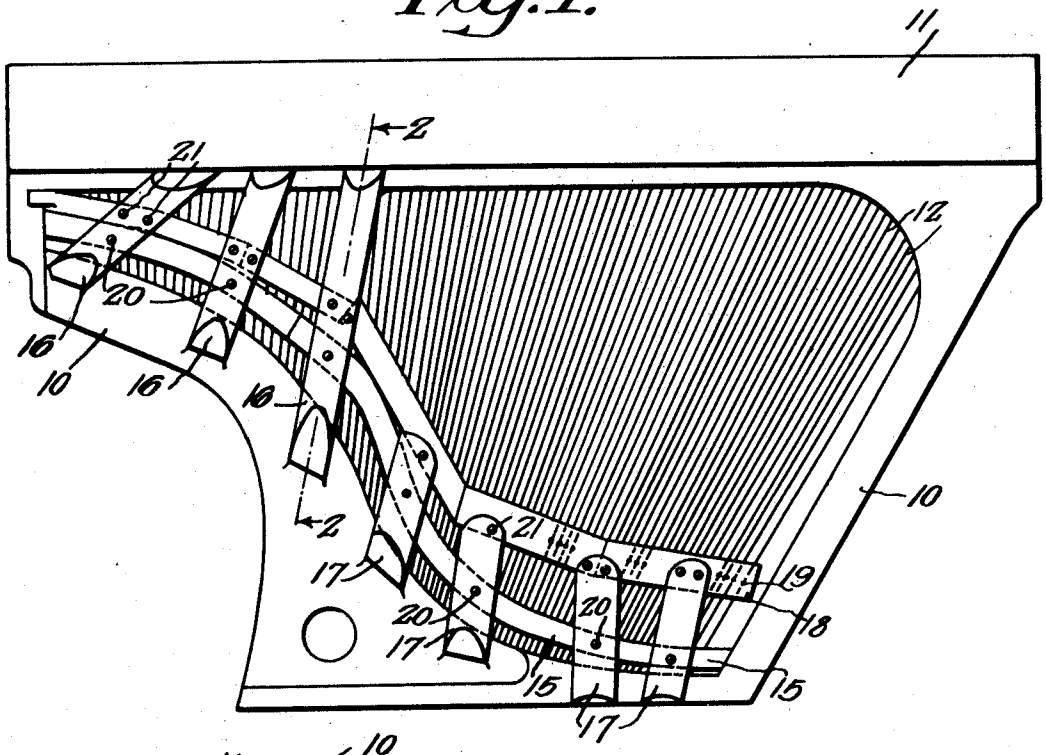
Aug. 19, 1941. W. L. DOUDEN 2,252,708

ELECTRIC PIANO CONSTRUCTION

Filed Dec. 30, 1938

Fig. 1.



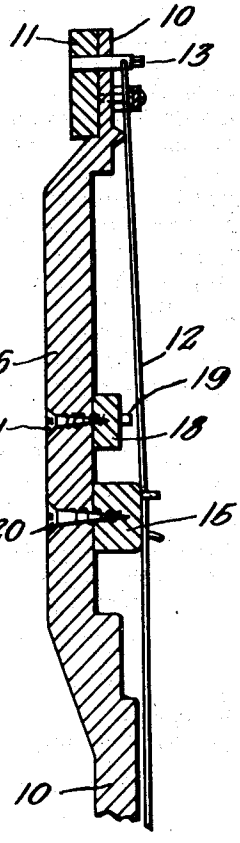


Fig. 2.

Inventor

William L. Douden

By

Attorney

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ELECTRIC PIANO CONSTRUCTION

William L. Douden, Philadelphia, Pa., assignor to Radio Corporation of America, a corporation of Delaware

Application December 30, 1938, Serial No. 248,563

2 Claims. (Cl. 84—1.15)

This invention relates to the construction of electric pianos or pianos in which the vibration of the strings is electrically converted into sound, and pertains particularly to the frame construction of such devices.

In the prior art, it has been thought necessary to mount the bridge of an electrical piano in such a manner that it could vibrate more or less freely or somewhat in the fashion of the vibration of the bridge of a conventional piano. Such a mounting of the piano bridge has been found unnecessary and, in fact, a comparatively rigid mounting of the bridge is described and claimed in Demuth's application Serial No. 237,001, filed October 26, 1938 (RCV D–6348). The said Demuth application points out the advantages of rigid mounting of the bridge, such as greater time of vibration of strings, etc. In the said Demuth application, the bridge is shown and described as mounted on metal brackets secured to the piano frame, and the mounting of magnetic pickups is disclosed as being accomplished on somewhat similar brackets.

In the said Demuth construction, the frame and bracket assembly is more or less built up. In a piano construction in accordance with the present invention, the brackets for supporting the bridge and also for supporting the electromagnetic pickups are cast integral with the piano frame, in order to prevent any possibility of their vibration or displacement in relation to the piano frame. This arrangement not only accomplishes all the results of the Demuth construction but, in addition, it provides a predetermined fixed location for the bridge and for the pickup units and positively precludes their subsequent displacement or disarrangement.

One object of the invention is to provide an improved piano construction;

Another object of the invention is to provide a piano frame construction of greater rigidity than heretofore provided;

Another object of the invention is to provide a comparatively simple and inexpensive construction of an electric piano.

Another object of the invention is to provide means for positively holding the strings, bridge and electrical pickups of a piano in predetermined fixed relation to each other;

Other and incidental objects of the invention will be apparent to those skilled in the art from a reading of the following specification and an inspection of the accompanying drawing, in which

Figure 1 is a rear view of a piano frame casting with the bridge and pickup units attached in accordance with the invention, and

Figure 2 is a section taken along the line 2—2 of Figure 1.

The usual castiron piano frame is indicated at 10. The particular frame shown in the drawing is one adapted to use in the small upright type of pianos. This frame carries the usual wrest plank 11 which carries the tuning pins 13 connected to the strings 12. As shown in Figure 2, the strings 12 are supported by the bridge 15. This bridge, instead of being supported upon a sounding board as in conventional piano construction, is supported directly upon the brackets 16 and 17. Both the bracket 16 and the bracket 17 are cast integral with the frame 10 and are, therefore, not adjustable in relation to the frame. The faces of these brackets toward the strings and bridge may, if desirable or necessary, be finished off uniformly by planing or milling their surfaces into a single plane, but this is usually unnecessary. The bridge 15 is as usual composed of one or more strips of hardwood and is firmly secured to the brackets 16 and 17 by appropriate screws 20. It will be apparent that, due to the fact that the brackets 16 and 17 are cast integral with the frame 10 and the bridge is secured firmly to these brackets, the bridge will be incapable of any material vibration and, therefore, the energy of the vibrating strings will not be dissipated through the bridge.

The strip 18 supporting the pickup elements 19 may be mounted on the brackets 16 and 17 in the same manner as the bridge 15. The pickup strips 18 may be divided into as many sections as is convenient, as illustrated, for example, in Figure 1. Since these pickup strips are mounted rigidly upon the same brackets as the bridge 15, it will be apparent that it will be substantially impossible for the pickups and the bridge to get out of adjustment in relation to each other. Since the bridge 15 supports the strings 12 and the pickup strip 18 is supported by the bracket 16 near to the bridge 15, the relation between the pickups and the strings 12 will be predetermined by the construction of the pickup strips and by the height of the bridge. The construction prevents any tampering with the relation between the pickups and the strings by persons tuning the piano or by others who may have occasion to handle the instrument. The pickups used are preferably of the type shown and described in Demuth application Se-

rial No. 232,526, filed September 30, 1938, (RCV D–6349).

It will be apparent to those skilled in the art that my invention is not limited to the specific construction shown but that it may readily be applied to any other type of piano frame or string arrangement.

Having now described my invention, I claim:

1. In a piano, a cast frame, bracket members cast integral with said frame and extending inwardly therefrom at spaced intervals, a bridge fixed to said bracket members for supporting piano strings, and electrical pickup devices rigidly supported on said bracket members adjacent to and spaced from said bridge and adjacent to the plane of strings supported by said bridge.

2. In a piano, a cast frame, bracket members integral with said frame and extending inwardly therefrom at spaced intervals, a bridge immovably fixed to said bracket members for supporting piano strings, and electrical pickup devices immovably supported on said bracket members adjacent to and spaced from said bridge and adjacent to the plane of strings supported by said bridge.

WILLIAM L. DOUDEN.