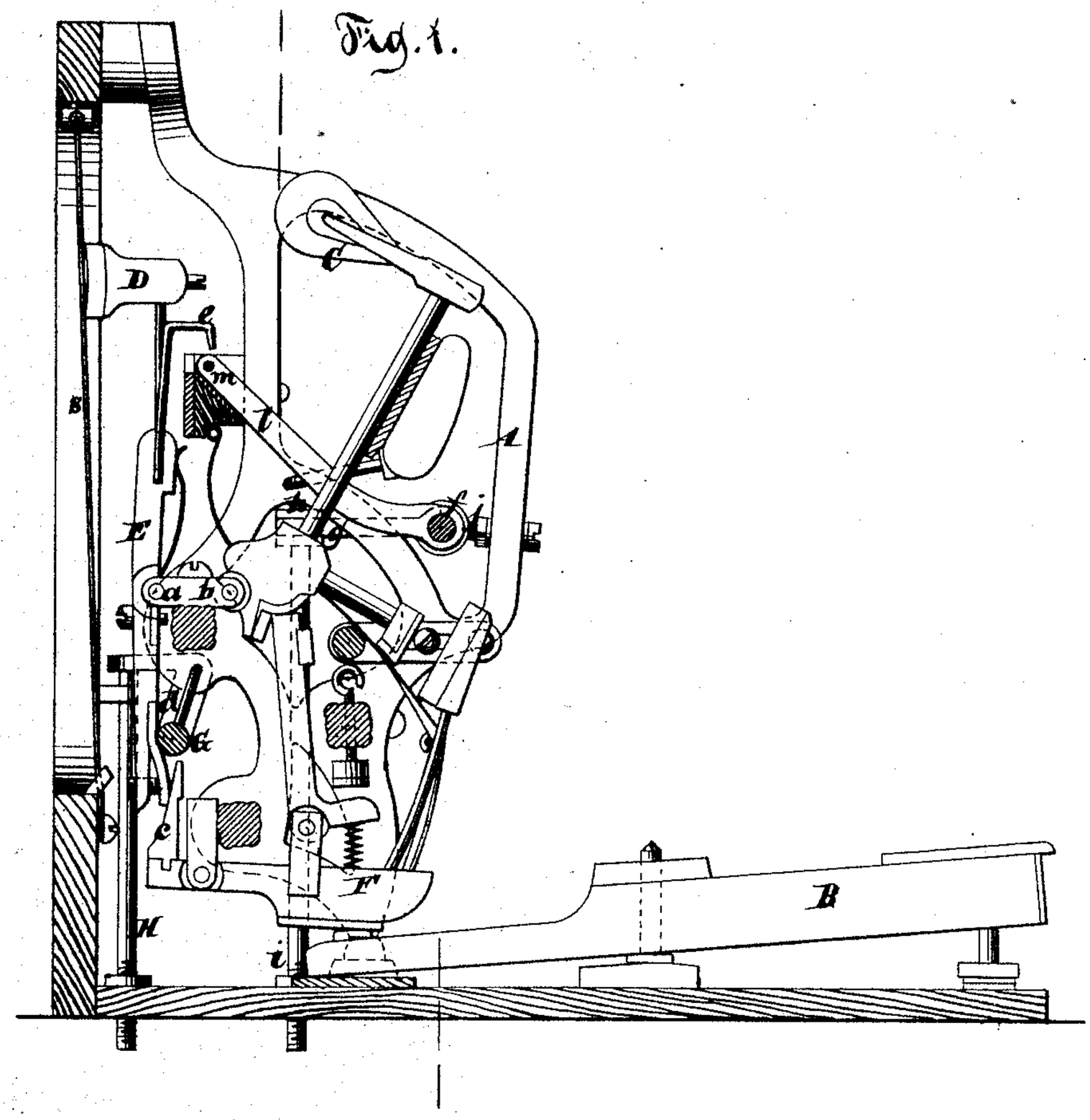
3 Sheets--Sheet 1.

A. STEINWAY.

Piano Attachments.

No. 164,053. Patented June 1, 1875.

Fig. 1.



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Chas. Wahlers.

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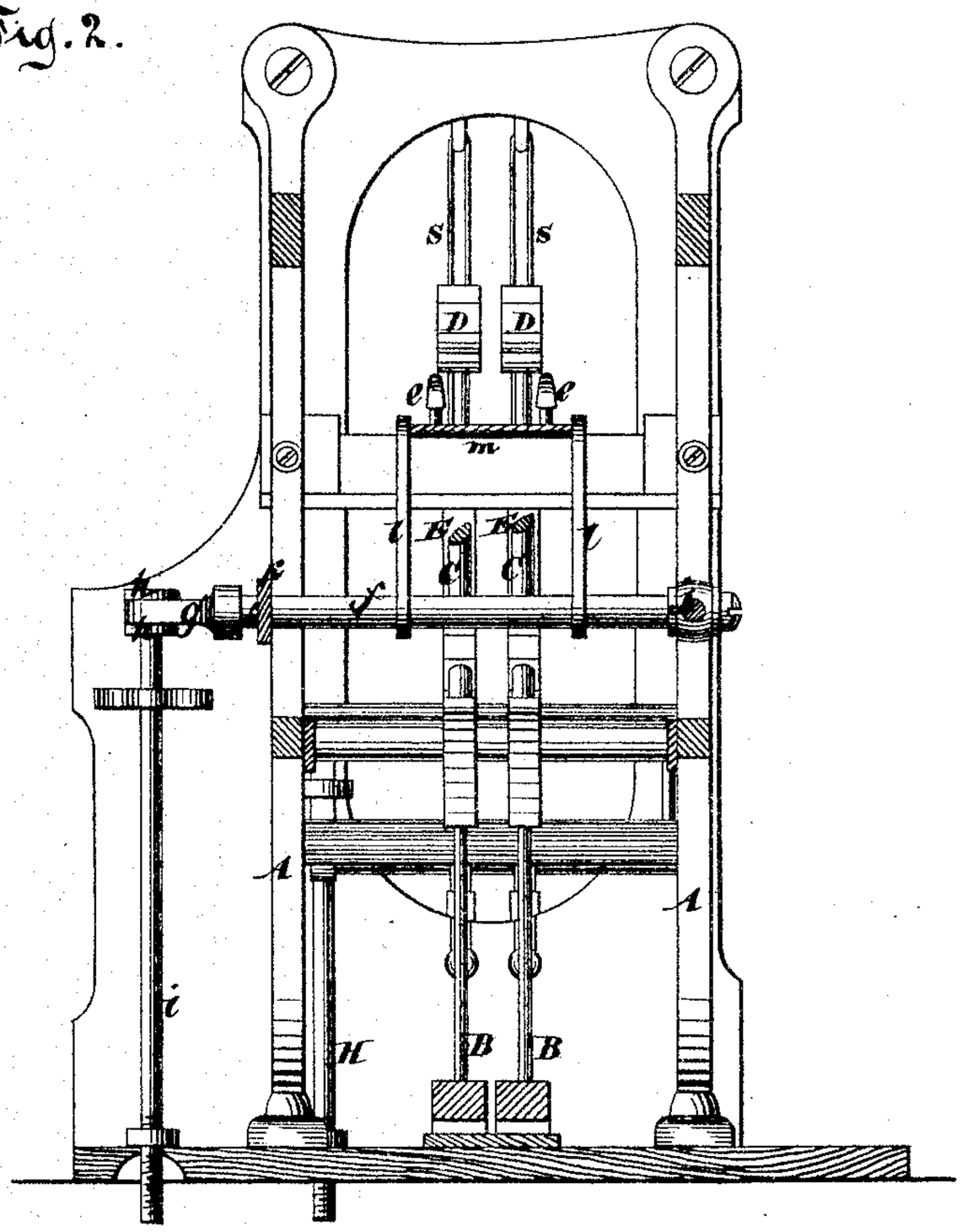
A. STEINWAY.

Piano Attachments.

No. 164,053. Patented June 1, 1875.

Fig. 2.



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A. STEINWAY.

Piano Attachments.

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Fig. 3.

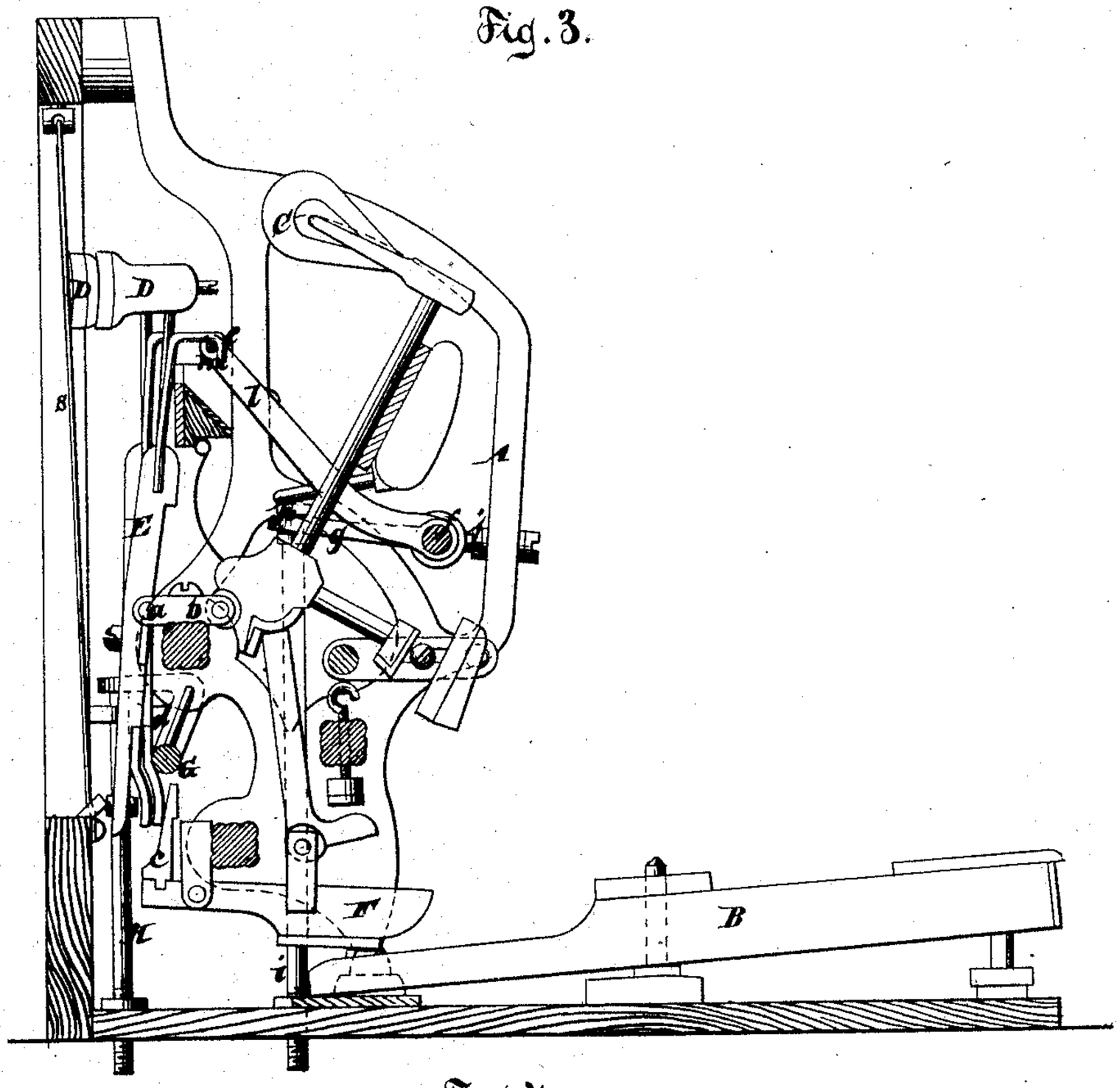
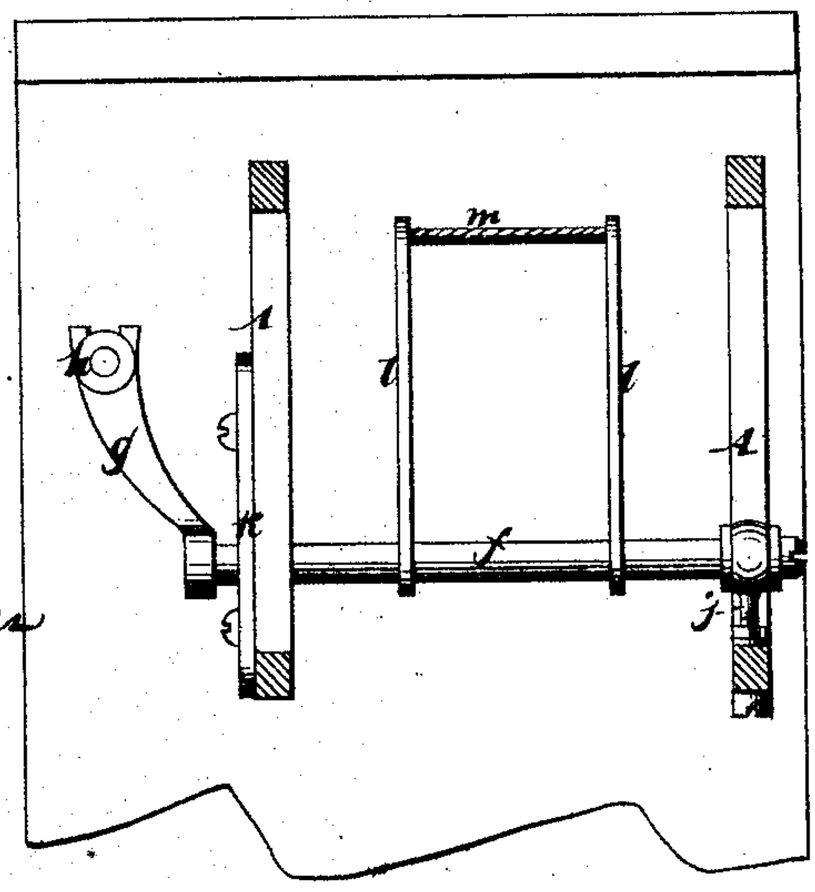


Fig. 4.



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UNITED STATES PATENT OFFICE.

ALBERT STEINWAY, OF NEW YORK, N. Y.

IMPROVEMENT IN PIANO ATTACHMENTS.

Specification forming part of Letters Patent No. 164,053, dated June 1, 1875; application filed May 15, 1875.

To all whom it may concern:

Be it known that I, ALBERT STEINWAY, of the city, county, and State of New York, have invented a certain new and Improved Attachment to Upright Piano-Fortes, of which the following is a specification:

This invention is illustrated in the accompanying drawing, in which Figure 1 represents a transverse vertical section when the action is at rest. Fig. 2 is a front view of the same. Fig. 3 is a transverse vertical section when one of the dampers is sustained by my attachment. Fig. 4 is a sectional plan of my attachment.

Similar letters indicate corresponding parts.

This invention relates to an improvement in that class of piano-forte attachments which I have described in Letters Patent No. 156,388, granted to me October 27, 1874, and which consists, essentially, of a movable frame supporting a wire, cord, or strip of flexible or rigid material running parallel to the ends of the damper-levers, in combination with a pedal which serves to operate said frame, so that when one or more dampers have been raised, and the frame is caused to move in the proper direction, said damper or dampers are caught and upheld by the wire or strip of the frame, after the corresponding key or keys have returned to their position of rest.

The object of my present improvement is to adapt this attachment to the action of an upright piano-forte. For this purpose the damper-levers are furnished with hooks, and a rock-shaft is provided, which has its bearings in the side pieces of the action-frame, and from which extend two or more arms, which support a cord, wire, or strip of flexible or rigid material in such a position that when one of the dampers is pressed back out of contact with its string, and the rock-shaft is turned in the proper direction, the cord, wire, or strip supported by the arms of said rock-shaft catches in the hook of said damper, and holds the same back from its string, after the appropriate key has returned to its position of rest. One or more of the dampers can be caught and held back by the cord, wire, or strip, and while this is done the performer is enabled to play with one or both hands, as may be desirable. A pedal provided for this purpose serves to impart to the rock-shaft the required motion.

In the drawing, the letters A A designate the side pieces of the action-frame of an upright piano-forte, the action being constructed in any manner suitable for the purpose. B B are the keys; C C, the hammers, and D D the damper-heads, which are secured to the upper ends of the damper-levers E E, that swing on pins *a*, secured in brackets *b*, which are fastened on a rail secured in the side pieces A A of the action-frame. The lower ends of each of the damper-levers E bear against an upright, *c*, which rises from an intermediate lever, F, bearing on the rear end of one of the keys B, so that when the key is depressed the damper-head is forced back from its string *s*. In front of the damper-levers, near their lower ends, extends a bar, G, which swings on arms *d*, secured in the side pieces of the action-frame, and the ordinary loud pedal, which acts on the upright rod H, serves to impart to said bar G a motion toward the damper-levers, so that whenever the loud pedal is depressed all the damper-heads are forced back from their strings. Each of the damper-levers E in my action is provided with a hook, *e*, and in the side pieces A A of the action-frame is mounted a rock-shaft, *f*, from one end of which extends an arm, *g*, the end of which is bifurcated, and catches between two collars, *h h*, secured to an upright rod, *i*, which is exposed to the action of a pedal, so that by stepping on this pedal an oscillating motion can be imparted to the rock-shaft *f*. This rock-shaft has its bearings at one end in an eyebolt, *j*, and at its opposite end in a slotted plate, *k*, both the eyebolt and the slotted plate being secured to the side pieces A A, so that the bearings of the rock-shaft can be adjusted toward and from the dampers. From said rock-shaft extend two or more arms, *l*, in which is secured a cord, *m;* or, if desired, a wire or strip of any suitable rigid or flexible material may be substituted for this cord. Said cord, wire, or strip is adjusted in such a position that when the dampers are down, and an oscillating motion is imparted to the rock-shaft *f*, the cord, wire, or strip will clear the hooks *e*, which are fastened to the damper-levers; but if one or more of the dampers

have been forced back from their strips by depressing the appropriate key or keys, and the pedal acting on the rod *i* is depressed, so as to impart to the rock-shaft *f* an oscillating motion, the cord, wire, or strip *m* catches in the hook or hooks *e* of said damper or dampers, and such damper or dampers are held back from their strings after the appropriate key or keys have returned to their position of rest. The motion of the rock-shaft *f* is so adjusted that by the action of the cord, wire, or strip *m*, those dampers which are forced back by said cord, wire, or strip are carried back somewhat beyond the position to which they have been carried by the action of the appropriate keys, so that the hooks of the dampers subsequently raised by their keys will not come in contact with the cord, wire, or strip *m*.

It will be seen from this description that it is essential to bring the rock-shaft *f* exactly in the correct position, and for this reason its bearings have been made adjustable.

I disclaim distinctly the combination of a pedal or equivalent device, and the dampers of a piano, with a swinging bar or intermediate mechanism to uphold the dampers, substantially as described, so that while the pedal is pressed, only those dampers are upheld which correspond with the keys pressed by the performer, since such combination of parts is already well known, and I further disclaim everything shown and described in my Patent No. 156,388.

What I claim as new, and desire to secure by Letters Patent, is—

The rock-shaft *f*, mounted in the side pieces of the action-frame of an upright piano-forte, and provided with arms which support a cord, wire, or strip of flexible or rigid material, in combination with hooks *e*, secured to the damper-levers E, and with a pedal which serves to impart to said rock-shaft the required motion, when said parts are constructed and arranged substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 12th day of May, 1875.

ALBERT STEINWAY. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.