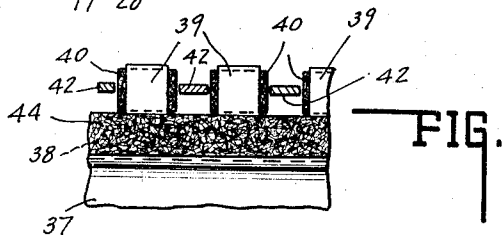
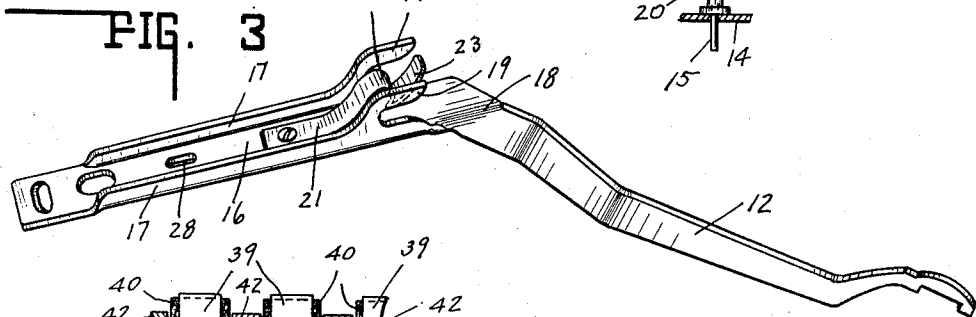
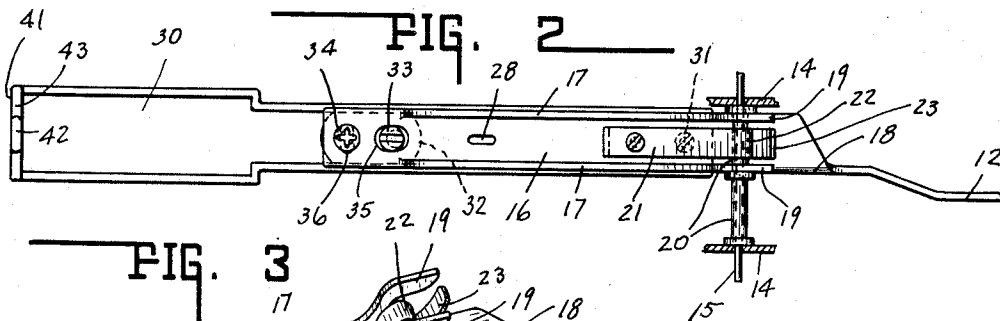
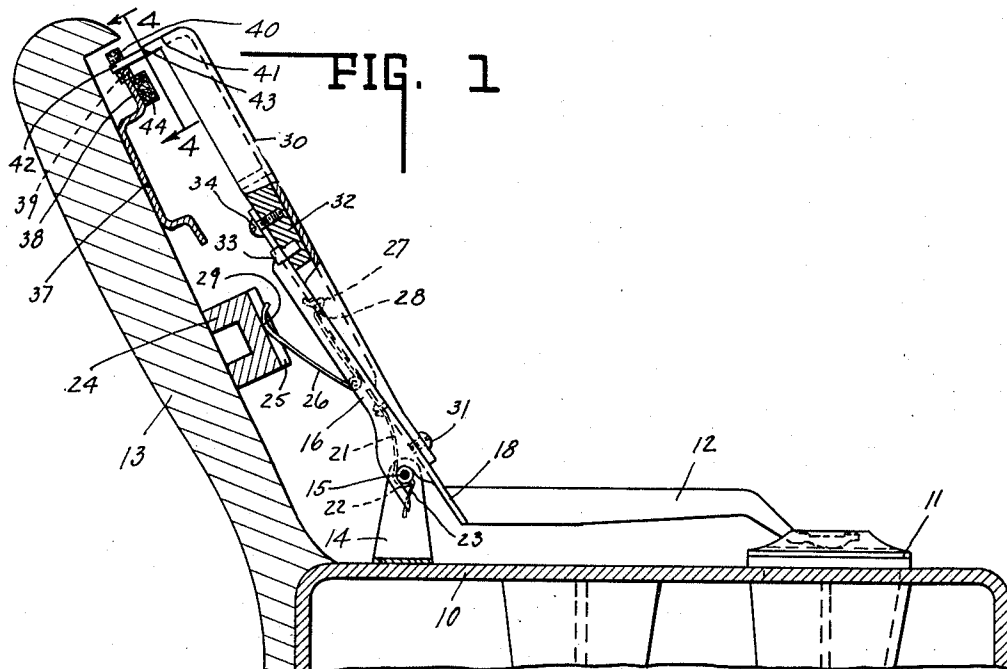


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TREBLE ACTION FOR ACCORIONS

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TREBLE ACTION FOR ACCORDIONS

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1

This invention relates to a key construction with its valve lift as used with the treble action of an accordion.

It is the object of the invention to provide a finger key for use with the treble action in a piano accordion wherein the key structure comprises a single sheet metal stamping terminating in an integral valve lift formed therewith, the keybody to provide a rigid support for a plastic key face.

One feature of the invention resides in a bendable juncture between the keybody and the valve lift, wherein the keybody and lift are capable of relative adjustment in the plane of their operation by bending of the metal at their juncture.

Another feature of the invention resides in the provision of a spring lock associated with the keybody for pivotally mounting the key and valve lift upon a pivot rod to provide a snap-on mounting such as to permit of convenient removal and replacement.

Another feature of the invention resides in the arrangement of the compression spring for yieldably maintaining the key in its normal position under spring tension, and wherein said spring is formed with a snap-on anchor in association with a notched spring rail.

A further feature of the invention resides in an eccentric screw adjustment between the metal keybody and its plastic key face for adjusting the outer end of the key face laterally relative thereto, whereby the key faces of the keyboard may be arranged in equally spaced relation.

Another feature of the invention resides in the arrangement and formation of the key guide rail in which the guide lugs formed on the ends of the keys may be guided and cushioned against lateral displacement, there being associated therewith a cushion strip carried by a metal frame for receiving and cushioning the impact of the actuated ends of the keys.

The full nature of the invention will be understood from the accompanying drawings and the following description and claims:

Fig. 1 is a central vertical section through one unit of the treble action and a portion of the treble action valve box.

Fig. 2 is a plan view showing the underside of the finger key construction with a portion of the valve lift removed.

Fig. 3 is a perspective view of the keybody and associated valve lift extension thereof.

Fig. 4 is a view showing a portion of the key guide rail taken on the line 4—4 of Fig. 1.

In the drawings there is shown a portion of an

2

accordion treble action including a valve plate 10 having the usual openings to the reed boxes controlled by the respective valves 11, each valve being secured to the end of a valve lift 12. For operating the valves through the valve lifts there is a plurality of treble keys carried by the key bed 13 extending at an angle to the valve plate 10 upon which the upstanding brackets 14 are mounted. Carried by the brackets 14 there is a horizontal hinge rod 15 upon which the treble keys are hingedly supported.

The piano keys comprise a metal body 16 formed of a sheet metal stamping integral with the valve lift 12. Said body is formed with a flat upper surface and downwardly flanged side portions 17, the flat upper surface being joined to the valve lift along one edge thereof as indicated at 18, with a right angle bend. Thus, the flat upper surface of the keybody extends in a horizontal plane as compared with a vertical plane in which the valve lift extends. Substantially at the juncture, as indicated at 18, the flat upper surface of the keybody is bendable transversely thereof for adjusting the angular relation of the lift and thereby effect proper seating of the valve 11 with the keybody lying in its proper plane.

The flanged side portions of the keybody terminate adjacent the juncture 18 with the valve lift, in a forwardly extending hook portion 19 to provide a tight but removable slip-on fit over a bushing 20 rotatably carried on the hinge rod between the arms of the bracket 14.

Rigidly secured to the underside of the keybody adjacent its hook portion 19 there is a flat hinge spring 21 secured thereto, said spring being looped at 22 to partially embrace the bushing 20 under spring tension, and terminating in a curved camming portion 23. Thus, the key may be readily mounted upon the hinge rod bushing by pushing it in place with sufficient force to cause the camming portion 23 of the spring to flex it downwardly until it snaps over the bushing and thereby locks the keybody and valve lift in pivotal relation to the valve plate and key bed. They may be readily removed by pulling outwardly until the force overcomes the tension of the spring, causing it to flex away from the bushing to release the key structure.

Mounted on the key bed 13 there is a spring rail 24 having a plurality of spaced grooves indicated at 25, extending transversely of its upper surface, one for each key. For yieldingly retaining the individual keys in their normal position under spring tension there is a compression spring 26 looped intermediate its ends and having

3

one arm formed with a reverse bend 27 adjacent one end thereof adapted to snap into and be retained by a slot 28 in the upper surface of the keybody. The opposed end of said spring is curved at 29 to snap into one of the grooves 25 and in the spring rail 24.

Carried by the keybody 16 there is an ivory-like plastic key face 30 of a hollow form U-shaped in cross section terminating in a solid portion overlying the keybody towards its juncture 18 and pivotally secured thereto by a screw 31, and having a filler block 32 for receiving a screw threaded camming head 33. Said block 32 is also adapted to receive a locking screw 34 for securing the key face to the other end of the key body. For camming adjustment by the camming head 33 the keybody is provided with an elongated slot 35 in which the eccentric camming head 33 extends for rotation relative thereto in a manner to provide for adjustable displacement of the key face laterally of the keybody. To permit of such lateral displacement for adjustment, the locking screw 34 extends through a transversely arranged elongated slot 36 in the keybody.

Carried by the key bed 13 along the forward edge thereof there is provided a key guide rail 37 stamped of sheet metal and adapted to be rigidly secured to the key bed. Said guide rail is provided with a raised forwardly extending flange portion 38 spaced upwardly from the key bed and terminating in a plurality of tongues 39 spaced from each other. Said tongues extend along the forward edge of the key bed under and in line with the ends of the key faces. Each of the tongues 39 has a tubular sleeve 40 of felt slipped thereover so that the space between the tongues acts as a guide for maintaining proper spacing of the keys while permitting actuation thereof. For this purpose the end of each key face 30 is flanged downwardly to provide a curved end portion 41 terminating in a reduced guide lug 42 extending between and having its bearing against the felt guide sleeves 40 on the guide rail. The downward movement of the free end of the key is limited by a shoulder 43 striking the tongues 39 of said rail and its engagement with a felt cushion strip 44 mounted longitudinally of the flange portion 38 adjacent the tongues 39.

From the foregoing it will be observed that relative adjustment between the keys and the valve lifts may be effected by bending the flat upper surface of the keybody adjacent the juncture 18 to thereby assure proper seating of the valves with the keys lying in their proper plane. Lateral adjustment of the key spacing is provided by adjustment of the camming heads 33. By reason of the snap-on mounting by the hinge spring 24, as well as the snap-on retention of the compression spring 26, the keybody with its key face and the valve lift may be snapped into and out of place in a convenient manner.

The invention claimed is:

1. A treble action accordion key comprising a metal keybody, a plastic key face secured over said keybody, means for pivotally mounting said keybody to the action, means for pivotally securing said key face to said keybody adjacent its pivotal mounting, an eccentric member rotatable in said key face extending through an aperture of said keybody for lateral adjustment of said key face thereon about their pivotal connection, and means for locking the adjusted end of said key face to said keybody after adjustment.

2. A treble action accordion key comprising a metal keybody element, means for pivotally

4

mounting said keybody element to the action, a plastic key face element pivotally secured to said keybody element adjacent its pivotal mounting, an adjusting member rotatably mounted on one of said elements having an eccentric head engageable with the other element for displacing said elements laterally about their pivotal connection upon rotation of said member, and means for locking said elements in their laterally adjusted relation.

3. A treble action accordion comprising a metal keybody having a flat upper portion with downwardly extending side walls terminating in slots, a hinge rod on said action for pivotal engagement by the slotted ends of said side walls, the flat upper portion of said keybody having an annular extension thereof bent at right angles to provide an integral valve lift and bendable transversely thereof for valve lift adjustment, a plastic key face pivotally secured over said keybody adjacent the pivotal mounting thereof, an eccentric adjusting member carried by said key face for adjusting it laterally of said keybody about their pivotal connection, and means for securing the end of said keybody to said key face.

4. A treble action accordion comprising a metal keybody having a flat upper portion with downwardly extending side walls terminating in end slots, a hinge rod on said action for pivotal engagement by the slotted ends of said side walls, the flat upper portion of said keybody having an annular extension thereof bent at right angles to provide an integral valve lift and bendable transversely thereof for valve lift adjustment, a plastic key face pivotally secured over said keybody adjacent the pivotal mounting thereof, an eccentric adjusting member carried by said key face for adjusting it laterally of said keybody about their pivotal connection, means for securing the end of said keybody to said key face, and a finger portion on said key face overhanging the end of said keybody terminating in a downwardly extending spacing and guiding member.

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