F. FRICKINGER.

UPRIGHT PIANO-FORTE ACTIONS.

No. 189,029. Patented April 3, 1877.

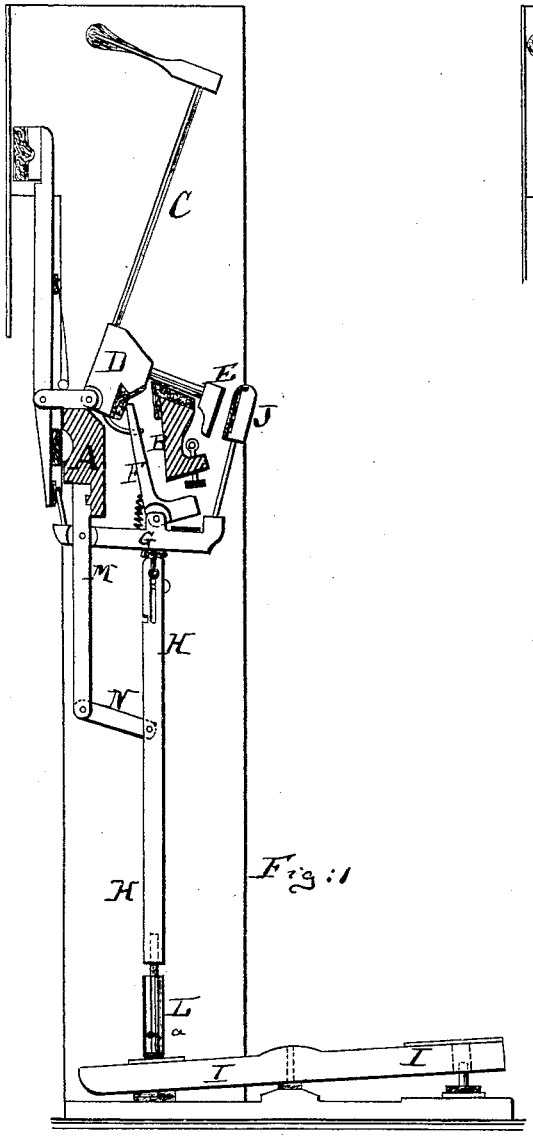

Fig: 1

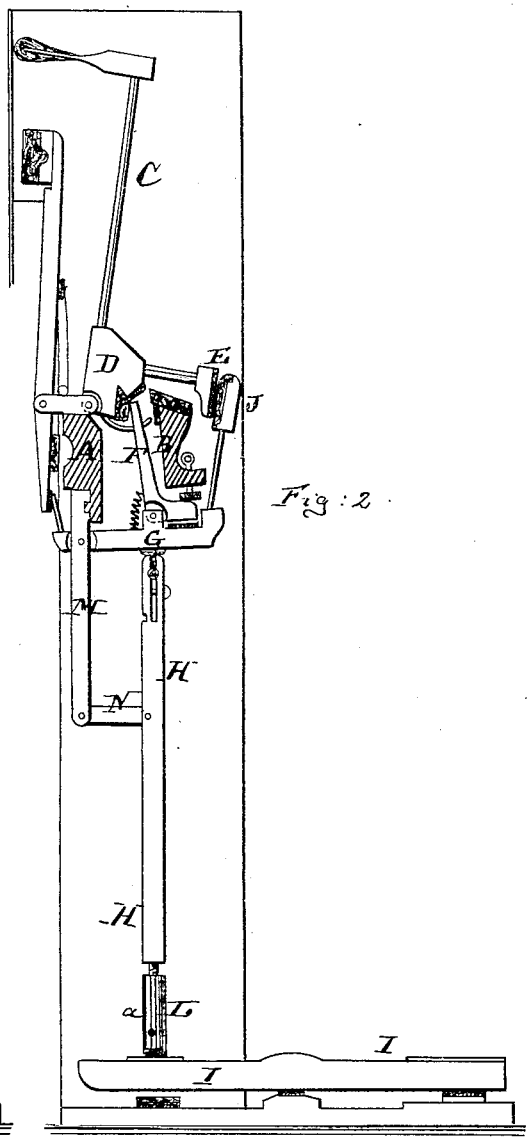

Fig: 2

Witnesses:

A. Moraga.

A. V. Briesen

Inventor:

F. Frickinger

by his attorney

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UNITED STATES PATENT OFFICE.

FRIEDRICK FRICKINGER, OF WEST NASSAU, NEW YORK.

IMPROVEMENT IN UPRIGHT PIANO-FORTE ACTIONS.

Specification forming part of Letters Patent No. **189,029**, dated April 3, 1877; application filed October 14, 1876.

To all whom it may concern:

Be it known that I, FRIEDRICK FRICKINGER, of West Nassau, in the county of Rensselaer and State of New York, have invented a new and Improved Upright-Piano Action, of which the following is a specification:

Figures 1 and 2 are side views of my improved action, showing the same in different positions.

Similar letters of reference indicate corresponding parts in both figures.

This invention relates to improvements in the hammer rest and butt of an upright action, as hereinafter more fully described.

The letter A in the drawing represents the hammer-rail, and B the fly-stop, of an upright piano-forte action. C is the hammer; D, the hammer-butt, and E the hammer-catch on the hammer-butt. The hammer derives its motion from the fly F, which, in turn, is actuated by the fly-lever G. The lifting-rod H connects the finger-key I with the fly-lever G. This fly-lever carries also the back-jack J.

Heretofore the hammer-rest was usually constructed of a separate rail, arranged above the hammer-butt, and the hammer rested with its shank against such rail.

One feature of my present invention consists in dispensing with a separate hammer-rest, and in utilizing the inner rail or fly-stop B for the purpose of a hammer-rest. This object I attain by cushioning the upper inclined surface of the fly-stop B, and placing the same under the shank of the hammer-catch E. This arrangement renders an elongation of the hammer-catch or its shank desirable, as indicated in the drawing, Fig. 1, showing the shank of the hammer-catch resting on the rail B, and Fig. 2 showing the hammer thrown against the cord or string by the action of the fly F.

It will be readily seen that by this arrangement of the fly stop the construction of the instrument is much simplified, as the upper additional rest-rail is dispensed with; and, at the same time, as the fly-stop and the hammer-rest are combined in one piece, it will make a very positive and strong fly-stop.

The fly-stop B derives its name from the fact that it arrests the upward motion of the fly F, in manner indicated in Fig. 2.

For adjusting the length of the lifter H, I place a screw, L, into the body of the lifter H, either as in the drawing, by screwing the same into the lower end of the lifter, and causing it to rest on the finger-key I, or by placing a right-and-left screw into the body of said lifter, in which case the latter is made in two separate pieces.

By this screw I can lengthen and shorten the lifter without causing the latter or any part of the action to be displaced or taken to pieces, and I prefer for this purpose to provide the cylindrical or other shaped head *a* of the screw L with holes, into which a wrench-pin can be introduced, or with projecting prongs, whereby it can be readily turned.

Finally, my invention consists in extending the butt M, to which the fly-lever G is pivoted, downward, and in joining it by a link or brace, N, with the body of the lifter H, as shown. By this arrangement I impart the requisite degree of steadiness to the lifter, and dispense with the much more complicated steadying devices which were heretofore used to properly brace or stay the lifter of an upright-piano action.

If the brace N be placed parallel to the fly-lever G the motion of the lifter caused by the action of the finger-key will also be slightly lateral, and the lifter will in consequence travel somewhat on the finger-key in being lifted. This traveling motion it would share with the lifters of ordinary upright piano-forte actions; but by placing said brace N somewhat out of parallel with, *i. e.*, oblique to, the fly-lever G, as shown in the drawing, I cause during the vertical movement of the lifter also a degree of vibration of such kind that its lower end will not vary its position on the finger-key, and the friction formerly produced by the lifter on such finger-key will consequently be avoided.

I claim as my invention—

1. In an upright-piano action the inner rail B, placed with reference to the fly F and

hammer-catch E, to constitute a combined fly-stop and hammer-rest, substantially as specified.

2. The hammer-catch E, elongated and combined with the inclined face of the fly-stop B, substantially as herein shown and described.

3. The butt M, having the fly-lever G and brace N, both directly pivoted thereto, and to the lifter H, substantially as specified.

Signed October 7, 1876.

FRIED. FRICKINGER.

Witnesses:

ERNEST C. WEBB,

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