

P. GMEHLIN.

PIANO CASE.

No. 397,121.

Patented Feb. 5, 1889.

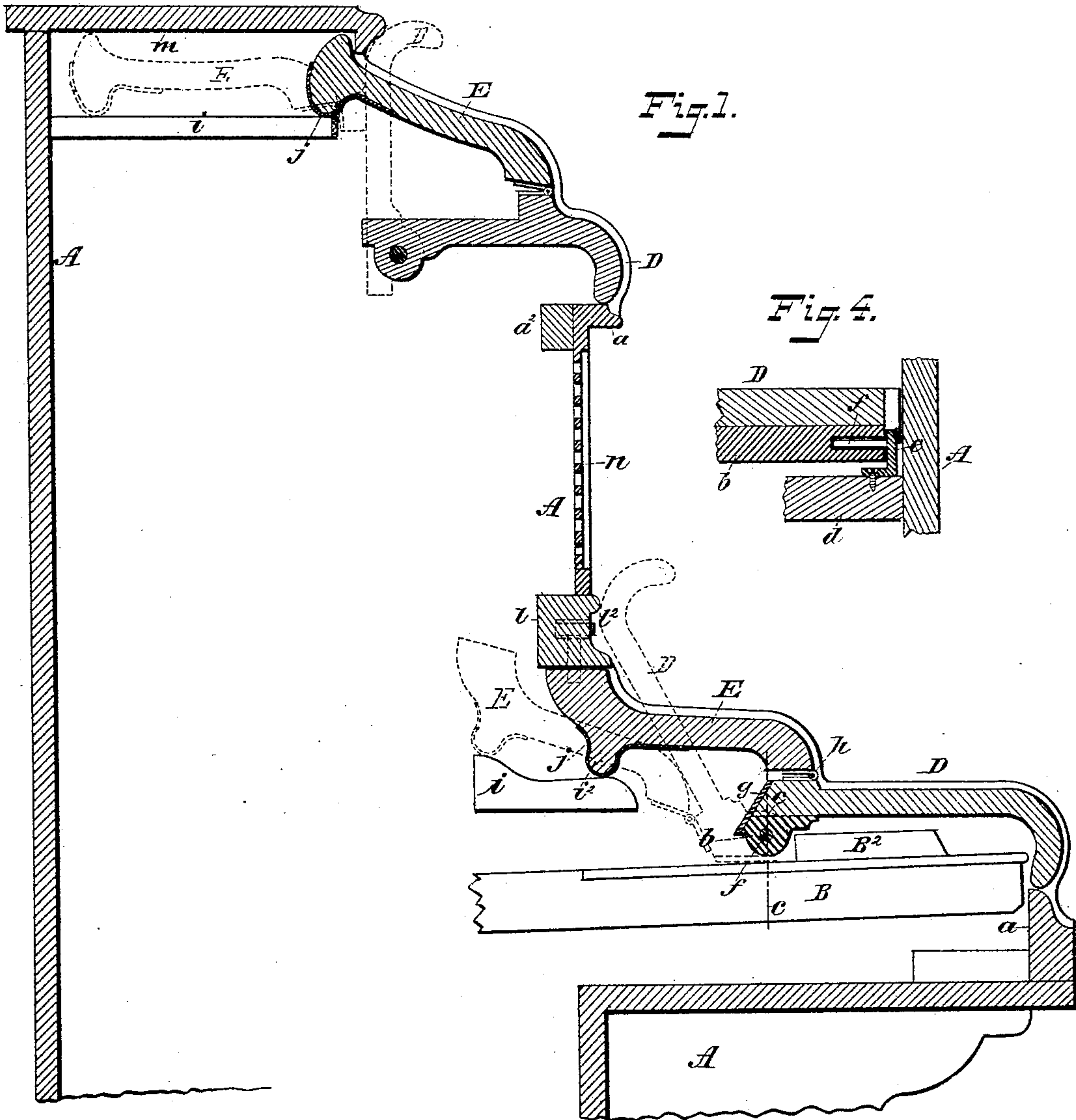


Fig. 1.

Fig. 4.

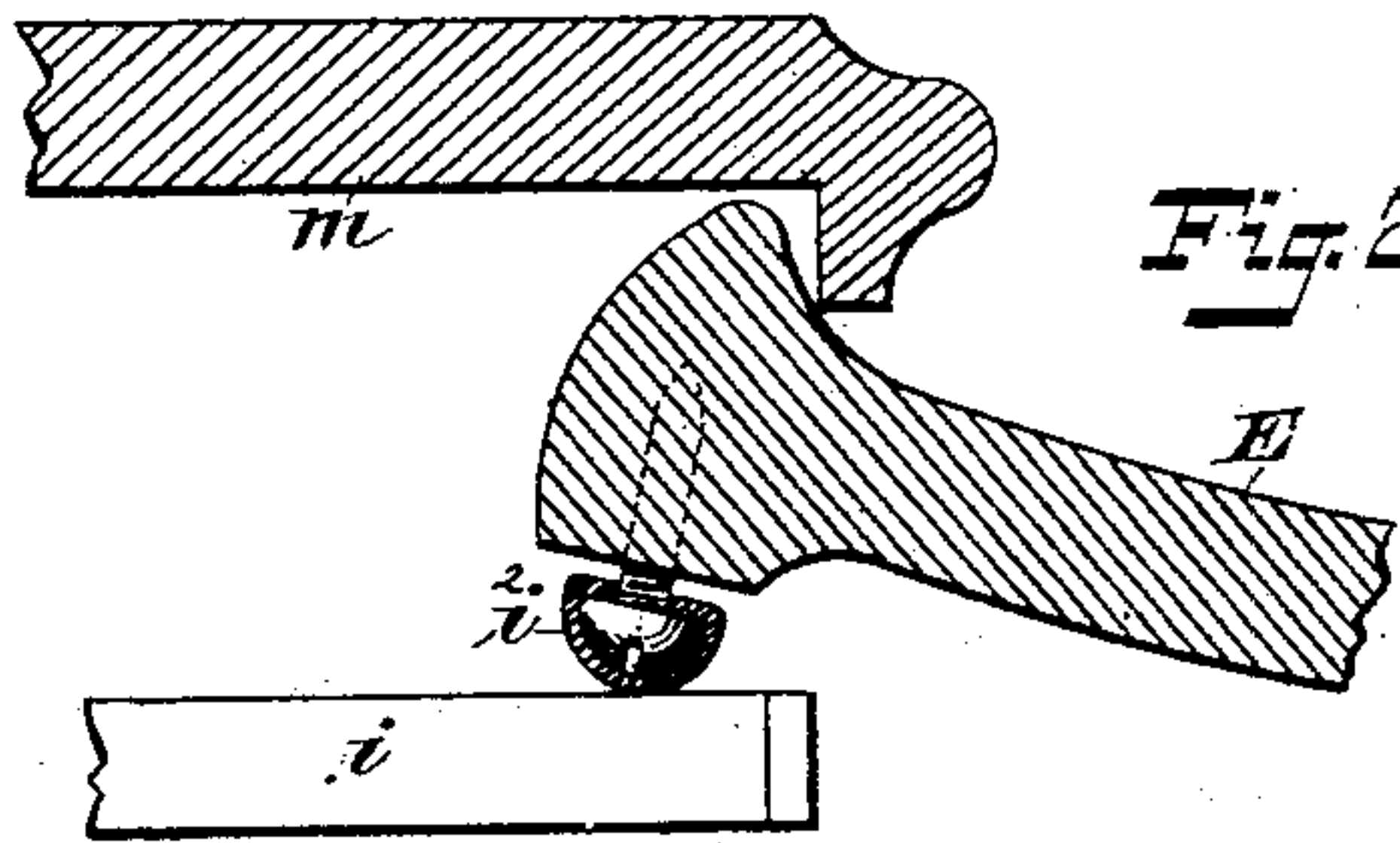
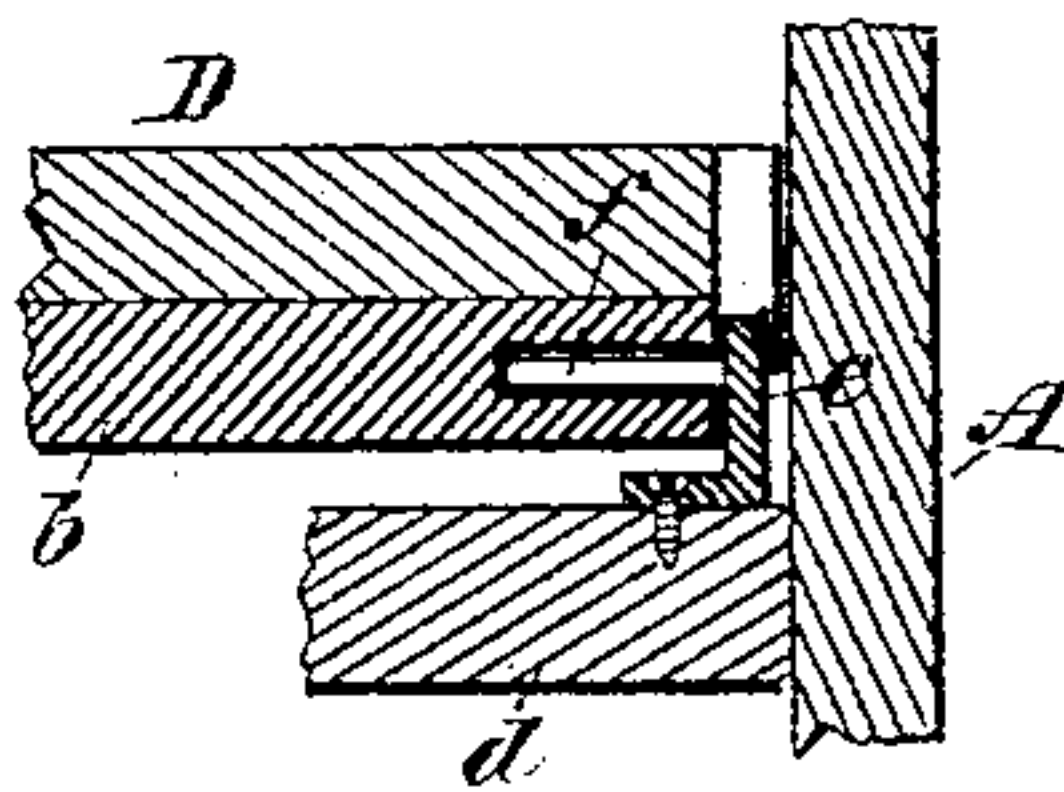


Fig. 2.

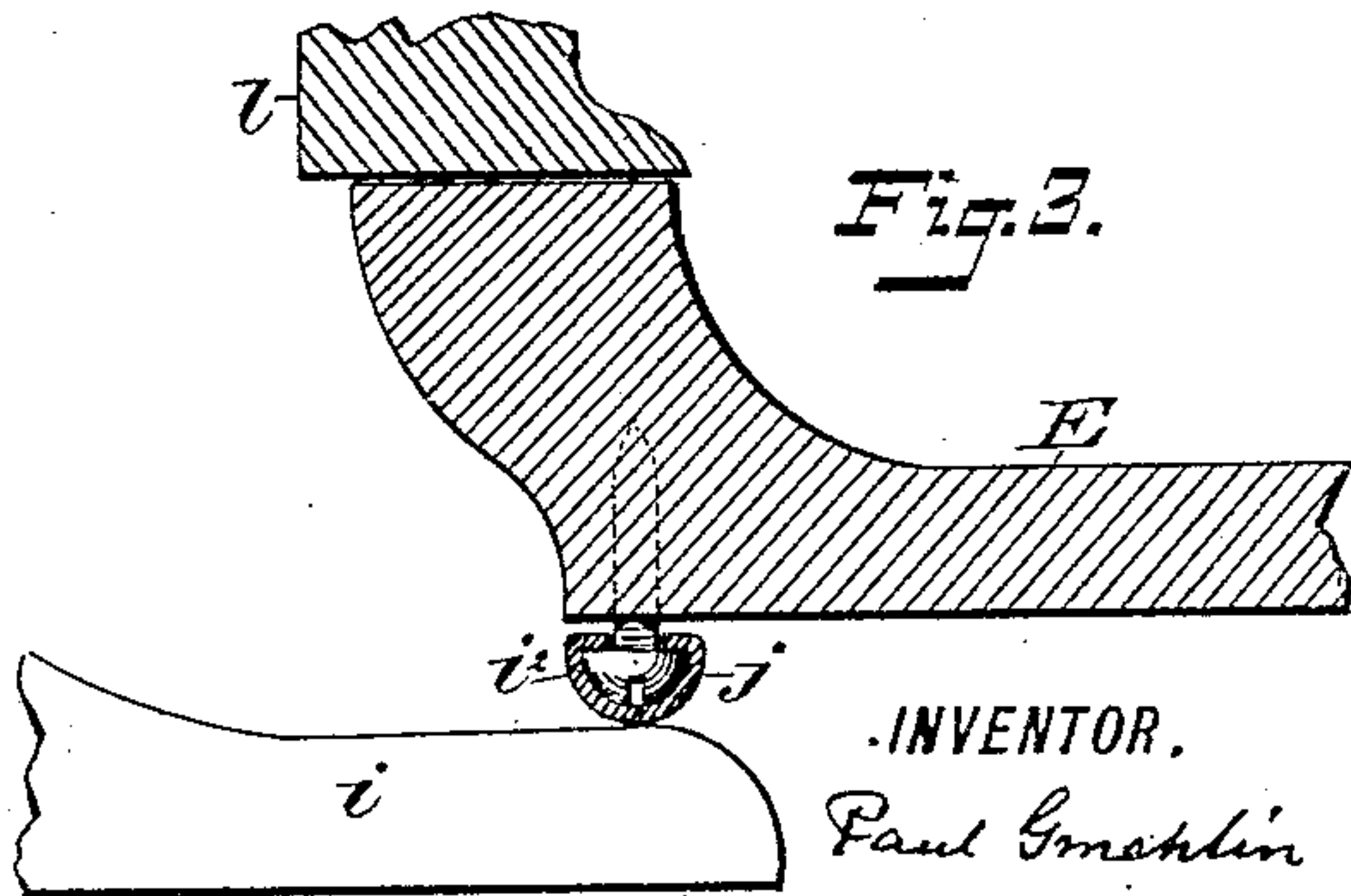


Fig. 3.

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(No Model.)

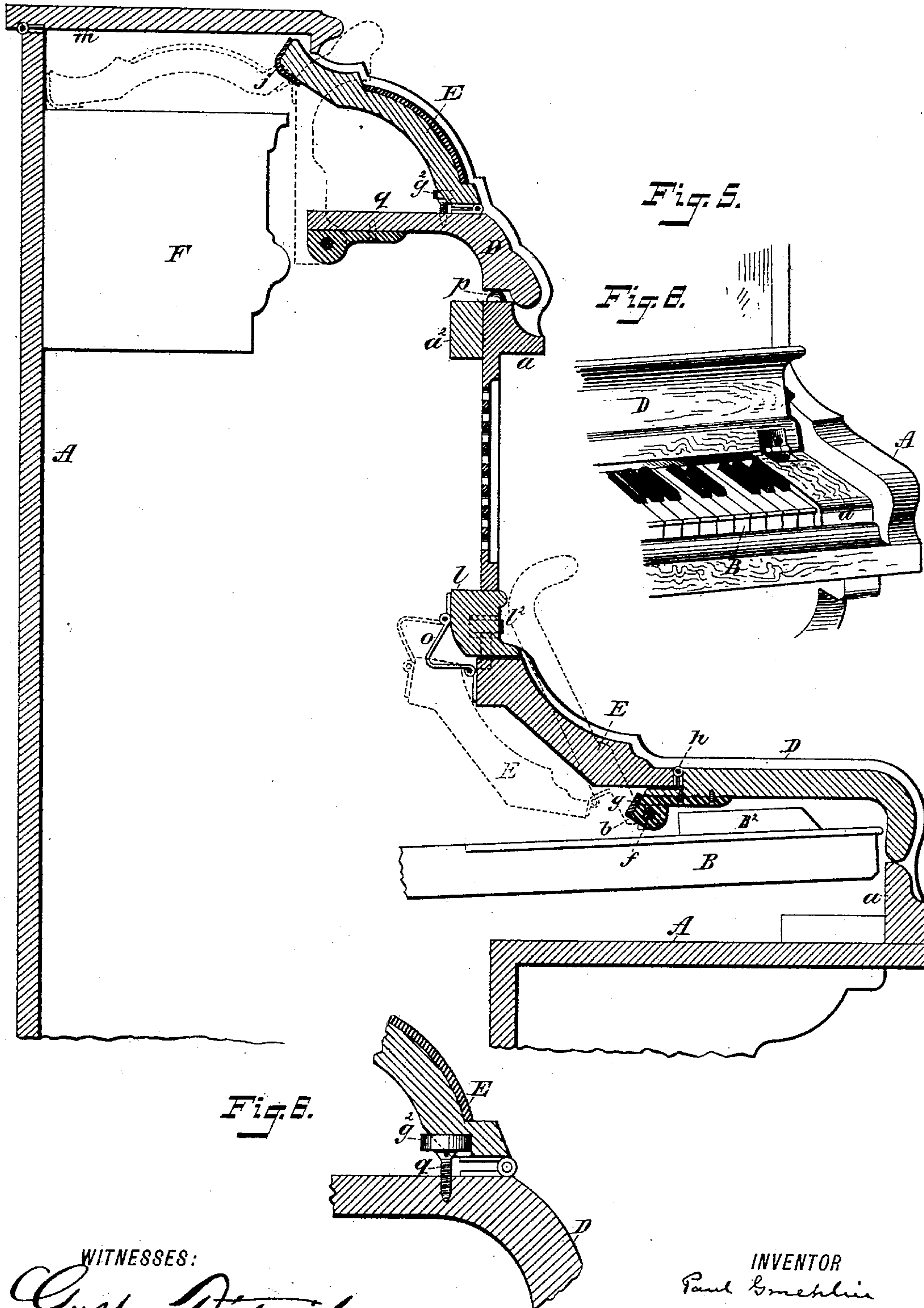
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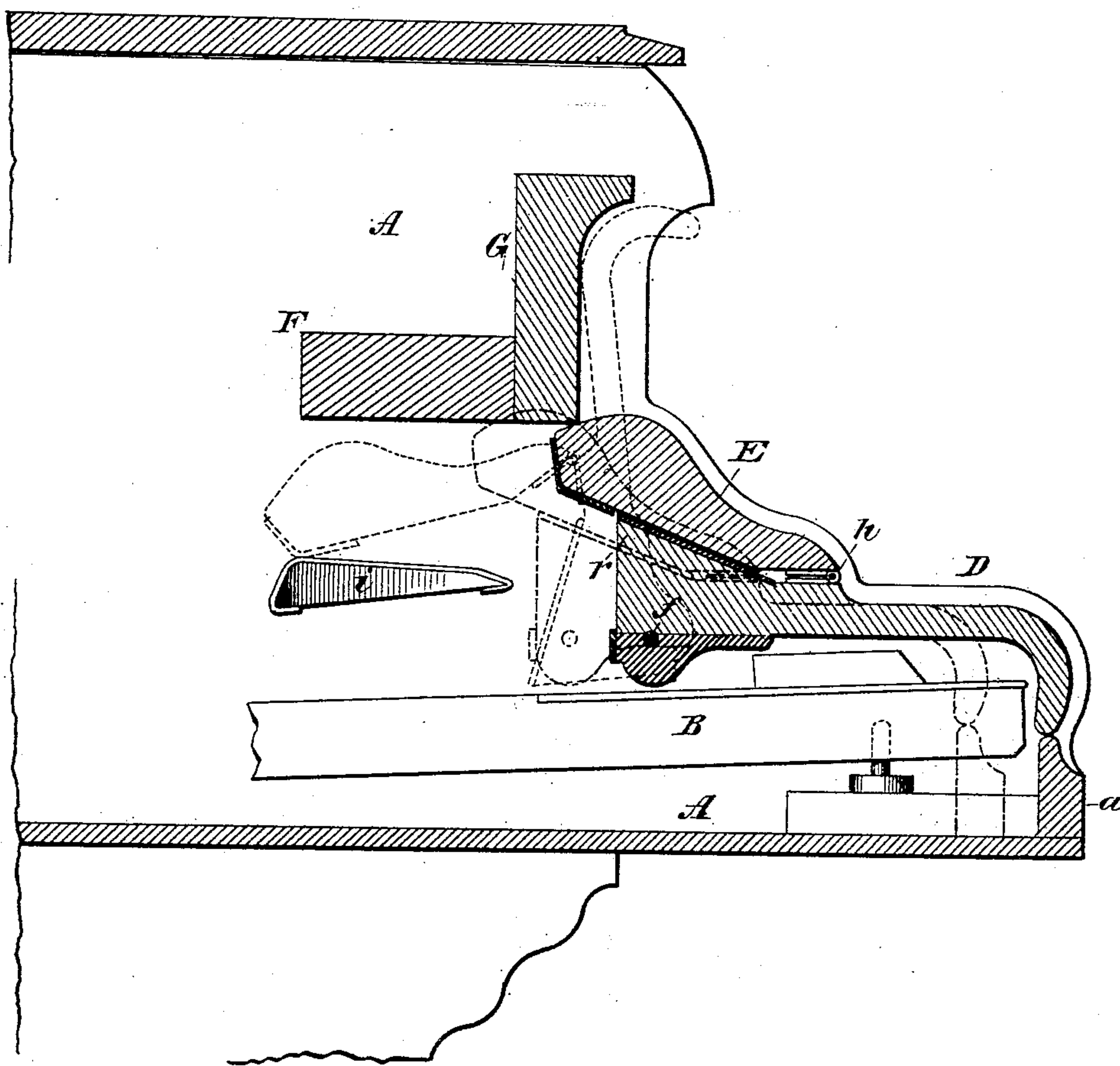
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*Fig. 7.*



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# UNITED STATES PATENT OFFICE.

PAUL GMEHLIN, OF NEW YORK, N. Y.

## PIANO-CASE.

SPECIFICATION forming part of Letters Patent No. 397,121, dated February 5, 1889.

Application filed October 4, 1888. Serial No. 287,171. (No model.)

*To all whom it may concern:*

Be it known that I, PAUL GMEHLIN, a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Pianos, of which the following is a specification.

The object of my invention is to provide an improved lid or cover for piano-keys that will reach well over the keys, but will not be raised as high when opened as those heretofore used, and which lid or cover shall be simple in construction and efficient in use.

The invention consists in the details of improvement and the combinations of parts, that will be more fully hereinafter set forth.

Reference is to be had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical cross-section of a portion of an upright piano containing my improvements. Figs. 2 and 3 are detail sectional views of modifications. Fig. 4 is a detail longitudinal section on the line *c c*, Fig. 1. Fig. 5 is a vertical transverse section of a portion of an upright piano containing my improvements in a modified form. Fig. 6 is a detail sectional view of part thereof. Fig. 7 is a vertical cross-sectional view of the front portion of a grand piano containing my improvements, and Fig. 8 is a detail perspective view.

In the accompanying drawings, the letter A represents the frame of a piano, which may be of suitable construction.

B are the keys, and D is the lid or front fall for covering the keys. The lid or front fall, D, may be made of any suitable shape and extends over the outer ends of the keys B, the free end of the front fall, D, resting, when closed, upon the upper edge of a stationary rail or slip, *a*, and extends along the front of the piano, as shown. The rear portion of the front fall, D, is secured to a key rail or rod, *b*, that preferably extends across the whole width of the piano-frame. This key-rail *b* may be made of metal or of other suitable material, and it is pivoted at its ends to pins *f*, carried by the key-blocks *d* at the ends of the key-board.

In Fig. 4 of the drawings is shown one manner of pivoting the key-rail *b*. This consists

of a supporting-lug, *e*, secured to the key-block *d*, said lug having a pin, *f*, that passes into an aperture in the end of the key-rail *b*. By this means the key-rail is supported at the ends so as to turn, and at the same time is hung low and near to the upper edges of the main keys B and behind the sharp keys B<sup>2</sup>. If preferred, the front fall, D, and the key-rail *b* could be made in one piece.

*g* is a piece of felt or the like carried on the inner end of the front fall, D, and by the key-rail *b*, as shown. When the lid or front fall, D, is thrown back on its fixed pivots *f* into the position shown in dotted lines in Figs. 1 and 5, the felt *g* will be brought close to the keys B to pad them during their upward movement. The front fall, D, may be hinged to the key-blocks *d* by an ordinary hinge, as in Fig. 8, if preferred.

If desired, the finger-guard strip shown in Patent No. 295,383, dated March 18, 1884, may be placed on the key-rail *b* to prevent scratching of said rail by the fingers of the player.

I groove or bevel the upper outer edge of the front rail or slip, *a*, upon which the front fall, D, rests, so that said front fall may be easily engaged by the fingers of an operator when desiring to raise the lid or front fall. It will be seen that the front fall rests on the uppermost edge of the slip *a*.

E is what I term the "back fall;" and it consists of a lid which at its outer or front edge is hinged to the back of the front fall, D, as shown at *h*. The back fall, E, as in Fig. 1, may be of about the shape of the front fall, thereby producing a pleasing effect; but it may be of any other desired shape. The inner portion of the back fall, E, rests upon a stationary guide-block, *i*, as shown in Figs. 1 and 3, which guide-block is supported by the frame A of the piano. The edge of the back fall that rests upon the guide-block *i* is preferably a rounding projection or screw, *i*<sup>2</sup>, which may be covered by leather or the like to take up the wear and prevent rattling or noise. The shape of the guide-block *i* is such that the back fall, E, will be pushed inward when the front fall is thrown back. (See dotted lines in Fig. 1.) The upper edge of the back fall, E, comes close under a rail, *l*, that



extends across the front of the frame A when the lids or falls D E are lowered over the keys. (See Fig. 1.) The outer side of the rail *l* may be ornamental, if desired. The rail *l* may also be provided with a lock, *l*<sup>2</sup>, to engage the back fall, E, when the falls are closed, so as to lock said falls. By this construction it is not necessary to put the lock on the slip *a*, as has been done heretofore, and for this reason the slip *a* may be beveled, as stated, and need not be overlapped by the closed front fall.

When my improved lid is opened or thrown back, the back fall, E, will be moved inward and ride on the guide-block *i*, while the front fall, D, will rest upon the cross-slip *l*, as shown in dotted lines in Fig. 1. When in this position, the felt *g* on the front fall, D, will nearly contact the keys B, as before stated. By hinging the front fall independently at its ends and low down, as shown, its free end will not rise as high when thrown open as the lids or falls that have heretofore been hinged directly to the immovable front of the frame of the piano.

The front and back falls, D E, just described as being adapted to cover the keys of a piano, may also be used with advantage at the top of upright pianos, so that the upper part of the piano may be thrown open to allow the sound-waves to escape without moving the top proper, *m*, of the piano, so that ornaments, music, &c., may be left on the top thereof.

As shown in Fig. 1, the front of the piano-frame does not extend as high as the top *m*, an opening being left between said top and the front of the frame A. This opening is closed, as follows: The front fall, D, is hung near its inner end in fixed pivots carried by the frame A, so that its outer free edge will rest upon the top of the ornamental front of the frame A. The back fall, E, is hinged at its front edge to the front fall, D, the inner edge of said back fall passing under the top *m* and resting upon guide-blocks *i*, carried by the frame A.

When it is desired to allow the sound-waves to escape freely, the front fall, D, will be raised into the position shown in dotted lines in Fig. 1. As said front fall is thus raised, the back fall will be pushed inwardly along the guide-blocks *i* and beneath the top *m* of the piano, thereby opening the upper part of the piano to allow the escape of the sound-waves. In order that the front fall, D, will not injure the ornamental front *n* of the frame A, I may place along the upper edge of said ornamental front a rail or slip, *a*, similar to that shown to support the front fall over the keys. By grooving the front edge of this slip *a* the front fall, D, will be easy of access to the hands of the operator. In order to strengthen the upper part of the ornamental front *n* of the frame, I place a strip or bar, *a*<sup>2</sup>, along the upper slip, *a*, on its inner side, and glue said strip *a*<sup>2</sup> to the slip *a*, or to the ornamental front *n*.

In Fig. 2 the screw projection *i*<sup>2</sup> is shown

adapted to be used upon the back fall, E, at the upper part of the piano.

In the modification shown in Fig. 5 the front fall, D, is constructed and hung in manner similar to that shown in Fig. 1, while the back fall, E, instead of being supported by a guide-block, *i*, as in said figure, is hinged at its free end to the cross-rail *l* by a hinge, *o*. This hinge *o* supports the free end of the back fall, E, and when the falls are lowered over the keys holds said end against the cross-rail *l*, as shown. When the front fall is moved back into the position shown in dotted lines in Fig. 5, the back fall will be moved into the inward position and supported by the hinge *o*, as shown in said figure. A lock may be carried by the rail *l* to engage the back fall, E, for the purpose of locking the piano-lids, as stated with reference to Fig. 1.

At the upper part of Fig. 5 the front fall, D, is similar to that shown in Fig. 1, its free end being supported by the upper cross-rail, *a*, which is preferably hollowed or grooved, as shown. In order to prevent scratching or shock of the front fall upon the rail *a*, I may place a rubber knob or cushion, *p*, on the rail *a* to support the front fall, D. (See Fig. 5.) The back fall, E, is hinged at its front end to the front fall D, its free end passing under the top *m* of the piano-frame.

F is the wrest-plank for the piano at the upper part of the frame A. When the upper front fall, D, is thrown back into the position shown in dotted lines in Fig. 5, the inner end of the back fall, E, that is preferably provided with a leather or analogous covering, *j*, will ride upon the upper edge of the wrest-plank, F, and be supported thereby, as in dotted lines in said figure. In Fig. 6 the front fall, D, is provided with a screw, *q*, whose head is adapted to engage the back fall, E, near the hinge, and to assist in supporting the back fall on the front fall. By raising or lowering the screw *q* the back fall may be adjusted with relation to the top *m* of the piano. To prevent noise, a felt or leather cushion, *g*<sup>2</sup>, may be placed on the back fall, E, for the head of the screw *q* to engage.

In Fig. 7 of the drawings my improvements are shown as applied to a grand piano. In said figure the front fall is arranged substantially similar to that shown with reference to Fig. 1, with the addition of an upwardly-projecting part, *r*, at its inner end, upon which the back fall, E, rests when the lids or falls are lowered, the back fall, E, being hinged to the front fall at *h*, as shown. The back fall in this view when moved inwardly of the front fall, D, passes under the wrest-plank F, and rests upon guide-blocks at the sides of the piano, as shown in dotted lines in Fig. 7. In front of the wrest-plank F is the front wall of the piano or covering-piece G for the back fall, against which the back fall abuts when the lids or falls are closed.

After testing a finished grand piano it may



appear desirable, on account of touch, &c., to lengthen the keys from the point of contact with the action and hammers. With my improved fall-board this could be easily accomplished by merely adjusting the pivots of the fall-board D farther outward, so as to bring the outer end of the fall-board well over the keys, (see dotted lines in Fig. 7;) but with the grand pianos heretofore constructed this could not be well accomplished without rebuilding the whole front of the piano. With this construction the height of the lower part of the wrest-plank from the keys, the height of the upper part of the front keys, B, and the length of the keys may be varied to suit different styles of pianos by a simple adjustment of the position of the fixed pivot of the front fall.

Having now described my invention, what I claim is—

1. The front fall, D, having fixed pivots *ff*, combined with the back fall, E, hinged to the front fall, and with a support for the back fall, substantially as described.
2. In a piano, the front fall, D, and key-blocks *d*, having pivot-pins *f*, to which the front fall is attached, combined with the back fall, E, that is hinged to the front fall, and with a support for the inner end of the back fall, substantially as described.

3. The combination, with a front fall that is pivoted so as to lie close to the keys, with a back fall hinged to the front fall and adapted to be pushed inward by said front fall, of a support for the inner end of the back fall, and with a rail, *l*, extending across the front of the piano, and a lock on the rail *l*, for engaging the back fall to lock the piano, substantially as described.

4. The combination of the jointed fall D E and its fixed pivots *f* with the front rail or slip, *a*, and with the upper rail, *l*, having lock *l*<sup>2</sup>, the front edge of the fall being adapted to rest on the highest part of the slip *a*, substantially as described.

5. The front frame, *n*, having the grooved rail *a*, and the extra slip *a*<sup>2</sup>, glued to the inner side thereof, combined with the front fall, D, pivoted at the upper part of the piano and resting at one end upon the slip *a*, and with the back fall, E, hinged to the front fall, and a support for the inner end of the back fall, E, said back fall being pushed under the top of the piano when the front fall is raised, substantially as described.

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Witnesses:

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T. F. BOURNE.