

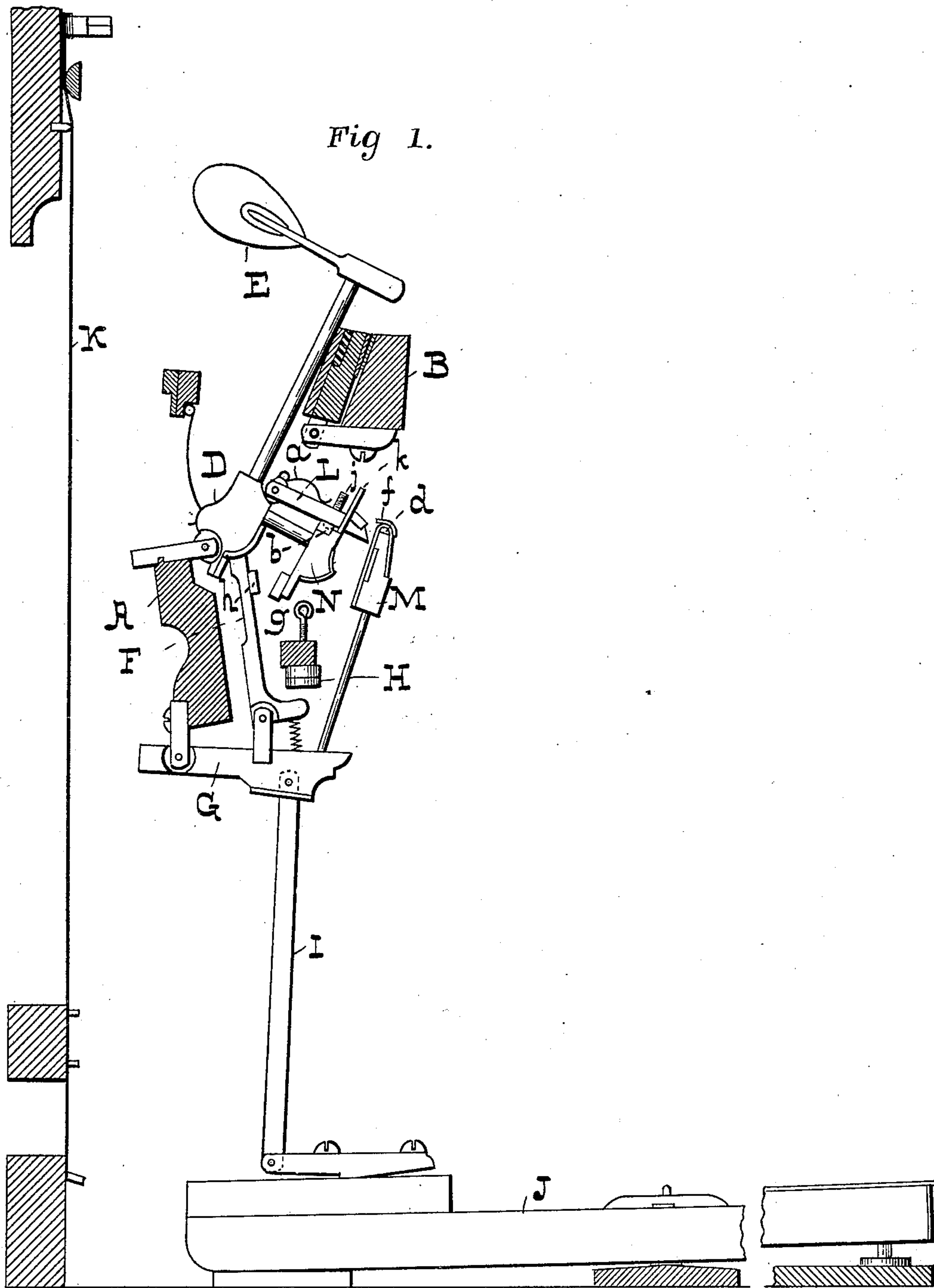
(No Model.)

2 Sheets—Sheet 1.

J. W. FISCHER.
PIANO ACTION.

No. 552,320.

Patented Dec. 31, 1895.



-WITNESSES-

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UNITED STATES PATENT OFFICE.

JOHN W. FISCHER, OF BALTIMORE, MARYLAND.

PIANO-ACTION.

SPECIFICATION forming part of Letters Patent No. 552,320, dated December 31, 1895.

Application filed December 24, 1894. Serial No. 532,866. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. FISCHER, of the city of Baltimore and State of Maryland, have invented certain Improvements in Piano-Actions, of which the following is a specification.

The object of this invention is to construct an upright piano-action in such manner that the sound of a note may be repeated in rapid playing without allowing the key to be entirely released or carried back to its normal position.

In the description of the said invention which follows reference is made to the accompanying drawings, forming a part hereof, and in which—

Figure 1 is a transverse sectional view of the principal parts of a piano-action embodying the present improvements and showing the various parts thereof in the positions which they occupy before the key is struck. Fig. 2 is a similar view, except that the several parts or elements occupy the positions in which they are found when after a stroke the key is allowed to rise to one-half its proper height only, but which admits of the note being repeated. Fig. 3 is an enlarged view of certain parts of the invention, showing them in the situations which they occupy when the key is held down to its lowest position. Fig. 4 is a rear view of certain parts of the invention, showing them in the relative positions which they occupy in Fig. 3.

Referring now to the drawings, A is the hammer-rail, and B the rest-rail.

D is the hammer-butt, and E the hammer. F is the spring-held actuating-fly, and G the whip.

H is the release-button, and I the stilt which communicates motion from the key J to the whip G.

K represents the strings.

All the parts thus far referred to are of common construction and need no further description herein, and their uses are well known.

When the key J is struck, the stilt I lifts the whip G and carries with it the fly F. The upper end of the fly being under the projecting portion of the hammer-butt D, that device is tilted and the hammer strikes the

strings K. It will be understood that before the hammer strikes the strings the fly is detached from the hammer-butt through the medium of the release-button H, the stroke of the hammer being completed by the momentum of the hammer alone. Upon the release of the key it assumes its original position or height, and the fly engages again with the butt and then and not until then can another note be sounded. The present invention is, therefore, to effect the re-engagement of the fly with the hammer-butt before the key has assumed its original position, and really when the key has completed about one-half only of its upward movement. To effect this result I provide the hammer-butt with a pivoted lever L, a counter-check N upon which the said lever normally rests, and a spring *a* to hold the lever yieldingly in its normal position. The strength of the spring *a* when relaxed is about sufficient to sustain the hammer; but should the spring be strengthened by lifting the lever L the hammer would be carried forward or toward the strings K. I also provide the whip G with a back-check M, having at its upper end a cushion *d* and a leather tongue *f*.

When the key is first struck and the hammer-butt tilted so as to cause the hammer to strike the strings, as before described, the pivoted lever L is carried up with the hammer-butt, through the medium of the counter-check, and at the same time the back-check M is lifted and moved forward or toward the hammer-butt. In the recoil of the hammer after striking the strings, the spring-held lever L falls on the leather tongue *f* of the back-check M. This causes a momentary tightening or strengthening of the spring *a*, and consequently a retilting of the hammer-butt, and a return of the hammer toward the strings to such an extent as to allow the fly to again pass under the projecting portion of the hammer-butt upon a very slight release of the key, and the note may therefore be repeated.

From the foregoing description it will be understood that it is by providing the hammer-butt with the spring-held lever L and the counter-check N to effect its upward movement, and the whip G with the back-check

M carrying the leather tongue *f*, that a repetition of a note may be effected without allowing the key to rise to its full height after the first note is sounded. This counter-check
 5 N has a felted tailpiece *g*, against which a pad *h* on the fly strikes as the key is pressed suddenly down.

From the foregoing description it will be understood that when the key is wholly released the various elements of the action occupy the relative positions shown in Fig. 1,
 10 and when only half released the positions shown in Fig. 2, and that when the key is held down the elements of the action which
 15 constitute the present invention are inoperative or do not affect in any manner the operations of the other parts.

The normal position of the tongue L can be changed by means of the adjusting-screw *j*,
 20 the head of which rests on the felt cushion *b*, and its upward motion is limited by the wire stop *k*.

I claim as my invention—

1. In a piano action, the combination of the
 25 hammer butt and counter check, with a spring held lever pivoted to the hammer butt, a stop to limit its upward movement, and thereby serve to adjust its position with reference to the counter check, and a back

check having a pliable tongue at its upper 3 end, substantially as specified.

2. In a piano action, the combination of the hammer butt, provided with a spring held lever, a stop to limit the upward movement of the lever and a back check which in its rise 3 passes under the said lever and temporarily sustains the same and the hammer butt, until the fly passes again under the said hammer butt, substantially as specified.

3. In a piano action, the hammer butt provided with a pivoted spring held lever, and a stop to limit the upward movement of the said lever combined with a back check having an extending pliable tongue to support the hammer butt through the medium of the said 4 lever, substantially as, and for the purpose specified.

4. In a piano action, the combination of a spring held lever pivotally mounted on and which supports the hammer butt, and a back 5 check having a pliable tongue which extends beyond the inner surface of the said back check, substantially as specified.

JOHN W. FISCHER.

Witnesses:

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 DANL. FISHER.