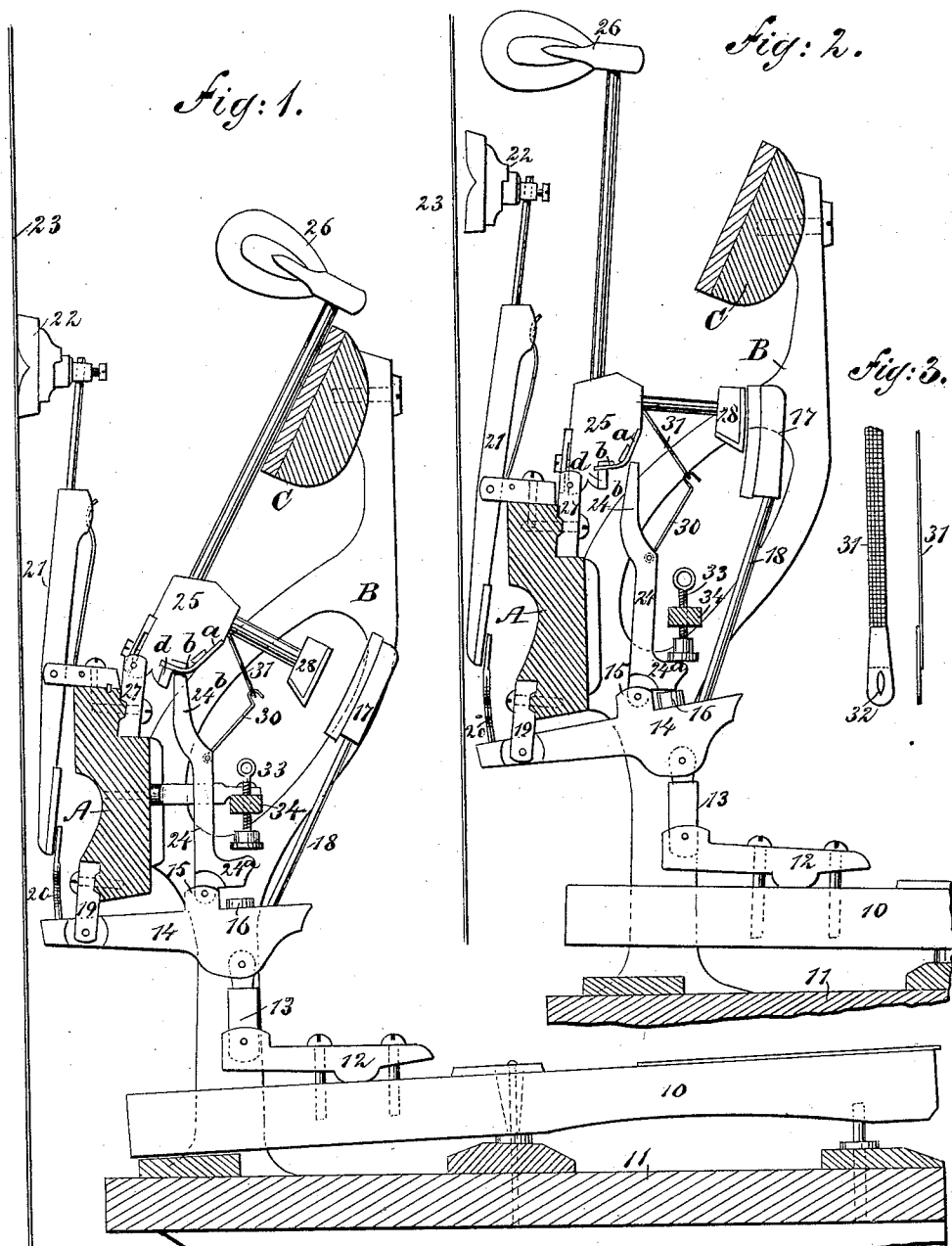


(No Model.)

H. BESCHER, Jr.
PIANO ACTION.

No. 466,149.

Patented Dec. 29, 1891.



WITNESSES:

Chas. Viola.
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UNITED STATES PATENT OFFICE.

HENRY BESCHER, JR., OF BROOKLYN, NEW YORK.

PIANO-ACTION.

SPECIFICATION forming part of Letters Patent No. 466,149, dated December 29, 1891.

Application filed April 25, 1891. Serial No. 390,392. (No model.)

To all whom it may concern:

Be it known that I, HENRY BESCHER, Jr., of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Piano-Actions, of which the following is a full, clear, and exact description.

My invention relates to an improvement in piano-actions, and has for its object to provide an action in which the usual spiral spring employed beneath the fly is dispensed with, and to so construct the fly that it will be in position at all times to quickly engage with the hammer-butt, thus making the action an exceedingly fine repeating one.

Another object of the invention is to so improve the bridle connection between the butt and the fly as to economize both in labor and material.

A further object of the invention is to construct the whip from one piece of molding, thus lessening the labor upon that portion of the action and increasing its strength, the ordinary whip being bored and slotted and made of several pieces.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improved action, showing the hammer at rest. Fig. 2 is a similar view, illustrating the position of the hammer just after having struck a string, and Fig. 3 is a side elevation and edge view of a portion of the bridle connection between the butt and the fly.

The key 10 is pivoted upon the base 11 of the instrument-frame in any suitable or approved manner, and near the outer end of the key a jack 12 is securely bolted, and a link 13, pivoted in the rear end of the jack, is also pivoted in the whip 14, which is horizontally located above the key. The whip 14 is made from one piece of molding and is provided at one side of the center upon its upper face with spaced ears 15. Upon the upper face forward of the ears a cushion 16 is

located, and a check 17 is held in position by means of a rod 18, attached thereto and to the upper surface of the whip near its forward end. The whip near its inner end is fulcrumed upon an extension 19 of the main action-rail A, which rail is usually attached to brackets B, one of which is illustrated, the said brackets being secured at their lower ends upon the bottom 11 of the frame, and at the upper end of the brackets the usual hammer-rest C is secured. The inner end of the whip carries a pin 20, which engages with the cushioned lower surface of the damper-lever 21, the said lever being spring-pressed and fulcrumed in the ordinary manner upon the main action-rail. At the upper end of the damper-lever 21 any approved form of damper 22 is secured, adapted for engagement with a string 23. The lower end of the fly 24 is pivoted between the ears 15 of the whip 14, and the fly at its lower end is provided with a forward extension 24^a, adapted when a key is pressed to engage with the cushioned surface 16 of the whip. The butt portion of the fly is straight, but the upper end portion thereof is inwardly and upwardly curved, as illustrated at 24^b, in such manner as to normally engage with the butt 25 of the hammer 26. The hammer may be of any suitable or approved construction, and the butt 25 is fulcrumed in arms 27, secured upon the forward portion of the main action-rail. The forward lower edge of the hammer-butt is provided with two angular faces *a* and *b*, the said faces being cushioned, and a cushion *d* is located at or near the inner end of the face *b*, against which cushion the upper curved end of the fly rests when the hammer is in a position of rest. The hammer-butt is provided with the usual catcher 28, adapted when the hammer is brought into action to engage with the check.

The bridle connection between the hammer-butt and the fly is of peculiar construction, and consists of a spring-hook 30, which is secured to the forward face of the fly at the junction of the straight portion with the curved upper portion thereof, the said spring-hook being adapted to extend upwardly and forwardly at an angle to the fly. The other section of the bridle consists of a strap 31, (illustrated in detail in Fig. 3,) which strap

at its lower end is provided with an eye 32, adapted to be passed over the hook, as shown in Figs. 1 and 2, and the opposite end of the strap is usually secured in the hammer-butt 5 by entering it into the recess in the butt occupied by the shank of the catcher. This bridle, comprising the spring and strap, maintains the fly at all times in a position to quickly engage with the butt of the hammer, 10 thus making the action an exceedingly fine one and rendering the operation of trilling very easy of accomplishment, as after each blow the spring throws the fly back in position to execute another.

15 The release of the fly is regulated through the medium of a set-screw 33, located in the regulating-rail 34, the said set-screw being adapted to engage with the extension 24^a of the fly.

20 It will be observed that, as heretofore stated, the whip may be readily made from one piece of molding and that it is not weakened by having slots produced therein extending through, as in the ordinary whip, and that 25 the spring usually interposed between the whip and the fly is entirely dispensed with. Again, it is evident that by curving the fly in the manner shown and described it is at all times beneath the hammer-butt, and thereby 30 quickly responds to the action of the key, and it is likewise evident that the complicated bridle-strap and bridle connection ordinarily employed are also dispensed with, and by reason of the substituted construction—namely, the 35 spring 30 and the strap 31—the butt may be readily and conveniently disengaged from the fly at any time or as speedily connected again therewith.

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

1. In a piano-action, the combination, with the whip, the action-rail, and the hammer-butt pivoted upon said rail, said butt being provided with a shoulder upon its under face, 45 of a fly pivoted upon the whip, the said fly at its upper end being curved in direction of the action-rail and the upper extremity of the fly being located in engagement with the shouldered portion of the hammer-butt, and a bridle 50 connection uniting the hammer-butt and the fly, the said connection consisting of a spring-hook attached to the fly at its forward side and extending upwardly in front of the concaved upper surface, and a strap secured 55 to the hammer-butt and provided with a loop end to receive the spring-hook, whereby the fly is maintained at all times in a position to quickly engage with the hammer-butt and the action is rendered very sensitive, as specified. 60

2. In a piano-action, the combination, with the whip, the action-rail, and the hammer-butt pivoted to the rail and provided with a shouldered under face, of a fly pivoted at its 65 lower end to the whip, provided with a forwardly-extending spur at its lower end adapted to engage with a cushion located upon the whip, the upper end of the fly being rearwardly curved in direction of the action-rail to an engagement with the shouldered portion 70 of the hammer-butt, and a bridle connection between the fly and the hammer-butt, comprising a spring-hook attached to the fly near the commencement of its curve at its forward edge, and a strap secured to the hammer-butt, having an eye formed in its lower 75 end to receive the hook, substantially as shown and described.

HENRY BESCHER, JR.

Witnesses:

JESSE J. DAVIS,
RUDOLPH SCHMIDT.