Dec. 4, 1962 R. W. SCHUH 3,066,436

TOY CONSTRUCTION APPARATUS

Filed Oct. 14, 1959

FIG. 1

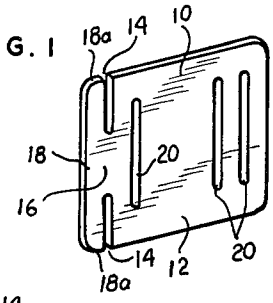
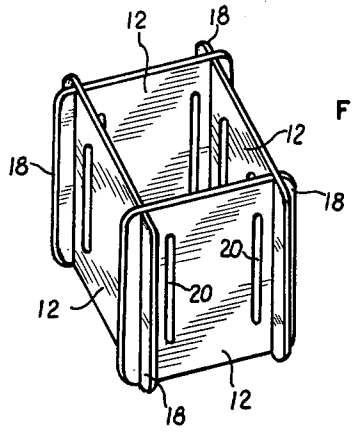


FIG. 2



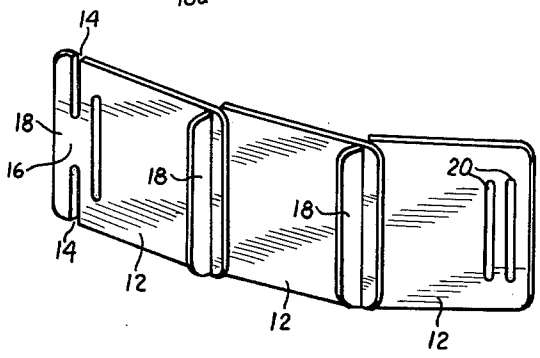


FIG. 3

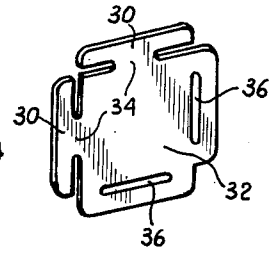


FIG. 4

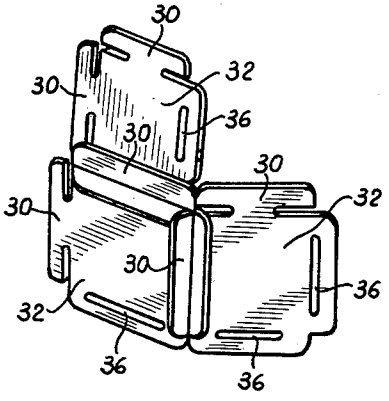


FIG. 5

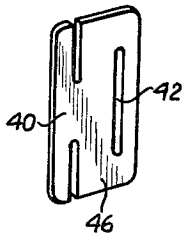


FIG. 6

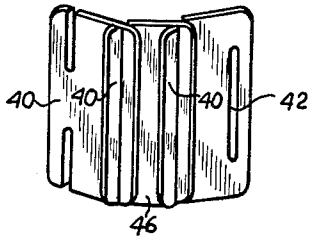


FIG. 7

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TOY CONSTRUCTION APPARATUS

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This invention relates to toy construction apparatus of the type having a plurality of interlocking toy building units.

It is an object of this invention to provide toy construction apparatus having a plurality of flat, semi-rigid individual toy building units each of which has a tongue and a tongue receiving slot to permit a plurality of such units to be linked together.

It is also an object to provide such apparatus which permits construction of three dimensional toys and other objects by linking together flat construction units.

It is another object to provide such toy construction apparatus comprising a plurality of flat construction units which can be easily and quickly interconnected to form a great variety of relatively large and bulky toys and other ornamental objects of relatively stable construction but which may be quickly and easily disconnected into the individual building units for compact packaging and storage.

It is a further object to provide such apparatus having a plurality of individual building units which can be repeatedly interconnected and disconnected without damage thereto.

It is an additional object to provide such an apparatus having a plurality of similar interchangeable flat interlocking building units which can be bent and twisted in construction of toys and ornaments without being damaged thereby.

These and other objects and advantages of this invention will more fully appear from the following description made in connection with the accompanying drawing, wherein like reference characters refer to the same or similar parts throughout the several views, and in which:

FIG. 1 is a perspective view of an individual construction unit;

FIG. 2 is a perspective view showing four of the units shown in FIG. 1 interlocked to form a hollow block;

FIG. 3 is a perspective view showing three of the units linked together to form a chain;

FIG. 4 is a perspective view of another form of individual construction unit;

FIG. 5 is a perspective view of three of the units shown in FIG. 4 interconnected;

FIG. 6 is an additional form of the individual unit; and,

FIG. 7 shows three of the units of FIG. 6 linked together.

In the form of the invention shown in FIG. 1, a toy construction unit 10 is formed from a single flat piece of semi-rigid material such as polyethylene.

A pair of outwardly opening elongated slits 14 are formed in opposite sides of the unit 10 at one end thereof and spaced slightly therefrom. The slits 14 are slightly wider than the thickness of the material from which the unit 10 is made, and the inwardly disposed closed ends of the slits 14 are spaced apart to form a diminished neck portion 16. The slits 14 thereby define a generally T-shaped element including an elongated tongue member 18 extended across one end of the body member 12, of the unit 10 and attached thereto by the diminished centrally disposed neck 16.

A plurality of completely enclosed tongue receiving slots 20 are formed through the unit 10. These slots 20 are slightly greater in width than the thickness of the

unit 10. In the form shown in FIG. 1, the slots 20 are generally parallel to the slits 14 and the tongue member 18. The length of each of the slots 20 is slightly larger than the combined length of one of the slits 14 and the width of the diminished neck portion 16 to permit the tongue of a similar unit to be inserted therethrough but the length of the slots 20 is less than the length of the tongue members 18 to link the two units together.

To interconnect a pair of the units 10 shown in FIG. 1, one side 18*a* of the tongue element 18 of one unit is inserted through one of the slots 20 in the other unit. The inserted tongue is offset laterally within the slot 20 until the side of the neck portion 16 nearest to the inserted tongue edge 18*a* abuts the portion of the tongue receiving unit at the narrow end of the receiving slot 20 to permit the other end 18*a* of the tongue to be inserted through the slot 20. After the tongue 18 has been completely inserted through the slot 20, the inserted unit is shifted within the receiving slot 20 until the neck portion 16 is centered within the slot 20. The outer ends 18*a* of the tongue are rounded from the outer openings in the slits 18 toward the front edge of the tongue 18 opposite the diminished neck portion 16 to facilitate forward insertion of the tongue edges through the slot 20. As shown in the drawing, the proper dimensional relationship is provided between the length of the slots 20 and the width of the tongue 18 to permit the tongue to be readily inserted through one of the slots 20.

A pair of interconnected units 10 may be disposed at right angles, so that four of the units interconnected in tongue and slot interlocking relationship will assume the shape of a relatively stable hollow block as shown in FIG. 2.

Since the units 10 are made from a flexible, semi-rigid material, as described earlier, the angular relationship between interconnected units may be adjusted by application thereto of a relatively small amount of pressure to opposite ends of a plurality of interconnected units to form an elongated chain as shown in FIG. 3. A ring of any desired size may be formed by interconnecting the tongue 18 at one end of such a chain containing the proper number of units 10 to the slot 20 disposed at the other end of the chain.

In the form of individual construction unit shown in FIG. 4, a pair of interlocking tongues 30 are respectively connected to adjacent sides of the main body 32 of the unit by diminished neck portions 34. A pair of tongue receiving slots 36 are respectively formed through the unit in spaced apart parallel relationship to each of the tongues 30 to define a generally square main body 32. A plurality of the units shown in FIG. 4 may be interconnected to form flat but flexible structures as shown in FIG. 5, and six of the units may be interconnected to form a hollow cube.

In FIG. 6, another form of the construction unit is shown having a parallel tongue 40 and slot 42 disposed at opposite sides of a narrow main body 46. A plurality of the units shown in FIG. 6 may be interconnected as shown in FIG. 7 to form a flexible elongated chain.

The forms of the construction units shown in FIGS. 1, 4 and 6 may be made from the same material, and the interlocking tongue members 18, 30 and 40 respectively in the said units are uniform in size and shape. A plurality of each of the three forms shown may be provided as a single construction apparatus. Each of the units shown in FIGS. 1, 4 and 6 may be interconnected to each of the other units respectively so that a great variety of structures may be constructed by selective interconnecting of the different units.

It will be seen that I have provided an extremely simple construction apparatus of relatively simple construc-

tion and inexpensive to manufacture. Because of the great variety of structures that can be formed by interconnecting the individual construction units, the apparatus is suitable for use by young children to construct simple objects and by older children to form relatively complex structures.

It will, of course, be understood that various changes may be made in the form, details, arrangements and proportion of parts without departing from the scope of my invention, which generally stated consists in the matter set forth in the appended claims.

What is claimed is:

1. A toy construction apparatus comprising a plurality of individual units each being made from a single length of material, each unit comprising a generally flat, semi-rigid and resilient body member having an enclosed slot therethrough formed within one end portion of the body member and having a pair of generally aligned outwardly opening slits therein adjacent the end of said body opposite to said slot and disposed in substantially parallel relation to said slot, said pair of slits being spaced apart at the central portion of said body member to define a generally T-shaped interlocking element including a central diminished neck portion and a tongue member extending across the end of said body member, said tongue member being diminished in length from the edge portion thereof adjacent said slits to the outer edge thereof, said slot and said slits respectively being wider than the thickness of said body member, the length of each of said slits when combined with the width of said central neck portion being less than the length of said slot and the length of said tongue element being greater than the length of said slot to permit insertion of the tongue element of one of said units through the slot in another unit into interlocked position but preventing removal of said tongue from said slot when said neck is centered within said slot, both insertion and removal of said tongue from said slot being permitted by offsetting said neck in said slot to permit one side of said tongue element to pass through said slot at a time and facilitate assembly of an elongated chain of body units having the tongue of each unit interlockingly inserted through the slot in an adjacent unit.

2. The structure set forth in claim 1 and at least a substantial portion of said plurality of units having a plurality of said tongue members.

3. The structure set forth in claim 1 and at least a substantial portion of said plurality of units having a plurality of said slots therethrough.

4. The structure set forth in claim 1 and a substantial portion of said plurality of units respectively having the slot and the slits spaced apart a normal distance generally equal to the width of the body member.

5. The structure set forth in claim 2 and at least two of said plurality of tongue members being disposed upon adjacent sides of each of said units.

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