Sept. 16, 1952 P. A. LA GRUTTA 2,610,537

CHILD'S TOY HARMONICA

Filed Nov. 1, 1948

Fig. 1.

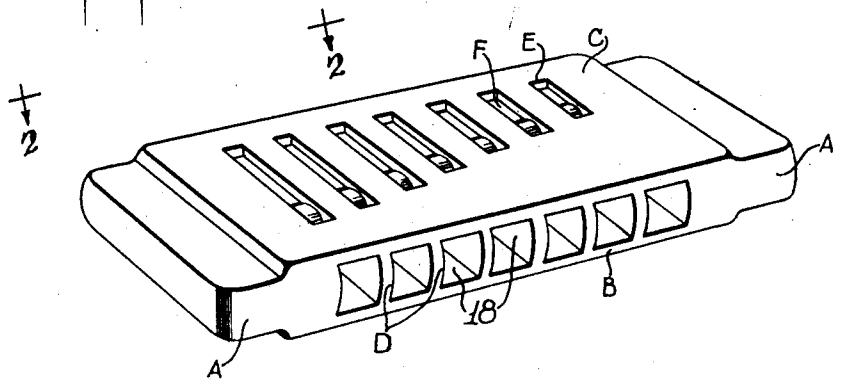


Fig. 2.

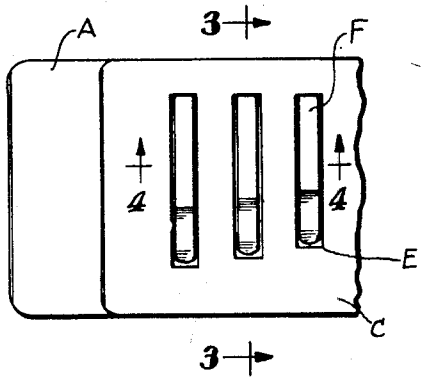


Fig. 3.

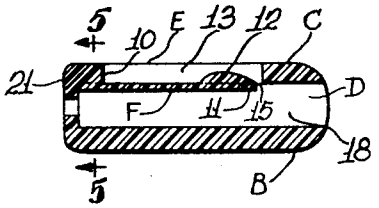


Fig. 5.

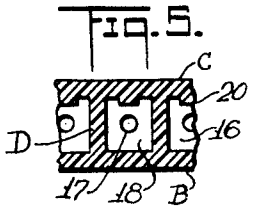
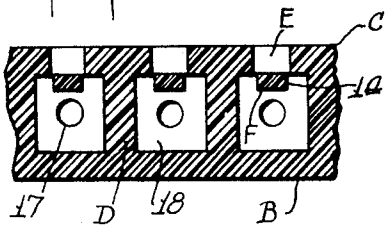


Fig. 4.



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CHILD'S TOY HARMONICA

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10 Claims. (Cl. 84—377)

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The present invention relates to a toy and it particularly relates to a child's harmonica toy.

It is among the objects of the present invention to make a substantially unitary one piece toy harmonica entirely molded of plastic materials which will stand rough usage and which may be inexpensively and readily molded in one operation.

Still further objects and advantages will appear in the more detailed description set forth below, it being understood, however, that this more detailed description is given by way of illustration and explanation only and not by way of limitation, since various changes may be made therein by those skilled in the art without departing from the scope and spirit of the present invention.

In accomplishing the above objects it has been found most satisfactory, according to one embodiment of the present invention, to form a harmonica of a single casing without an intermediate reed plate, all molded in one piece of plastic.

The upper or top cover plate is slotted and the reeds are directly mounted thereunder and the separate reed plate characteristic of harmonicas is thus eliminated.

With the foregoing and other objects in view the invention consists of the novel construction, combination and arrangement of parts as hereinafter more specifically described, and illustrated in the accompanying drawings, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which fall within the scope of the claims hereunto appended.

In the drawings wherein like reference characters denote corresponding parts throughout the several views:

Fig. 1 is a perspective view of the complete one piece plastic harmonica according to the present invention.

Fig. 2 is a fragmentary top plan view taken upon the line 2—2 of Fig. 1.

Fig. 3 is a transverse vertical sectional view taken upon the line 3—3 of Fig. 2.

Fig. 4 is a fragmentary transverse vertical sectional view taken upon the line 4—4 of Fig. 2.

Fig. 5 is a fragmentary transverse vertical sectional view taken upon the line 5—5 of Fig. 3.

Referring to Figs. 1 to 4, the harmonica is molded in one piece of a synthetic plastic and is preferably of polystyrene.

It has the end reduced thickness finger grip portions A, the bottom horizontal plate structure B, slotted horizontal plate top structure C, and the intermediate vertical web structure D forming a plurality of through passages.

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Substantially covering the slots E are the reeds F which give the desired tone and scale by reason of their differing length, weight and thickness.

Referring to Figs. 3 and 4, it will be noted that the bottom plate B and the top plate C are relatively thick as compared to the thickness of the reeds F. The slots E extend vertically through the upper plate C. From there rear ends 10 of the slots E extend forwardly the reeds F, each of different length as the slots increase in length from right to left, as shown in Fig. 1.

The forward ends 11 of the reeds 11 are provided with varying knobs or enlargements 12 which project up into the recesses 13 of the slots E above the reeds F. The reeds F are positioned directly under the slots E shown in Fig. 4 with slight clearance along the sides as indicated at 14 and at the ends as indicated at 15. The reeds F are molded integrally with the structure A—B—C.

The reeds F extend rearwardly at 20 in Fig. 5 to the rear wall 16. The rear wall 16 has openings 17 one for each passage 18 to permit a restricted escape of air which has been blown into the passages 18 through the front of the instrument as shown in Fig. 1.

The entire structure is molded in one operation with removable cores forming the passages 18, openings 17 and recess 13. The cores for recesses 13 will provide for the enlargements 12.

The clearances 14 and 15 will permit the reeds F to vibrate and give a range of sounds which will be attractive to the children. The instrument will be compact and may be treated quite roughly and struck or dropped without damage.

The reeds are protected by the top plate C and by the slots E.

As many changes could be made in the above child's harmonica and in the construction and method of making the same, and many widely different embodiments of this invention could be made without departing from the scope of the claims, it is intended that all matter contained in the above description shall be interpreted as illustrative and not in a limiting sense.

Having now particularly described and ascertained the nature of the invention, and in what manner the same is to be performed, what is claimed is:

1. A one piece integral unitary molded plastic harmonica construction comprising an upper plate and a lower plate, intervening vertical webs forming air passages, a back wall provided with outlets for said passages, the upper plate being slotted and said slots extending into said passageways and reeds integrally mounted on

and inside of said upper plate covering said slot, and said reeds being positioned substantially entirely within the air passages between the upper plate and the lower plate and extending to and being molded integrally with said back wall.

2. A one piece integral unitary molded plastic harmonica construction comprising an upper plate and a lower plate, intervening vertical webs forming air passages, a back wall provided with outlets for said passages, the upper plate being slotted and said slots extending into said passageways and reeds integrally mounted on and inside of said upper plate covering said slot, and said reeds being positioned substantially entirely within the air passages between the upper plate and the lower plate and extending to and being molded integrally with said back wall, said slots and corresponding reeds being of varying length.

3. A one piece integral unitary molded plastic harmonica construction comprising an upper plate and a lower plate, intervening vertical webs forming air passages, a back wall provided with outlets for said passages, the upper plate being slotted and said slots extending into said passageways and reeds integrally mounted on and inside of said upper plate covering said slot, and said reeds being positioned substantially entirely within the air passages between the upper plate and the lower plate and extending to and being molded integrally with said back wall, said reeds being provided with enlargements extending upwardly into said slots.

4. A one piece integral unitary molded plastic harmonica construction comprising an upper plate and a lower plate, intervening vertical webs forming air passages, a back wall provided with outlets for said passages, the upper plate being slotted and said slots extending into said passageways and reeds integrally mounted on and inside of said upper plate covering said slot, and said reeds being positioned substantially entirely within the air passages between the upper plate and the lower plate and extending to and being molded integrally with said back wall, the passageways, slots and outlets being formed by removable cores.

5. A one piece molded plastic harmonica formed of two spaced plates with intervening webs forming air flow passageways, one of said plates serving as a reed plate and said reeds projecting into and forming an upper wall for said passageways, and said reeds being substantially entirely enclosed in said passageways and being positioned below and outside of the reed plate and said reeds extending to the edge of said spaced plates.

6. A one piece molded plastic harmonica formed of two spaced plates with intervening webs forming air flow passageways, one of said plates serving as a reed plate, said reed plate being slotted and reeds covering and being positioned inside of said slots and said reeds projecting into and forming an upper wall for said passageways, and said reeds being substantially entirely enclosed in said passageways and being positioned below and outside of the reed plate and said reeds extending to the edge of said spaced plates.

7. An integral molded one-piece toy harmonica having spaced top and bottom walls and a rear wall and intervening vertical partitions dividing the space between the top and bottom walls into a plurality of parallel passageways, the rear wall having a plurality of small entry openings into each of said passageways and the top wall having a plurality of slots of varying length opening into the top of said passageways and reed members attached to the rear wall and extending forwardly within said passageways to cover said slots where said slots open into said passageways.

8. An integral molded one-piece toy harmonica having spaced top and bottom walls and a rear wall and intervening vertical partitions dividing the space between the top and bottom walls into a plurality of parallel passageways, the rear wall having a plurality of small entry openings into each of said passageways and the top wall having a plurality of slots of varying length opening into the top of said passageways and reed members attached to the rear wall and extending forwardly within said passageways to cover said slots where said slots open into said passageways and said reeds having projections extending up to and into said slots above the top faces of said passageways.

9. A rectangular integrally molded styrene plastic child's harmonica construction comprising back, top and bottom walls with intervening webs forming air passageways extending from the front to the back of the construction and said back walls having round small diameter through-holes centrally positioned at the rear ends of the passageways, reduced-thickness integral end pieces serving as handles, said upper wall serving as a reed plate and having a plurality of slots, one for each passageway, and reeds extending below said slots in said passageways covering the bottom of said slots.

10. The construction of claim 9 in which the reeds extend to and are molded integrally with the back wall, the rear end of the reed underlying the portion of the upper wall between the end of the slot and the back wall.

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The following references are of record in the file of this patent:

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