

E. R. & H. C. BILLINGS.
PIANO FLANGE.
APPLICATION FILED FEB. 5, 1909.

949,875.

Patented Feb. 22, 1910.

Fig. 1.

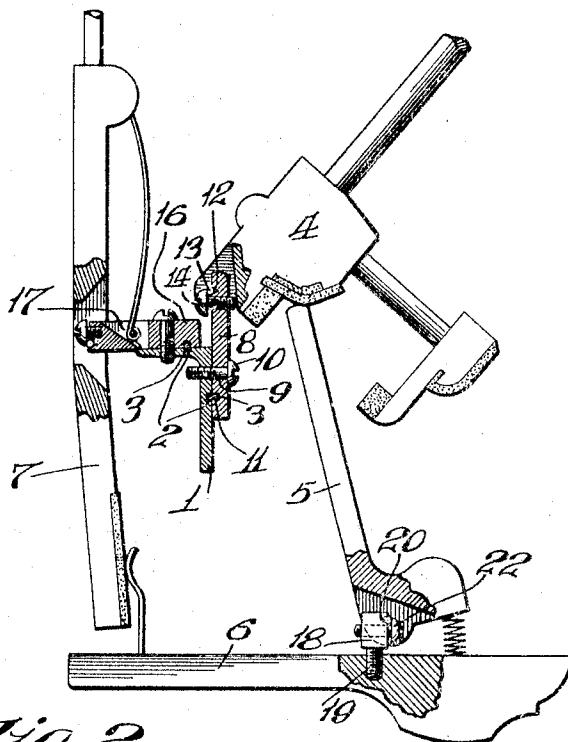


Fig. 2.

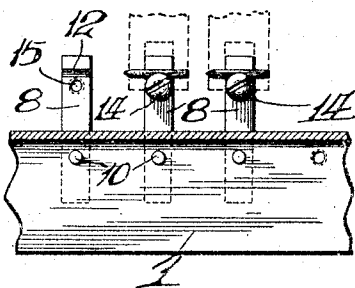


Fig. 3.

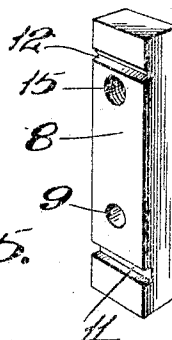


Fig. 5.

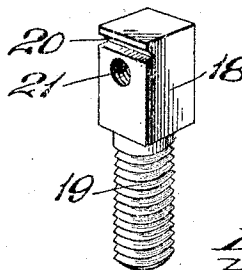
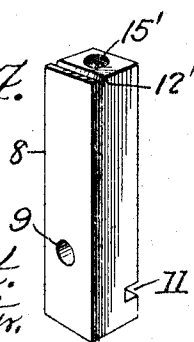


Fig. 4.



attest.
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UNITED STATES PATENT OFFICE.

EARL ROGER BILLINGS AND HENRY CLARK BILLINGS, OF MILWAUKEE, WISCONSIN.

PIANO-FLANGE.

949,875.

Specification of Letters Patent.

Patented Feb. 22, 1910.

Application filed February 5, 1909. Serial No. 476,300.

To all whom it may concern:

Be it known that we, EARL R. BILLINGS and HENRY C. BILLINGS, citizens of the United States, and residents of Milwaukee, Wisconsin, have invented certain new and useful Improvements in Piano-Flanges, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying

drawings, forming a part hereof.

Our invention relates to piano flanges, our object being to simplify and cheapen the construction of the different forms of flanges used in a piano action, and to provide a construction which is easily assembled or taken apart, and which readily maintains the pivot pins of the various parts, such as the hammer butt, damper, fly or jack and whip, in proper position and alinement.

To the above purposes, our invention consists in certain novel features of construction and arrangement of parts which will be hereinafter more fully set forth, pointed out in the claims, and illustrated in the accompanying drawings, in which:

Figure 1 is an elevation, partly in section, of a piano action and showing a continuous metal rail and our improved flanges in position for use; Fig. 2 is an elevation, partly in section, of a portion of a metal rail and showing a series of hammer butt flanges of our improved construction in position thereon; Fig. 3 is a perspective view of a hammer butt flange constructed in accordance with our invention; Fig. 4 is a perspective view of a modified form of a hammer butt flange; and Fig. 5 is a perspective view of a fly flange constructed in accordance with our invention.

Referring by numerals to the accompanying drawings: 1 designates a metal angle rail which carries the hammer butts and dampers of a piano action, and formed in the angle rail are grooves 2, in which are seated metal strips 3, utilized for the purpose of obtaining correct alinement of the hammer butt and damper flanges.

4 designates the hammer butt, 5 the fly or jack, 6 the whip and 7 the damper, all of which parts are of the usual construction.

The hammer butt flange comprises a rectangular metal plate 8, through the lower portion of which is formed an aperture 9, which receives the screw 10, utilized for rigidly fixing said flange upon the rail 1,

and formed in the rear face of this flange below the aperture 9 is a horizontally disposed groove 11, which receives the strip or bead 3 located in the face of the vertical portion of the rail 1. Formed in the rear face of this flange 8 adjacent the upper end thereof is a horizontally disposed V-shaped groove 12, in which is seated a pivot pin 13 carried by the lower end of the hammer butt 4, and to rigidly maintain this pivot pin in position a screw 14 is seated in a screw threaded aperture 15 formed through the flange 8 immediately adjacent the groove 12, the rear side of the head of which screw bears directly upon the central portion of the pivot pin.

In the modified form of the flange seen in Fig. 4, the V-shaped groove 12' for receiving the pivot pin is formed in the end of the flange, and the screw-threaded aperture 15' which receives the screw 14 is formed in the end of the flange immediately adjacent said groove.

The damper flange 16 is similar in construction to the construction of the form of flange seen in Fig. 4, with the exception that said damper flange is provided with a notch or recess 17, in which is located the lower end of the damper spring.

The fly or jack flange comprises a rectangular head or block 18, with which is formed integral a threaded shank 19, which is screw seated in an aperture formed in the whip 6, and formed in one of the side faces of the block or head 18 is a transversely disposed V-shaped groove 20, which receives the pivot pin carried by the bifurcated lower end of the fly 5, and formed through the block or head 18 immediately adjacent the groove 20 is a screw threaded aperture 21, which receives a screw 22, the rear face of the head of which bears against the central portion of the pivot pin seated in the groove 20.

Our improved flanges are applicable for either wood or metal rails, can be easily and quickly attached to the rails or to the various parts of a piano action, and said flanges can be very cheaply manufactured for the reason that but little stock is required and very little milling or special tool work necessary in the production of said flanges.

The essential feature of our improved flange is the V-shaped groove adapted to receive the pivot pin and a screw detachably

seated in the flange, the head of which screw bears against the pivot pin and rigidly clamps the same to the flange.

We claim:

- 5 1. A metal flange for piano actions, comprising a metallic member in which is formed an angular groove adapted to receive a pivot pin, said metallic member having a screw-threaded opening formed therein adjacent said groove and a screw positioned
10 in said screw-threaded opening, a portion of the head of which projects beyond a wall of said groove and is adapted to engage the pivot pin seated in the groove.
- 15 2. In a piano action, the combination with a metal rail provided with a bead, of a metal flange provided with an angular groove adapted to receive a pivot pin and a groove adapted to receive said bead, a screw carried
20 by the flange, a portion of the head of which projects beyond the wall of one of said grooves and is adapted to engage the said pivot pin, and a screw carried by said flange for fastening the flange to the metal rail.
- 25 3. A metal flange for piano actions, comprising a metallic member in which is formed an angular pivot pin seat, a screw-threaded opening formed in said metallic member ad-

jacent said pin seat, a screw seated in said opening, a portion of the head of which pro- 30
jects beyond a wall of said pin seat groove, said metallic member being provided with a groove parallel to the pivot pin seat and an opening between said last mentioned
35 groove and the pin seat, and a screw located in said opening for attaching said flange to the piano rail.

4. A metal flange for piano actions, comprising a metallic member in which is formed a V-shaped groove adapted to receive a pivot 40
pin, said metallic member having a screw-threaded opening formed therein adjacent said groove, and a screw positioned in said screw-threaded opening, a portion of the
45 head of which projects beyond a wall of said groove and is adapted to engage the pivot pin seated in said groove.

In testimony whereof, we have signed our names to this specification, in presence of two subscribing witnesses.

EARL ROGER BILLINGS.
HENRY CLARK BILLINGS.

Witnesses:

GEO. E. BALLHORN,
ALMA L. PULS.