

# UNITED STATES PATENT OFFICE.

WILLIAM H. IVERS, OF DEDHAM, MASSACHUSETTS.

## PIANO-FORTE.

SPECIFICATION forming part of Letters Patent No. 371,069, dated October 4, 1887.

Application filed May 23, 1887. Serial No. 239,100. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. IVERS, a citizen of the United States, residing at Dedham, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Piano-Fortes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to upright pianos in which a pivoted front is moved into position to serve as a music-desk when the piano is opened, this change being effected by a fall-board and intervening mechanism.

The said invention consists in the special construction and combination of devices employed to that end, as hereinafter set forth.

The drawings hereto annexed represent, in Figure 1, a vertical transverse section of the upper portion of an upright piano containing my invention. Fig. 2 is a sectional elevation of the same in front, the section being taken on line *x x* in Fig. 1. Fig. 3 represents the fall and actuating rocker-arm removed from the instrument, showing the relative position of said parts when the fall is closed. Fig. 4 is a perspective detail view of the catch *g* and guard *t*, hereinafter described, together with a part of the key-bar. Fig. 5 is a detail view, partly in side elevation and partly in section, of the devices shown in Fig. 4 and the folding fall-board.

In the accompanying drawings, A represents a piano-forte case, in which B is the bottom, and C C the ends thereof. The key-board is shown at D and the keys at *a a*, the action being omitted.

The front E is mounted at the top in pivotal supports *b b* and actuated by a sliding fall, whereby movement of the latter exposes the key-board, and at the same time positions the front E to serve as a music-desk. This method of mounting enables said front to be swung from the vertical, and, as it is supported in open forked supports, it is readily lifted up and removed in the event of making repairs, or

when the instrument is to be tuned. A strip, *c*, or rest, is affixed to the bottom edge at right angles thereto and extends longitudinally its entire length, serving as a support to retain the music, and thus the front performs the office of a "music-desk," so called.

The fall F is divided into two parts, *d e*, hinged together. Said parts are adapted to fold one upon the other and slide to and fro upon the longitudinal bar G. Forward travel of this fall is limited by the stop *f*, which contacts with the rear face of the said bar, while said fall is locked in its extreme rear place by a catch, *g*.

The interconnecting mechanism by which the fall actuates the front consists in a pair of rocking arms, H H, hung upon lateral studs *h h*, which engage in the sides C C of the piano-case A, and are disposed in the upper extremities of said arms. The lower ends thereof are hinged to lugs *i i* upon the back of the piece *e* of the fall, while upon the upper ends of said arms are affixed two forwardly-projecting rods, *j j*, which contact with the rear side of the front E. By this method of mounting the fall—that is, hinging it to pivotal supports at each end, as shown—unequal travel of the ends in moving it to and fro is prevented, and it cannot become canted and jam or stick, but is compelled to move freely and easily between the ends C C of the piano-case.

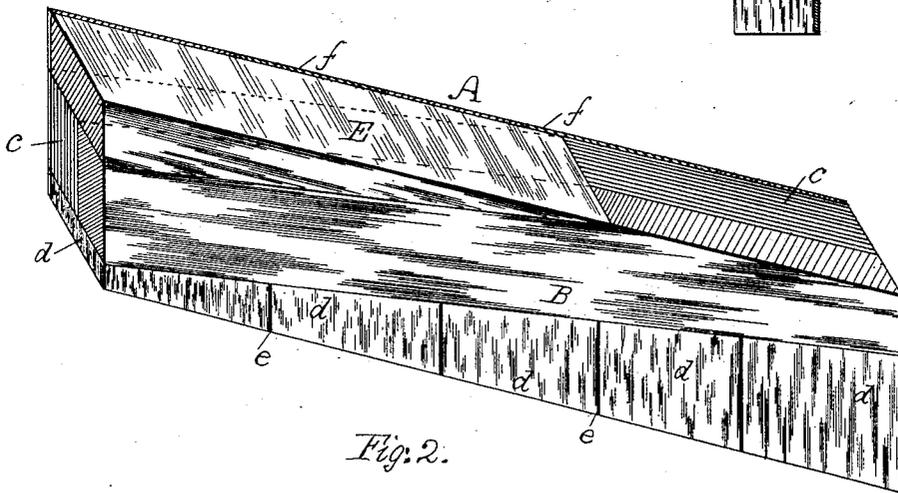
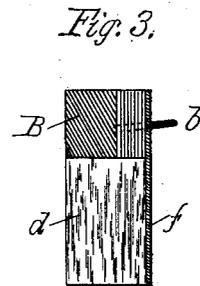
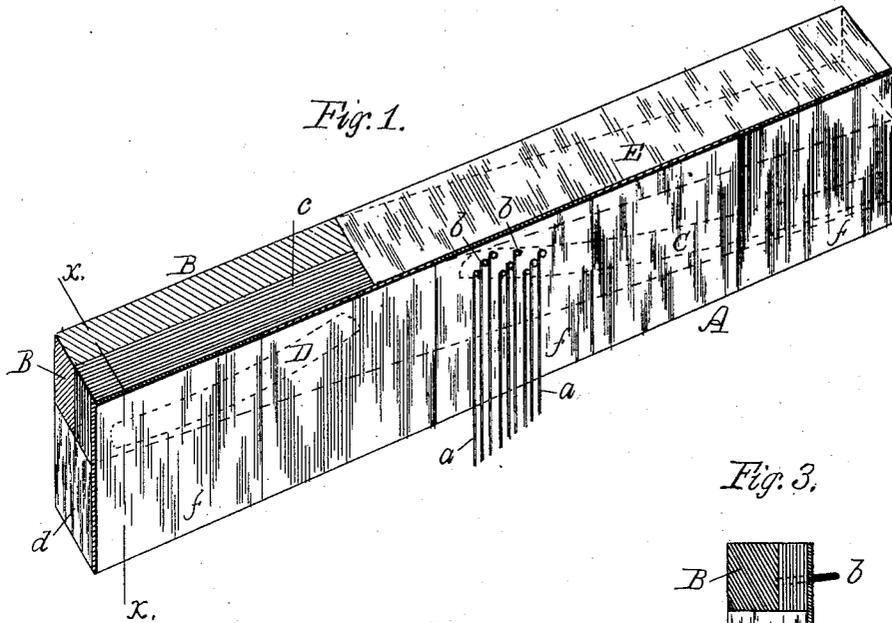
Presuming the piano-forte is closed, the front E will then be in its normal vertical position and rest against the shoulder formed upon the rear portion of the longitudinal slab I, which extends longitudinally of the instrument, fitting snugly between the front and fall and composing part of the case A. Furthermore, the fall will cover the keys and be in the position shown in Fig. 3, as also the actuating rocker-arms H H, which are now thrown back from the front E. In the act of opening the piano the front piece, *d*, of the fall is lifted up and swung from off the keys *a a* until it rests in the position shown in Fig. 1. The fall, as an entirety, is now pushed back, and as it retreats beneath the slab I the lower ends of the rocker-arms H H are pushed backward, moving on their pivots *h h*. This serves to effect forward movement of the rods *j j*, which engage and wipe along the rear of the front E and swing

(No Model.)

W. H. IVERS.  
PIN BLOCK FOR PIANO FORTES.

No. 371,070.

Patented Oct. 4, 1887.



Witnesses.  
H. C. Lodge  
Geo. A. Gibson

Inventor.  
W<sup>m</sup> H. Ivers.  
F. Curtis, atty.

