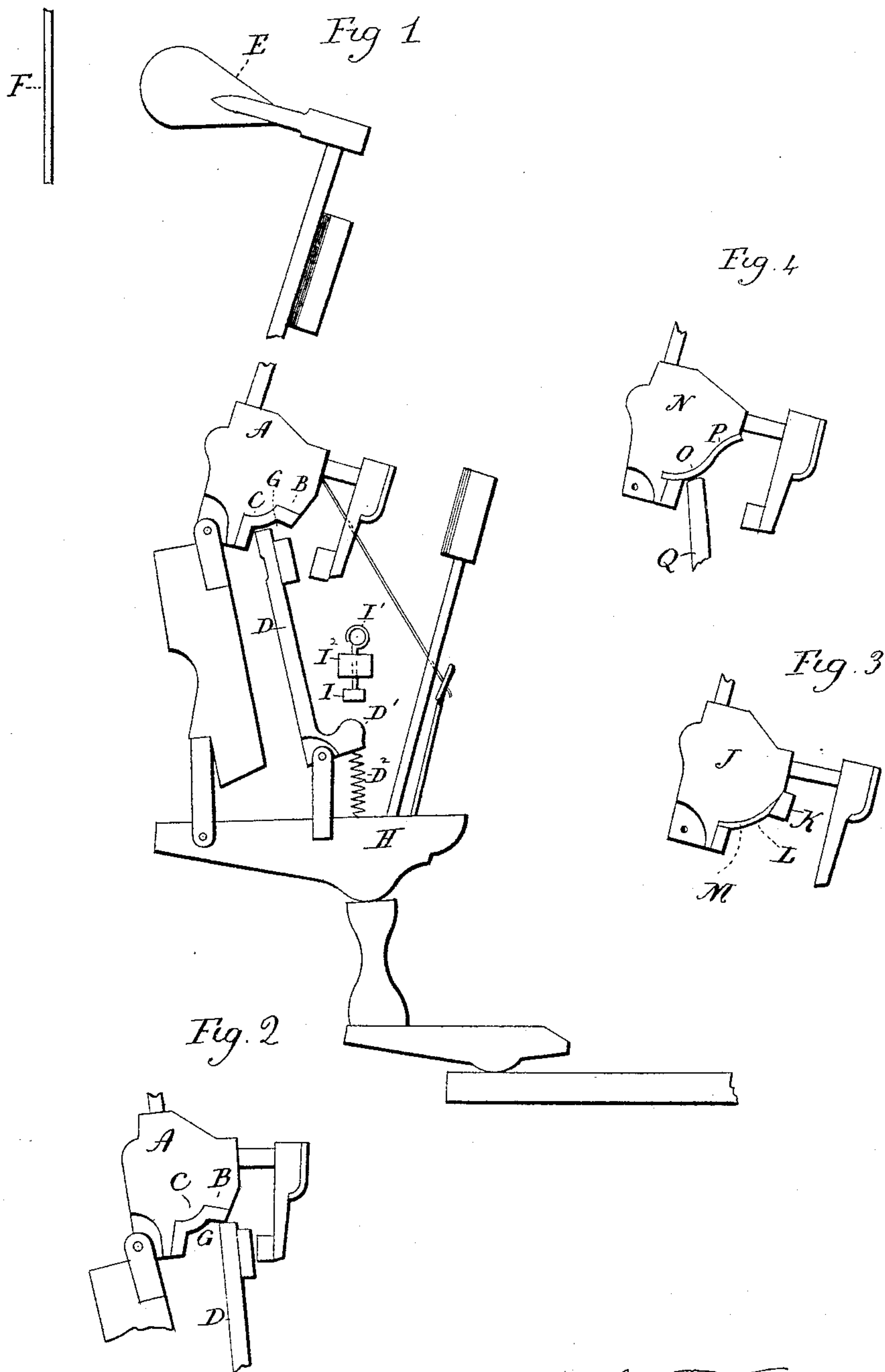


(No Model.)

J. F. TEREW.  
UPRIGHT PIANO ACTION.

No. 497,992.

Patented May 23, 1893.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

JOSEPH F. TEREW, OF DERBY, CONNECTICUT, ASSIGNOR TO RUFUS W. BLAKE, OF SAME PLACE.

## UPRIGHT-PIANO ACTION.

SPECIFICATION forming part of Letters Patent No. 497,992, dated May 23, 1893.

Application filed February 24, 1893. Serial No. 463,530. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH FRANK TEREW, of Derby, in the county of New Haven and State of Connecticut, have invented a new Improvement in Upright-Piano Actions; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a view in side elevation of an upright piano-action constructed in accordance with my invention, with the parts shown at rest; Fig. 2, a similar but less comprehensive view showing the parts in the positions which they will have when the fly is co-operating with the buffer for trilling; Fig. 3, a detached view showing a modified form which a hammer-butt constructed in accordance with my invention may assume; Fig. 4, an illustrative view showing the ordinary construction.

My invention relates to an improvement in actions for upright piano-fortes, the object being to make the instrument more responsive in trilling, or in any other manipulation of its keys in which they are not allowed entirely to recover before being depressed again, by means of a construction not only extremely simple and effective, but also impossible of derangement.

With these ends in view, my invention consists in a hammer-butt built out or extended in the rear of and above its operating shoulder, to form a buffer, and constructed with a clearance space between the said shoulder and buffer, whereby the fly is prevented from riding up behind the butt by the said buffer, which also co-operates with the fly in trilling, to the exclusion of the said operating shoulder.

In the accompanying drawings, I have shown a view in side elevation of an action of approved construction for an upright piano. Inasmuch, however, as this action is well known, and will be readily understood by those familiar with this art, I will not describe it further than is necessary to the disclosure of my present invention.

In carrying out my invention, as shown by Fig. 1 of the drawings, I extend the hammer-butt A, so as to form a buffer B, at a point in

rear of, and only a little above its operating shoulder C, which in ordinary playing, is impinged upon by the upper end of the fly D, for striking the hammer E, against the string F. I also construct the hammer-butt so that a clearance-space G, will be formed between the two points of the buffer B, and the shoulder C, which are engaged by the end of the fly D. When the key is depressed, and the rocker or whip H, is lifted, the upper end of the fly D, will be impinged against the shoulder C, and lifted, whereby the butt will be thrown rearward, carrying the hammer toward the string. After the fly D, has given the required impulse to the hammer, as described, its let-off finger D', engages with the let-off button I, which is attached in the usual manner, to the lower end of a regulating-screw I', mounted in the regulating rail I<sup>2</sup>, and as the rocker or whip H, is lifted a little after this engagement, the fly is pulled away from its engagement with the operating shoulder C, of the hammer-butt A, and drawn into the position in which it is shown in Fig. 2 of the drawings, where it is represented as standing under the outer edge of the buffer B. It will thus be seen that the last portion of the movement of the butt is effected by the inertia derived by it from the impingement against its operating shoulder, of the fly D. When the said fly is disengaged from the said shoulder, and the hammer is left to go on and strike the string, it is said to be "let off." Now when the recoil of the hammer takes place, its buffer will engage with the upper end of the fly, unless the key is allowed to entirely recover and resume its normal position, in which case the fly will be permitted to descend and be thrown by its spring D<sup>2</sup> back under the operating-shoulder C, of the butt. But when the key is not allowed to recover, the fly will remain in position to coact with the buffer in trilling, to the exclusion of the operating-shoulder C. In this adjustment of the parts the key is rapidly struck, and only allowed to recover ever so little, but it will be still sufficient to impart a rapid movement of the fly against the buffer, whereby the hammer will be as rapidly thrown against the string, producing a clear trilling tone. Then as soon as the key is allowed to resume



its normal position, the fly will fall back under the operating shoulder, in position to give a full blow to the hammer. The clearance space G, before referred to, permits the fly to be  
5 moved without obstruction from the buffer to the shoulder under the action of the spring. The buffer has the further function of preventing the fly from riding up on the back of the butt and sticking in ordinary playing,  
10 which is a thing of frequent occurrence in upright piano-forte actions as ordinarily constructed.

As shown by Fig. 3 of the drawings, the hammer-butt J, is built up by a piece of felt  
15 K, to form the buffer and the clearance space L, between the same and the operating shoulder M.

The hammer butt N, shown by Fig. 4 of the drawings, illustrates the ordinary construction, being made with an operating shoulder  
20 O above which it is constructed on an incline P, on which the fly Q is very likely to stick and hang, inasmuch as it is thrown up onto

the same into the position in which it is indicated by broken lines.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A hammer-butt for an upright piano-action, built out or extended in the rear of and above  
30 its operating-shoulder to form a buffer, and constructed with a clearance space between the said shoulder and buffer, substantially as described, and whereby the fly is prevented from riding up behind the butt by the said  
35 buffer, which also co-operates with the fly in trilling to the exclusion of the said operating-shoulder.

In testimony whereof I have signed this specification in the presence of two subscrib-  
40 ing witnesses.

JOSEPH F. TEREW.

Witnesses:

S. H. LESSEY,  
WM. S. BROWNE.