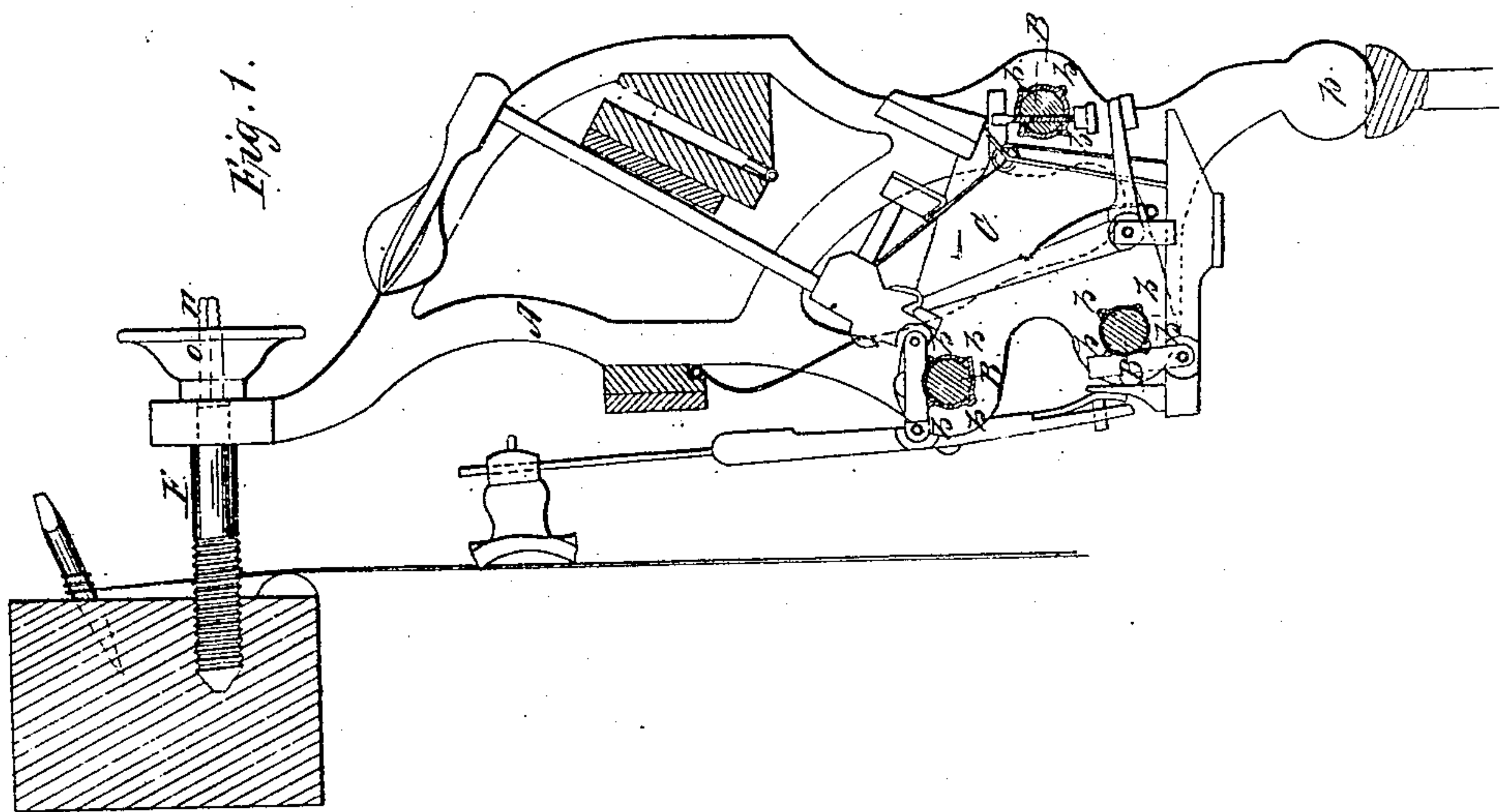
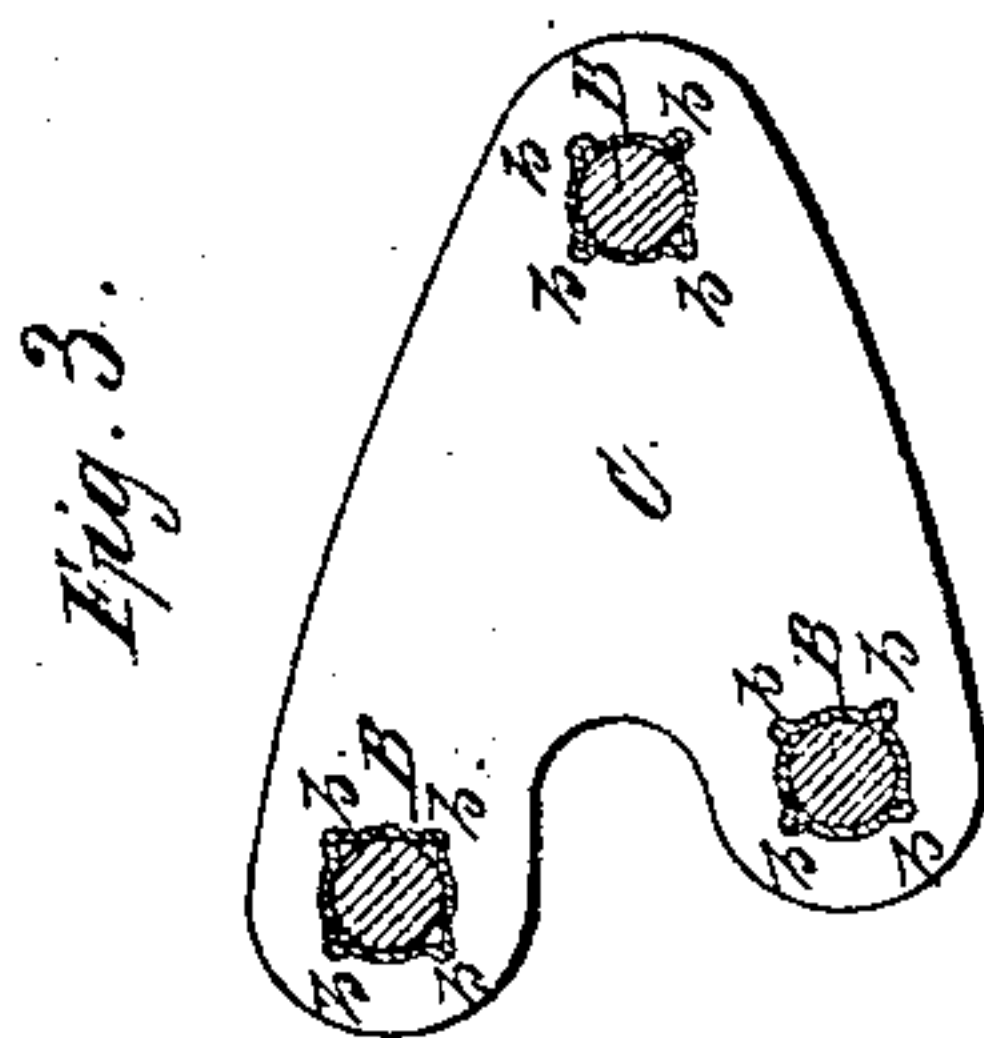
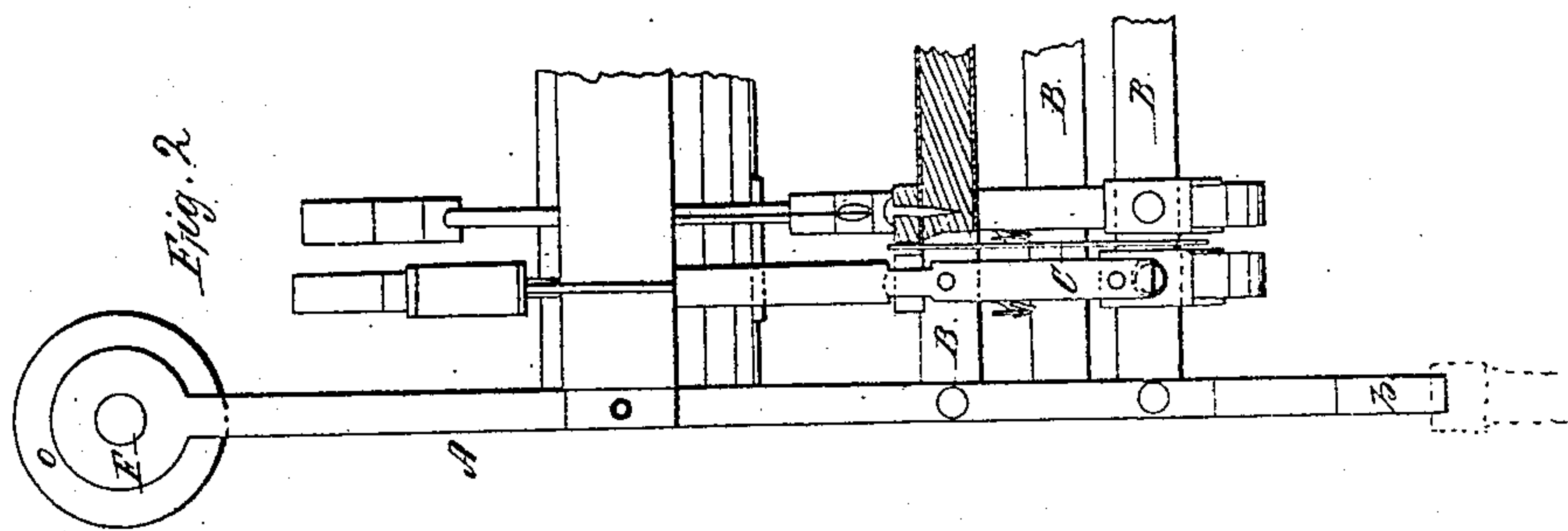


T. STEINWAY.
PIANOFORTE.

No. 81,306.

Patented Aug. 18, 1868.



Witnesses:
C. F. Kastenhuber
Chas. Wablers

Inventor:
Theodore Steinway
Van Selden & Hauff
attorneys

United States Patent Office.

THEODORE STEINWAY, OF NEW YORK, N. Y.

Letters Patent No. 81,306, dated August 18, 1868.

IMPROVEMENT IN PIANO-FORTES.

The Schedule referred to in these Letters Patent and making part of the same

TO ALL WHOM IT MAY CONCERN:

Be it known that I, THEODORE STEINWAY, of the city, county, and State New York, have invented a new and useful Improvement in Piano-Fortes; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 represents a transverse section of this invention.

Figure 2 is a rear elevation thereof.

Figure 3 is a detached face view of the intermediate supporting-plates.

Similar letters indicate corresponding parts.

This invention consists in the arrangement of a metallic action-frame, or a metallic frame supporting the action of an upright or other piano-forte, said frame being secured directly to the wrest-plank, and composed of hangers or standards, perforated with holes to receive metallic traverses, in such a manner that the derangement of the action, due to the expansion and contraction of the wooden rail generally used for supporting the action, is avoided, and a firm and unchangeable support for the several parts constituting the mechanism of the action is obtained.

The invention further consists in the arrangement of flanged metallic rods, or flanged tubes filled with wood, and forming traverses, connecting the metallic hangers or standards of the action-frame in such a manner that a firm and unchangeable connection for said hangers or standards, and also a convenient and safe support for the various parts constituting the mechanism of the action, are obtained.

The invention consists, also, in the arrangement of intermediate metallic braces, perforated with holes to receive the flanged traverses, and hangers or standards, in such a manner that the various traverses are united, and made to support each other mutually, and that the strength of the frame is materially increased.

The invention consists, further, in the arrangement of an adjusting-screw, provided with a square end, and a jam-nut, in combination with each of the hangers or standards of the metallic action-frame, in such a manner, that, by means of said screws, the distance of the hangers or standards from the wrest-plank, and, consequently, the position of the hammers in relation to the strings, can be regulated with the greatest nicety.

The invention consists, finally, in the arrangement of segments or spheres at the ends of the standards or hangers of the metallic action-frame, so that the ends can roll in their steps while the hangers are being adjusted by the set-screws.

A represents one of the hangers or standards of my metallic action-frame. These hangers or standards are secured, at convenient distances apart, directly to the wrest-plank, by screws F, or any other suitable fastenings, and they are provided with a series of holes for the reception of the traverses B. These traverses are either made of solid metal, or of tubes filled with wood, and they are provided with flanges or ears b, so that they form a convenient and firm support for the various parts which constitute the mechanism of the action.

In practice, I use, by preference, tubular traverses, filled with wood, as shown in the drawings, since said tubes, when filled with wood, obtain the required stiffness, and, at the same time, common wood-screws can be used in fastening the various parts of the action to the same. When solid metal traverses are used, the holes for receiving the screws have to be bored and tapped, and the screws have to be manufactured expressly for this purpose. The flanges b of the traverses serve to retain the various parts of the action fastened to the traverses firmly and rigidly in position, and prevent them from getting displaced accidentally, and at the same time, by the flanges, the stiffness and strength of the traverses are materially increased. Instead of making the traverses with flanges b, however, they may be made with suitable grooves, or with ribs or indentations, so as to give a firm hold to the parts fastened thereto.

The traverses are strengthened in their position by intermediate plates, C, which are interposed between the hangers or standards A, at convenient distances.

By the use of my metallic action-frame, the chief causes of derangement inherent to the action, particularly

of upright piano-fortes, as heretofore constructed, are successfully removed. Usually, the several parts of the action are screwed and fastened to a wooden rail, from two to three inches wide, and these rails, being liable to expansion and contraction through moist and dry atmosphere, throw the parts of the action out of their proper position. Furthermore, said rails are generally fastened to wooden cheeks or frame-pieces, constituting, together, the so-called action-frame, and this frame is again fastened to either the key-frame or the sides or walls of the instrument, thus creating a liability of derangement, as well in the several parts of the action as in the position of the hammers to the strings, said strings being fastened to the wrest-plank.

My metallic frame being fastened to the wrest-plank, and made of metal, is not liable to such derangement, and an action-frame is obtained which is safe and durable.

The screws F, which serve to screw the metallic action-frame to the wrest-plank, are fitted into suitable eyes of the hangers A, and they are clamped thereto by jam-nuts o. The ends of said screws are made square, or of such a shape that they provide a hold for a wrench or key, and by releasing the jam-nuts, and turning the screws F, the action-frame can be adjusted closer to or further from the wrest-plank, and the position of the hammers in relation to the strings can be adjusted with the greatest nicety.

The ends, p, of the hangers, opposite the screws F, are made segmental or spherical, and they are intended to fit into cups or grooves in the heads or screws rising from the main frame of the piano-forte, so that when the screws F are screwed in or out, said segmental or spherical ends will roll in the steps, and retain their position.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A metallic action-frame for piano-fortes, said frame being secured to the wrest-plank, and composed of metallic hangers or standards, A, provided with holes to receive the metallic traverses, substantially as shown and described.

2. The flanged traverses B, constructed substantially as and for the purpose set forth.

3. The intermediate plates C, provided with holes to receive the flanged traverses B, substantially as and for the purpose described.

4. The adjusting-screw F, provided with a square end, n, and jam-nut o, in combination with the hangers or standards A, substantially as and for the purpose set forth.

5. The segmental or spherical ends, p, of the hangers, fitting into corresponding steps, and operating in combination with the screws F, substantially as and for the purpose described.

THEODORE STEINWAY.

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.