(No Model.)

A. NICKEL.

ACTION FOR GRAND PIANOS.

No. 566,928. Patented Sept. 1, 1896.

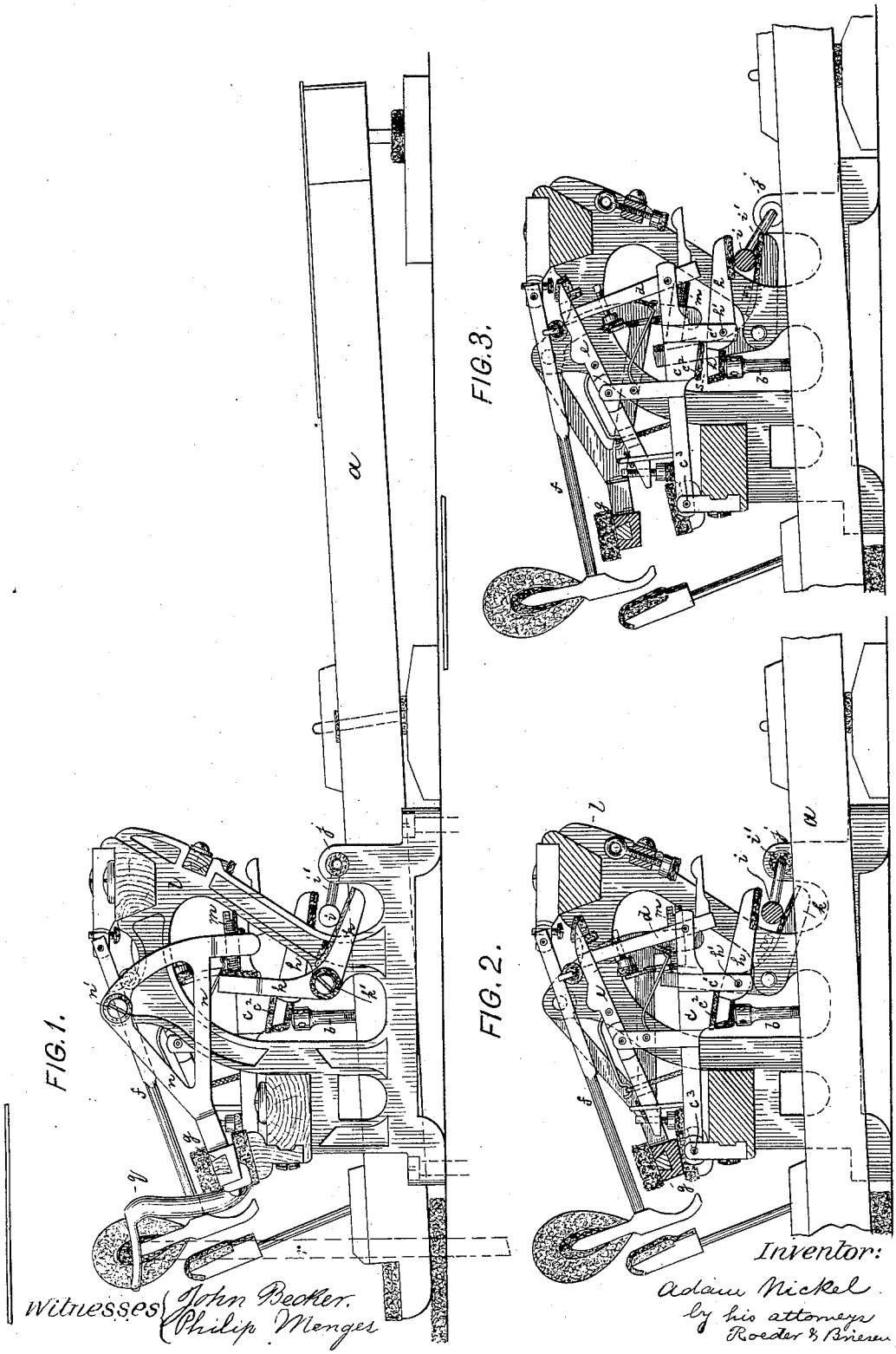

FIG. 1.

FIG. 2.

FIG. 3.

Witnesses: John Becker. Philip Menges

Inventor: Adam Nickel by his attorneys Roeder & Brenn

UNITED STATES PATENT OFFICE.

ADAM NICKEL, OF NEW YORK, N. Y.

ACTION FOR GRAND PIANOS.

SPECIFICATION forming part of Letters Patent No. 566,928, dated September 1, 1896.

Application filed June 25, 1896. Serial No. 596,873. (No model.)

To all whom it may concern:

Be it known that I, ADAM NICKEL, of New York city, New York, have invented an Improved Action for Grand Pianos, of which the following is a specification.

This invention relates to an action for grand pianos which permits a superior rendering of pianissimo passages. By my invention a uniform distance is always maintained between the hammer and its rail, whether they are in their normal position or whether they are raised by a depression of the soft pedal. Furthermore, a depression of the soft pedal causes the reach of the action to be increased simultaneously with the raising of the hammers, so that loose motion is avoided, and a prompt response of the action to the touch is insured.

In the accompanying drawings, Figure 1 is a side elevation of my improved action, showing the position of the parts when the soft pedal is raised. Fig. 2 is a similar view, partly in section, with the front bracket *l* removed; and Fig. 3, a view similar to Fig. 2 and showing the position of the parts when the soft pedal is depressed.

The letter *a* represents the key of a grand-piano action. *b* is the capstan, *c* the wippen, *d* the jack, *e* the repeating-lever, and *f* the hammer-shank, all as usual. With grand actions the hammer-shank does not normally rest upon the hammer-rail *g*, but is placed a short distance above the same, the rail not serving as a direct support for the hammer, but as a stop to check the rebound.

In order to raise the hammer, together with its rail, and to simultaneously increase the reach of the action when the soft pedal is depressed, I have devised the following construction: The wippen *c* is provided with a downwardly-projecting flange or extension *c'*, to which there is fulcrumed at *h'* a lever *h*, the rear arm of which projects between the capstan *b* and the lower cushioned side c^2 of the wippen. The front arm of the lever *h* is placed slightly above a rod *i*, that extends longitudinally through the piano and is free to oscillate around supports *j*, to which it is connected by the pivots *i'*. In order to actuate the rod *i*, it rests at one of its ends upon the lower arm of an elbow-lever *k*, pivoted to the action-bracket *l* at *k'*. The upper arm of this lever is engaged by a set-screw *m*, fitted in the tapped arm of a second lever *n*, which is pivoted to the action-bracket *l* at *n'*, and which is shown to be made of sector shape. The second arm of this lever serves as a direct support for the hammer-rail *g*, which is intimately secured to and carried by said arm. From the rail *g* there projects upwardly a bent finger *q*, which is engaged by the upper end of the lifter *r*, that reaches to the soft pedal. (Not shown.)

In the normal position of the parts, Figs. 1 and 2, the rail *g* and rod *i* are in their lowermost position, so that the rod *i* is out of engagement with the lever *h*. Thus the rear arm of this lever will be raised and will form a link for communicating motion directly from the capstan *b* to the wippen *c*. If, however, the soft pedal is depressed, the lifter *r* will raise the rail *g*, and will thereby swing the lever *n* upon its fulcrum. This lever will in turn swing the lever *k*, and the latter will swing the rod *i* so as to slightly raise the same. The raising of the rod *i* will cause a corresponding raising of the front arm of lever *h* and a depression of its rear arm, Fig. 3, so that a space *s* is opened between the capstan *b* and the wippen *c*, and the latter is swung upward on its pivot c^3 to raise the entire action, including jack, repeating-lever, and hammer, the latter being in this way brought to its half-stroke position. While playing, motion will now be transmitted from the key to the capstan, and thence to the lever *h*, which is thus caused to swing on the rod *i*, so as to transmit the proper motion to the rest of the action by means of the flange *c'*. Upon a release of the soft pedal the weight of the hammer-rail *g* and lever *n* will cause them to drop, so that the lever *k*, rod *i*, and lever *h* will at once resume their normal position.

It will be seen that in my improved action the depression of the soft pedal will cause the hammer-rail and the hammer to be raised and the reach of the action to be simultaneously increased, so that loose motion is prevented, and the action will properly respond to the touch while playing pianissimo passages. The screw *m* serves to adjust the position of the rod *i* beneath the lever *h*.

What I claim is—

1. In an action for grand pianos, the combination of a wippen with a lever pivoted thereto, a key for actuating one arm thereof, a rod engaging the other arm, a hammer-rail, a lifter for actuating the same, a lever for supporting the hammer-rail, and a second lever engaged thereby and adapted to actuate the rod, substantially as specified.

2. In an action for grand pianos, the combination of a wippen with a lever pivoted thereto, a key for actuating one arm thereof, a rod engaging the other arm, a hammer-rail, a lifter for actuating the same, a lever for supporting the hammer-rail, a second lever for actuating the rod, and a set-screw interposed between the levers, substantially as specified.

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Witnesses:
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