No. 776,891. PATENTED DEC. 6, 1904.

J. COURVILLE.

# KEY STRIKER FOR PIANO PLAYERS.

APPLICATION FILED DEC. 1, 1903.

NO MODEL.

Fig. 1.

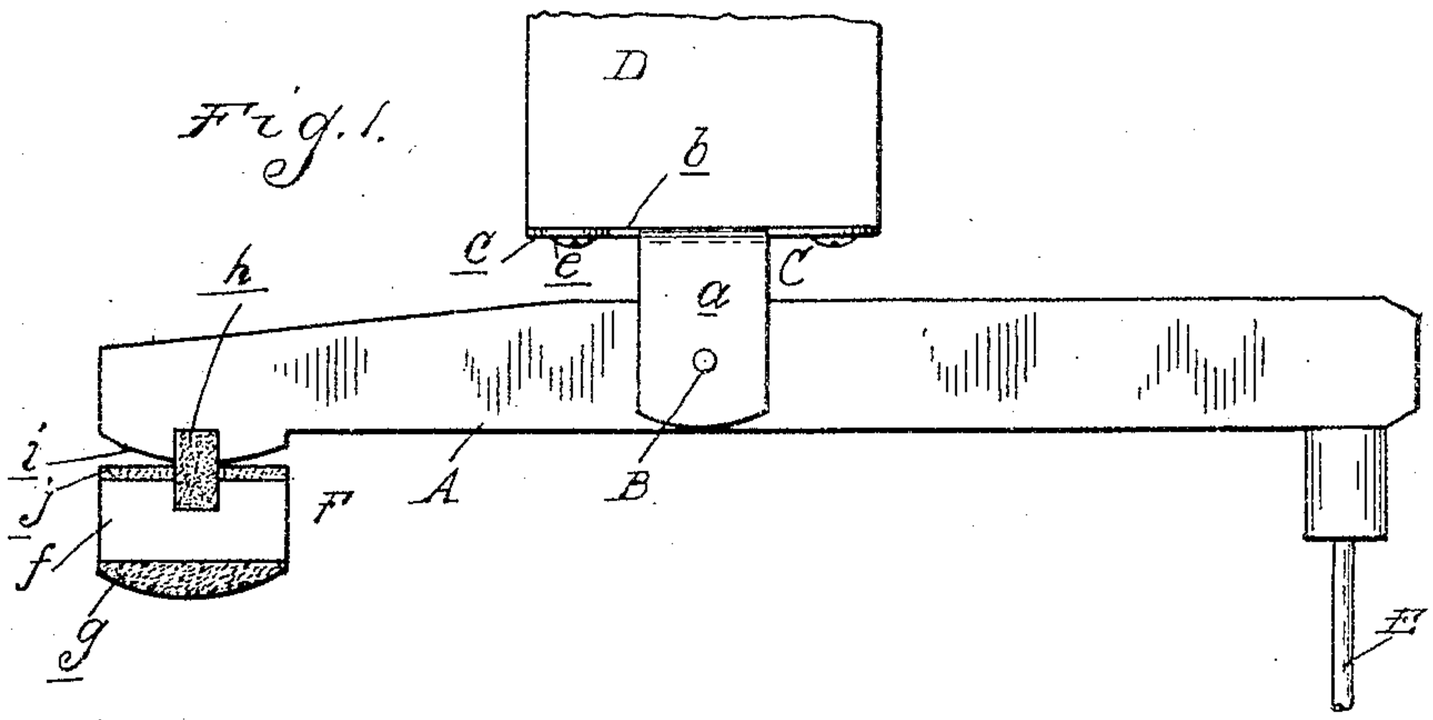



Fig. 2.

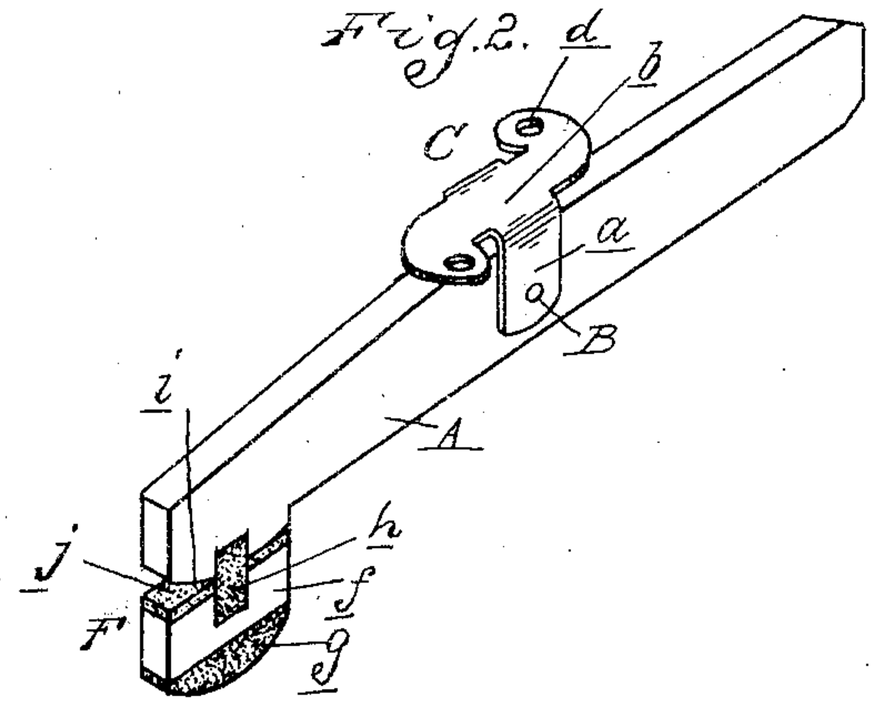
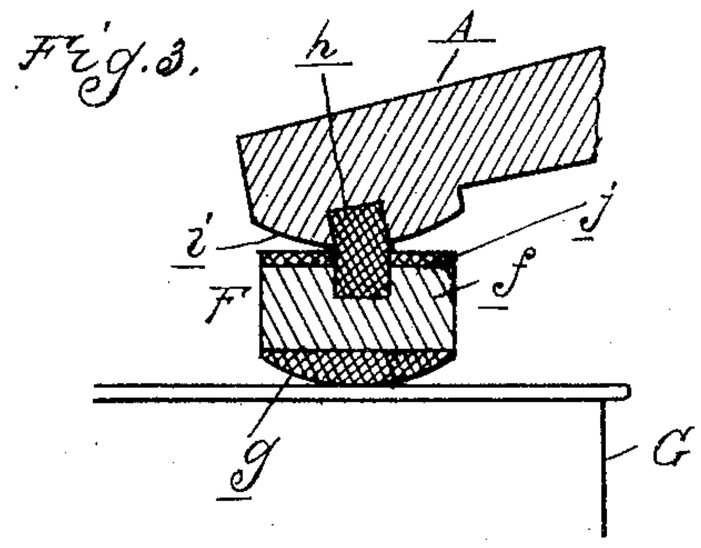



Fig. 3.




Witnesses
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No. 776,891. Patented December 6, 1904.

# UNITED STATES PATENT OFFICE.

JOSEPH COURVILLE, OF DETROIT, MICHIGAN, ASSIGNOR TO FARRAND ORGAN COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN.

## KEY-STRIKER FOR PIANO-PLAYERS.

SPECIFICATION forming part of Letters Patent No. 776,891, dated December 6, 1904.

Application filed December 1, 1903. Serial No. 183,390. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH COURVILLE, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Key-Strikers for Piano-Players, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to key-strikers for piano-players and other self-playing attachments for musical instruments.

It is the object of the invention to obtain a construction with which a more delicate touch may be produced.

It is also an object to prevent wearing of the keys of the instrument.

With these objects in view the invention consists in the construction as hereinafter set forth.

In the drawings, Figure 1 is an elevation of the striker. Fig. 2 is a perspective view thereof; and Fig. 3 is a section through the striker, showing it in engagement with the key and the latter in depressed position.

A is the actuating portion of the striker, which in the construction shown is in the form of a lever fulcrumed at B to a bracket C. This bracket is preferably formed of a sheet-metal stamping and is provided with the bifurcated portion *a*, between the furcations of which the striker is pivoted and the securing portions *b*. The latter are in the form of longitudinal extensions, which at their outer ends are laterally offset at *c* and perforated at *d* for the engagement of the securing-screw *e*. This screw may be readily engaged with the supporting member, such as the bar D, for the reason that the lateral offset *c* permits of inserting the screws between adjacent strikers.

The striker A is actuated by suitable connections, such as the push-rod E, which may be directly operated from the key-striking pneumatic. (Not shown.)

At the outer end of the striker A is arranged the key-bearing member F. This, as shown, comprises a block *f*, having a cushioned or padded lower face *g*, preferably of convex form. Between the bearing member F and the striker is a yielding resilient member, which in operation forms the second cushion in addition to the cushioned face *g*. As shown, this yielding connection consists of a tongue *h*, of felt or other yielding resilient material, one end of which is secured in a groove in the block *f* and the opposite end in the corresponding groove in the member A. This tongue not only forms a yielding connection, but also permits of a rocking movement of the member F in relation to the member A, so as to permit the cushioned face *g* to bear upon the face of the key without sliding movement thereon. The adjacent faces of the members F and A are shaped so as to allow a rocking movement of one in relation to the other, and, as shown, the face of the member A is convex at *i*, so as to form a rocker-bearing for the member F. The adjacent face of the member F is preferably provided with a covering of felt or other cushioning material, as shown at *j*.

With the construction as described whenever the member A is actuated it will transmit its movement to the key, such as G, through the medium of the yielding connection *h* and also the yielding cushion *g*. If a strong movement is imparted to the member A, it will be transmitted through these yielding connections without greatly diminishing its force; but if, on the contrary, a light movement is given to the striker the yielding of the cushions will operate to produce an extremely light delicate touch. In the movement of the member A it will swing around the fulcrum B, so that if provided with a rigid key-bearing portion the latter would be compelled to slide over the surface of the key during the depression thereof. This sliding movement is obviated in the construction shown, for the reason that the member F is free to rock upon the convex bearing *i* and also to rock upon the face of the key. Thus the lateral movement of the striker in relation to the key is compensated for.

What I claim as my invention is—

1. A key-striker comprising a key-bearing member an actuating member therefor, and a

yielding connection between said members intermediate the ends of the key-bearing member.

2. A key-striker comprising a key-bearing member, an actuating member therefor, and a resilient cushion intermediate said members.

3. A key-striker, comprising a key-bearing member having a cushioned face, an actuating member, and a second cushion intermediate said actuating member, and key-bearing member.

4. A key-striker comprising a key-bearing member, an actuating member therefor and a connection between their adjacent faces, permitting a rocking movement of one of said members relative to the other.

5. A key-striker comprising a key-bearing member having a convex bearing-face, an actuating member therefor, the adjacent faces of said members being fashioned to form a rocking bearing.

6. A key-striker comprising a key-bearing member, and an actuating member therefor, said bearing member being provided with a rocking bearing upon the face of the key, and a rocking bearing on the adjacent face of the actuating member.

7. A key-striker comprising a key-bearing member, an actuating member therefor, and a tongue of yielding resilient material connecting said members.

8. A key-striker comprising a key-bearing member, an actuating member therefor having their adjacent faces fashioned to form a rocking bearing, and a tongue of yielding resilient material connecting said members.

9. A key-striker comprising a key-bearing member having a convex cushioned face, an actuating member, and a tongue of yielding resilient material connecting said members, and permitting of a rocking movement of the one in relation to the other.

10. A key-striker comprising a horizontally-extending lever, a convex bearing on the lower side of the free end of said lever, a key-bearing member beneath said convex portion and having a convex cushioned key-bearing face, a tongue of yielding resilient material connecting said members, and a cushioned face on said key-bearing member adjacent to said convex face of said lever.

11. A key-striker comprising a lever, means for actuating the same, a supporting-bearing comprising a bracket struck up from sheet metal having a bifurcated portion embracing said lever, and securing portions extending longitudinally of said lever, and laterally upon opposite sides thereof and intermediate adjacent levers, and fastening means for engaging said securing portions and bearing intermediate adjacent levers, a key-bearing member, and a resilient cushion between the latter and said lever.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH COURVILLE.

Witnesses:
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