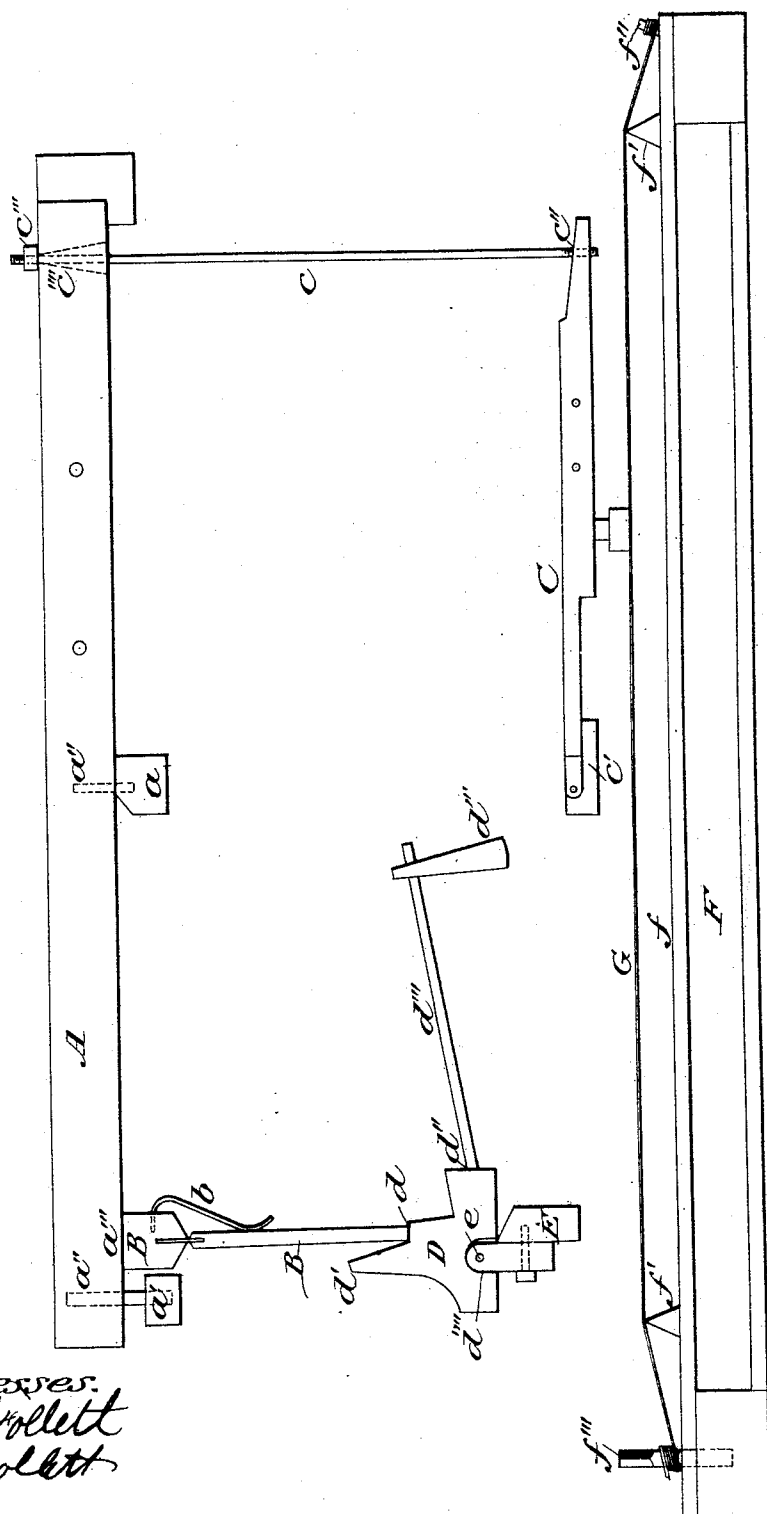


(No Model.)

H. S. SARONI.
PIANO ACTION.

No. 470,448.

Patented Mar. 8, 1892.



Witnesses:
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UNITED STATES PATENT OFFICE.

HERRMAN S. SARONI, OF MARIETTA, OHIO.

PIANO-ACTION.

SPECIFICATION forming part of Letters Patent No. 470,448, dated March 8, 1892.

Application filed February 4, 1891. Serial No. 380,241. (No model.)

To all whom it may concern:

Be it known that I, HERRMAN S. SARONI, a citizen of the United States, residing at Marietta, in the county of Washington and State of Ohio, have invented a new and Improved Piano-Action, of which the following is a specification.

My invention relates to the mechanism of the square piano, in which ordinarily the hammers are below the strings, causing a break in the sounding-board, and thus necessarily weakening the volume of tone, besides making the mechanism very complicated.

The object of my invention is to overcome these defects, to simplify the mechanism, and to make it suitable for less cumbersome instruments. This I accomplish by placing the entire mechanism above the strings and by using a shallow resonant body, like that of the zither or dulcimer, instead of the ordinary sounding-board of the piano.

In the drawing which forms part of this specification I represent it as applied to a very shallow instrument resembling the body of the zither, thereby gaining a peculiar quality of tone.

A represents the ordinary key, resting upon the balance-rail *a* and guide-rail *a'*, both rails provided with guide-pins *a''*. Attached to this key at *a'''* by suitable hinge is the jack B, with spring *b*.

At *c''''* is a slot through which the damper-rod *c* passes.

C represents the ordinary damper, pivoted to a bar *c'*, exactly beneath the center pin *a''*, the rod *c* being pivoted to it at *c''* and terminating in a regulating-nut *c'''*.

D represents the hammer-butt, with shoulder *d*, arm *d'*, and socket *d''*, to which the hammer *d'''* is permanently attached. It is pivoted at *e* to the bar E, and has a projection at *d''''*, which prevents its receding beyond a certain point.

F represents the body of an instrument, with sounding-board *f*, bridges *f' f'*, hitch-pin *f''*, and tuning-pin *f'''*.

G represents a spring of metal or fiber *g g*. When the key A is pressed down, the jack

B forces the hammer against the string; but at the moment of contact the arm *d'* forces the jack off the shoulder *d*, allowing the spring *b* to exert its power in lifting the hammer off the string and ultimately, when the pressure upon the key A is released, allowing the entire apparatus to return to its initial position. At the same time the rod *c* lifts the damper C off the string, allowing it to vibrate until the pressure upon the key is released, when the damper will return to its original place.

It is evident that the length of the arm *d'* determines the contact of the hammer with and its release from the string, thus doing away with all regulating-screws. In like manner does the projection at *d''''* determine how far the hammer is to recede. It is also evident that the position of jack and hammer may be changed to the front of the guide-pin without detriment to my invention. It is likewise evident that the form of the dampers may be modified, and that in order to avoid noise or clatter bushings of suitable material may be introduced at proper places; but

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

1. The combination of a key and a jack beneath it, pivoted thereto and provided with a spring for the purpose of forcing a hammer upon the string and lifting it to its initial place, as herein set forth.

2. The hammer-butt constructed and arranged substantially as described, so that the jack operating it throws the hammer down upon the string, instead of up and against it, and provided with the elongated arm *d'*, by means of which the tripping of the jack from the shoulder *d* of the butt can be regulated, as herein set forth.

3. The combination of a key with a jack pivoted to it on its lower side with a hammer and hammer-butt, for the purpose herein set forth.

HERRMAN S. SARONI.

Witnesses:

A. D. FOLLETT,
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