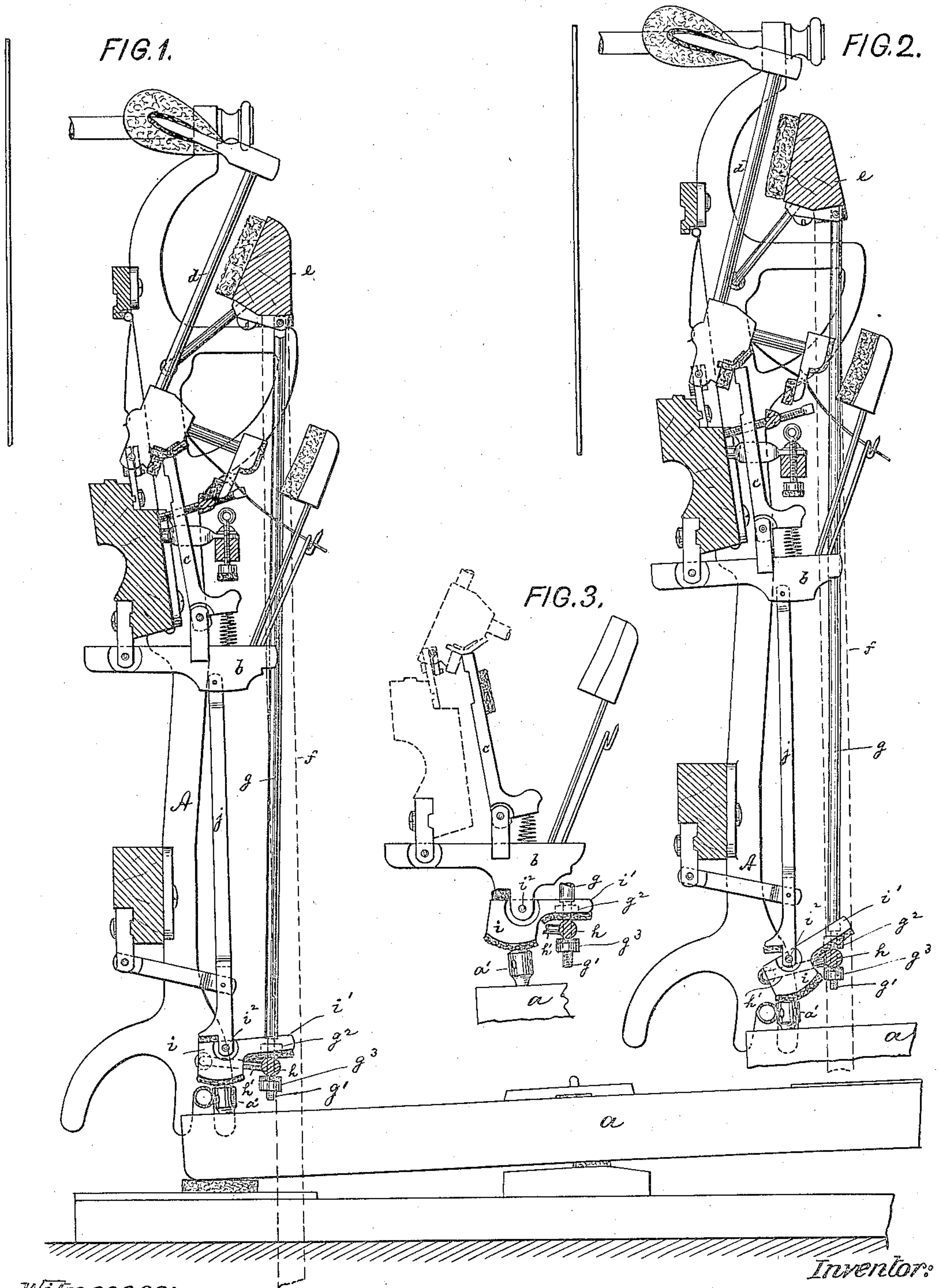


(No Model.)

A. T. STRAUCH.
PIANO ACTION.

No. 594,217.

Patented Nov. 23, 1897.



Witnesses:
John Becker.
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UNITED STATES PATENT OFFICE.

ALBERT T. STRAUCH, OF NEW YORK, N. Y.

PIANO-ACTION.

SPECIFICATION forming part of Letters Patent No. 594,217, dated November 23, 1897.

Application filed May 22, 1897. Serial No. 637,699. (No model.)

To all whom it may concern:

Be it known that I, ALBERT T. STRAUCH, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Piano-Actions, of which the following is a specification.

This invention relates to an action for upright and grand pianos, and more particularly to the means for raising the action into the half-stroke position by the depression of the soft pedal and the means for preventing lost motion while the action is so raised, so that the touch may always remain the same.

In the accompanying drawings, Figure 1 is a side elevation of a large upright action embodying my invention and showing the position of the parts when the soft pedal is raised. Fig. 2 is a similar view showing the position of the parts when the soft pedal is depressed. Fig. 3 is a side elevation of the principal parts of a small upright action embodying the invention.

The letter *a* represents the key of a piano-action. *b* is the wippen; *c*, the jack; *d*, the hammer, and *e* the hammer-rail, adapted to be raised by lifter *f* upon the depression of the soft pedal to elevate the hammers into their half-stroke position, all as usual.

To the hammer-rail *e* there is secured, by rod or hanger *g*, a transverse bar *h*, pivotally connected to the brackets *A* of the action by arms *h'*, so that the rod *h* will rise and fall together with the hammer-rail. The connection between hanger *g* and bar *h* is effected by providing the lower end of the hanger with a screw *g'*, that passes through a perforation of bar *h* and carries a felted button *g² g³* above and below the same, so that the lift of bar *h* may be adjusted.

Across the bar *h* there projects an arm *i'*, extending forwardly from a cam *i*, the lower felted eccentric edge of which rests upon the pilot *a'* of key *a*. With large actions this cam is pivotally connected to the extension *j*, that is in turn pivoted to the wippen, Figs. 1 and 2, while in small actions the cam is pivoted directly to the wippen, Fig. 3. The lower eccentric edge of the cam is so formed that its pitch is increased from front to rear, so that when the cam is swung upward by its arm *i'* the distance between cam-pivot *i²* and

pilot *a'* is increased and the entire action will thus be raised without, however, opening any spaces to create lost motion.

The operation of the action is as follows: When the soft pedal is raised, Fig. 1, the cam-arm *i'* is not influenced by bar *h* and motion is transmitted from the key through the pilot and eccentric to the wippen. When, however, the soft pedal is depressed, Fig. 2, the bar *h* will be raised to tilt the cam by arm *i'* on its pivot *i²*, and thus the cam will be rocked on the key and will interpose its widest section between its pivot and the pilot to tilt the wippen and raise the action without, however, opening up any spaces in which lost motion may take place. When the key is struck while the soft pedal is depressed, the cam-arm *i'* will vibrate upon the bar *h*, as upon a fulcrum, to cause a corresponding oscillation of the cam and a corresponding motion of the wippen.

It will be seen that by my invention power is transmitted from the key to the wippen always in the same vertical plane whether the soft pedal is depressed or raised—that is to say, the power passes always from the key through the pilot and thence through that portion of the cam-body which is temporarily in vertical alinement therewith to the wippen. Thus a uniform leverage and touch will always be maintained, while lost motion will be prevented.

It is evident that my invention may also be applied to actions for grand pianos.

What I claim is—

In a piano-action, the combination of a pivoted wippen with a pivoted cam adapted to tilt the same, a bar for actuating the cam upon the depression of the soft pedal, and a key, all being so constructed that power will be transmitted from the key to the wippen through the cam-body in the same vertical plane at both positions of the soft pedal, substantially as specified.

Signed at New York, in the county of New York and State of New York, this 10th day of May, A. D. 1897.

ALBERT T. STRAUCH.

Witnesses:

F. V. BRIESEN,
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