



# UNITED STATES PATENT OFFICE.

CHARLES G. BOTHNER, OF NEW YORK, N. Y.

## PIANISSIMO DEVICE FOR PIANO-ACTIONS.

No. 808,190.

Specification of Letters Patent.

Patented Dec. 26, 1905.

Application filed September 8, 1905. Serial No. 277,634.

*To all whom it may concern:*

Be it known that I, CHARLES G. BOTHNER, a citizen of the United States, residing at New York city, Bronx, county and State of New York, have invented new and useful Improvements in Pianissimo Devices for Piano-Actions, of which the following is a specification.

This invention relates to a pianissimo device for piano-actions which prevents lost motion between the jack and hammer-butt upon the depression of the soft pedal.

The pianissimo device is of simple construction, insures a correct touch, and is positive in its movements.

In the accompanying drawings, Figure 1 is a side view of a piano-action embodying my invention and showing the parts in their normal position; Fig. 2, a side view of the lower portion of the action, showing the position of the parts when the soft pedal is depressed; and Fig 3 an enlarged horizontal section on line 3 3, Fig. 1.

The letter *a* indicates the key of the piano-action. *b* is the capstan; *c*, the abstract; *d*, the wippen; *e*, the jack; *f*, the hammer, and *g* the hammer-rail, all as usual.

To a flange *h'* of lower action-rail *h* is fulcrumed at *i'* a tongue *i*. This tongue has a stepped front end *i<sup>2</sup>*, cushioned on top and bottom and resting upon capstan *b*. Back of step *i<sup>2</sup>* the top of tongue *i* is grooved, as at *i<sup>3</sup>*, Fig. 3, to receive the rear end of a lost-motion lever *j*, fulcrumed to tongue *i* at *j'*. The bottom of the abstract *c* is pivoted at *c'*

to lever *j* in axial alinement with capstan *b*. The abstract *c* extends above but not below the lever *j*, and thus does not interfere with the direct support of the latter upon the step *i<sup>2</sup>* during the normal operation of the parts. The cushioned front end *j<sup>2</sup>* of lever *j* is turned slightly upward and rests upon an oscillating cross-bar *k*. This bar has rearwardly-extending arms *k'*, pivoted at *k<sup>2</sup>* to a flange *h* of action-rail *h*.

Normally the lever *j* rests upon step *i<sup>2</sup>*, and motion is transmitted from capstan *b* through step *i<sup>2</sup>* and lever *j* to abstract *c*. Upon the depression of the soft pedal hammer-rail *g* is raised, as usual, by a lifter (not shown) to correspondingly raise bar *k* by rod *l*. In this way lever *j* will be swung up to form a gap between its lower side and step *i<sup>2</sup>*, Fig. 2. Thus the height of the action is increased and lost motion is prevented.

What I claim is—

A pianissimo device for piano-actions composed of a tongue pivoted to a fixed support and having a step, a lever pivoted to the tongue and supported normally upon the step, an abstract pivoted at its bottom to the lever, and means for raising and lowering the lever, substantially as specified.

Signed by me at New York city, (Manhattan,) New York, this 7th day of September, 1905.

CHARLES G. BOTHNER.

Witnesses:

FRANK V. BRIESEN,  
WILLIAM SCHULZ.