

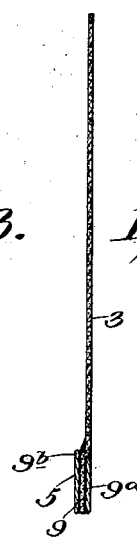
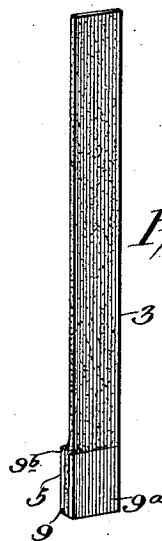
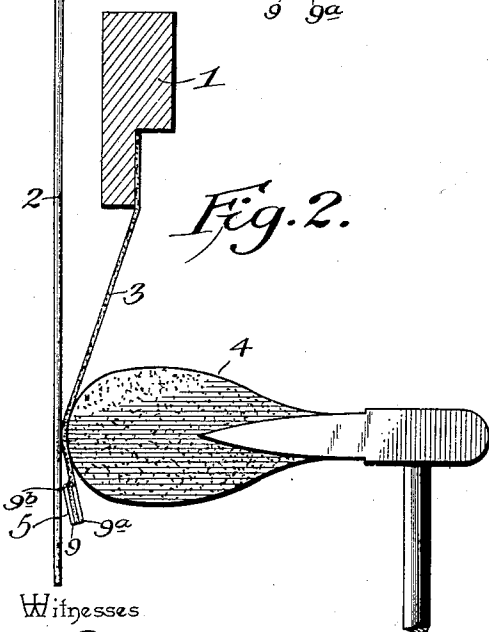
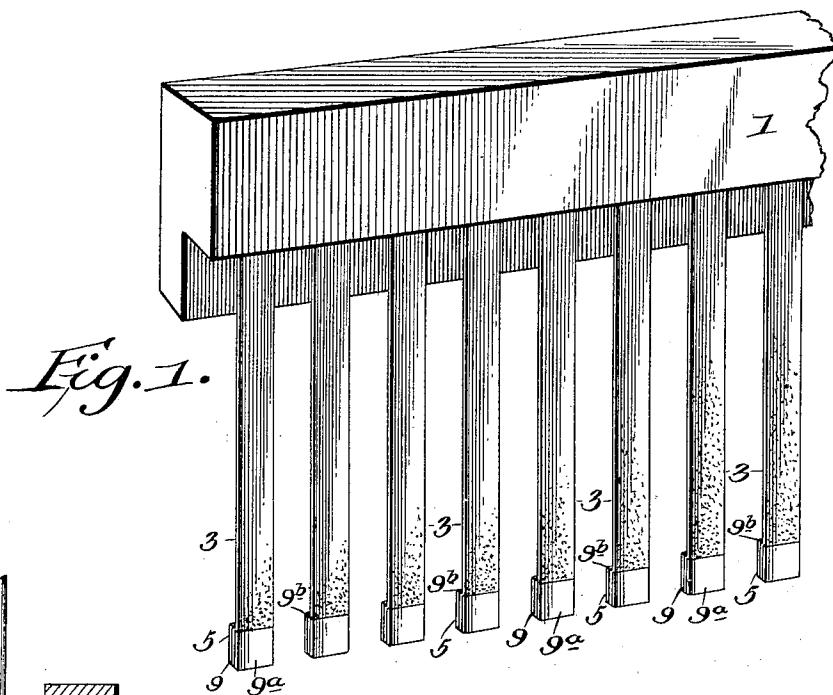
No. 643,790.

Patented Feb. 20, 1900.

A. F. FLOREY.
PIANO ATTACHMENT.

(Application filed Jan. 20, 1899.)

(No Model.)



Witnesses

A. Roy Appleman
[Signature]

By *this* Attorneys,

Alvin F. Florey, Inventor.

CA Snow & Co.

UNITED STATES PATENT OFFICE.

ALVIN F. FLOREY, OF WASHINGTON, NEW JERSEY, ASSIGNOR TO CORNISH & CO., OF SAME PLACE.

PIANO ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 643,790, dated February 20, 1900.

Application filed January 20, 1899. Serial No. 702,802. (No model.)

To all whom it may concern:

Be it known that I, ALVIN F. FLOREY, a citizen of the United States, residing at Washington, in the county of Warren and State of New Jersey, have invented a new and useful Piano Attachment, of which the following is a specification.

My invention relates to an attachment for pianos, and has for one object to provide a device adapted for varying or modifying the string-tone produced by the operation of the hammers of an instrument of the piano class; and the particular object in view is to provide a string-striking tongue of a simple and efficient construction, adapting it to be manufactured at a small cost, while having a softened tone in comparison with analogous devices wherein a metallic striker or head is employed for direct contact with the strings of the instrument.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view in perspective of a series of string-striking tongues constructed in accordance with my invention, said tongues being supported by a tongue-bar. Fig. 2 is a vertical section showing a tongue-supporting bar in operative relation with the hammer and string of an instrument of the piano type. Fig. 3 is a detail view of one of the tongues detached. Fig. 4 is a detail section of the same.

Similar reference characters indicate corresponding parts in all the figures of the drawings.

In the illustrated embodiment of my invention the tongue-bar 1, which may be held in place by any suitable means (forming no part of my present invention, and hence not illustrated in the drawings) and which is adapted for movement approximately parallel with the strings 2 of the instrument in connection with which the attachment is employed, serves as a support for a plurality of string-striking tongues 3, which depend from the bar and are adapted to be arranged, respectively, either in or out of the paths of the string-striking hammers 4. These tongues

3, one of which is employed for each hammer 4, are constructed of flexible material, such as felt, and at their free ends they are provided, upon their rear sides or those sides toward the strings 2, with coatings of a plastic material—such as cement, glue, or the equivalent thereof—said coatings serving to harden and stiffen the coated portions of the tongues and at the same time form the medium by which strikers 5, of wood veneer or the equivalent thereof, are secured to the tongues, said strikers being applied to the tongues while the coatings are in a plastic state.

The coatings not only serve to attach the striking-faces to the tongues, but, as above indicated, render the coated portions of the tongues inflexible, whereby in the operation of the device the wood veneer is not subjected to strain liable to cause the splitting thereof. Furthermore, the coatings adhere to the strikers throughout the areas of the contiguous faces thereof, and thus effectually strengthen the strikers.

In practice I prefer to apply the coatings by dipping the free ends of the tongues in the adherent substance while the latter is in a plastic state, whereby both surfaces and the side and end edges of the tongue are coated to the desired depth or the desired distance from such end edges, and then, while this substance is still plastic, apply to the opposite surfaces of the tongue approximately-coextensive sheets of wood veneer 9 and 9^a, either of which may form a striker, as above described, while the other surface constitutes a hammer-struck face adapted to receive a blow of the hammer when the tone-modifier is depressed to arrange the strikers in the paths thereof. As above indicated, the opposite strips of veneer are approximately coextensive; but in practice I prefer to extend the striker 9, or that strip which is toward the string, slightly above the upper edge of the strip 9^a to form a slight extension or lip 9^b, and then crowd the adjacent portion of the flexible tongue forward, or from the plane of the striker 9, to lie approximately flush at its front surface with that of the hammer-struck surface of the strip 9^a, as clearly shown in Fig. 4.

An advantage derived from the use of the strips of veneer for forming the strikers resides in the fact that they project sufficiently beyond the surfaces of the tongues to form an abrupt and well-defined shoulder, upon which the striker may be tilted when the tone-modifier is depressed sufficiently to cause the hammer to strike the flexible or body portion of the tongue, as indicated in Fig. 2, and this shoulder will be present, whether the body portion of the tongue is carried forward over the upper edge of the strip 9^a or not; but by thus carrying the body portion of the tongue forward to arrange its front surface approximately in the plane of that of the strip 9^a I am enabled to use a much thinner veneer than otherwise and still obtain the desired projection of the shoulder formed by the lip 9^b beyond that portion of the tongue which is toward the strings.

When completed, the tone-modifier embodying my invention is provided with a striking-face of wood, which, while being capable of producing a guitar, harp, or cithen like tone in the strings of the instrument, is devoid of any resonant quality which will produce an independent ring, and at the same time the striking-face described is durable, for the reason that it is strengthened throughout its extent by the adherent coating of cement.

As will be understood from the foregoing description the tongue-stiffening coating performs the dual function of fastening the strikers in place and of holding the coated portions rigid, whereby when a striker receives the impact of a hammer and is forced thereby into contact with the strings of the instrument any uneven contact or strain will not cause the bending of that portion of the tongue which is covered by the striker, and hence the liability of splitting the striker by the yielding of the tongue is reduced to the minimum. This function obviously applies particularly in connection with strikers of wood veneer, as it is obvious that veneer is liable to split with a slight strain, and it is necessary in order to attain the objects of my invention to use a thin diaphragm of wood in order to attain the desired softness of tone and at the same time the ringing effect of the strings without adding thereto the resonance of the striker. Without employing means for stiffening the tongue throughout the surface to which the striker is applied a device constructed in accordance with my invention would not be durable.

Various changes in the form, proportion,

and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having described my invention, what I claim is—

1. In a piano, a tone-modifier consisting of flexible tongues provided at opposite sides near their free ends with self-adhering hardened coatings, applied to the tongues in a plastic state, and strips of wood veneer applied to the opposite coated surfaces of the tongue, and held in place by the adherent quality of the coatings, one of said strips extending at its upper edge above that of the other, substantially as specified.

2. In a piano, a tone-modifier consisting of flexible tongues provided at opposite sides near their free ends with self-adhering hardened coatings, applied to the tongues in a plastic state, and strips of wood veneer applied to the opposite coated surfaces of the tongue, that strip which is toward the strings being extended above the upper edge of the other strip to form a tilting lip, substantially as specified.

3. In a piano, a tone-modifier consisting of flexible tongues provided at opposite sides near their free ends with self-adhering hardened coatings, applied to the tongues in a plastic state, and strips of wood veneer applied to the opposite coated surfaces of the tongue, that strip which is toward the strings being extended above the upper edge of the other strip to form a tilting lip, and the adjacent portion of the tongue being offset to lie flush at its front surface with the front surface of the shorter strip, substantially as specified.

4. In a piano, a tone-modifier consisting of flexible tongues provided upon opposite sides, adjacent to their free ends, with self-adhering coatings, and strips of wood veneer applied to the opposite coated surfaces of the tongues and held in place by said coatings, the portions of the tongues adjacent to the upper edges of the strips being arranged in the planes of those strips which are arranged upon the front surfaces of the tongues, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ALVIN F. FLOREY.

Witnesses:

ALBERT C. GODFREY,
WILLIAM F. MATERSON.