

(No Model.)

J. HARDMAN.

UPRIGHT PIANO FORTE.

No. 251,581.

Patented Dec. 27, 1881.

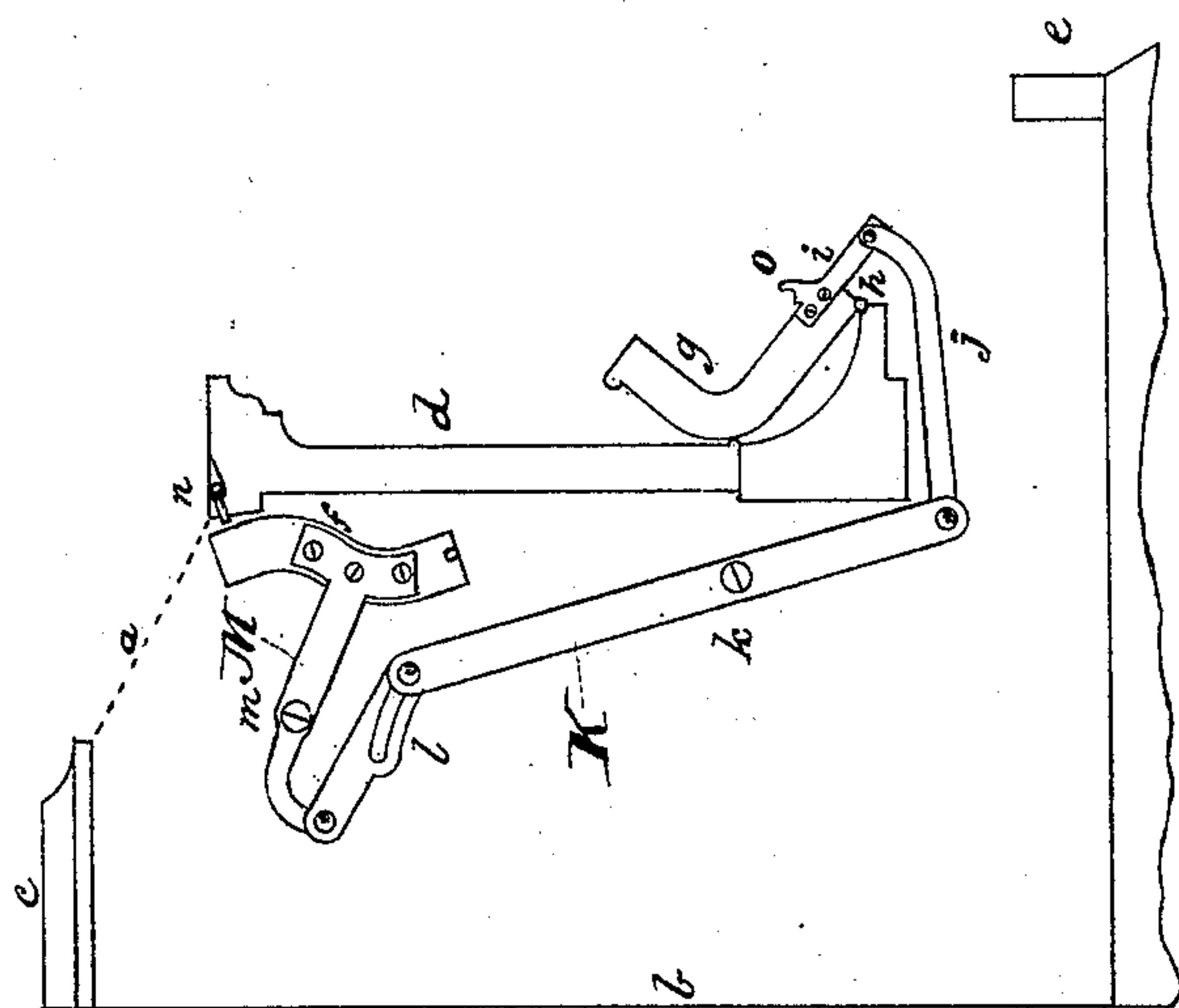


Fig. 2

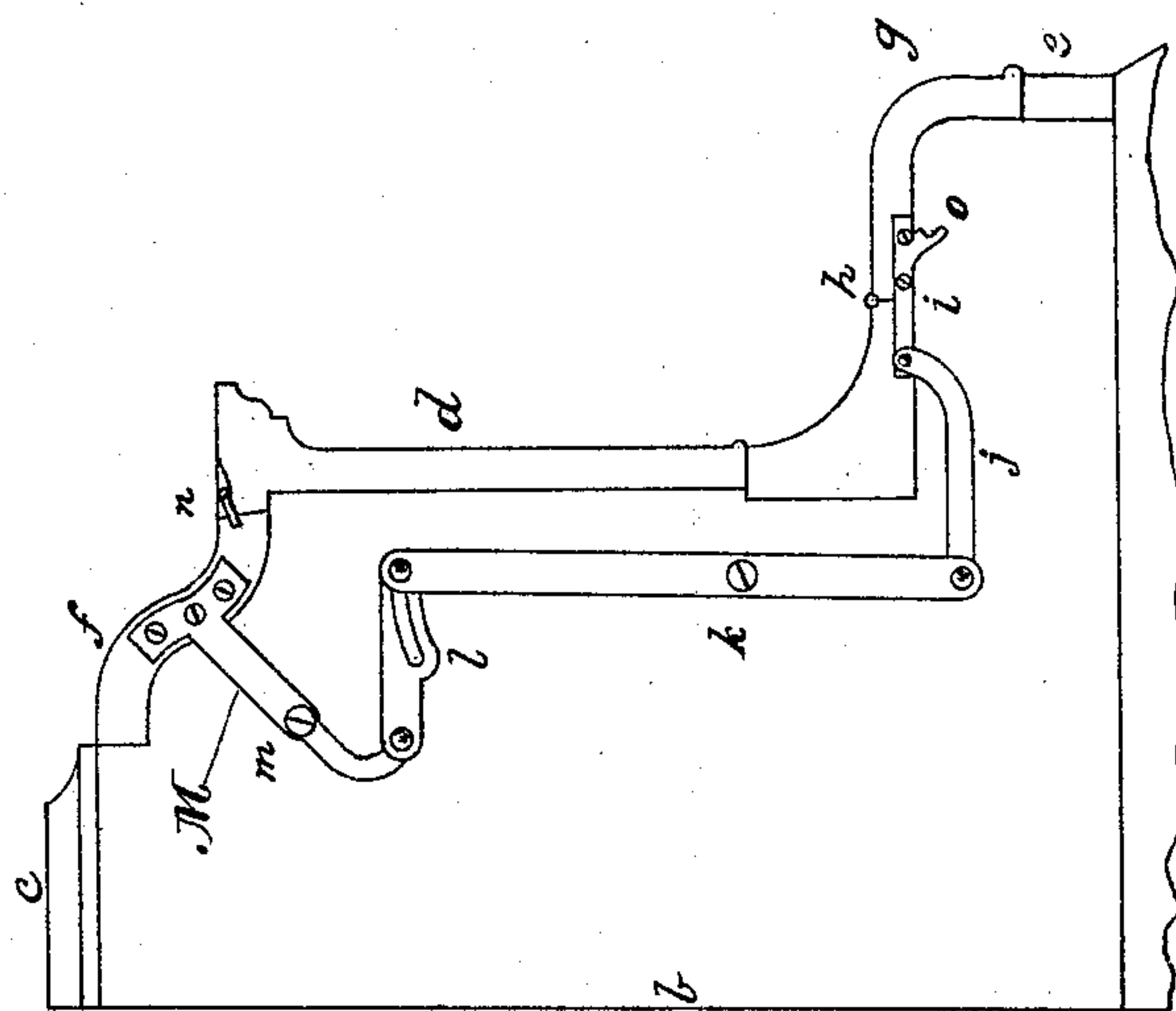


Fig. 1

Witnesses.

J. V. Thurston  
" "  
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" "

*Inventor.*

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# UNITED STATES PATENT OFFICE.

JOHN HARDMAN, OF NEW YORK, N. Y., ASSIGNOR TO HARDMAN, DOWLING & PECK, OF SAME PLACE.

## UPRIGHT PIANO-FORTE.

SPECIFICATION forming part of Letters Patent No. 251,581, dated December 27, 1881.

Application filed October 12, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN HARDMAN, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Upright Piano-Fortes, of which the following is a specification, reference being had therein to the accompanying drawings.

Upright piano-fortes are often constructed with their cases divided longitudinally at the top into two parts of nearly equal widths, and hinged together, so that the front portion makes a lid that can be raised from the front and form a port or opening for exit of sound-waves from the instrument. This lid I remove altogether, and also remove a portion from the front panel, along its top edge, to a width downward about equal to the width of the lid described, which operations will leave intervening angle-pieces or corners at the sides, which corners I cut away, thus forming bevel-lines of about forty-five degrees with the lines of the front and top. Such division of the piano-top or cutting away of the front and ends does not form any part of my invention; but my improvements consist in a peculiar construction of cover fitting and closing the port thus formed, the operations of the cover, and in the automatic apparatus for actuating the same.

In the drawings, Figure 1 shows the inner side of one end of the piano-case, where are represented the several parts of my improvement in their proper position when the piano is closed; and Fig. 2 represents all the several parts as in position when the piano is open, with the cut-away space shown between the top and front at *a*.

*b c d e* show the back, top, and front casings of an upright piano-forte in the order as named.

*f* represents an ogee cover fitting into the space *a*, Fig. 2, and united with the actuating parts for opening and closing the cover automatically, as will be described.

*g* shows the fall or key-cover, hinged at *h*, represented open in Fig. 2 and as closed in Fig. 1.

*i* shows a plate secured at its front end to the edge of the fall *g*, but prolonged beyond its edge backward, thus forming a short lever,

actuated by raising and lowering the fall, and hinged at its rear end to a curved end of the plate *j*, the opposite end of which plate is jointed to an upright lever, *K*, secured to the side of the case by a pin, *k*, and on which it oscillates. In the upper end of the lever *K* a short pin is fastened to slide in a curved slot cut through a plate, *l*, that is hinged at its opposite end to and actuating a lever, *M*, which oscillates upon a pin, *m*, secured in the side of the case. The lower end of this lever *M* is hook-shaped, as shown in the drawings, and is there jointed to the plate *l*, as described, and to the upper end of this lever the ogee cover *f* is firmly secured as shown. The top of the front rail, as at *n*, is cut out, forming one or more recesses to receive a like number of fastening devices or bolts to take into and hold the edge of the cover *f*, securing it in position when closed. All the several parts described are repeated at the opposite side of the piano.

The working action of this apparatus will be as follows: Raise the fall *g* and at the same time release the fastenings of the cover at *n*. The plate *j* and lower end of the lever *K* will be drawn forward. This will throw back the upper end of *K*, releasing the tension upon the short lever on *m*, and the ogee cover will drop forward by its own gravity to the position as shown in Fig. 2; but, if it be desired to raise the fall without opening the ogee sound-cover, the bolts at *n* should remain fast. Then on raising the fall the pin in the upper end of *K* will slide backward in the slot in *l* and effect no action on *M* *f* at all, and, in both cases, closing the fall will reverse the several motions and return all the parts to their proper places. The ledge for resting the music is shown on the under side of *g* at *o*, and the fastening device *n* may be changed to the back or sides of the case to secure the cover *f*.

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

1. In an upright piano-forte, the combination of fall *g*, plates *i j l*, levers *K M*, and cover *f*, all constructed and operating in the manner substantially as set forth.

2. In an upright piano-forte, the cover *f*, mounted upon compound double levers oscillating upon fixed pins *m*, in combination with



fall-board *g*, and constructed, substantially as set forth, to drop forward and inward by gravity to open the space *a*, as set forth.

3. In an upright piano-forte the ogee cover  
5 *f*, combined with fastening device *n*, levers *M*  
*K*, and connecting-plates, or their equivalent,  
and fall-board *g* for actuating the same, when  
constructed substantially as set forth.

4. In an upright piano-forte, the cover *f*, or

its equivalent, in combination with the fall- 10  
board *g* and means connecting them, arranged  
in the manner and for the purpose set forth.

In testimony whereof I affix my signature in  
presence of two witnesses.

JOHN HARDMAN.

Witnesses:

J. B. HYDE,

N. B. ULLMAN.