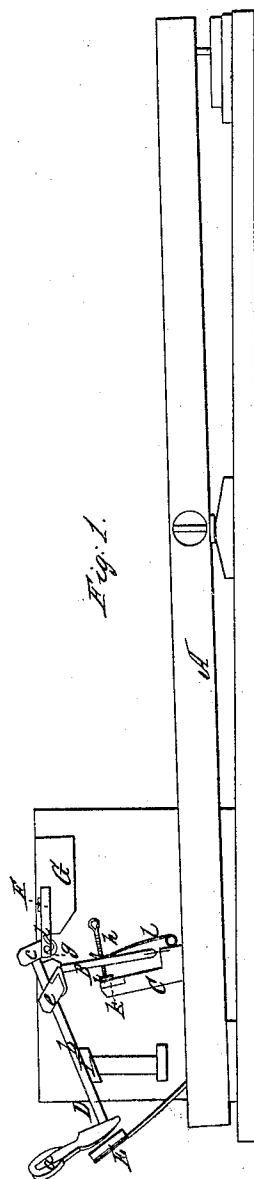
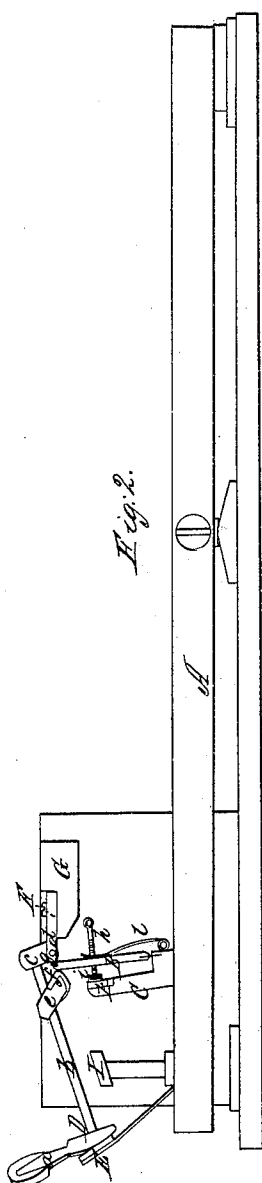


No. 5,985.

PATENTED DEC. 26, 1848.

J. H. LOW.
PIANOFORTE ACTION.



UNITED STATES PATENT OFFICE.

JOHN H. LOW, OF BOSTON, MASSACHUSETTS.

PIANOFORTE-ACTION.

Specification of Letters Patent No. 5,985, dated December 26, 1848.

To all whom it may concern:

Be it known that I, JOHN H. Low, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and
5 useful Improvement in Pianoforte-Actions; and I do hereby declare that the same is fully described and represented in the following specification and accompanying drawings, letters, figures, and references
10 thereof.

The improvements which I have made consist, firstly, in the peculiar construction of that end of the hammer lever in which the fulcrum or pivot is placed; so that when
15 the hammer is at its greatest height or in contact with the strings, the point where the power is communicated from the key lever, and the fulcrum or pivot on which the hammer lever turns, shall be in a horizontal line or nearly so, in connection with
20 an opening or notch between these two points sufficient to admit the head of the jack or fly by which the power is communicated, allowing the jack or fly to work off
25 by its own regular motion produced by being firmly attached to the key lever, and describing a circle of which the fulcrum of the key lever is the center; secondly, in forming a rest to prevent the jack or fly
30 from moving more than is necessary to allow the hammer to fall upon the back catch, thereby avoiding the noise that is sometimes produced by the rebounding of the fly upon the surface where it should slide smoothly.

35 Figure 1, of the said drawings represents a side elevation of my improved action. In it A, denotes the key. B, the fly of the jack. C, the post of the jack. D, the hammer. E, the back catch of the hammer. *a*, the
40 hammer head; *b*, the stem or lever of the hammer; *c*, the center block of the hammer; *d*, the center or joint pin; F, the piece or block to which the center block is jointed; G, the supporting rail of the hammer.

45 Upon the stem or lever *b*, of the hammer and somewhat in advance of the block *c*, a block or projection *e*, is fixed, and arranged in such manner that there shall be a space or recess *f*, between it and the block *c*, of a
50 width just sufficient to freely admit the upper end of the fly as seen in Fig. 2. A piece of soft leather *g*, is affixed upon the front edge of the block *c*, as seen in the drawings; the object of the said piece of leather being
55 to prevent any noise from the fly when it is thrown up with the hammer, and passed off

or away from the lower or angular part of the block *c*, and in contact with the block *c*, or said piece of leather thereon.

When the hammer is down upon its cushion I, the fly B rests in contact with the projection *e*, as seen in Fig. 1. After the key has been depressed so as to elevate the hammer and allow it to fall upon its back rest E, the fly takes the position as represented in Fig. 2. When the finger is removed from the key so as to permit it to rise and the fly to fall, the said fly will move down into position as seen in Fig. 1.

The fly has a regulating stop or button *i*,
70 or other equivalent applied to it. The said button is fixed on one end of a screw *h*, which passes through the fly. The button acts against a piece of leather or cloth *k*, fixed on the post C, of the jack. *l*, is the
75 spring of the fly.

That part of the projection *e*, against which the fly operates, in order to raise the hammer should be so arranged with respect to the center or fulcrum pin *d*, as to be in
80 or nearly in a horizontal line with it when the hammer is lifted to its highest position. The recess *f* prevents any noise such as often arises in consequence of the fly being thrown smartly off and away from the projection *e*,
85 and afterwards returning against it by the operation of the spring *l*, which noise is very perceptible, in what is termed the English action, wherein the jack is like the one exhibited in Fig. 1, but is made to operate
90 against the end of a lever or under hammer, which rests directly beneath the main hammer.

The advantages of my improvement are twofold: first, in its addition to the power
95 and delicate touch of the instrument, and, secondly, in its simplicity and the facility with which it can be constructed.

With regard to its advantage to the instrument nothing can be said here, as it can
100 only be appreciated by a trial of the instrument itself. In its mechanical construction it differs from most actions in use in having all its working parts complete in the keys and one rail, thereby rendering its application to a crooked or circular scale of hammers, (which are much used at the present times,) as easy as to a straight scale, and its simplicity renders it less liable to get out
105 order.

Although there is a great variety of actions in use at the present time, still I recog-
110

nize but two general principles. One is, that in which the jack is made to leave the hammer at liberty to fall by the circular motion of the jack itself in connection with the key lever. The other is, that in which the jack remains in direct contact with the hammer lever until just before it reaches the strings, when it is thrown off by coming in contact with some other arrangement regulated to a certain point, thereby producing an unpleasant feeling to the performer. The first is allowed to feel smoother to the touch, while the second is supposed to possess the most power. The former has always been produced by introducing another lever hinged upon the rest rail; which makes it necessary for two rails to correspond exactly with each other, which is very difficult in circular scales. Another difficulty is, that the lever which intervenes between the jack and the hammer lever must necessarily be made very soft, and consequently will beat down in time, making a space between, and therefore a loss of power. The latter has the same difficulty of having two rails fitted exactly to each other. My action I suppose to combine the smoothness of the former with the power of the latter, while it is more simple than either, and more easy of application to any scale.

The superiority of this action over all others known to the inventor consists, in

its possession of all the power and rapid repetition of the "French grand action," (so called in its numerous forms,) with the ease and smoothness of the English action. It will be found upon examination, that every arrangement of the "French grand action," unjacks about a quarter of an inch from the string, that is when the key is pressed gently down; while that of the English unjacks close to the string. Thereby adapting the French action to a brilliant style of music; such as symphonies, overtures, fantasias, &c.; and the English to a pensive style; such as andantes, adagios and music to be performed in a legato manner. This invention is believed to unite in a striking manner both of the above requisites to a perfect action.

What I claim as combined together, and with the hammer and fly, is—

The projection *e*, and peculiar recess *f*, with its abutment or blocks *c*, all constructed and arranged, substantially, in manner, and for the purpose as specified.

In testimony whereof I have hereto set my signature this thirtieth day of March A. D. 1848.

JOHN H. LOW.

Witnesses:

R. H. EDDY,
FRANCIS GOULD.