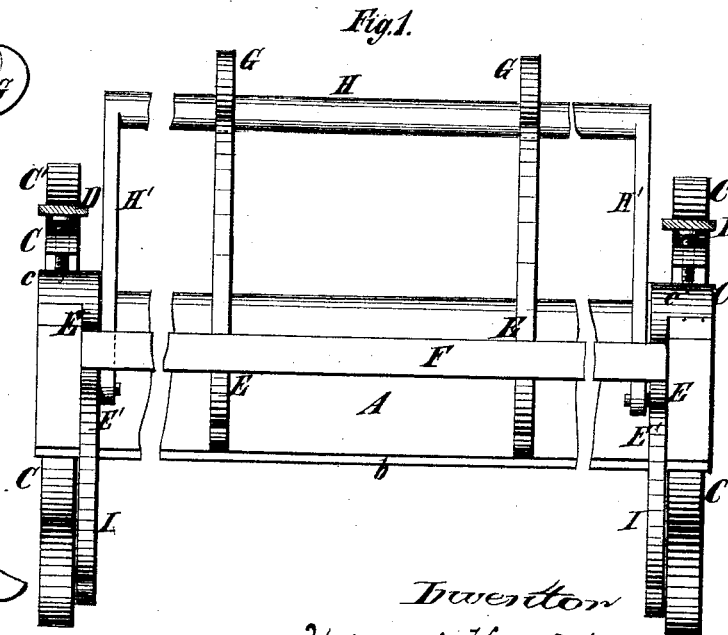
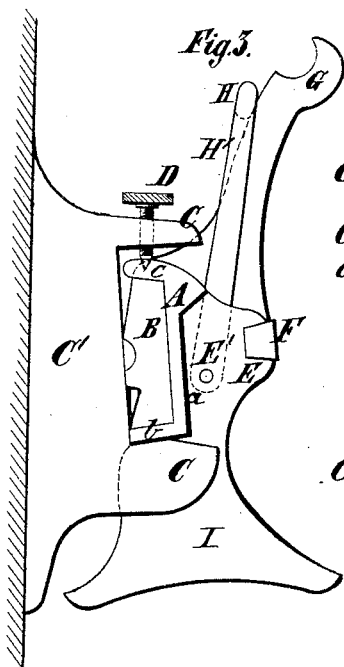
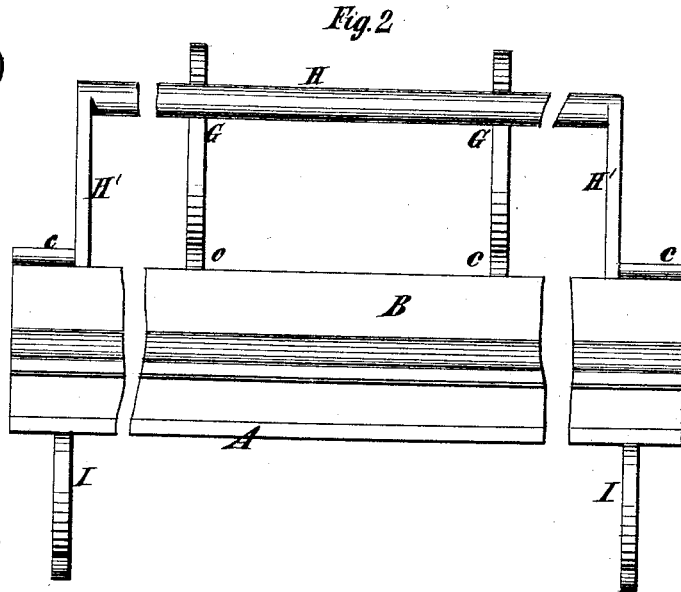
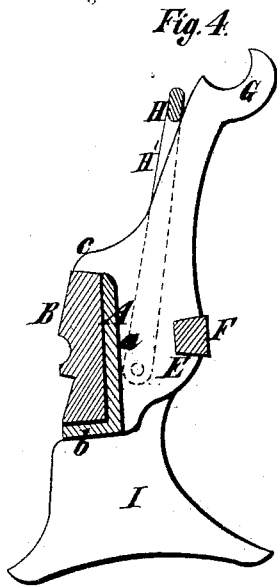


H. KRANICH & J. BACH.
Piano-Action Frame.

No. 196,912.

Patented Nov. 6, 1877.



Witnesses,
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UNITED STATES PATENT OFFICE.

HELLMUTH KRANICH AND JACQUES BACH, OF NEW YORK, N. Y.

IMPROVEMENT IN PIANO-ACTION FRAMES.

Specification forming part of Letters Patent No. **196,912**, dated November 6, 1877; application filed June 29, 1877.

To all whom it may concern:

Be it known that we, HELLMUTH KRANICH and JACQUES BACH, of the city, county, and State of New York, have invented certain new and useful Improvements in Piano-Fortes, of which the following is a description:

Our invention relates to the means whereby the part of a piano-forte known as the "action" is supported and secured in place, and has especial relation to an upright piano-forte.

Hitherto the action has generally been supported by a frame or rack having wooden cross-rails or stretchers, which have been liable to shrink or warp and impair the quality of the piano-forte by forcing the hammers out of position, and causing some to operate with more or less force than others. It is difficult, if not practically impossible, to repair such injury. Therefore we have endeavored to preclude all possibility of its occurrence.

To this end our invention consists in a holder consisting of a metal box or shell, preferably cast in one piece, open at the back, and adapted to receive and hold a wooden hammer-rail, whereby, in a very simple and inexpensive manner, the sagging, warping, or shrinking of the rail so as to occasion the derangement of the piano-forte action is effectually precluded, and, owing to its face being exposed, great facility is afforded for securing the action in place.

Our invention also consists in a holder for a piano-forte action supported from the iron or metal string-frame, whereby the several parts of the piano-forte may be so connected that their proper relations will be preserved.

Our invention also consists in the combination, with our piano-action holder, of devices for securing it directly to the iron or metal string-frame, whereby the action and other parts of the piano-forte are so connected that their proper relations will be preserved, and legs, feet, standards, and other uprights may be dispensed with.

Our invention also consists in the combination, with a piano-action holder supported by devices on the iron or metal frame, of legs adapted to support it when detached from other parts of the piano-forte.

Our invention also consists in the combination, with a piano-forte-action holder, of a ham-

mer-rest rail cast with its supporting-arms in one piece of metal, and pivoted to the holder, whereby derangement of the action incident to the warping or shrinking of such rest is obviated, and short stops or rests therefor may be employed.

In the accompanying drawing, Figure 1 is a front view of a piano-forte-action holder embodying our improvements, and a front view of devices whereby it is supported and secured in place, portions being broken away to shorten it. Fig. 2 is a back view of such holder, with portions similarly broken away. Fig. 3 is an end view of this holder and side view of the devices whereby it is supported and secured in place, and Fig. 4 is a transverse section of said holder.

Similar letters of reference designate corresponding parts in all the figures.

A designates a holder for a piano-forte action, consisting of a metal box or shell, preferably cast in one piece, wherein a hammer-rail, B, may be fitted so snugly that it will be effectually precluded from warping, shrinking, or changing its position, and occasion the derangement of the piano-forte action supported by it. It is shown as having a solid front, *a*, and bottom *b*, and as being provided at the top with fingers *c*, impinging on the hammer-rail to retain it vertically in place.

Any suitable means for retaining the hammer-rail transversely in place may be adopted. Screws or other equivalent devices may be used. Preferably this holder is supported through the iron or metal string-frame, and not through any legs, feet, or standards. The means represented for supporting the holder consist of jaws or pairs of projections C, which receive portions of the holder between them, extend from the iron or metal string-frame, and may, with advantage, be cast therewith.

In the upper jaw or projection C of each pair is a screw, D, which may be adjusted to permit the easy insertion of the holder between the jaws or projections, and to clamp it securely when in place. Preferably these screws D have taper points, and the fingers *c* of the holder A, on which they impinge, are provided with inwardly-tapering holes or sockets, so that the holder may always be centered

into the same position after removal from the jaws or projections.

It will be observed that the hammer-rail impinges against the stock-pieces C', from which the jaws C extend, and is thereby held in place within the holder, at least to some extent.

E designates notches, cheeks, or jaws for the regulating-rail F, extending from the front *a* of the holder A. They consist of pairs of jaws or projections, and form convenient means for supporting said rails, as they may be cast with the holder.

G designates handles, which afford facility for lifting the holder and piano-forte action from place to place, and extend from the holder, with which they may be advantageously attached by casting them in the same piece therewith.

H designates a hammer-rest rail, made of metal, and supported by arms H' pivoted to the stock-piece E', from which extend the jaws or projections E, supporting the regulating-rail F. Preferably the rail H and its arms H' are cast in one piece, to render them so rigid as to preclude any warping or twist resulting in the derangement of the action. A rigid rail like this may have any suitable stop or stops, instead of the stops, consisting of a rail, usually employed, and therefore a piano-action holder embodying it may be simplified and cheapened.

The ends of the arms H' may be shaped so that by abutting against the front of the holder the latter will form a stop; but we have shown the handle G so shaped as to form stops for the rail, as illustrated in Figs. 3 and 4.

Although with this construction and combination of parts there is no necessity for legs or feet, we have shown our holder as provided with feet I, which may be attached to it by

casting them therewith, and afford convenience for supporting the holder when detached from other parts of the piano-forte.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. A piano-forte-action holder or seat consisting of a metal box or shell, A, open at the back, and adapted to receive and hold a wooden hammer-rail, substantially as described.

2. A holder for a piano-forte action, as specified, supported from the iron or metal string-frame, substantially as described, whereby the several parts of the piano-forte may be so connected that their proper relations will be preserved.

3. The combination, with a piano-forte-action holder, as described, of devices for securing it directly to the iron or metal string-frame, substantially as and for the purpose set forth.

4. The combination, with a piano-forte-action holder, as described, supported by devices on the iron or metal string-frame, of legs adapted to support it when detached from other parts of the piano-forte, substantially as set forth.

5. The combination, with a piano-forte-action holder, of a hammer-rest rail cast with its supporting-arms in one piece of metal, and pivoted to the holder, substantially as set forth, whereby derangement of the action incident to the warping or shrinking of such rail is obviated and short stops or rests therefor may be employed.

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Witnesses:

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