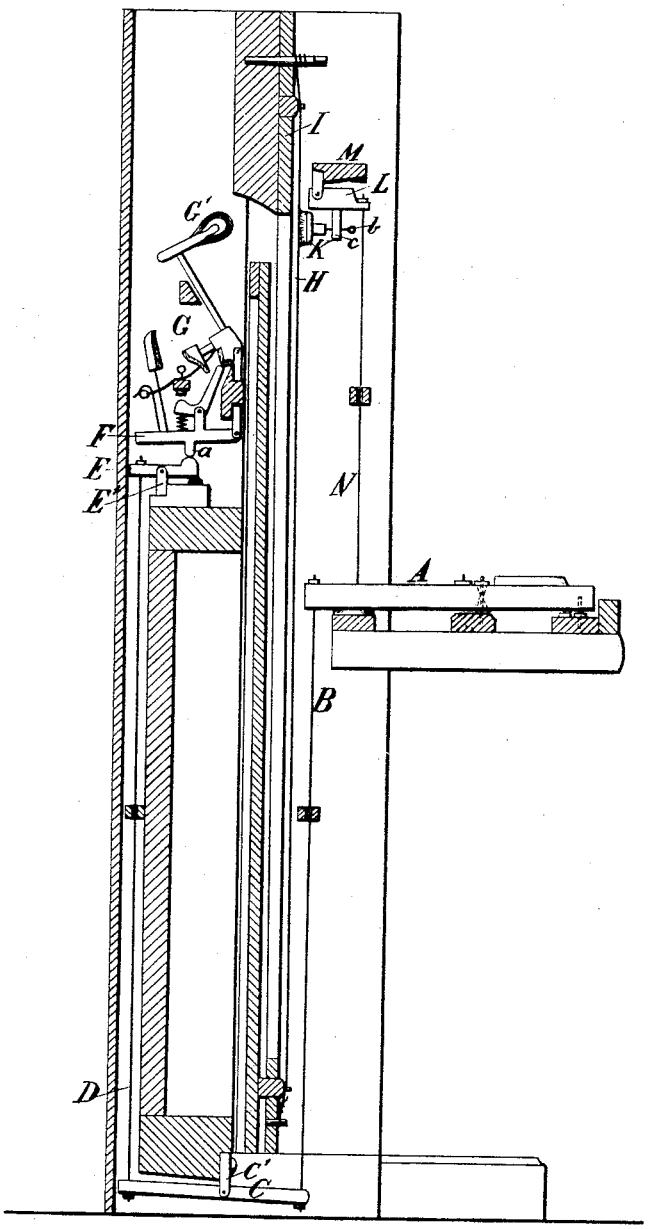
(No Model.)

J. JACOBSEN.

UPRIGHT PIANO ACTION.

No. 262,047. Patented Aug. 1, 1882.



Witnesses:
Oscar Low
Alex. F. Roberts

Inventor:
Jacob Jacobsen
by A. W. Almquist
Attorney.

UNITED STATES PATENT OFFICE.

JACOB JACOBSEN, OF NEW YORK, N. Y.

UPRIGHT-PIANO ACTION.

SPECIFICATION forming part of Letters Patent No. 262,047, dated August 1, 1882.

Application filed January 21, 1881. (No model.)

To all whom it may concern:

Be it known that I, JACOB JACOBSEN, a citizen of the United States, residing at the city of New York, State of New York, have invented a new and useful Improvement in Upright Pianos which I call "Combination-Piano;" and I do hereby declare that the following is a clear, full, and exact description of the invention.

In ordinary upright pianos the hammers impel the string toward the sounding-board, thereby (in comparison with the action of the hammers in horizontal pianos) restricting the vibrations of the strings and impairing or preventing their proper fullness of tone, and the dampers, being on the same side of the strings as the hammers, cannot strike on the same place or point as the latter, and thence fail to effect the desired instantaneous damping of the strings.

The object of this invention is to combine with the vertical strings keyes placed horizontally or at right angles to said strings, and key-connected dampers actuating or operating upon the front of said strings, and the key-connected vertical actions arranged in the rear of the sounding-board, and causing the impact of the hammers upon the rear side of said vertical strings directly opposite the point of damper impact, for the purpose of imparting to an upright piano the fullness of tone and instantaneousness of damping peculiar to square or horizontal pianos.

The drawing represents a sectional elevation of an upright piano constructed according to my improvement.

The key-board and the actions for sounding the strings are similar to those of an ordinary upright piano.

The inner end of the key A is connected by a perpendicular rod, B, to the front end of the lever C, that is pivoted on hanger C′ in the lower part of the piano-case, and from the back end of this lever C a rod, D, extends upward to and is connected with a lever, E, which is fulcrumed in a standard, E′. The inner end of this lever E is hemispherical on its upper face and bears upward in contact with the teat *a* of the fly-butt F of the action G, so that when the key A is pressed down the inner end of the lever E is thereby raised with the effect of causing a movement of the action G, whereby the hammer G′ is made to strike the vertical string H on its rear side and impel it from the sounding-board I.

The damper K is adjustably held by means of a screw, *b*, in the hanger *c* of a lever, L, that is pivoted by its inner end to a horizontal cross-bar, M, as shown, and the outer end of said lever L is connected with the key A by a perpendicular rod, N, whose lower end is in contact with said key A, outside or in front of the rod B. Hence when the key A is pressed down both the hammer G′ and the damper K are caused to strike the string H at points directly opposite each other, the blow of the damper K being delivered instantaneously after the blow of the hammer G′ when the normal distance of the former from the string H is suitably adjusted.

I disclaim connecting the piano-key with the action by means of rods B D and lever C; nor do I broadly claim the combination, in a piano, of hammers and dampers, arranged to strike the strings from opposite sides; but,

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

1. The combination of the vertical strings, the keys placed horizontally or at right angles to said strings, the key-connected dampers operating upon the front of said strings, and the key-connected vertical actions, arranged in the rear of the sounding-board and causing impact by hammer with the rear side of the vertical strings directly opposite the point of impact of the damper, as set forth, for the purpose of imparting to an upright piano the fullness of tone and instantaneousness of damping heretofore peculiar to square or horizontal pianos.

2. In combination with the fly-butt F of the action G and with the key-connected rod D, arranged rearward of said action, as shown, the lever E, fulcrumed at E′, and having a curved rise at its free end acting against a curved teat or projection, *a*, at the under side of the fly-butt F, for transmitting the movement of the key A from the said rod D to the action, as set forth.

New York city, the 11th of January, 1881.

JACOB JACOBSEN.

Witnesses:

KEN. MCCONDACH,

SAML. H. LYMAN.