Sept. 20, 1927. 1,642,901

J. SROFE

TOY BLOCK

Filed Jan. 12, 1925 3 Sheets-Sheet 1

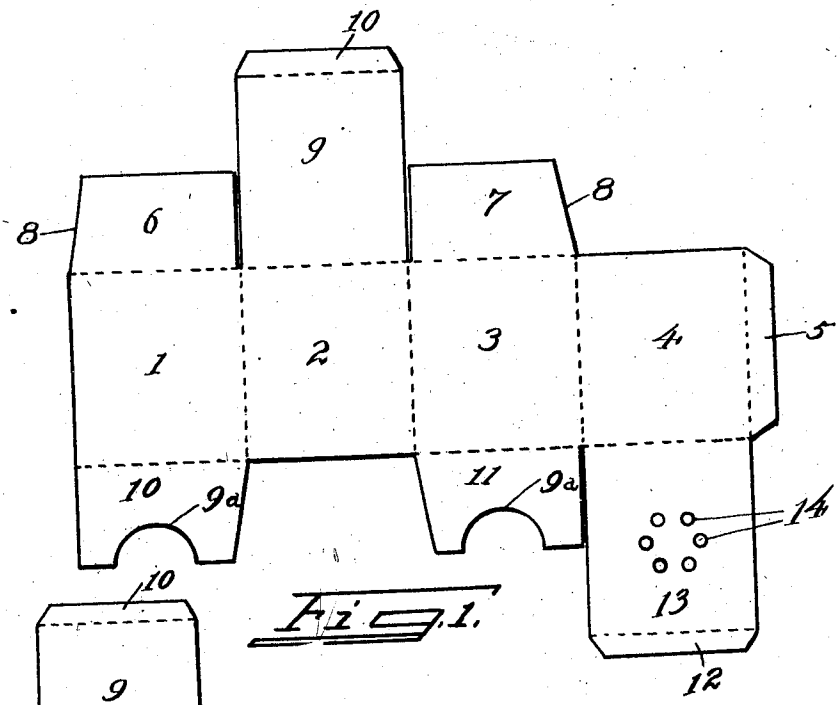


Fig. 1.

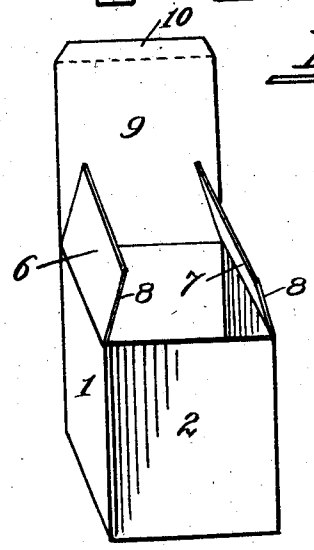


Fig. 2.

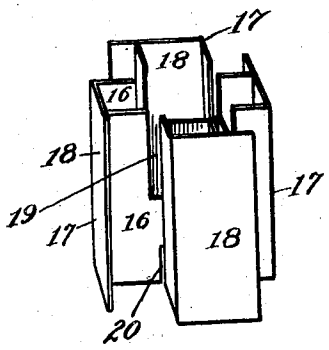


Fig. 3.

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Sept. 20, 1927. 1,642,901

J. SROFE

TOY BLOCK

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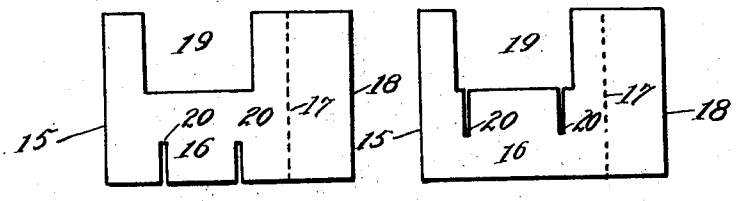


Fig. 4.

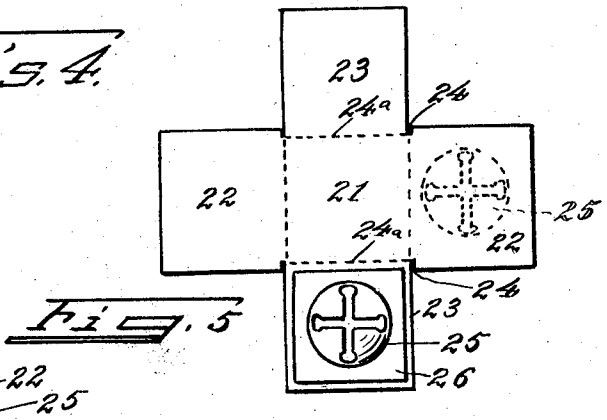


Fig. 5.

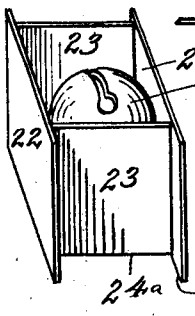


Fig. 6.

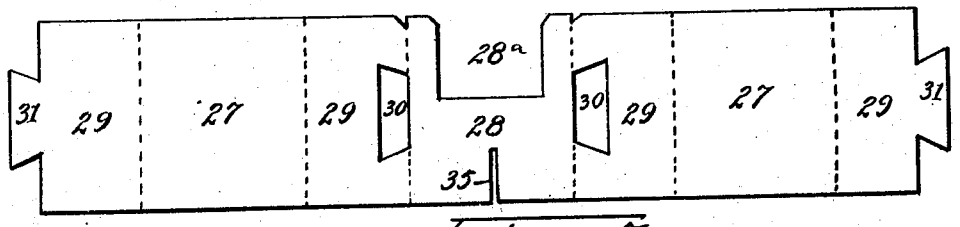


Fig. 7.

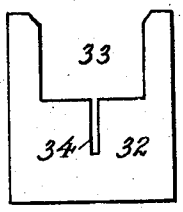


Fig. 8.

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TOY BLOCK

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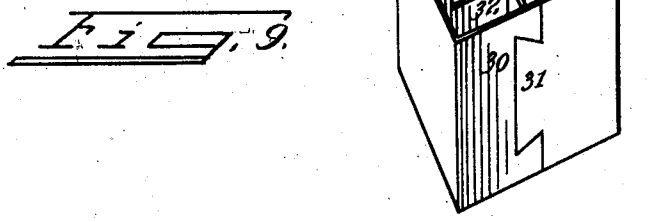


Fig. 9.

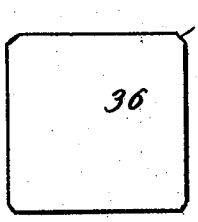


Fig. 10.

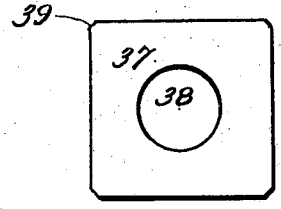


Fig. 11

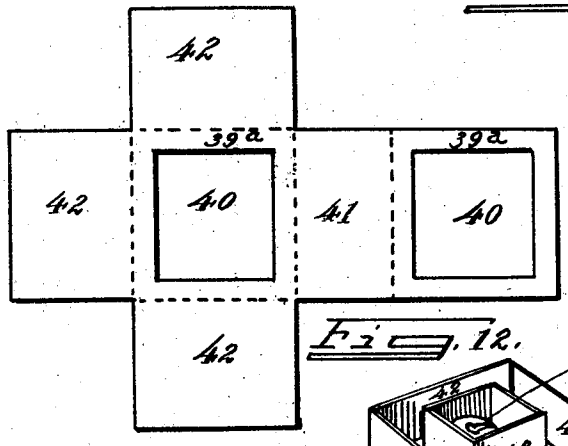


Fig. 12.

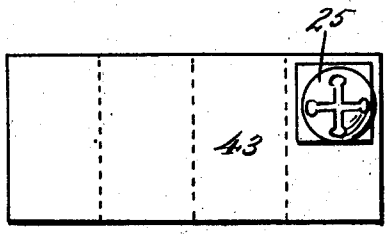


Fig. 13.

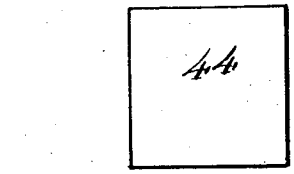


Fig. 14.

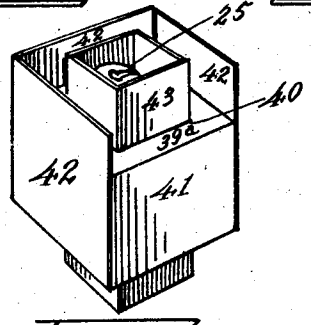


Fig. 15.

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Patented Sept. 20, 1927.

1,642,901

UNITED STATES PATENT OFFICE.

JESSE SROFE, OF CINCINNATI, OHIO.

TOY BLOCK.

Application filed January 12, 1925. Serial No. 1,860.

My invention relates to improvements in toy blocks in general and more specifically to improvement in the structure of blocks with bells or other sound producing mechanism therein such as is claimed in my pending application Serial No. 713,291, filed May 14, 1924.

In my application Serial No. 713,291, I have described a closed telescoping open ended cube with a bell or the like supported on one of the walls of the block. In the structure described therein the support of the bell or the like was in one of the side walls. I have since discovered that the tone of a bell in a block may be intensified and clarified by disposing it in a sound box and disposing the sound box in sectional compartments which further intensifies the sound and may also be used to reinforce the side walls of the block. I may further vary the outside shape of the block to conform with various preferred shapes as required in building toys such as cylinders and spheres and the like. It is my particular object therefore in the specification of this invention to describe and claim improvements affecting the tonal quality of a bell disposed within a building toy by disposing the bell in a sound box which forms a part, when closed, of a structure which intensifies the sound and at the same time reinforces the side walls of the building toy or block. When the toy is of paper board, such a structure within a block or the like enables me to use a much lighter weight board or coated paper for the printing of the design on the outside faces of the walls so that my invention also has as its object a reduction in the manufacturing cost of the block with not only no deleterious effect on the structural strength but an actual increase in its ruggedness and durability. Further the use of a lighter weight paper for an outside cover enables me to provide a block with smooth corners which are much neater in appearance.

Referring to the drawings:

Figure 1 shows a plan view of the pattern for a preferred outer structure with Figure 2 a perspective view showing how the pattern folds together into a hollow block. Figure 3 is a perspective view of a form of inner supporting structure as assembled from two pairs of pieces, one of each of which is shown in Figure 4. Figure 5 shows a plan view of a blank for forming a preferred form of sound box for supporting a bell the assembly of which is shown in perspective in Figure 6. Figure 7 illustrates a plan view of a blank for forming another form of supporting structure with the addition of a piece of which a plan view is shown in Figure 8. Figure 9 illustrates a perspective of the assembly of pieces shown in Figures 7 and 8. Additional support to either of the structures may be supplied by reinforcing pieces, plans of which are illustrated in Figures 10 and 11. Another assembly of inner structure is shown in plan view of the blanks in Figures 12 and 13 and 14, and a perspective of the complete assembly in Figure 15.

I have shown a preferred form of outer structure in Figure 1, in which the numerals 1, 2, 3 and 4 are cut and scored to form the outside walls of a block with an extended flap 5 to which adhesive may be applied to seal the walls 1 and 4 together. The side top closing flaps 6 and 7 are cut-away at their outside edges 8 to permit easy folding action. The front top closing flap 9 which extends clear across the block has an extended sealing flap 10 which with adhesive applied is retained on the opposite side of the top of the wall 4. Openings 9^a are cut out of the flaps 10 and 11, which form the side closing flaps for the bottom of the block which is completely sealed by the extended tongue 12 which is part of the front of the bottom closing wall 13 which extends clear across the block and is retained on the inside of the opposed side wall 2. Holes 14 may be cut in the bottom wall 13 to release the sound produced within the block. This structure as particularly described does not form part of my invention except in so far as it describes an outer structure of closing walls which may be printed and then cut and scored to form a child's block or toy. Other structures will provide outer walls equally as well and they may be made of paper, wood, metal, or other suitable material, although I prefer a coated board of light weight which will permit scored lines of fold as in contrast to cut lines of fold as required in heavy board as the corners in the lighter board will be smoother, presenting a neater appearance and being less likely to retain dirt and germs.

In my inner structure I have provided crossing members, which reinforce the outer

walls and make the block more durable and which at the same time form a holder for a sounding box to one side of which is attached a bell or other sound producing mechanism affected by shaking the block. In the most preferred structure shown in Figures 3, 4, 5 and 6 pieces of paper board 15, preferably chip board because of cheapness and non-resilience, are cut with crosswise extending faces 16 and scoring lines 17 form articulated flaps 18 to be disposed at approximate right angles to the crosswise extending faces. Cut-away portions 19 form the admission aperture for the bell disposed in the sound box and slots 20 alternately arranged extending upward from the bottom of the faces and downward from the bottom of the cut-away portion form an interlocking of the crosswise faces which holds them in a fixed position relative to each other. For the sounding box to be inserted in the structure thus assembled and as shown in Figure 3, a cross shaped piece of cardboard or resilient paper is cut with a central portion 21 and four folding articulated flaps 22 and 23. For additional strength slots 24 may be cut along extended lines from the sides of the opposed flaps 23 and the scoring line formed as shown at 24a, so that when folded in the sides of the walls 23 will have their end portions abutting the faces of the alternate side walls 22 as shown in Figure 6. A bell 25 is riveted or otherwise attached to a strip of paper 26 and pasted or otherwise secured to one of the walls 23. The bell may be riveted directly to one of the sides or a plurality of bells may be attached to different sides as on the empty opposed face 23 or the alternate walls 22 or the central portion 21.

Another form of inner supporting structure is shown in Figures 7, 8, 9, 10 and 11. In this form a long strip of paper board or the like is cut and scored as the blank in Figure 7, with the side partitions 27 disposed along opposite sides within the block, and central portion 28 with cut away portion 28a for admission of the sound box, disposed parallel with the sides 27. Articulated portions 29 join the side extending members 27 and notches 30 and lock tongues 31 are disposed in the portions 29 so that when folded a box-like structure as shown in Figure 9 will be formed with the admission aperture for the bell sound box formed therein and the structure further reinforced by insertion of a transverse extending portion 32 cut with sound box aperture 33 and a notch 34 for locking in the notch 35 of the central portion 28.

A further support for the top and bottom may be obtained by the insertion of the pieces 36 and 37, it being advisable to remove a part from the central portion of one of the pieces as at 38 for allowing the sound to better escape from the block. Rounded-off corners 39 on these pieces and on the outer walls of the sounding box retaining structure as shown in Figure 9 provide easier assembly as the corners are otherwise likely to become bent over and stick when the inner structures are being inserted within the blocks. A still further form of reinforcement is illustrated in Figures 12, 13, 14 and 15, wherein a cross-shaped piece of board is cut-out and scored and cut to form horizontal extending faces 39a with cut-away portions 40 therein. An articulated part 41 joins the pieces 39a and articulated side walls 42 fold in about the horizontal extending faces and fit snugly in the block. The bell 25 is attached to a rectangular piece of paper 43 which is scored to form a four sided structure fitting vertically within the cut-away portion 40 of the horizontal pieces as illustrated in the perspective view in Fig. 15. Top and bottom pieces 44 may be inserted to reinforce the top and bottom of the structure within the block. The corners of the reinforcing top or bottom pieces may be rounded similarly to the rounded corners 39 of the pieces 36. In the drawing Figure 14 we have, however, not shown the corners as rounded, and it will be understood that the rounding is merely to make their insertion more convenient.

There are many other forms of outer retaining walls and inner reinforcing members, and sound producing mechanisms, the specific descriptions given in this specification being merely preferred structures. Therefore it should not be understood that I thereby limit my invention to those particular structures noted.

What I desire to secure for myself by Letters Patent and what I claim is:

1. In a toy block, resilient outer walls, a reinforcing structure within the resilient walls comprising pieces of stiff material interlocked and braced against the resilient walls, and a sounding device comprising a bell and a supporting structure on which said bell is mounted, the reinforcing structure having cut away portions adapted to frictionally retain the supporting structure.

2. In a toy block, resilient outer walls, a reinforcing structure within the resilient walls comprising pieces of stiff material interlocked and braced against the resilient walls, and a sounding device comprising a bell and a supporting structure on which said bell is mounted, the reinforcing structure having cut-away portions adapted to frictionally retain the supporting structure, and perforations in the resilient outer walls to permit the sound to issue clearly from within the block.

3. In a toy block thin paper outer walls with stiff cardboard walls within the block braced against the outer walls, a

sounding device composed of a bell mounted on a cardboard frame, and the frame retained within the stiff cardboard walls.

4. In a toy block thin paper outer walls with stiff cardboard walls within the block braced against the outer walls, a sounding device composed of a bell mounted on a cardboard frame, and the frame retained within the stiff cardboard walls, and the frame formed in the shape of an open topped box for intensifying the sound.

5. In a toy block thin paper outer walls with stiff cardboard walls within the block braced against the outer walls, a sounding device composed of a bell mounted on a cardboard frame, and the frame retained within the stiff cardboard walls, and the frame formed in the shape of an open topped box for intensifying the sound, with perforations in the walls of the block for permitting the sound of the bell to issue clearly from the block.

6. A toy block composed of thin paper outer walls with stiff cardboard inner walls extended intermediate the outer walls, a sounding box and a bell within said sounding box and means for retaining the sounding box within the stiff inner walls.

JESSE SROFE.