C. L. OLDS.

MOUSE PROOF PIANO KEY FRAME.

APPLICATION FILED OCT. 13, 1909.

963,929. Patented July 12, 1910.

2 SHEETS—SHEET 1.

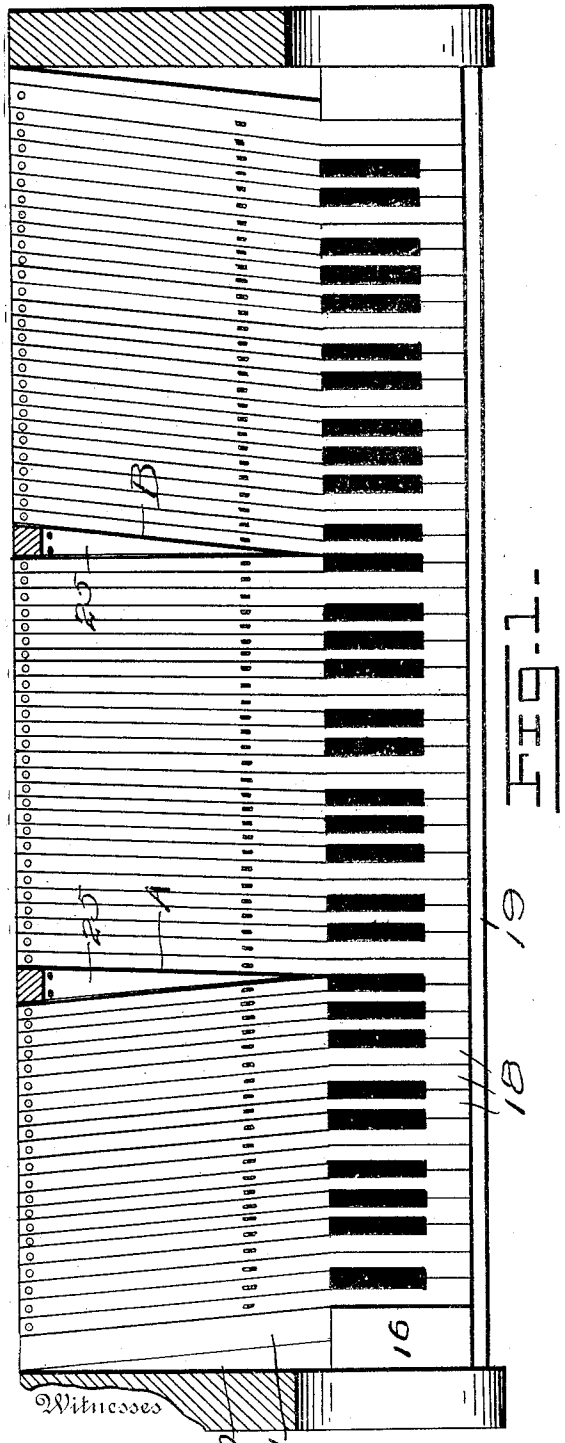

Fig. 1.

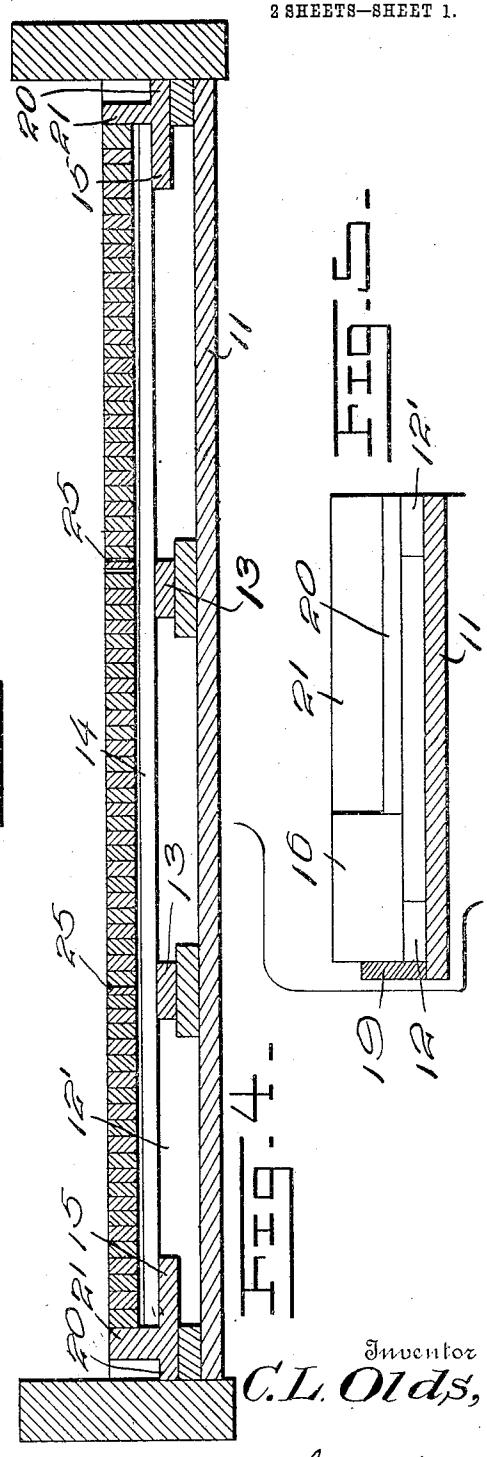

Fig. 4.

Fig. 5.

Witnesses

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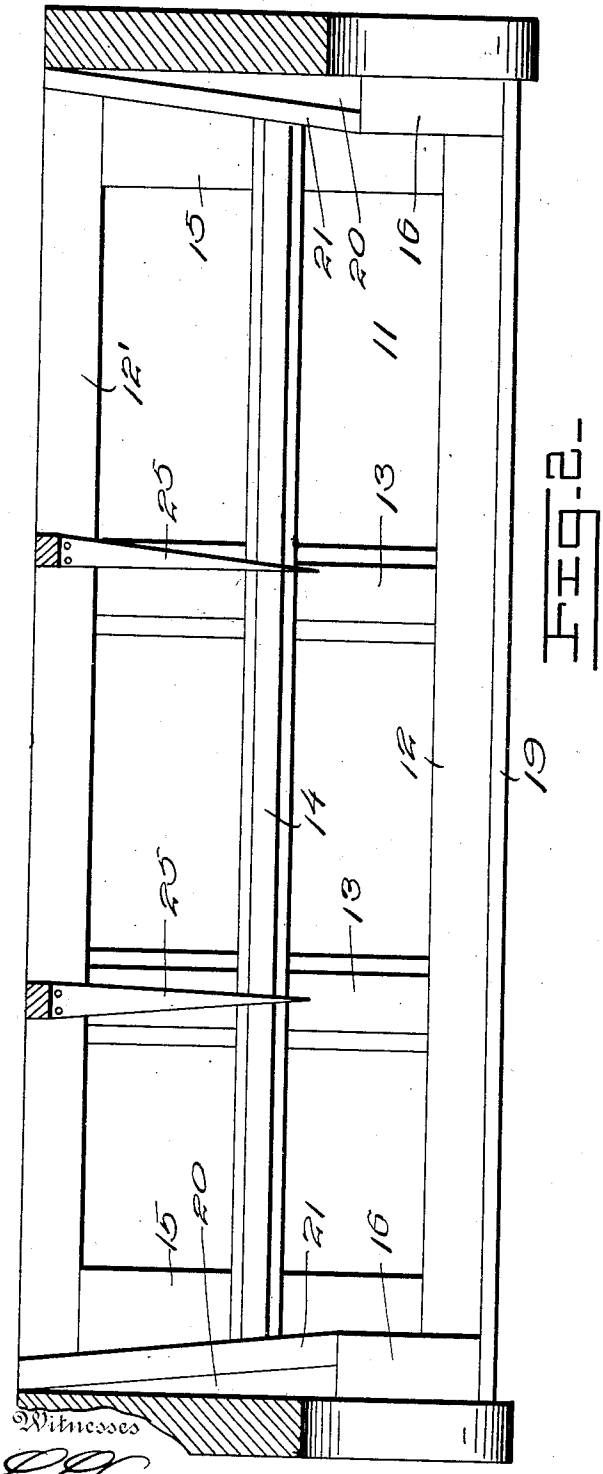

Fig. 2.

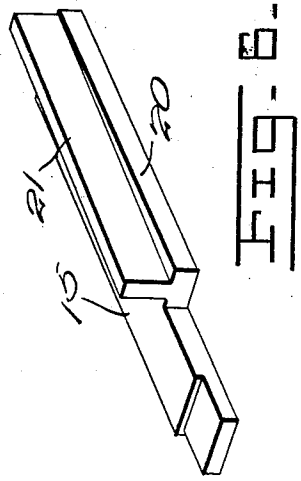

Fig. 5.

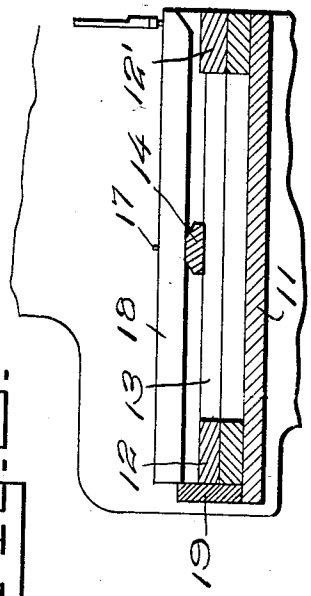

Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES L. OLDS, OF ENID, OKLAHOMA, ASSIGNOR OF ONE-HALF TO ERASMUS FREDERICKSON, OF ENID, OKLAHOMA.

MOUSE-PROOF PIANO KEY-FRAME.

963,929. Specification of Letters Patent. Patented July 12, 1910.

Application filed October 13, 1909. Serial No. 522,380.

To all whom it may concern:

Be it known that I, CHARLES L. OLDS, a citizen of the United States, residing at Enid, in the county of Garfield and State of Oklahoma, have invented certain new and useful Improvements in Mouse-Proof Piano Key-Frames, of which the following is a specification.

This invention relates to the construction of pianos, and more particularly to supports for key boards, and has for its object to provide a key frame of a novel construction, so arranged as to be proof against the entrance of mice or other small rodents therebeneath.

Another object is to provide such a frame which may be used in any piano.

Other objects and advantages will be apparent from the following description, and it will be understood that changes in the specific structure shown and described may be made within the scope of the claim without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a top view of a key board showing the arrangement of the key levers. Fig. 2 is a similar view with the key levers removed, Fig. 3 is a cross sectional view of the device showing a portion of the supporting piano frame, Fig. 4 is a longitudinal sectional view of the device, Fig. 5 is a detail end view, Fig. 6 is a detail perspective view of one of the end closing members.

Referring to the drawings, there is shown a portion of a piano including the key-frame bed 11 upon which is supported the present invention in key frames. This frame comprises the longitudinally extending touch rail 12 and key lever rest 12′ connected by intermediate mortised cross pieces 13 upon which there is supported the longitudinally extending balance rail 14 disposed intermediately of the touch rail and lever rest. At each end of the frame, there are connecting cross beams 15 which will be subsequently described in detail.

In the usual construction of pianos, the key-frame is made of a length slightly shorter than the space within the sustaining arm portions of the piano casing, leaving a space at each end thereof for the disposal of the blocks 16, the key frame abutting thereagainst and the space inwardly of these blocks being left entirely open. The balance rail is provided with a plurality of properly spaced pins 17, and supported upon this rail is the usual set of key levers 18 having vertical perforations therethrough receiving slidably respective pins 17. The balance rail is raised slightly above the level of the touch rail and lever rest and in normal position the key levers lie in close relation with the lever rest 12′, their forward ends being disposed in a common line flush with the front edge of the frame which is disposed closely adjacent the key slip 19. The touch rail checks the downward movement of the keys when operated by the pianist.

As indicated above, ordinarily the space between the end key levers and the cross pieces 15 is open and allows the entrance of mice beneath the key levers, where they are in the habit of building their nests and accumulating filth of various kinds, which in addition to endangering the health of users of the instrument also impairs the action of the keys; and the mice themselves frequently damage parts of the piano, gnawing away felt from beneath the keys; they also create a noise by their scurrying.

In order to close the end of the frame, I form the cross pieces 15 with an extension 20 projecting laterally beyond the rear end of the blocks 16, and an upwardly extending guard flange 21, the inner face of which is disposed flush with the inner face of the blocks 16, each of which lies commonly in close proximity to the sides of the end levers of the key board. Thus the access of mice through the end of the frame is effectively guarded against.

While the front portions of the key levers extend in close parallel relation, the inner portions of the keys extend at an angle with respect to the front portions, the angle beginning usually on a line with the fulcrum plate or a slight distance inwardly thereof. The keys are usually arranged in three, possibly more, sets, the inner portions of which diverge with respect to each other from given points, in order to avoid the supports for the hammer mechanism. As illustrated, these points of division occur at A and B in Fig. 1, which in the usual construction of pianos leaves a broad space through which mice have no difficulty in gaining access to

the spaces beneath the key levers. In order to close this opening, I have provided the wedge-shaped members 25, which are secured to the rear stringer 12′ and project inwardly thereof, being shaped to fit snugly between the adjacent keys without interfering with their free action. It will now be seen that every point of access to the space beneath the keys is closed, and a key frame provided in which may be incorporated any of the desirable features already found in such constructions without detriment in any way. It will be observed that the guards 21 extend at an angle to the end of the frame, so that they maintain their close proximity to the key levers throughout the length of the flanges.

The rear lever rest 12′ is preferably located at the inner edge of the frame bed, and directly beneath the connections for the hammers, so that the entire space beneath the keys is made proof against mice. The space beneath the key levers is the one in which the mice usually make their nests, though occasionally they do occupy space in the bottom portion of the piano case, and by the present construction no convenient place is left for the building of their nests in the upper part of the instrument.

What is claimed is:

A key frame for pianos comprising in combination a front touch rail, a rear lever rest member arranged to support the inner portions of the key levers, a plurality of members connecting the touch rail and lever rest, a balance rail carried intermediately of the touch plate and rear member, end cross pieces carried between the touch rail and rear member, said end pieces carrying a laterally extending portion upon their inner end portions, and vertical flanges carried thereby; and wedge-shaped members carried by the rear member and extending between certain of the key levers to prevent access therebetween, substantially as and for the purpose described.

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

CHARLES L. OLDS.

Witnesses:

M. SMITH,

O. E. MERKLINGHAUS.