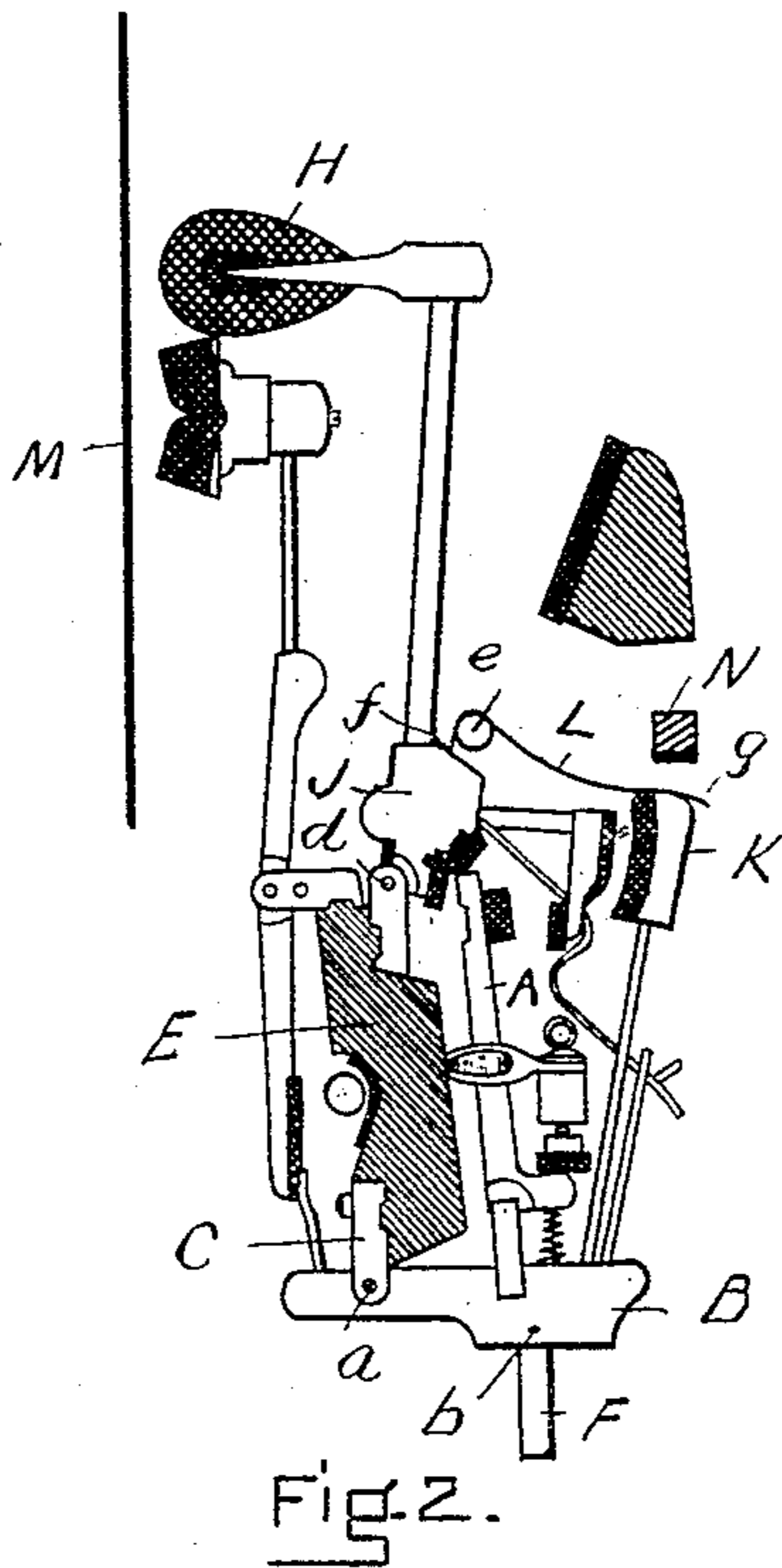
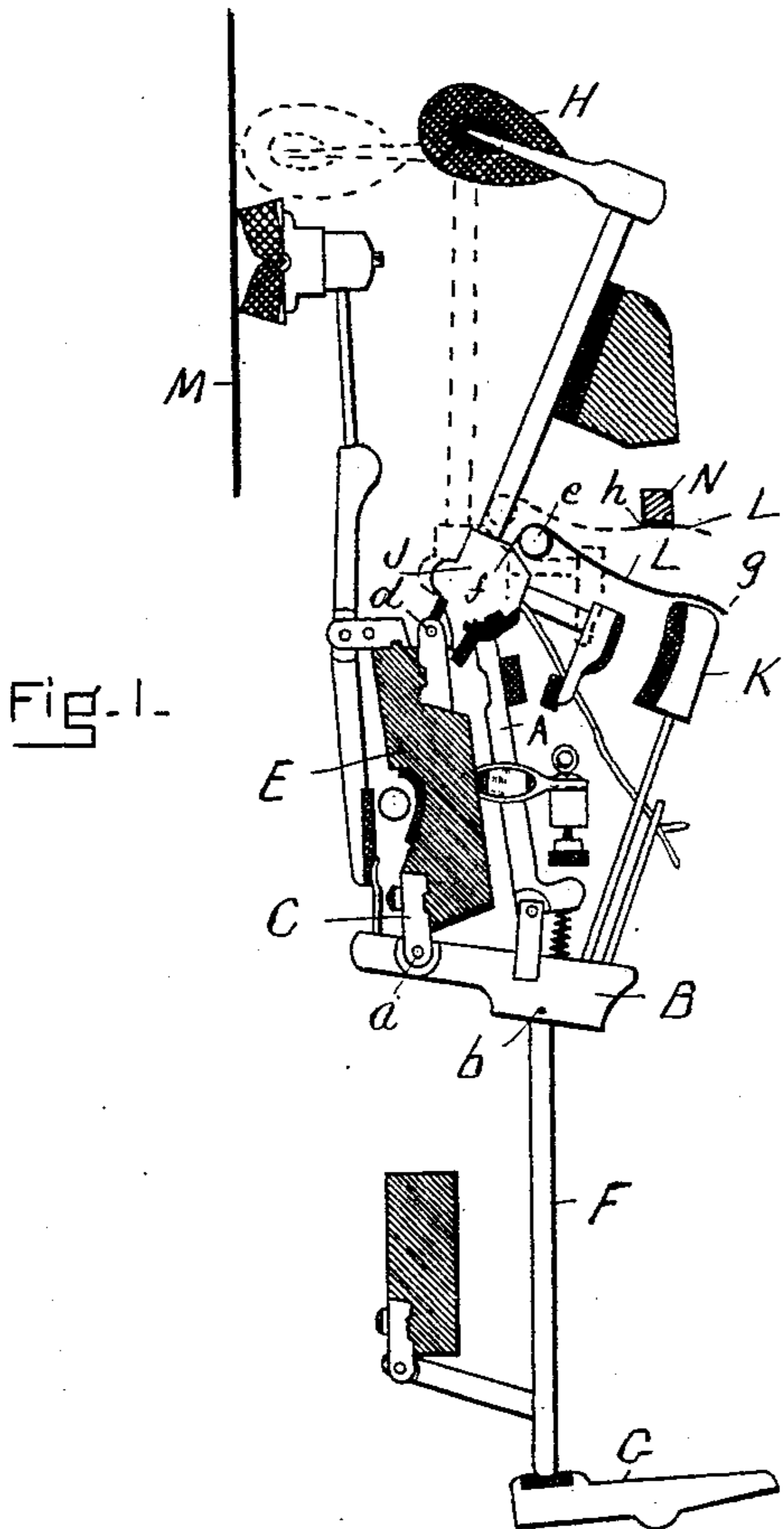


(No Model.)

H. N. MOORE.  
PIANOFORTE ACTION.

No. 493,172.

Patented Mar. 7, 1893.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

HORATIO N. MOORE, OF SAVANNAH, GEORGIA.

## PIANOFORTE-ACTION.

SPECIFICATION forming part of Letters Patent No. 493,172, dated March 7, 1893.

Application filed October 14, 1892. Serial No. 448,902. (No model.)

*To all whom it may concern:*

Be it known that I, HORATIO N. MOORE, of Savannah, in the county of Chatham and State of Georgia, have invented certain new and useful Improvements in Pianoforte-Actions, of which the following is a full, clear, and exact description.

This invention relates to improvements in piano forte actions, for producing a repeating action, and the invention consists in combination with the hammer butt and back catch of a piano forte action, of a spring secured to the hammer butt and arranged to bear and act upon the back catch in the operation of the action all substantially as hereinafter fully described; and the invention also consists, in combination with the hammer butt, of a spring secured thereto and a rail or stop against which the spring is arranged to abut in the operation of the action, all substantially as hereinafter fully described reference being had to the accompanying sheet of drawings in which:

Figure 1, is a side view of a piano forte action without the key having this invention applied thereto, the view showing the action in its normal position or at rest. Fig. 2, is a side view showing the parts of the action in different positions from that shown in Fig. 1, just after the hammer has struck the string and being held in position for the next blow of the hammer by the spring of the present invention.

In the drawings A represents the jack; B its lever pivoted at *a*, to a flange C, of the rail E; F the stem or rod pivoted at *b*, to the jack lever extending down and resting on the block G, which block is secured to the key, not shown. H is the hammer, pivoted by its butt J at *d*, to a flange of the rail E. K is the back catch secured to the jack lever B, all of which, with a few other parts not needing enumeration, are as usual and well known in upright piano forte actions and needing no more particular description herein.

L is a spring preferably made of wire having a coil, *e*, and secured by its end *f*, to the upper part of the hammer butt J, its free end

extending back from the hammer butt a sufficient distance to project over and be just above the back catch K as shown in Fig. 1, which is its normal position.

When the hammer strikes the string M from playing of the key, in its rebound therefrom, it is caught by the back catch as usual if the key is held down; the free end *g*, of the spring L will then bear with more or less pressure upon the upper end of the back catch, and as the key is raised to strike a second blow, the tension of the spring as the hammer is released from the back catch, will serve to press the hammer forward toward the string, and thus swing its butt into proper position for its jack A to freely move thereunder, in to position for another blow of the hammer, as shown in Fig. 2, before the key has risen to its full height, when a second blow can be given to the hammer, thus insuring in the playing of any key a free and rapid repeat of the blows of the hammer upon the string with less movement of the key than would be the case provided the spring was not applied thereto, making what is known and very much desired in piano forte actions a successful "repeating" action. This spring also serves another purpose and that is, it hastens and secures the quick and more decided return of the hammer, after it has struck the string, in order to make it not only return quickly to its proper position for another blow but also to assist it in its repeating qualities, and this is accomplished by locating a rail N just above the free end of the spring as shown in the drawings and which is so located in reference to the upward movement of the spring, that as the hammer strikes the string, or just before it strikes the string, the free end *g*, of the spring will strike against the underside of the rail N as shown at *h* in dotted lines in Fig. 1, and exerting more or less pressure will act to make the hammer rebound quickly from the string. This function of the spring L enables the spring that is often times arranged to bear upon the other side of the hammer butt to be dispensed with. The spring can be made of any suitable material and of any suitable form

and attached to the hammer butt in any suitable manner.

Having thus described my invention, what I claim is—

- 5 1. In a piano forte action, in combination, the hammer butt, back catch, and a spring secured to the hammer butt and arranged to bear upon the back catch in the operation of the action.
- 10 2. In a piano forte action, in combination,

the hammer butt, a spring attached thereto, and a rail or stop against which the free end of the spring abuts in operation of the action.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HORATIO N. MOORE.

Witnesses:

T. A. MOORE,  
S. S. SOLLÉE.