G. W. NEILL.

Piano-Hammer Butt.

No. 214,836. Patented April 29, 1879.

Fig. 1.

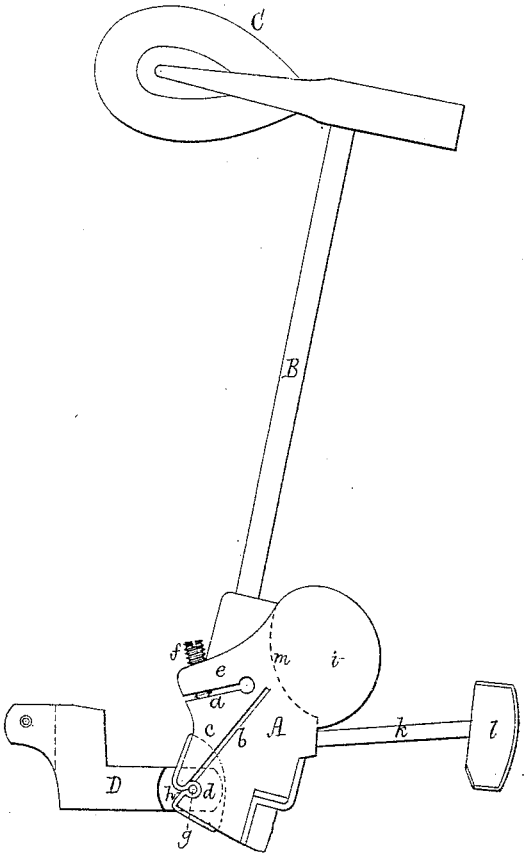
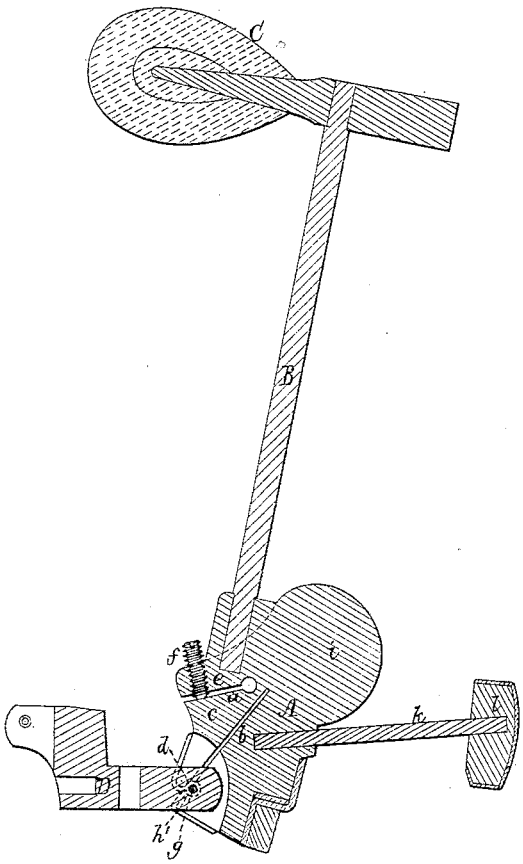


Fig. 2



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE W. NEILL, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN PIANO-HAMMER BUTTS.

Specification forming part of Letters Patent No. **214,836**, dated April 29, 1879; application filed December 24, 1878.

To all whom it may concern:

Be it known that I, GEORGE W. NEILL, of Boston, of the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in the Hammer-Butts of Upright-Piano-Forte Actions; and do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a side view, and Fig. 2 a vertical section, of a hammer and its pivotal arm, with my invention applied to the butt of the said hammer.

Prior to the date of my invention it has been customary to surround the pivot of the tail-block or butt of the hammer of an upright-piano action with a cylindrical tubular bushing of cloth. Owing to atmospheric or hygrometric changes, this bushing is very liable to so bind on the hammer-pivot as to practically impede the return movement or back-fall of the hammer.

In carrying out my improvement I provide the hammer-butt not only with a pivot-seat, but with a clamp and an adjusting-screw therefor, to press the clamp against the pivot or its bushing with more or less force. To this end I construct the tail-block or hammer-butt with two slits, arranged in it in manner as represented at *a b* in the drawings, A being the said butt, B the shank, and C the head of the hammer. These slits form in the butt the clamp *c* over the pivot-seat *d*, the pivot being shown at *g* as projecting from and going through the arm D, for supporting the hammer. The pivot-bushing on one side of the hinge part of the carrying-arm is shown at *h* in Fig. 1, and on the other side at h^1 in Fig. 2.

Through and into the portion *e* of the butt a screw, *f*, is screwed, its lower end bearing against the clamp *c*. Instead of so applying the screw, I sometimes use one provided with a head, and arrange such headed screw so that its shank may go through the clamp and screw only into the part of the butt which is directly back of the clamp, or go through such part and screw only into the clamp; but these last arrangements of the screw are not so convenient for ready access to its head as is that represented in the drawings, in which the upper end of the screw is shown as nicked or grooved across it to receive a screw-driver.

In order to strengthen the butt, to enable it to resist the tendency of the screw *f* to split it in line with the slit *a*, I extend the butt backward over the shank *k* of the back catch in manner as shown at *i*, the curved dotted line *m* representing the usual rear boundary of that part of the butt which projects above such shank *k*.

Furthermore, as an additional means of preventing such splitting of the butt, a dowel or screw may be inserted and fixed in it across the line or part in which the split would be liable to occur.

In case of wear of the pivot-bushing *h*, the clamp may be pressed down upon the pivot by the adjusting-screw; or should the bushing bear too closely upon the pivot, the latter may be properly relieved of the pressure by turning back the screw *f* more or less.

I am aware that the pivotal sustaining-arm of the hammer of a horizontal-piano action has been furnished with a clamp and screw to contract the bushing of the butt-pivot, and therefore I do not claim such, as it will be seen that my improvement has reference to the hammer-butt, and particularly to that of an upright-piano action.

I therefore claim as my invention as follows, viz:

1. The upright-piano-action hammer-butt or tail-block A, provided with the pivot-seat *d*, a clamp, *c*, and a screw, *f*, the latter being for forcing the clamp against the pivot or the bushing thereof, as set forth.

2. The upright-piano-action hammer-butt provided with the slits *a b* and the clamp-screw *f*, arranged in it, and with the pivot *g* of the carrier or arm D, substantially as shown and specified.

3. The upright-piano-action hammer-butt provided with the slits *a b*, the clamp-screw *f*, and the pivotal bushing *h*, arranged in it essentially as represented.

4. The upright-piano-action hammer-butt provided with the slits *a b* and clamp-screw *f*, and having the projection *i* arranged therewith and extended over the catch-shank *k*, substantially as and for the purposes set forth.

GEORGE W. NEILL.

Witnesses:
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S. N. PIPER.