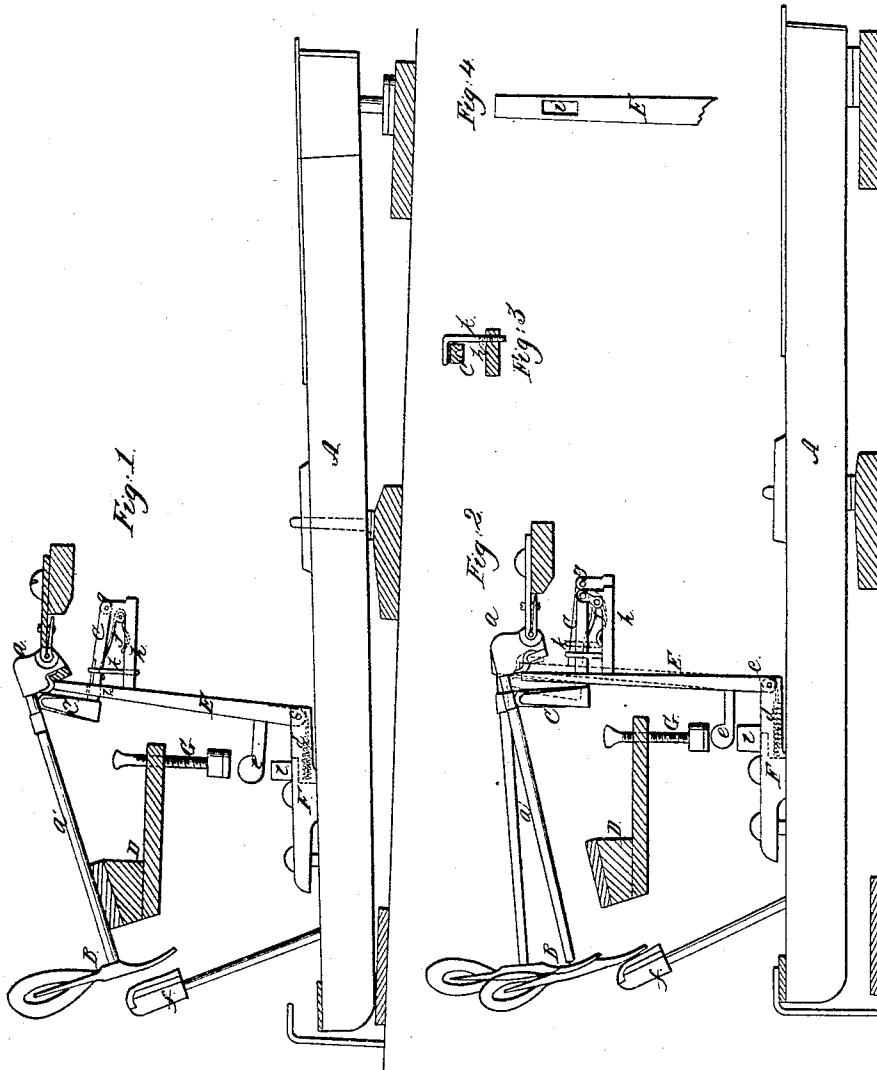


H. Steinway, Sr., Piano Action.

N^o 32387.

Patented May 21, 1861.



Witnesses:

James Laird

Inventor:

H. Steinway, Jr.

UNITED STATES PATENT OFFICE.

HENRY STEINWAY, JR., OF NEW YORK, N. Y.

PIANOFORTE-ACTION.

Specification of Letters Patent No. 32,387, dated May 21, 1861.

To all whom it may concern:

Be it known that I, HENRY STEINWAY, Jr., of the city, county, and State of New York, have invented a new and useful Improvement in Pianoforte-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 exhibiting it at rest. Fig. 2, is a similar view exhibiting it with the key depressed and illustrating the manner in which it assumes a condition for repetition of the blow. Fig. 3, is a transverse section of the repeating lever and its adjusting screw. Fig. 4, is a back view of the upper part of the jack.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in a novel arrangement of a lever in connection with the jack for the purpose of effecting or assisting the return of the jack to its notch in the hammer-butt after the hammer has struck the string, and thereby providing for a quick repetition of the blow.

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

A. is the key.

B. is the hammer having its butt *a*, formed as in most of the actions in use and having the under side of its shank *a'*, made flat near the butt to enable it to have a good bearing on the repeating lever C. whose arrangement constitutes the principal feature of my invention.

D. is the rest rail.

E. is the jack working on the pin *c*, which attaches it to a block F. secured to the key; and *d*, is the spring for throwing it into the notch of the hammer-butt.

G. is the regulating screw, screwing through the front part of the rest rail and acting upon an arm *e*, projecting forward from the lower part of the jack. *f*, is the back check applied to the key in the usual manner.

s, is the string. *l*, is a cushion arranged below the arm *e*, on the block F. to prevent the jack being thrown too far out of its notch in the hammer-butt by a violent blow.

The repeating lever C. is pivoted at one end by a pin *g*, to an arm *h*, which is secured

rigidly to the front of the jack E. not far below the point thereof. This lever passes through a slot *i*, formed for the purpose in the jack, and its rear portion is turned up and has its extremity covered with leather to form a soft bearing for the flat portion of the hammer shank near the butt. The said lever has applied between it and the arm *h*, a spring *j*, which exerts a sufficient upward pressure against it to raise the hammer as will be presently described. The distance to which the said spring is allowed to force the lever upward, is regulated by a hooked screw *k*, which screws into the arm *h*.

The operation of the action is as follows: When the hammer is at rest as shown in Fig. 1, the point of the jack is held in the notch of the hammer-butt by the spring *d*, and the rear extremity of the lever C. is close to the butt and exerts no considerable upward pressure upon the hammer shank. When the key is struck in playing, the jack acts in the notch in the hammer-butt in the usual manner and then is caused to escape by the arm *e*, being arrested by the regulating screw G. The hammer in its fall after striking the string with any considerable force falls far enough to be caught by the back check, and the momentum of its recoil and fall acting on the repeating lever C. overcomes the spring *j*, and causes the said lever to be depressed relatively to the jack as shown in black outline in Fig. 2; but as soon as the player permits the front end of the key to rise a very short distance the hammer is liberated by the back check and the spring *j*, raises the repeating lever C. and causes the latter to lift up the hammer nearer to the string in the manner shown in red outline in Fig. 2, and brings the notch in the hammer-butt high enough for the point of the jack to fall into it far enough to enable the blow to be repeated. When the key is struck very softly by the player, the force of the recoil of the hammer will not be sufficient to carry it down to the back check but the hammer will be arrested by the repeating lever very near the string, and hence after a light as after a heavy blow the repeat can be effected by permitting the key to rise a very short distance. The screw *k*, permits the adjustment of the repeating lever to make it raise the hammer higher or not so high.

Instead of constructing the repeating lever

and jack so that the lever passes through a slot in the jack, as described, they may be so constructed that the jack passes through a slot in the lever, but the construction described is perhaps preferable.

5 The repeating lever applied as above described permits the key with its attached parts to be withdrawn from the action without difficulty, for by lifting the hammer by
10 the hand the jack is allowed to be thrown forward by the spring *d*, past the butt *a*, and then all obstacle to the taking out of the key is removed.

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

15 The attachment of the repeating lever *C*. to an arm *h*, in front of the jack, the said lever and the jack passing the one through the other to bring the acting end of the said lever in rear of the jack substantially as
20 herein described.

H. STEINWAY, JR.

Witnesses:

M. M. LIVINGSTON,
JAMES LAIRD.