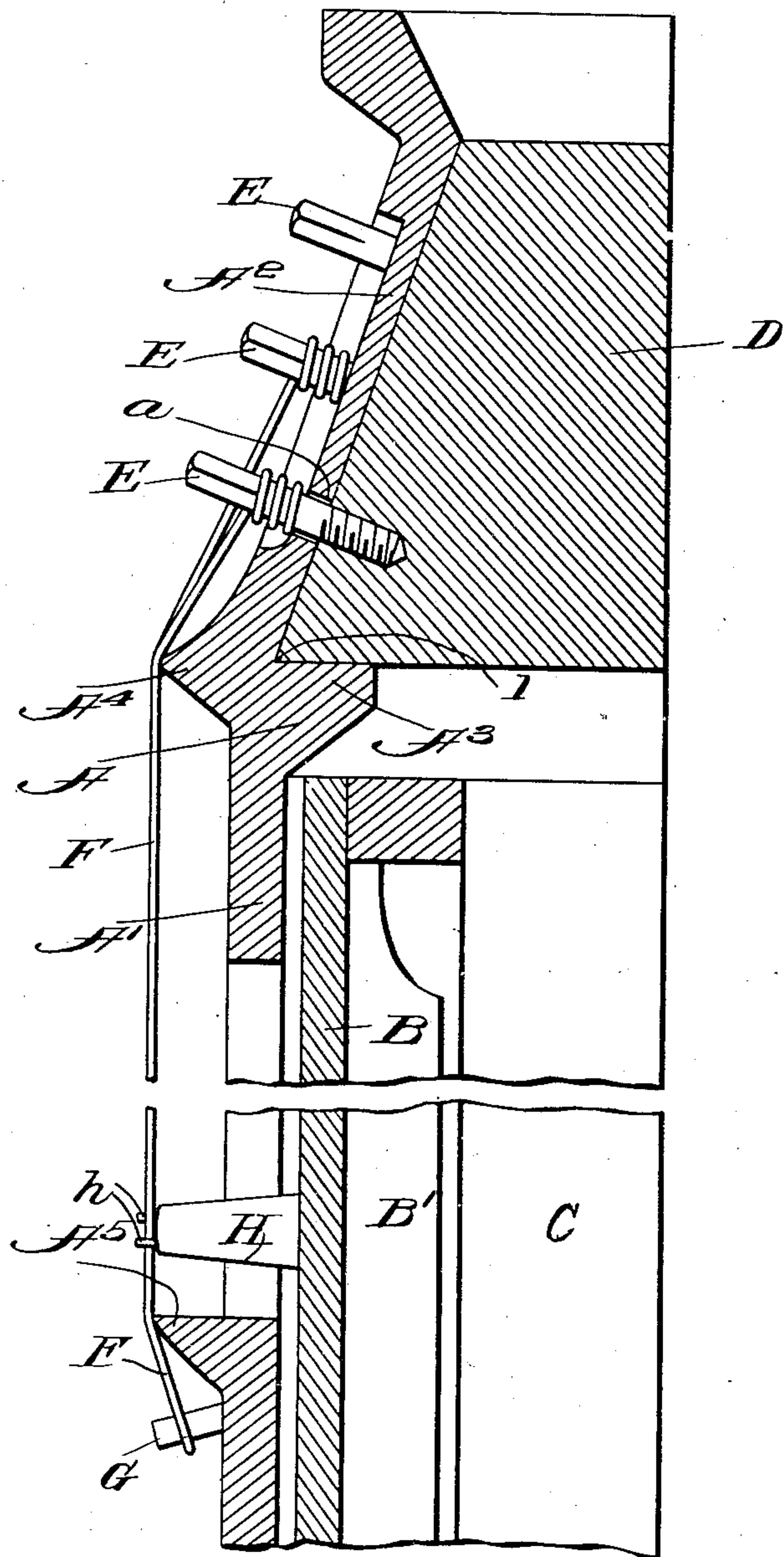
F. KRANICH & L. P. BACH.

PIANO.

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968,773.

Patented Aug. 30, 1910.



Witnesses:

J. Richards  
A. B. O'Brien

Inventors.  
F. Kranich and L. P. Bach

BY *Wm. A. Mcgrath*  
ATTORNEY



# UNITED STATES PATENT OFFICE.

FREDERICK KRANICH AND LOUIS P. BACH, OF NEW YORK, N. Y.

PIANO.

968,773.

Specification of Letters Patent. Patented Aug. 30, 1910.

Application filed March 12, 1910. Serial No. 548,772.

*To all whom it may concern:*

Be it known that we, FREDERICK KRANICH and LOUIS P. BACH, citizens of the United States, and residents of the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Pianos, of which the following is a specification.

Our invention relates to improvements in pianos and especially in upright pianos, and it has for its object the improvement in the string plate.

The invention is illustrated in the accompanying drawing which forms a part of this application.

Said drawing is a cross section of so much of the piano as is necessary to illustrate the invention.

Referring to the drawing, the part marked A represents the string plate consisting of the body portion A<sup>1</sup> and an inclined upper portion A<sup>2</sup>, cast or otherwise manufactured of metal in one continuous piece.

A<sup>3</sup> is a flange or projection extending rearwardly from the inclined portion A<sup>2</sup>, there being formed between the said flange and inclined portion an acute angle 1. The inclined portion is provided with a series of openings *a* through which pins pass, the relative diameter of each of the pins being such that they will pass loosely through the openings.

A<sup>4</sup> is a projection or rib on the front of the string plate and substantially opposite the flange A<sup>3</sup>. A<sup>5</sup> is another projection or rib at the lower part of the string plate. To the plate A is secured in the usual manner the soundboard B provided with the usual ribs B'.

C is the backing which may be of any approved construction and secured in position in the usual manner.

D is the pin block which may be made of wood or any other suitable material, having an inclined front surface to correspond with the inclined upper portion of the block, and fits in the acute angle formed by the inclined portion A of the rearward projection or flange A<sup>3</sup>. This construction securely holds the pin block in position.

E represents the pins which pass loosely through the openings *a* in the inclined portion A<sup>2</sup> of the plate and screw into the pin block D. Around these pins are wrapped the strings F in the usual manner. The

strings pass over the front projections A<sup>4</sup>, A<sup>5</sup>, and are secured to pins G in the well known manner.

H is a bridge between the strings and the sounding board and secured to said sounding board, *h* being pins on the bridge between which the strings F pass.

By making the string plate of one piece of metal great strength and rigidity is secured, and by making the upper portion thereof inclined, the usual pressure bar is dispensed with, and extra friction and unnecessary tension of the strings are eliminated. The durability of the strings is also materially increased and they are less liable to break owing to the decreased tension and friction.

By the construction set forth greater ease in tuning is secured and the instrument also remains in tune longer than prior constructions.

Preferably the inclined upper portion A<sup>2</sup> and the projection or rib A<sup>4</sup> on the front of the string plate extend the entire width of the plate and the inclined portion of the pin block extends throughout its length. This construction adds great strength and rigidity to the string plate through its width and gives a better tone to both treble and bass. The projections or ribs A<sup>5</sup> act as stops for all overtones and jingles that may occur in the vibrating strings against the hitch pins, thereby avoiding the necessity of deadening the ends of the strings by felt or other means, and also giving a uniform pitch from said projections to the sounding board bridge.

Having now described our invention, what we claim as new and desire to secure by Letters Patent is:

1. A metal string plate for upright pianos, consisting of a main portion and an integral upper portion having openings therein and rearwardly inclined throughout its entire width and having a rearwardly projecting flange at the base of said inclined portion forming an acute angle therewith, a pin block having its front face along its entire length inclined to correspond with the inclined upper portion of the plate and fitting in said angle, a pin passing through each of said openings and into the pin block, and a projection or flange extending forwardly from the said plate adjacent to the rearwardly projecting flange.

2. In an upright piano a metal string



plate consisting of a main portion and an integral upper portion rearwardly inclined throughout its entire width and having openings therein substantially at right angles to the face thereof, and a rearwardly projecting flange at the base of said inclined portion forming an acute angle, a pin block having its whole front face inclined to correspond with the inclined portion of the plate and fitting in said acute angle, a pin passing through each of said openings in said inclined portion of the plate and into the pin block at substantially right angles to said inclined portion of the plate, a rib projecting forward from the plate and substan-

tially opposite to the rearwardly projecting flange, another rib forwardly projecting at the lower part of said plate, a series of pins secured to the lower part of said string plate, and strings extending from the upper pins to the others and passing over said forwardly projecting ribs. 20

In witness whereof we have hereunto set our hands at the city, county and State of New York, this 8th day of March, 1910.

FRED. KRANICH.  
LOUIS P. BACH.

In presence of—

RICHARD N. COTTER,  
WM. A. MEGRATH.