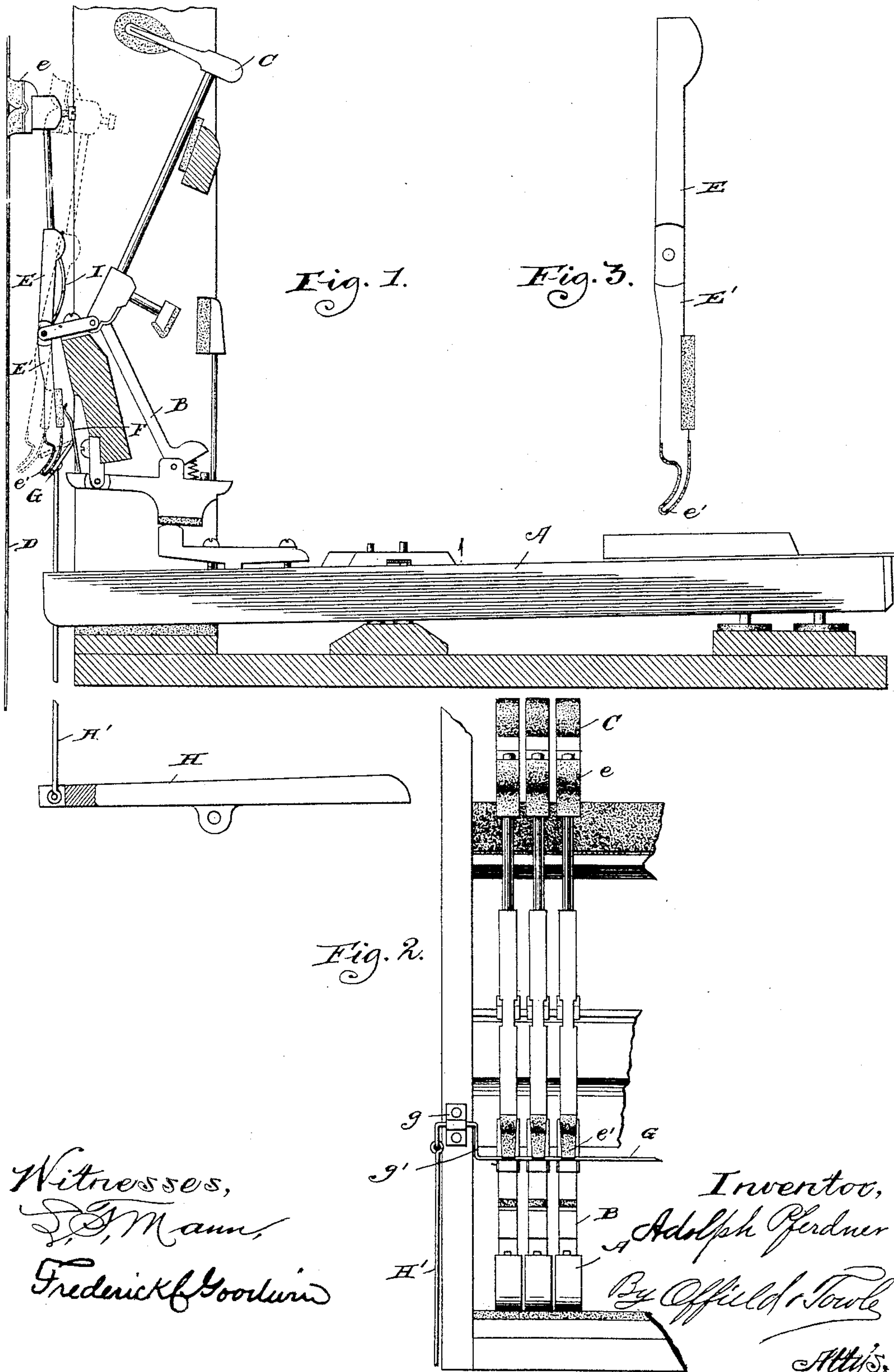


(No Model.)

A. PFERDNER.  
TONE SUSTAINING DEVICE FOR PIANOS.

No. 448,887.

Patented Mar. 24, 1891.



Witnesses,  
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# UNITED STATES PATENT OFFICE.

ADOLPH PFERDNER, OF CHICAGO, ILLINOIS, ASSIGNOR TO PATRICK J. HEALY, OF SAME PLACE.

## TONE-SUSTAINING DEVICE FOR PIANOS.

SPECIFICATION forming part of Letters Patent No. 448,887, dated March 24, 1891.

Application filed March 13, 1890. Serial No. 343,708. (No model.)

*To all whom it may concern:*

Be it known that I, ADOLPH PFERDNER, a citizen of the United States, residing at Chicago, Illinois, have invented certain new and useful Improvements in Tone-Sustaining Devices for Pianos, of which the following is a specification.

The object of my invention is to provide means for sustaining the tones of a piano—that is, to keep one or more notes sounding after the performer has released the keys; and this I do by the employment of means under the control of the performer, whereby the dampers of notes to be sustained are prevented from falling back on the strings after the fingers of the player have been taken from the keys, thus enabling him to strike any note or notes on the board while the tones of those previously struck are prolonged.

In carrying out my invention I employ, in addition to the usual upright-piano action, a damper-lever having its lower end adapted for engagement with a cranked rod, and the latter being connected by a suitable lever with a foot-pedal under the control of the performer, so as to be rocked in a position to engage the lower end of the damper-lever, and thus prevent its return and the impingement of the damper upon the string, thereby sustaining the tone.

In the accompanying drawings, Figure 1 is a side elevation of an upright-piano action, showing two positions of the damper-lever. Fig. 2 is a rear elevation of the same parts, and Fig. 3 is a side elevation of the preferred form of damper-lever.

A represents the keys; B, the jacks; and C the hammers. The damper-lever above its pivot is of the usual construction, its parts above and below its pivot being marked E E', respectively, and the damper-head being marked e.

F is the spoon, and I a spring working in conjunction with the damper-lever and the parts before described in the usual way.

The sustaining-rod G is mounted in bearings g at the ends of the frame, and its center portion is cranked. One end of the rod G is connected to the pedal H by means of the rod H'. The lower end of the damper-lever is peculiarly formed, so as to adapt it for engagement with the rod G, and to this end terminates in the curved projection e', on

the outer side of which the rod G will strike when raised by the pressure of the foot upon the pedal.

In operation the key A, being struck, causes the jack B to throw the hammer C against the strings D, and produces the sound. In this operation the damper B will have been thrown back by the action of spoon F and the damper-lever will assume the position shown by the dotted lines in Fig. 1. Upon the release of the key the damper-lever would, unless arrested, at once resume its original position, acting under the influence of the spring I, and, striking upon the string, would cut off the sound. Now if the performer wishes to sustain the note for any reason, he has, immediately after the striking of the note, to press the pedal H, and thus rock the shaft G in its bearings, throwing it up into the position indicated by the dotted lines in Fig. 1 and arresting the damper-lever in its backward movement. The rod G is so arranged as not to interfere with the free operation of the damper-levers other than the one which it is maintaining, and this is provided for by making the crank-arms g' of such length as to carry the straight portion of the rod out a sufficient distance to permit the damper-levers not engaged to operate. The curving of the end of the lever insures its engagement by the rod when the latter is thrown up and insures its ready release from the rod when the latter is lowered.

I claim—

A tone-sustaining device for upright pianos, comprising, in combination with damper-levers having their lower ends outwardly curved to adapt them for ready engagement by a sustaining-rod, of said sustaining-rod having a straight middle portion adapted to engage the curved ends of said levers and cranked ends mounted in suitable bearings on the frame, a foot-pedal within reach of the performer, and a rod connecting the pedal with one of the cranks of the sustaining-rod, whereby the latter may be rocked to cause its straight portion to engage the damper-levers and hold them out of contact with the dampers, substantially as described.

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Witnesses:

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