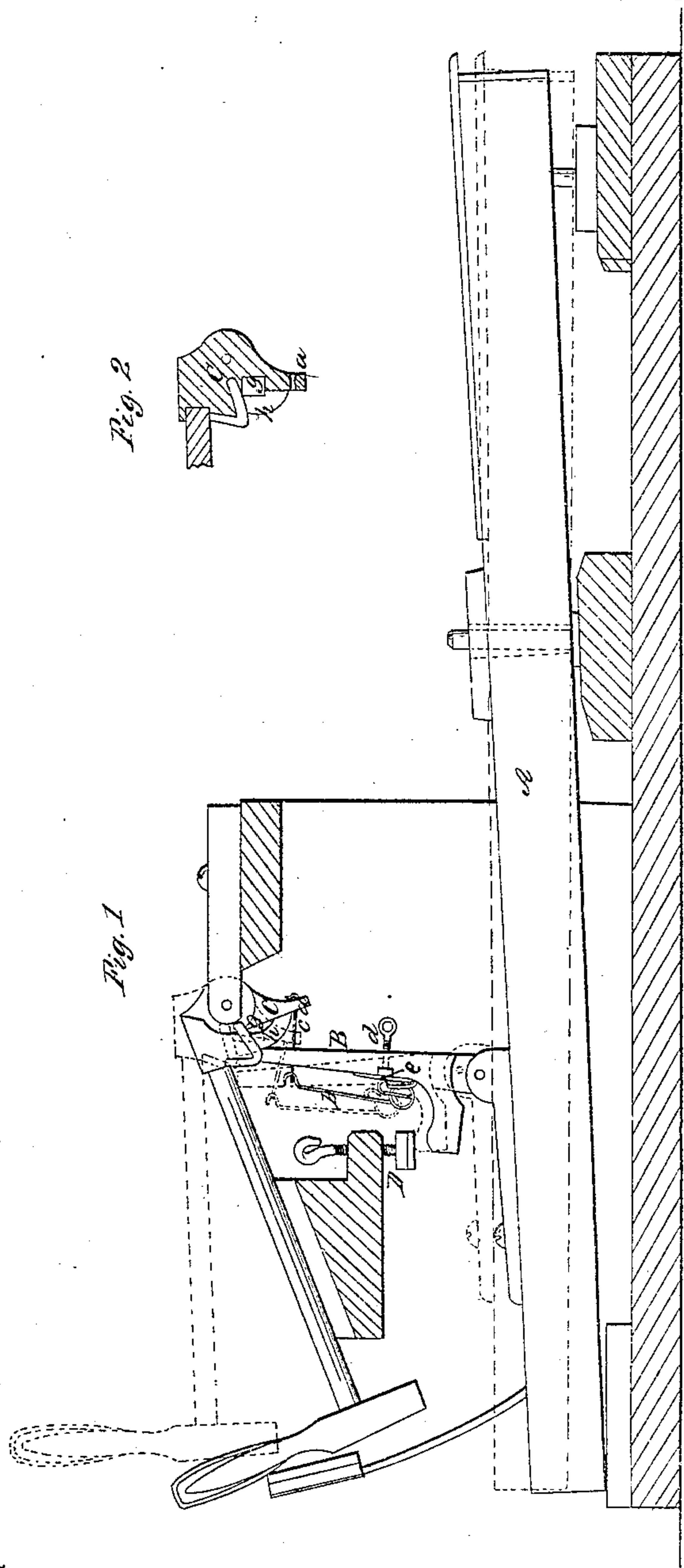


T. C. Faulder,
Piano Action,

N^o 37,860.

Patented Mar 10, 1863.



Witnesses;
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UNITED STATES PATENT OFFICE.

T. C. FAULDER, OF ALBANY, NEW YORK.

PIANO-FORTE ACTION.

Specification forming part of Letters Patent No. 37,860, dated March 10, 1863.

To all whom it may concern:

Be it known that I, T. C. FAULDER, of Albany, and State of New York, have invented a new and useful Improvement in Piano-Forte Actions; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of an action with my improvement. Fig. 2 is a section of the hammer-butt.

Similar letters of reference indicate corresponding parts in both figures.

This invention relates to the application (in combination with that kind of piano-forte action known in this country as the "French" action) of certain novel and simple devices, thereby rendering it perfect as a repeating-action without friction.

It consists, first, in inserting a spring having a twofold effect—viz., that of partially raising the hammer when the key is struck, and also of replacing the point of the jack in its normal position on the least upward motion of the playing end of the key, and so providing for a rapid repetition of the stroke by the hammer on the string; secondly, in the introduction of a regulating screw and button for the purpose of graduating the power of said spring to the weight of hammer it may have to sustain; thirdly, in the lengthening of the downward projection of the hammer-butt, in order to form a connection (horizontally) with the upper end of spring, and thus giving leverage for the cumulative power of said spring to act on in raising the hammer; fourthly, in the insertion within a cavity provided for it in hammer-butt (of the so-called "French" action under the cushion, against which the point of the jack falls on returning to its position after each blow of the hammer) of a second cushion, thus giving great elasticity, by which the percussion of the jack against the first cushion is deadened in a greater degree and the disagreeable thumping common in French action is obviated; fifthly, in a flexible connection between the upper end of the spring and the lower point of said elongation of hammer-butt.

To enable others skilled in the art to make and apply my invention, I will proceed to describe its construction and operation.

A is the key, B the jack, C the hammer-

butt, and D the regulating-screw, all constructed and combined as in the so-called "French" action, except that the hammer-butt has a deeper downward projection, as shown at *a*, for the connection of the repeating mechanism, which is composed of a spring, *b*, attached to the back of the jack, a piece of fine cord or other flexible connection, *c*, between the said spring and the projection *a* of the hammer-butt, and a regulating-screw, *d*, screwing through the jack from the front side thereof and fitted with a button, *e*, to press against the spring for the purpose of regulating its tension in accordance with the weight of hammer it may have to sustain. The cord or flexible connection passes through a slot in the jack. When the spring *b* is properly adjusted by the regulating-screw *d*, (which can be done without removing the action from the instrument,) its power will nearly balance the weight of the hammer when in close proximity with the string. The power or tension of the spring will be at its maximum when the playing end of the key is pressed down to the full depth of the "touch." The projection of the jack will then be in full contact with the regulating-screw D, and the point of jack will have left the notch of the hammer-butt. After the hammer has struck the string its recoil is arrested by the combination of the spring and back-check, so that when the playing end of the key is allowed to rise sufficiently to clear the check the spring will cause the point of jack to pass under the upper projection and into the notch of the hammer-butt, ready for a repetition of the blow; hence a repetition can be effected at any point of the stroke of the key, and as the repetition mechanism works without friction, it affords facility for great rapidity and ease of execution. This repeating mechanism may be applied in front or on either side, instead of behind or in the center, and combined with the jack in a similar manner.

The second cushion, hereinbefore mentioned, is represented in Fig. 2, where it is indicated by the letter *g*. It is made of felt or other elastic material, and inserted into a hole made for its reception in the back of the hammer-butt, below the upper projection of the same. It is thick enough to fill said hole and protrude a little above the surface. The protruding part is covered by the cushion *h*, which is like

that ordinarily used in the French action. This second cushion, *g*, lends great additional elasticity to the first one, *h*, while, owing to the manner it is applied, it occupies no additional room.

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

1. The spring *b*, attached to the jack and connected with the lower part of the hammer-butt, substantially as and for the purpose herein specified.

2. The regulating-screw *d*, applied in combination with the jack and with the spring *b*, substantially as and for the purpose herein specified.

3. Arranging the connection of the spring

b and the hammer-butt between the top of the spring and an elongation of the lower portion of the hammer-butt, substantially as herein set forth.

4. Though I do not claim furnishing the hammer butt with a double cushion or cushion composed of two or more thicknesses of soft material, I claim the second cushion, *g*, applied at the back of the cushion *h* within a hole bored for its reception in the hammer-butt, as shown in Fig. 2, and herein described, for the purpose set forth.

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Witnesses:

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