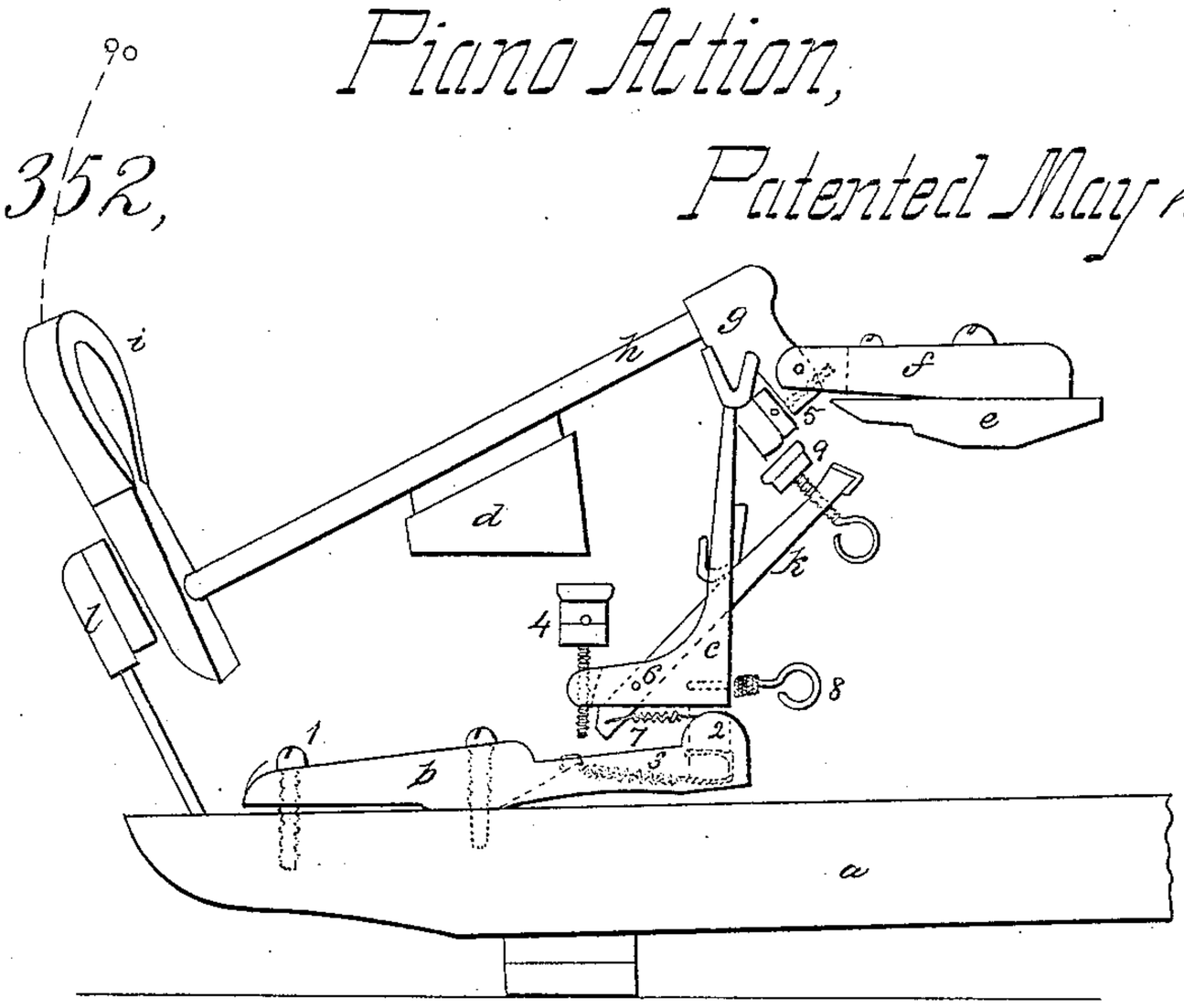
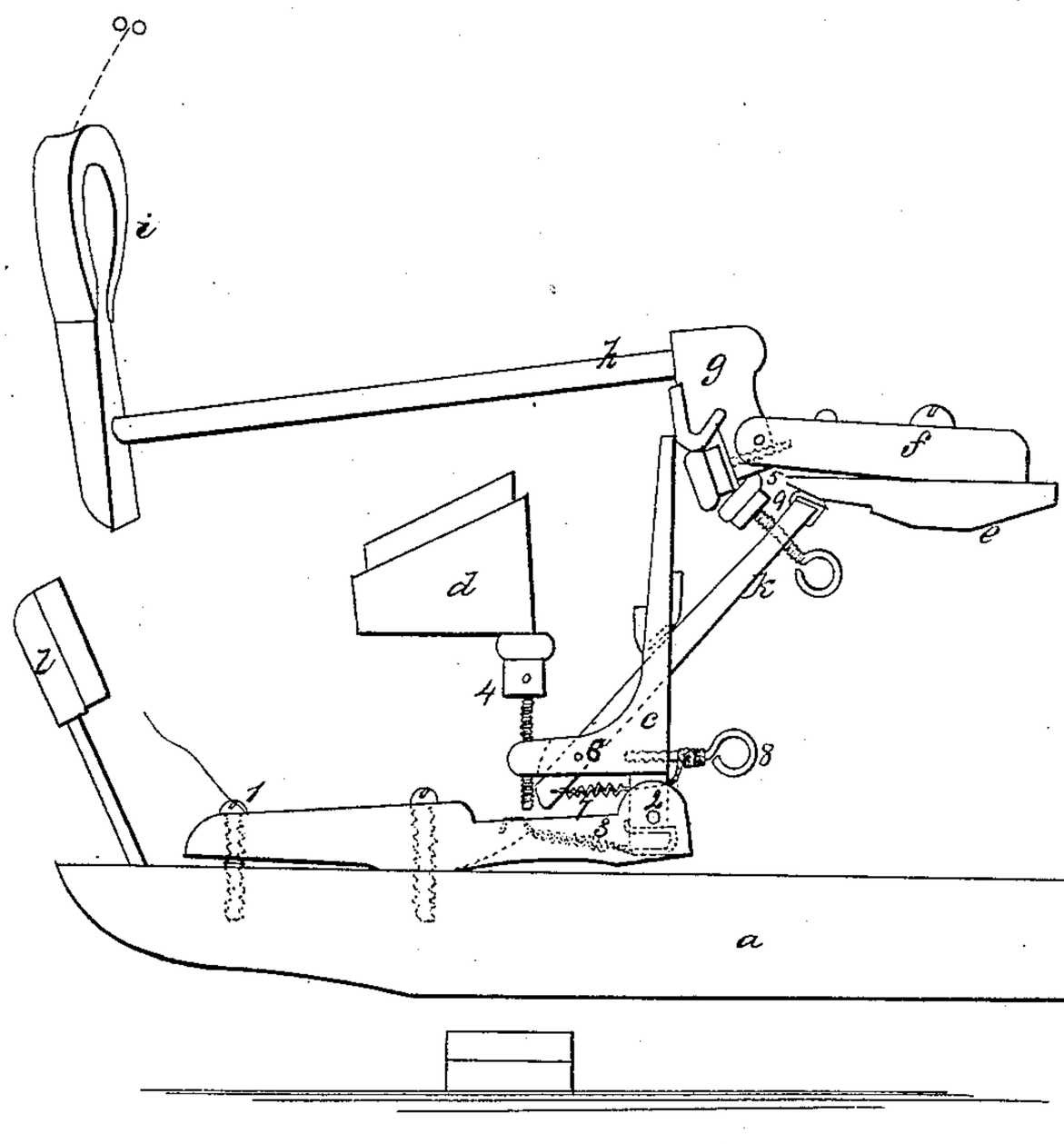
W. Compton,

Piano Action,

No. 28,352, Patented May 22, 1860.





Witnesses;
Samuel W. Sewell
Chas. H. Smith.

Inventor;
W. Compton

UNITED STATES PATENT OFFICE.

WM. COMPTON, OF NEW YORK, N. Y.

PIANOFORTE-ACTION.

Specification of Letters Patent No. 28,352, dated May 22, 1860.

To all whom it may concern:

Be it known that I, WILLIAM COMPTON, of the city and State of New York, have invented, made, and applied to use a certain new and useful Improvement in Pianoforte-Actions; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1, is a side elevation of said action as at rest, and Fig. 2, is a similar view of the parts after the string has been struck and the parts are ready for a repeat.

Similar marks of reference indicate the same parts.

I am aware that several actions have heretofore been constructed in which the hammer is checked in such a manner that the fly of the jack will take the butt of the hammer before the key entirely rises so as to permit the performer to repeat the blow as often as necessary in rapid passages of music. My invention is therefore only an improvement upon the repeating actions heretofore constructed, and consists in a peculiar repeating finger that comes up under the hammer butt and is so combined with the fly of the jack that the hammer is held by this finger from descending while the fly moves with the key lever sufficiently to take the notch of the hammer butt for repeating. I also make use of an improved means for regulating the action of the jack and the springs connected thereto.

In the drawing *a*, is the key lever of usual construction; *b*, is the bottom of the jack adjusted by the screw 1; *c* is the jack; *d* is the hammer rest; *e*, is the hammer rail; *f* the flange; *g* the butt; *h*, the shank, and *i* the hammer, all of which parts may be of any usual or desired character.

k, is my improved repeating finger that is set on a fulcrum 6 and moves in a slot or mortise in the jack *c* or passes around said jack.

7 is a spring keeping the end of *k*, toward the butt *g*.

4, is the escapement button of the jack.

It will now be seen that on pressing the key as usual, the lever *a*, rises carrying up the jack *c*, which acting on the butt *g*, gives a blow on the string by the hammer *i*, the button 4, causing the escapement of the fly *c*, the finger *k*, comes up against the under side of the butt *g*, so soon as the key is released but little, and holds the hammer in the position of Fig. 2, so that the hammer does not fall but the fly takes the butt ready for a repeat blow. In coming up the finger *k*, taking the under side of the hammer rail *e*, causes an extension of the spring 7, which spring causes the finger *k*, to act on the hammer butt, in manner aforesaid, so as to hold up the hammer and prevents its falling to the rest *d*. And by said finger acting beneath the center on which the hammer moves it holds the butt without moving the hammer. At the end of this lever or finger *k*, an adjusting screw may be placed to take the rail *e*, and cause the necessary distension of the spring 7, or the regulating button or screw 9, may be introduced to adjust this finger *k*, in its action on the butt *g*, or the end of the finger itself may be so shaped as to take the butt *g*, and the regulation of the movement be effected by a screw introduced between the finger *k*, and jack *c*.

In new pianos difficulty is often experienced on account of the fly having too little hold on the toe of the butt *g*, because the elastic material is thick, but so soon as this elastic material against which the fly of the jack rests, becomes more compact from repeated blows, the reverse operation ensues, and the fly getting behind the toe causes the piano to work hard. To obviate these difficulties I introduce the regulating stop screw 5, directly into the butt *g*, by the side of the toe, the same having an elastic face taking the side of the jack *c*, so that by turning this screw, in or out, more or less of the toe of the butt will be exposed for taking the end of the jack *c*.

It has been usual to place the escapement button 4. on the under side of the hammer rest *d*, but the same is in the way of the check *b*, in taking out any one of the keys. I therefore pass the screw of the button through the fly jack base as shown, so that the jack, button, and check, all come out together with the key. In all the repeating actions with which I am acquainted there is a difficulty experienced from the base of the piano becoming slightly concave under strain of the strings, and the middle notes of the key board, hence have an increased space for action under the strings, and therefore when the repeating device takes the hammer shank or butt it holds the hammer up to the string or else makes a second

or false blow; the same thing occurs when the key, from wear, has too great depth of touch, or flies up at the inner end from momentum and looseness of the parts;—I entirely prevent this difficulty arising by causing the repeating finger to take the under side of the hammer rail *e*, to insure the repeating part being in the correct position relatively with the hammer, irrespective of the amount of play allowed to the key, or any irregularity in the action of the parts.

In the jacks of pianos great difficulty is experienced in obtaining the necessary power from the various springs made use of, they are apt to be either too strong or too weak, I therefore regulate the same by a turning pin 8, to which one end of the spring is attached through a small cord or wire, so as to revolve said pin and strengthen or lessen the action of the spring to make the jack perfect in its operation, and these turning pins when accessible to the tuner or regulator, enable the jack to be adjusted in its operation without taking the key out of the piano.

Having thus described my said invention what I claim and desire to secure by Letters Patent, is—

1. The repeating finger *k*, when placed diagonally to the fly of the jack, and taking the butt *g*, of the hammer beneath the center on which said hammer moves, for the purposes and as specified.

2. The turning pin 8, combined with the spring in the jack of a piano for regulating the power of such spring as specified.

3. The regulating stop screw 5, to adjust the elastic material that takes the side of the fly jack (*c*,) for the purposes set forth.

4. The regulating button 4, only when formed on and adjusted by a screw that passes through the base of the jay fly (*c*,) whereby the said button is drawn out with the key and is not in the way of the check *b*, in removing the key as specified.

5. Controlling the action of the repeating parts of piano forte actions by means of the hammer rail *e*, that takes said parts and determines their position relatively with the hammer itself as set forth.

In witness whereof I have hereunto set my signature this seventeenth day of March 1860.

WM. COMPTON.

Witnesses:

LEMUEL W. SERRELL,

CHAS. H. SMITH.