March 6, 1928. 1,661,443

H. G. NEELY

KEYBOARD MECHANISM

Filed Nov. 2, 1925

FIG. 1

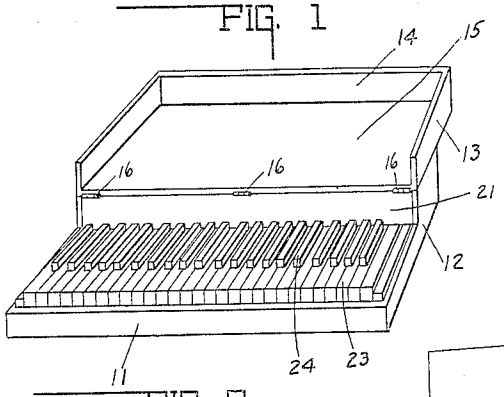


FIG. 2

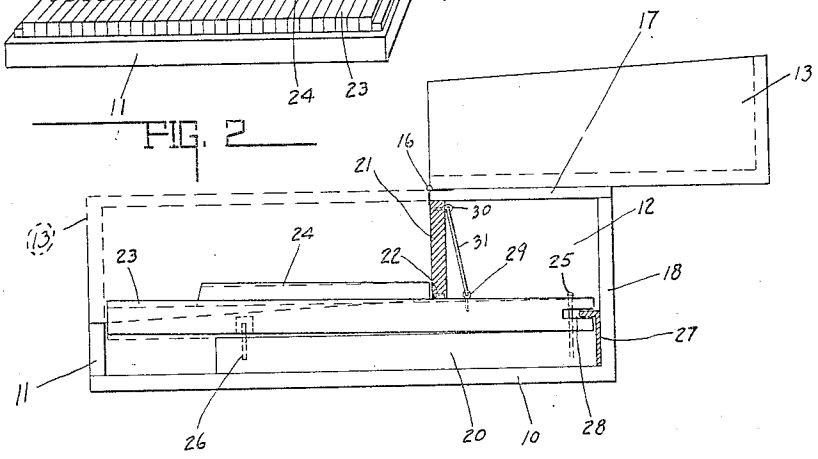


FIG. 3

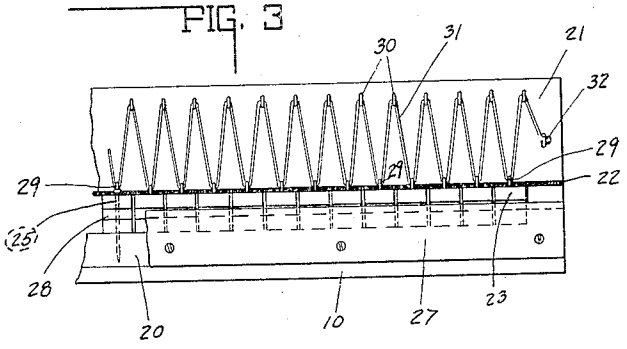


FIG. 4

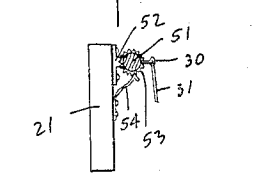
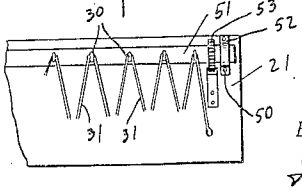


FIG. 5



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KEYBOARD MECHANISM.

Application filed November 2, 1925. Serial No. 66,309.

This invention relates to a keyboard mechanism.

The chief object of the invention is to provide a keyboard mechanism that simulates piano or organ action without producing sounds and which also is portable.

The chief feature of the invention consists in not only the small number of parts employed, but also in the adjustability thereof.

The full nature of the invention will be understood from the accompanying drawings and the following specification and claim:

In the drawings Fig. 1 is a perspective view of a keyboard mechanism showing the same in exposed relation for operation. Fig. 2 is an enlarged transverse sectional view, the dotted lines indicating the device when closed, the full lines indicating the device when exposed for operation. Fig. 3 is an enlarged rear elevational view of a portion of the mechanism. Fig. 4 is a transverse sectional view of a portion of the tension device showing a modified form thereof. Fig. 5 is an elevational view of the modified form shown in Fig. 4.

In the drawings 10 indicates the base of the container having the front wall 11 and the opposite side walls 12. Completing the side walls 12 are the complementary side walls 13 connected by the front 14, to which is attached the cover 15. The portions 13, 14 and 15 are rigidly connected together and are hingedly mounted as at 16 on another portion of the cover 17. The box or container has the rear wall 18. Access to the interior of the mechanism may be had by suitably removing the wall 17 or 18, or both. Tilting the cover portion on its hinges 16 into the position shown by the full lines in Fig. 1, exposes the mechanism for operation. Positioning said cover portion in the dotted line position as indicated in Fig. 2, closes the mechanism and the same may be readily transported.

Herein the container bottom 10 supports a frame 20 which extends substantially the entire length of the box or container. In spaced relation therewith and positioned above the same is a stop rail 21, the lower face of which is provided with a felt or cushion strip 22. Positioned between the stop rail and the frame are a plurality of transversely arranged keys, the white keys being indicated by the numeral 23 and the black keys by the numeral 24. These may be the usual organ keys or other suitable keys. Each key has a lever action and is pivotally supported by the pin 25, while the pin 26 guides the same. A retainer plate in angular formation, indicated at 27, is seatable in the slots 28 of the keys and serves to maintain them in alignment and retain them on their pivotal support. The plate 27 is suitably secured to the frame 20. Each of the keys is provided with an eyelet 29 and the stop rail supports an adjacent pair of eyelets. A flexible cord 31 is adapted to be threaded through the several eyelets and anchored as at 32, which anchorage may be so fashioned as to be adjustable and thus adjust the tension applied to all of the keys, the tension being uniformly distributed by the aforesaid arrangement. The depression of any key is in opposition to the flexible cord 31 or spring and when the key is released, said cord or spring returns the key to its initial and normal raised position until the key abuts the felt cushion 22 and is held in this position. Any desired tension may be applied to the keys and thus the tension or touch of the mechanism can be adjusted. The action simulates that of an organ. If desired individual springs may be employed in place of the single cord and a very simple method is to pass a rubber band through the eyelet 29 and anchor its ends on the two cooperating eyelets 30. Tension may be increased by passing the ends of each of the bands two or more times around the eyelets 30. Other forms of individual springs may be employed but the foregoing type of spring action has been found very satisfactory and most economical.

In Figs. 4 and 5 a simple support and adjustment is illustrated. Herein the base member 21 is provided with a pair of pivot forming brackets 50 which pivotally support a supporting rod 51 to which is secured the several eyelets 30. At one end of the rod 51 or at each end, preferably adjacent the pivot forming bracket 50, there is secured as by the pin 52, a ratchet 53. Suitably secured adjacent the rod and the ratchet 53 is a spring placed dog 54 that engages in the ratchet and maintains the rod in the adjusted position and thus the tension of all of the cords may be simultaneously adjusted by rotating the rod one or two ratchet teeth.

The invention claimed is:

In a keyboard mechanism, the combination of a plurality of parallel arranged key

members, an elongated stop rail positioned thereabove and intermediate the ends of said key member, a single tension support, bearings rotatably mounting said support, and yielding means secured at one end to each of said keys and at the other end to said support and normally under tension for maintaing the keys in engagement with the stop rail, and means rotatable for securing said yielding means support in the adjusted rotatable position for securing predetermined tension in said yielding means connecting each key member to the support.

In witness whereof, I have hereunto affixed my signature.

HERBERT G. NEELY.