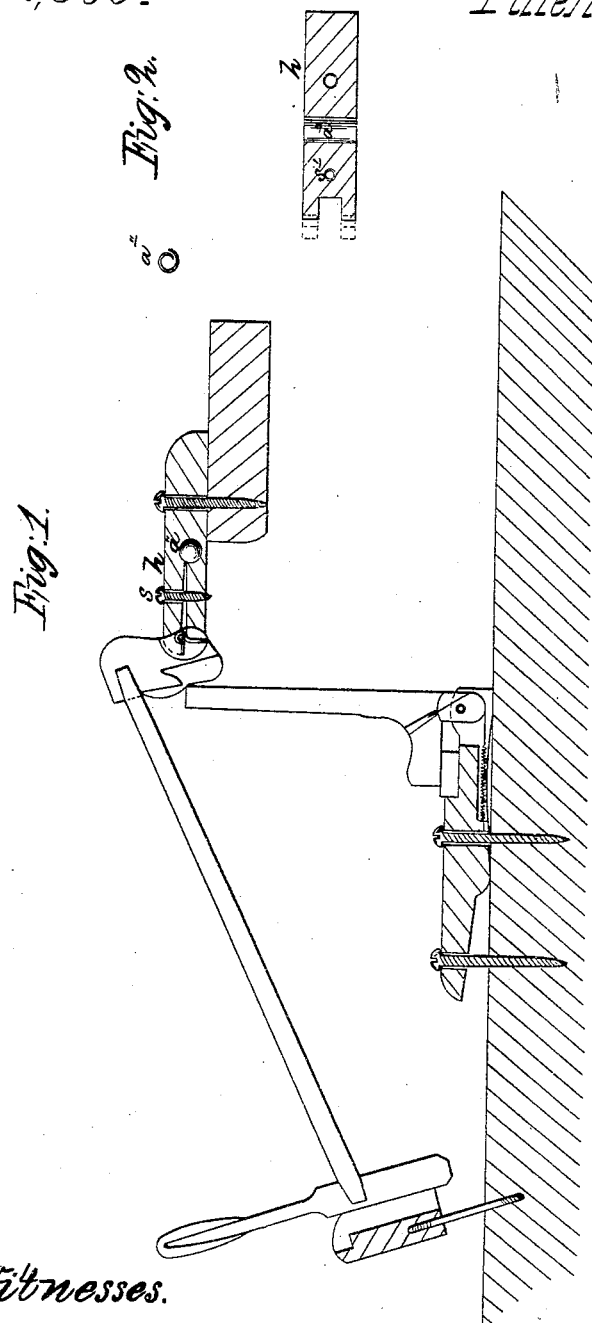


M. Herter,
Piano Action

N^o 51,588.

Patented Dec. 19, 1865.



Witnesses.

Aug. Lemmendinger
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UNITED STATES PATENT OFFICE.

MARTIN HERTER, OF NEW YORK, N. Y.

IMPROVEMENT IN PIANO-FORTE ACTIONS.

Specification forming part of Letters Patent No. 51,588, dated December 19, 1865.

To all whom it may concern:

Be it known that I, MARTIN HERTER, of the city, county, and State of New York, have invented a certain new and useful Improvement in Piano-Forte Actions; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification, in which—

Figure I represents a longitudinal vertical section of the piano-forte action with my invention; Fig. II, a horizontal central section of a portion of the same.

Similar letters of reference in both figures indicate corresponding parts.

My improvement relates to that part of a piano-forte action which is called the "hinge-butt," (cramp,) and which is intended to bear the hammer, &c. This hinge-butt has so to be made that the movement of the hammer can be regulated without trouble or failure—that is to say, that the same, without much handling, &c., can be made moving more or less easy, just as may be required, and that the hammer can easily be parted or disjointed from the said butt in case of change or repair. To effect this several butts have been made for that purpose, and are more or less in use; but none of them allows to perform well enough, or even answer in some degree what is and must be required. An examination of the hinge-butt most in use will be sufficient to prove that this is the case. The wooden plug with which the same is provided on the end of the slit, in order to produce, by operating with the screw, the necessary elasticity, does not answer what has been expected—nay, after a proportionally short time, it does not give any effect at all, which will be easily understood by considering that the wood, having but little elasticity, opposes at first too much, and after being a short time compressed does not cause any resistance at all.

The other hinge-butts, so different as they are from each other, are just so imperfect for the purpose, which at once will be seen in ex-

amining the same. The consequence of this is that the mechanic has too much trouble with these butts. Indeed, without a tedious handling, &c., he is often not able to regulate the movement of the hammer to change or repair it.

It has therefore been a constant desire to have such trouble avoided. To do this is the object of my invention, which I now will proceed to describe with reference to the annexed drawings.

I manufacture my piano-forte actions according to any of the known constructions, and apply thereto all the appendages of such actions; but in order to obviate the troubles arising from the imperfect condition of the hinge-butts, (cramps,) as before fully mentioned, I provide these butts on the end of the slit with a metallic spring, as shown in *a'*, Figs. I and II. This spring I in general prefer to make of steel—such, for example, as is used for the manufacture of writing-pens—and give it generally a cylindrical shape, &c., as may be seen in the drawings, *a''*.

It is evident that such a spring, in consequence of its great elasticity, must, by operating only with the screws, contract or widen the said slit constantly and in a most regular manner, and thus the functions of the hinge-butt will be constantly and perfectly performed. It also will be understood that regulation, change, or repair can be executed without the slightest trouble.

Having now fully described my invention, I wish it distinctly understood that I do not claim any arrangement on piano-forte actions already known or used; but

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

The application of the metallic springs *a''* in piano-forte actions, for the purpose substantially described and set forth.

MARTIN HERTER.

Witnesses:

ANG. TEMMEDINGER,
JACOB SCHEN.