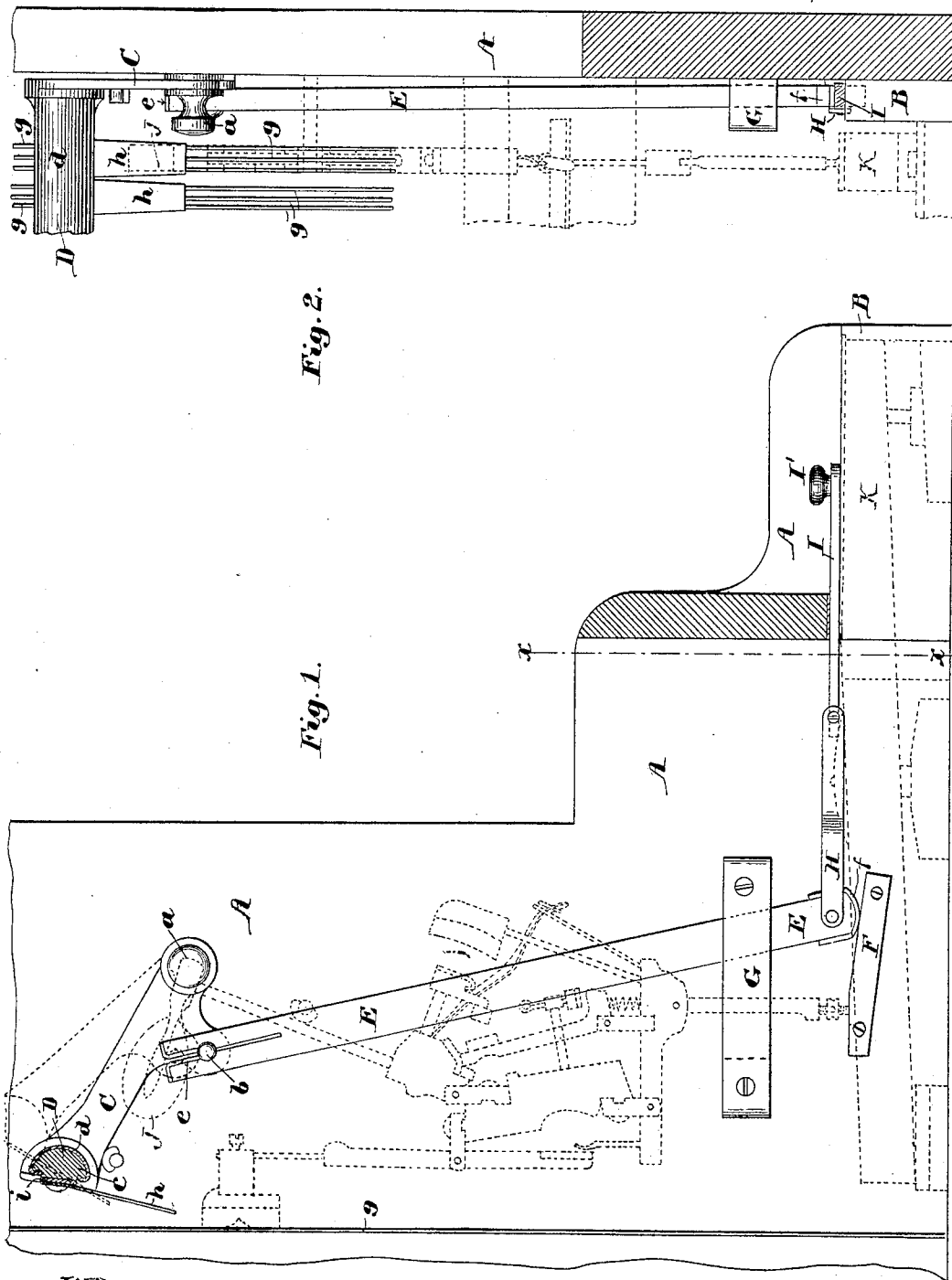


(No Model.)

A. H. STUART.
MANDOLIN ATTACHMENT FOR PIANOS.

No. 578,048.

Patented Mar. 2, 1897.



Witnesses:
Walter E. Lombard
L. C. Greenleaf

Inventor:
Albert H. Stuart,
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Atty.

UNITED STATES PATENT OFFICE.

ALBERT H. STUART, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO ABBIE H. STUART, OF SAME PLACE.

MANDOLIN ATTACHMENT FOR PIANOS.

SPECIFICATION forming part of Letters Patent No. 578,048, dated March 2, 1897.

Application filed May 13, 1896. Serial No. 591,373. (No model.)

To all whom it may concern:

Be it known that I, ALBERT H. STUART, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Mandolin Attachments for Pianos, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to mandolin attachments to pianos; and it consists in certain novel features of construction, arrangement, and combination of parts, which will be readily understood by reference to the description of the accompanying drawings, and to the claims hereto appended, and in which my invention is clearly pointed out.

Figure 1 of the drawings is a sectional elevation of a portion of the end wall of a piano-case and my improved mandolin attachment drawn in full lines, with one key and its action shown in dotted lines; and Fig. 2 is a sectional elevation of the same parts, the cutting plane being on line *x x* on Fig. 1 and showing the piano key and action in dotted lines and a portion of the attachment in full lines.

In the drawings, A is the end wall of the piano-case, to which at the right of the series of keys is secured in a fixed position the block B, having its upper surface substantially on a level with the upper surface of the keys, and said case has pivoted thereto at *a* the lever C, provided with the headed stud *b* and having secured to its free end one end of the rail D, composed of the wooden core C and the sheet-metal covering *d*, the opposite end of which is secured to a similar lever or radius-arm pivoted to the opposite end wall of the case of the instrument, but minus the stud *b*.

E is a strut or push-rod having its upper end bifurcated and lined with leather *e* to engage the stud *b* and having its lower end rounded and covered with leather *f* and arranged to rest upon the upper inclined face of the wooden block F, secured to the end wall A of the case.

The strut E is guided in its back-and-forth motion, and the stroke of its lower end is limited by a rectangular opening through the bar G, the inner surface of which is lined

with felt, (not shown,) and its lower end is connected by the link H with the operating rod or bar I, mounted upon the block B in a suitable guideway and provided at its front end with the knob I', by which it may be moved toward the front or rear to vibrate the lever C, as may be desired.

The piano-strings *g g* are constructed and arranged in the usual manner, and therefore only small portions of them are shown here.

The rail D has secured to its rear side a series of sheet-metal tongues *h*, corresponding in number to the number of the hammers in the action, which project downward from said rail at an angle to the strings *g g* in such a manner that when the rail is moved to the position indicated in full lines said tongues will be interposed between the hammers and the strings to be acted upon thereby, but without touching either the strings or the hammers until the piano-key K is struck, when the hammer J will strike the tongue *h* and force it into contact with the strings at the rear of said hammer, which will produce the mandolin effect.

Between the wooden core *c* of the rail D and the tongues *h* is interposed a cushion *i*, of felt, of sufficient thickness to prevent any portion of the metal tongues *h* from coming in contact with the metal covering *d* of the rail D.

The operation of my invention is as follows: The normal position of the mandolin attachment is as indicated in dotted lines, but whenever it is desired to produce the mandolin effect the operator draws the rod I to the front until further movement of the lower end of the strut E is prevented by coming in contact with the front shoulder of the opening through the bar G, as indicated by the position shown in full lines in Fig. 1, when the rail D will be dropped into the position shown in full lines, and the tongues *h* will be in positions to be struck by the hammers J and forced into contact with the strings, and as the hammers recede said tongues are retracted by virtue of the elasticity of the metal of which they are formed.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In combination with the string and ac-

tion of a piano, the rail D secured at each end
to a lever or radius-arm C; the spring-metal
tongues *h* secured to said rail and projecting
downward therefrom; the stud *b* set in the
5 lever C; the strut E having its upper end bi-
furcated; the block F; link H; and operat-
ing-rod I, I', all constructed, arranged and op-
erating substantially as described.

2. In combination with the strings and ac-
10 tion of a piano, the rail D secured at each end
to a lever or radius-arm C; the stud *b* set in a
lever or radius-arm C; the strut E connected
to said stud *b*; the block F for supporting the
strut E; means for moving the lower end of

said strut longitudinally of said block F; and 15
a device secured to and projecting downward
from said rail D between the strings and the
hammers of the action, to modify the tone of
strings.

In testimony whereof I have signed my 20
name to this specification, in the presence of
two subscribing witnesses, on this 11th day
of May, A. D. 1896.

ALBERT H. STUART.

Witnesses:

N. C. LOMBARD,

L. C. GREENLEAF.