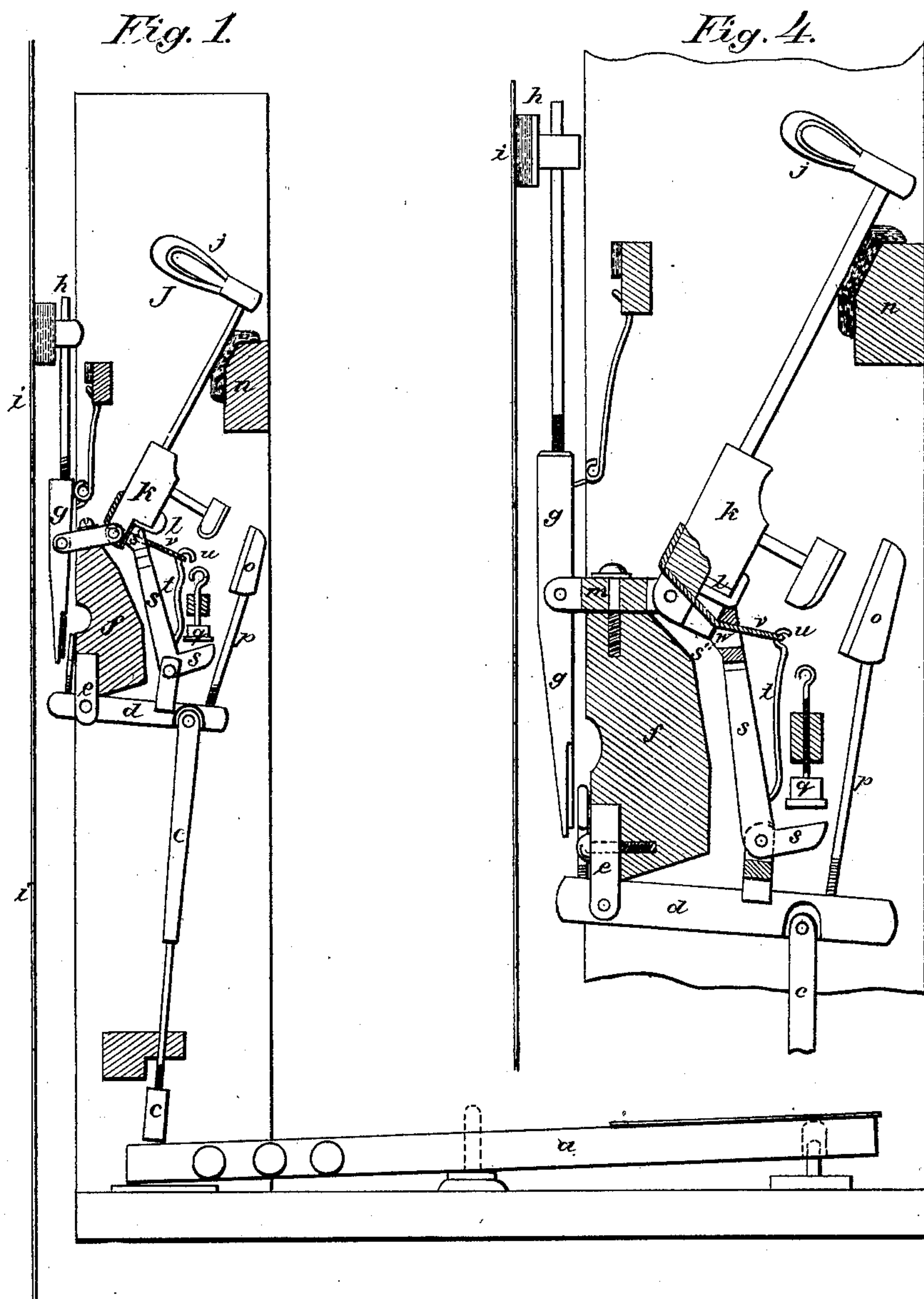


J. BRINSMEAD.  
Piano-Forte Action.

**No. 199,687.**

Patented Jan. 29, 1878.



*Attest :*

W. S. B. Henry

*Inventor :*

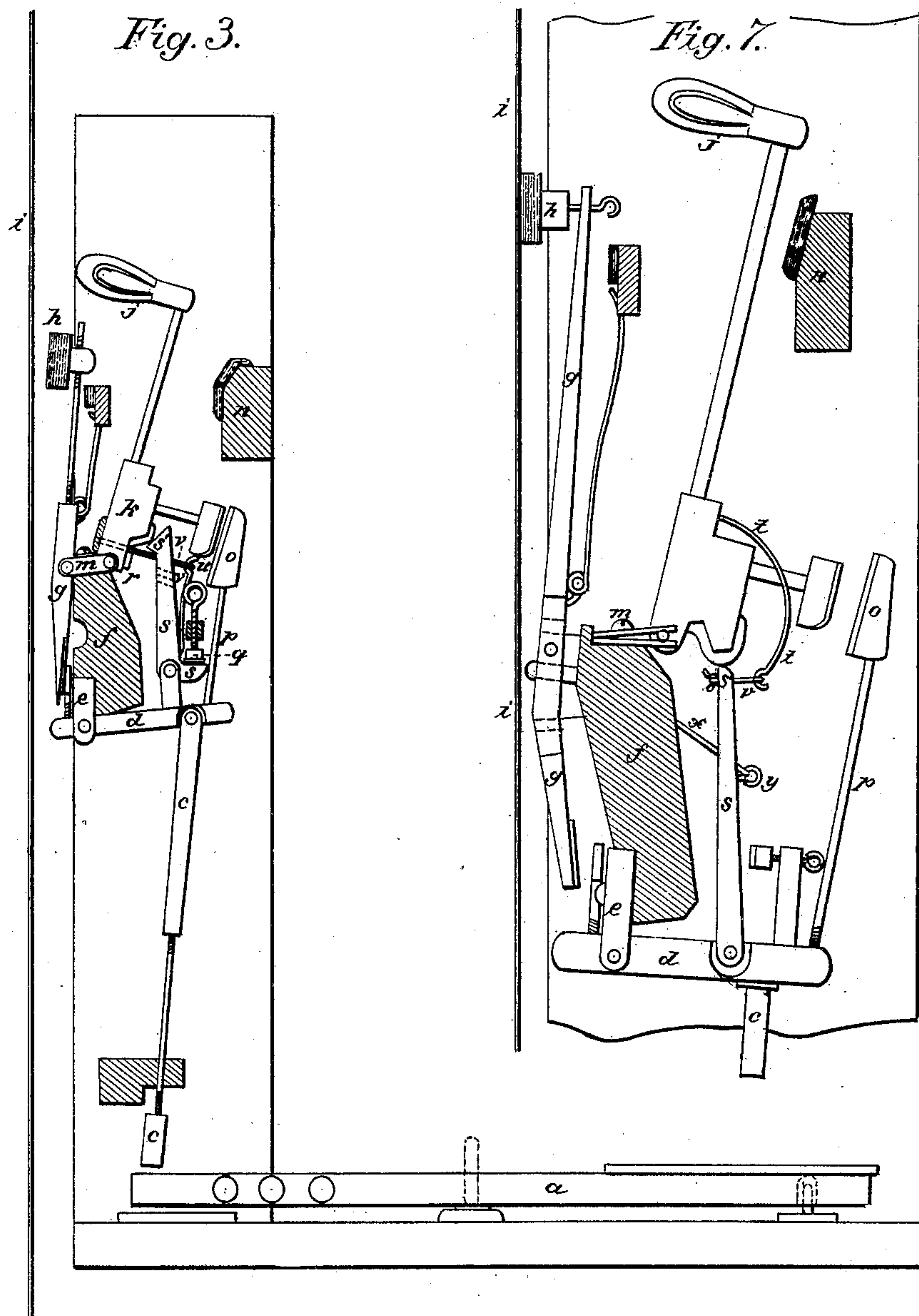
John Brinomead  
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# UNITED STATES PATENT OFFICE.

JOHN BRINSMEAD, OF LONDON, GREAT BRITAIN, ASSIGNOR TO JOHN BRINSMEAD & SONS, OF SAME PLACE.

## IMPROVEMENT IN PIANO-FORTE ACTIONS.

Specification forming part of Letters Patent No. **199,687**, dated January 29, 1878; application filed January 2, 1878.

*To all whom it may concern:*

Be it known that I, JOHN BRINSMEAD, of London, in the county of Middlesex and Kingdom of Great Britain, have invented certain new and useful Improvements in Piano-Forte Actions; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in piano-forte actions; and the object of the same is mainly to obtain a "repeat."

My improvement consists in a particular arrangement and operation of a spring and loop, and in forming the hopper or striker with an inclined surface at its upper end adapted to press on the front of the notch after escapement has taken place.

In carrying out my invention I connect a spring to the lower part of the hopper, which I carry up and form into a hook at its upper end. From this hook I carry a loop through a slot in the hopper, or at the sides of the hopper, and I connect the said loop to the butt under the notch.

But that my invention may be fully understood I will describe the same in detail by reference to the accompanying drawings.

Referring to the drawings, Figure 1 represents a sectional side view of my improved action applied to an upright piano-forte, the parts being shown in the positions they assume when at rest. Fig. 2 shows a similar view with the parts in the positions they occupy when the hammer strikes the wire. Fig. 3 shows the parts in the positions they occupy when the hopper has moved out of the notch and the hammer has moved partly back before pressure is removed from the key. Fig. 4 represents an enlarged view, partly in section, of some of the parts shown by Fig. 1. Fig. 5 is a front view of the hopper detached. Fig. 6 represents my invention applied to a square or grand piano-forte.

In each of the views similar letters of reference are employed to indicate corresponding parts wherever they occur.

*a* represents the key; *c*, the key-sticker or prologne; *e*, the bracket; *f*, the beam; *g*, the damper-lever; *h*, the damper; *i*, the wire; *j*,

the hammer; *k*, the butt; *l*, the notch of the butt; *m*, the rail; *n*, the hammer-rest; *o*, the check; *p*, the check-wire; *q*, the escapement, and *r* the cushion for the hopper, all of which parts are constructed in the ordinary manner,

*s* represents the hopper, which is formed at its upper end with an inclined surface or projection, *s'*, adapted to press on the front of the notch *b* after escapement has taken place, as shown by Fig. 3.

*t* is a spring attached to the lower end of the hopper *s*, and formed at its upper end with a hook, *u*, adapted to receive the end of the loop or cord *v*, which is carried through a slot, *w*, in the hopper *s*, and connected to the butt *k* under the notch *l*.

The loop or cord *v*, I prefer to carry through the butt *k*, as shown by Fig. 4, and attach the same to the back of the butt.

The loop *v* and spring *t*, acting together, operate as a "tie-leather," in order to prevent the hopper *s* and notch *l* getting too far apart, thereby dispensing with the ordinary tie-leather or tape.

The loop *v* and spring *t* are so arranged as to allow the hammer *j* to drop freely, while at the same time they serve to keep the hopper *s* on the cushion at rest, the spring *t* being at its least tension.

In some cases the spring *t* may be affixed to the butt *k*, and the loop *v* to the hopper *s*, as shown by Fig. 7.

In this case the hopper *s* escapes backward by the motion of the lever *d*, and depends for its cushion on a loop, *x*, fixed to the beam *f*, and passing through a hole in the hopper to an eye, *y*, in the rear of the hopper *s*, to which it is attached.

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

In a piano-forte action, the spring *t* and loop or cord *v*, in combination with the slotted hopper *s*, having the inclined surface or projection *s'*, and the hammer-butt *k*, arranged to operate substantially as described.

In testimony that I claim the within invention as my own I have hereunto set my hand in the presence of two witnesses.

JOHN BRINSMEAD.

Witnesses:

COLBORNE BROOKES,  
A. B. TRIPLER.