SPECIFICATION

Improvements in or relating to interconnecting toy blocks

This invention relates to toy blocks, such as hollow toy blocks having frictional interconnection arrangements for detachable interconnection of a plurality of individual toy blocks.

Toy blocks have long been fabricated from many different materials. Wood, ceramics, metals, and plastics have all been utilized heretofore. Various different interlocking or interconnecting arrangements have also been utilized to permit the blocks to be interconnected with each other and removed from each other. Such interconnection arrangements have heretofore included tongue-in-groove interconnections, notches and matching male members of various types, pin and slot arrangements, and various kinds and shapes of protrusions and protrusion accepting apertures.

Toy blocks, in general, are designed for children, to entertain, educate and aid in the development of improved physical dexterity. Many of the above different interconnection combinations are specifically designed to appeal to children having particular age and mental development levels. That is, difficult interconnection combinations generally appeal to older and more educationally developed children, and/or to children having a comparatively high degree of physical dexterity. However, simpler interconnecting arrangements are required for younger children, since, in the case of younger children, it is very important to provide toys which challenge the child, but do not frustrate the child to the point that the child rejects the toys. The small fingers, lack of physical strength, and limited manual dexterity of younger children impose constraints on the design and fabrication of interconnecting toy blocks. Such toy blocks, for such younger children, must, therefore, be comparatively easy to connect together and disconnect. Such ease of interconnection and removal enhances the play value of the blocks. Further, it is also required that such blocks, when interconnected, are able to withstand the rigors and stresses normally associated with the use of the blocks without inadvertent disconnection.

Additionally, the blocks should also be able to provide a level of complexity and sophistication during play, sufficient to maintain the interest of older children or even adults, in order to extend the play life and utility thereof. Such blocks should also be visually attractive in order to further enhance their play value. The above, often conflicting, requirements, have not, heretofore, been achieved in interconnecting toy block arrangements.

Particularly, in molded plastics toy blocks, the body means of the toy blocks has heretofore been generally unitarily fabricated. As such, the entire body means of the toy blocks was fabricated of the same material, having the same surface texture, and the same molded in colour. It has been found that enhanced play value can be achieved by providing the body means of the toy blocks having different colours on different portions thereof. This tends to increase the attractiveness of blocks as a playtime object and, further, provides for a greater variety of visual appearances in the structures created by the interconnection of a plurality of such blocks. In order to achieve such difference in colour in a single toy block of an interconnecting toy block arrangement, it has heretofore been necessary to attempt to provide different colours on different portions by use of paint or other surface colourations. Such steps are, of course, comparatively expensive. Preferably, a plurality of colours is provided in the fabrication of the toy block itself, so the extra step of applying the surface colouration becomes unnecessary.

According to the invention, there is provided a toy block comprising a body having a plurality of wall members, each of the wall members having an inner surface and an outer surface, the inner surfaces defining a body cavity, the body comprising a first body member including a first group of the wall members and a second body member including a second group of the wall members, the first body member being coupled to the second body member by coupling means along a median plane and each of the first and second body members having peripheral edge surfaces at the median plane, a first wall of the first group of wall members having a first aperture therethrough and a second wall of the second group of wall members having a second aperture therethrough aligned with the first aperture, there being provided female interblock coupling means on the first wall of the first group of wall members and on the second wall of the second group of wall members, the female interblock coupling means comprising a first skirt member extending from the inner surface of the first wall at the first aperture into the body cavity and a second skirt member extending from the inner surface of the second wall at the second aperture into the body cavity, the inner wall surfaces of the first skirt member and the second skirt member defining a male interblock coupler means receiving aperture extending through the block and the first skirt member and the second skirt member being in aligned relationship, the inner end of the first skirt member and the inner end of the second skirt member extending beyond the median plane, the coupling means including interlock means on the inner ends of the first

and second skirt members for interlocking the first skirt member to the second skirt member.

It is possible to provide a comparatively inexpensively fabricated toy block in which the two separate body member may be differently coloured.

The first body member and second body member may be injection molded plastics and, during the injection molding fabrication thereof, may have colouration provided so that the first body member has a colour different from that of the second body member. Alternatively, or in addition, a surface texture or other characteristic of the first body member may vary from that corresponding characteristic of the second body member. Preferably, the first skirt member and second skirt member are molded integrally with the first body member and second body member, respectively.

One or more toy blocks of a set of toy blocks may be provided with a male interblock coupler means extending outwardly from a wall member of the body means. The male coupler means, in preferred embodiments of the present invention, is divided along the median plane and, preferably, is also molded integrally with the first body member and second body member. The male coupler means are sized and configured to fit within the aperture of the female coupler means so as to be frictionally and detachably retained therein.

In preferred embodiments of the present invention, the skirt members defining the male coupler means receiving aperture are provided with a plurality of ribs so that the ribs contact the male coupler means when two blocks are interconnected to provide the frictional and detachable interconnection. In such embodiments, since only the ribs rather than the entire skirt contact the male coupler means, the friction, and therefore the force and dexterity required to interconnect and disassemble the toy blocks is reduced without reducing the play value or interest thereof. Further, if desired, slots may be provided in the skirt members in regions adjacent their outer ends at the wall members of the body to allow a resilient expansion thereof when the male coupler means is inserted in the aperture of the female coupler means. Such slots further provide more precise control of the frictional force retaining the blocks in interconnected condition.

The present invention will be further described, by way of example with reference to the accompanying drawings, wherein similar reference characters refer to similar elements throughout, and in which:

Figure 1 is a perspective view of one embodiment of the present invention;

Figure 2 is a plan view of the embodiment of the invention shown in Fig. 1;

Figure 3 is a sectional view, taken along the line 3–3 of Fig. 2;

Figure 4 is a view of one of the body members of the embodiment shown in Fig. 3, taken generally along the view line 4–4 of Fig. 3;

Figure 5 is a view of the other body member of the embodiment shown in Fig. 3, taken generally along the view line 5–5 of Fig. 3;

Figure 6 illustrates another embodiment of the present invention;

Figures 7 and 8 illustrate the two body members of another embodiment of the present invention;

Figure 9 is a perspective view of another embodiment of the present invention;

Figure 10 is a perspective view of another embodiment of the present invention;

Figure 11 is a perspective view of another embodiment of the present invention; and

Figure 12 is a perspective view of another embodiment of the present invention.

Referring now to Figs. 1, 2, 3, 4 and 5, there is an interconnecting toy block 10 constituting a preferred embodiment of the present invention. In the embodiment 10, there is provided a semi-rigid body means generally designated 12, having a first predetermined flexibility and having a plurality of wall members 14, 16, 18, 20, 22 and 24. In the embodiment 10, the plurality of wall members 14, 16, 18, 20, 22 and 24 define substantially a cube. However, it will be appreciated that the invention is not limited to blocks in which the body members form a cube. Such blocks may have wall members defining different configurations such as a rectangular parallelepiped, or otherwise. Thus, the particular configuration of the body means 12, illustrated in Figs. 1, 2, 3, 4, and 5 is for illustrative purposes only.

Each of the plurality of wall members 14, 16, 18, 20, 22 and 24, has a corresponding external surface 14′, 16′, 18′, 20′, 22′ and 24′, and corresponding internal surface 14″, 16″, 18″, 20″, 22″ and 24″, and the internal surfaces define the body cavity generally designated 26.

The semi-rigid body means 12 is preferably fabricated from an injection molded plastics such as ABS, and has a predetermined flexibility. The body means 12 is fabricated of a first body member 28 and a second body member 30. The first body member 28 and second body member 30 are coupled together along a median plane generally designated 32. Thus, the median plane 32 divides each of the wall members 14, 16, 18, 20, 22 and 24, into two groups. Body member 28*a* thus has a first group of the plurality of wall members indicated at 14*a*, 16*a*, 22*a*, 24*a* and 20. Second body member 30 is thus comprised of a second group of the plurality of wall members indicated at 14*b*, 16*b*, 22*b*, 24*b* and 18. The first body member 28 is coupled to second body member 30 along the median plane 32. The first body member 28 has peripheral edge surfaces 28′ and the

second body member 30 has peripheral edge surfaces 30' along the median plane, the first body member 28 being coupled to second body member 30 on the peripheral edges 28' and 30', respectively. In order to provide this coupling, a coupling means, generally designated 34 is provided on the first body member 28 and second body member 30 to couple the first body member 28 to the second body member 30 along the median plane 32. The coupling means 34 generally comprises a plurality of male coupling members 36 on peripheral edges 30' of second body member 30 and extending outwardly therefrom. In the embodiment 10, the male coupling members 36 are generally cylindrical. The first body member 28 is provided with a plurality of male body coupling member receiving cavities 38 in peripheral edge 28', aligned to receive the plurality of male body coupling members 36. In embodiment 10, the male body coupling members 36 are frictionally retained in the male body coupling member receiving cavities 38 to retain first body member 28 coupled with second body member 30. In preferred embodiments of the present invention, the first body member 28 and the second body member 30 are arranged to be coupled together by the above mentioned frictional engagement during the normal play activities. However, it will be appreciated that in other embodiments of the present invention, the first body member 28 may be selectively removed from the second body member 30 in order that they may be combined with corresponding second body member and first body member of other such disassembled blocks.

In order to increase the play value of the blocks, first body member 28 is preferably coloured a different colour from the second body member 30. Thus, when the blocks are fabricated as mentioned above from injection molded plastics, such colouring may be applied during the molding process and thus there is provided a body means 12 in which half of the body means, such as first body member 28 is of one colour and second body member 30 is of a different colour. Additionally, or alternatively, it will be appreciated that different surface textures may be provided on the two body members 28 and 30 in order to further increase their attractiveness and enhance their play value. As noted above, in prior art blocks, such as plastics blocks, different colours on any one block could generally only be provided by surface coating, such as by painting or the like, which is comparatively time consuming and expensive and thus the blocks constituting preferred embodiments of the present invention may be much more economically fabricated in a more attractive manner than blocks heretofore available.

In the embodiment 10, the male coupling members 36 are shown on body member 30 and the male body coupling member receiving cavities are shown on body member 28. It will be appreciated that in other embodiments of the present invention, male body coupling members may be provided on both body members with appropriately aligned male body member coupling receiving cavities on the other body member.

Wall 20 of first body member 28 of body means 12 is provided with first internal walls 40 defining a first aperture 42 therethrough. Wall 18 of second body member 30 of body means 12 has second walls 44 defining a second aperture 46 therethrough. First aperture 42 and second aperture 46 are aligned when first body member 28 and second body member 30 are coupled together as illustrated in Fig. 3. Female interblock coupling means, generally designated 48, are provided on wall member 20 and wall member 18 of body means 12. The female interblock coupling means 48 is comprised of a first skirt member 50, coupled to the inner surface 20'' of wall member 20 at the first walls 40, and extending into the body cavity 26. First skirt member 50 is connected at its outer end 50' to wall member 20, and, in preferred embodiments of the present invention, as illustrated in Fig. 3, is molded integrally with first body member 28. First skirt member 50 has an inner end 50'' in the body cavity 26 and first skirt member 50 has inner wall surfaces 52 and outer wall surfaces 54 extending between outer end 50' and inner end 50''. The inner wall surfaces 52, of first skirt member 50, define a male coupler means receiving aperture 56.

Female interblock coupling means 48 also comprises a second skirt member 58 coupled to the inner surface 18'' at the second aperture 46 and extends into the body cavity 26 of body means 12. Second skirt member 58 has an outer end 58' coupled to internal walls 18'' of second body member 30 and an inner end 58'' in body cavity 26. Second skirt member 58 has inner wall surfaces 60 defining a male interblock coupler means receiving aperture 62, and outer wall surfaces 64.

As shown in Fig. 3, in embodiment 10, the inner ends 50'' of first skirt member 50 and 58'' of second skirt member 58, extend beyond the median plane 32 and are further provided with interlock means generally designated 66, which function as part of the coupling means for retaining the first body member 28 coupled with the second body member 30 and interlock the first skirt member 50 to the second skirt member 58. As illustrated in Fig. 3, the interlock means comprises a shoulder 68 on inner surface 60 of second skirt member 58 which fits into a peripheral groove 70 on the outer surface 54 of first skirt member 50. Similarly, a second peripheral shoulder 72 is provided on the outer surface 54 of first skirt member 50 which fits

into a peripheral groove 74 on the inner surface 60 of second skirt member 58.

Thus, not only does the interlock means 66 provide part of the coupling between the first body member 28 and second body member 30, but also provides additional stiffness and rigidity to the body means 12 between the walls 18 and 20. Such stiffness is preferred, since, as described below, it is into the apertures 56 and 62 that the male coupler means are inserted during the interconnection of blocks.

In some embodiments of the present invention, it may be desirable to provide a plurality of internal ridges 80 on the internal surfaces 52 and 60 of first skirt member 50 and second skirt member 58, respectively, for purposes hereinafter set forth. Additionally, in some embodiments of the present invention, there may also be provided a plurality of slots 82 in either or both the wall members 18 and 20 adjacent the internal walls 44 and 40, respectively, and/or extending into the second skirt member 58 and first skirt member 50, respectively, as shown in Fig. 3. The purpose of the slots 82 is discussed below.

Preferably, the slots 82, in those embodiments wherein they are provided in the skirt members, do not extend from the outer ends all the way through to the inner ends thereof.

The wall member 24 of body means 12 is provided, in the embodiment 10, with the first male interblock coupler means 84, which extends outwardly therefrom a predetermined distance. Preferably, the predetermined distance is less than the distance from the outer surface 20' of wall 20 to the median plane 32. The first male interblock coupler means 84 is configured to match the apertures such as apertures 56 and 62 of first skirt member 50 and second skirt member 58, respectively, as defined by their respective internal walls 52 and 60. This provides a frictional and detachable retention of the male interblock coupler means 84 in the female interblock coupler means 48, so that blocks may be frictionally detachably interconnected with each other and then removed. In the particular block embodiment 10, there is also provided a second male interblock coupler means 86, extending outwardly a predetermined distance from the wall 22. Second male interblock coupler means 86 is substantially identical to first male interblock coupler means 84. In embodiment 10, it can be seen that both first male interblock coupler means 84 and second male interblock coupler means 86 are divided by the median plane 32 into a first portion 84*a* of first body member 28 and 84*b* of second body member 30 and 86*a* of first body member 28 and 86*b* of second member 30.

In those embodiments of the present invention wherein the ridges 80 are provided on the internal surface 52 and 60 of first skirt means 50 and second skirt means 58, respectively, it is preferred that the male interblock coupler means on other blocks, such as first and second male interblock coupler means 84 and 86 on such other blocks are dimensioned so the external surfaces 84' and 86', respectively, thereof selectively contact the ridges 80 as indicated by phantom line 90 of Fig. 2. Such a dimensional configuration provides a more precise control of the frictional forces necessary for interconnecting one block with another block and the removal thereof. It will be appreciated that in those embodiments wherein the ridges 80 are not provided, the external surfaces 84' and 86' of the male interblock coupler means 84 and 86, respectively, of one block selectively contact the internal surfaces 52 and 60 of female interblock coupler means 48 of another block.

In order to aid in the coupling of first body member 28 with second body member 30, the internal surface 86*a'* of first male member 86*a* of second male coupler means 86 is provided with a first headed male member 90 having a shaft portion 92 which extends from the inner surface 86*a'* into the body cavity 26 of body means 12, and a head portion 94. Aligned with first headed male member 90 are walls 96, defining an aperture 98 in a boss 100 on the internal surface 86*b'* of second male member 86*b* of second male interblock coupling means 86 for receiving the headed portion 94 of headed male member 90. Similarly, a second headed male member 102 is coupled to the inside surface 84*b''* of second male member 84*b* of first male interblock coupling means 84, and second headed male member 102 is provided with a headed portion 104 fitting into an aperture 106 provided in boss 108 on internal wall 84*a''* of first male member 82*a* of first male interblock coupling means 84. The first headed male member 90 and second headed male member 102 are therefore substantially identical and aid in the secure coupling of first body member 28 which second body member 30 to prevent inadvertent separation thereof during normal play activity involving the interconnection of one toy block with another toy block.

Fig. 6 illustrates another embodiment generally designated 110. Fig. 6 is a sectional view, generally similar to the sectional view shown in Fig. 3.

In embodiment 110 there is provided a body means 112 comprised of a first body member 114 and a second body member 116 which is coupled thereto. The first body member 114 is generally similar to the first body member 28, described above, and the second body member 116 is generally similar to the second body member 30, described above. However, in embodiment 110, a modified form of coupling means for coupling first body member 114 to second body member

116 is provided. The coupling means, generally designated 118, is comprised of a plurality of headed male members 120 extending from the second body member 116 into appropriately configured apertures 122 in first body member 114. The headed male members 120 of coupling means 118 provide for more secure coupling of the second body member 116 to the first body member 114. Additionally, the coupling means 118 may also comprise first headed male member 124 and second headed male member 126 generally similar to headed male member 90 and 102, described above, which head portions 128 and 130, respectively, fitting into apertures 132 and 134 respectively. In the embodiment 110, the apertures 132 and 134 extend entirely through the walls defining first and second male interblock coupling means 136 and 138, respectively. The body means 112 is provided with a female interblock coupling means generally designated 140 and, if desired, may be provided with ridges 142 generally similar to the ridges 80 described above and with slots 144 generally similar to the slots 82 described above.

As can be seen from Figs. 1 through 6, in the preferred embodiments of the present invention, the body members, skirt members and interblock coupling means are all unitarily molded and fabricated together. Thus, the body means comprises only the two separate body members, all of the remaining structure is integrally molded with the first and second body members.

Figs. 7 and 8 illustrate another embodiment generally designated 160. Fig. 7 illustrates a body member 162 and Fig. 8 illustrates a body member 164, which, when coupled together, provide a body means. In Figs. 7 and 8, which are similar, respectively, to Figs. 4 and 5 of embodiment 10, described above, there is provided an alternative arrangement for providing the coupling means between the first body member 162 and the second body member 164. The coupling means may generally comprise a plurality of male body coupling members 166, located on peripheral edges 162′ of first body member 162 and extending outwardly therefrom. The plurality of male body coupling members 166 may be cylindrical in configuration, such as the male body coupling members 36 of embodiment 10 described above, or they may be headed male members such as the headed male body coupling members 120 of embodiment 110 described above. Appropriately configured apertures 168 are provided in peripheral edge 164′ of second body member 164 for accepting the plurality of male coupling members 166. However, in embodiment 160, additional headed male members 170 are provided in the corners of the first body member 162 adjacent the peripheral edges 162′ and are adapted to fit into appropriately configured cavities 172, located in the peripheral edge 164′ of second body member 164. The male coupling members 170 are generally similar to the headed male coupling members 90, 102, 124 and 126, described, or alternatively, they may be cylindrical. Female interblock coupler means generally designated 174, generally similar to female interblock coupler means 48 and female interblock coupler means 140, described above, is provided. However, in the embodiment 160, there are no internal ridges or slots provided or associated with the female interblock coupler means 174. However, female interblock coupler means 174 does define a male interblock coupler means receiving aperture 176 for receiving a male interblock coupler means of another block.

In the embodiments 10. 110 and 160 described above, there have been illustrated embodiments of the present invention in which two male interblock coupler means are provided, extending outwardly from oppositely disposed walls of the body means. It will be appreciated that other arrangements and configurations of male interblock coupler means may be provided.

Fig. 9 illustrates an embodiment generally designated 190 in which a body means 192 is provided having a female interblock coupler means 194 therein. The female interblock coupler means 194 is generally similar to the female interblock coupler means 48 and 140 described above. However, as shown on Fig. 9, no internal ridges and no slots are provided in the female interblock coupler means 194. The body means 192 is comprised of a first body member 196 and second body member 198, coupled together as described above, along a median plane 200. In embodiment 190, however, no male interblock coupler means are provided.

Fig. 10 illustrates another embodiment of the present invention, generally designated 210. In the embodiment 210, there is provided a body means 212 comprised of a first body member 214, coupled together to a second body member 216. The coupling means utilized to interconnect the first body member 214 to the second body member 216 is any of the coupling means described above. Embodiment 210 is also provided with a female interblock coupler means 218 which is similar to female interblock coupler means 194 of embodiment 190 or to female interblock coupler means 48 or 140, described above. In the embodiment 210, there are also provided a first male interblock coupler means generally designated 220 and a second male interblock coupler means 222, which, for example, may be generally similar to first and second male interblock coupler means 84 and 86, respectively, described above. However, in the embodiment 210, the first male interblock coupler means 220 extends outwardly

in a direction substantially perpendicular to the direction of second male interblock coupler means 222. As described above in connection with embodiment 10, each of the first male interblock coupler means 220 and second male interblock coupler means 222 are divided by the median plane 224 to provide a first male member 224*a* on first body member 214 and a second male member 224*b* on second body member 216. Similarly, second male interblock coupler means 222 is divided by the median plane 224 to provide a first male member 222*a* on first body member 214 and a second male member 222*b* on second body member 216.

Fig. 11 illustrates another embodiment of the present invention, generally designated 230, in which there is provided a body means 232, comprised of a first body member 234, coupled to a second body member 236, by any of the above mentioned coupling means. A female interblock coupler means 238 is also provided which is similar to any of the above described female interblock coupler means. In the embodiment 230, the first body member 234 is coupled together with the second body member 236 along a median plane 240. Only one male interblock coupler means, generally designated 242 is provided in the embodiment 230, and may be generally similar to any of the male interblock coupler means described above.

Fig. 12 illustrates another embodiment of the present invention, generally designated 250, comprised of a body means 252, divided by a median plane 254 into a first body member 256 and a second body member 258. The first body member 256 may be coupled to the second body member 258 by any of the above described coupling means. Body means 252 in the embodiment 250 is provided with two female interblock coupler means 258 and 260, which are similar to any of the above described femile interblock coupler means. Both of the female interblock coupler means 258 and 260, which are in spaced apart relationship, extend through body means 256 from wall member 262 to wall member 264 thereof. Wall member 266 is provided with a pair of spaced apart male interblock coupler means 270 and 272, extending outwardly from wall member 266, and wall member 268 is provided with a pair of spaced apart male interblock coupler means 274 and 276. Each of the male interblock coupler means 270, 272, 274 and 276 may be generally similar to any of the male interblock coupler means described above.

Many other variations of configurations of toy blocks may be made. Thus, each toy block is provided with at least one female interblock coupler means. The toy blocks of any one set may be provided with no male interblock coupler means, one, two, three, four, or more male interblock coupler means, and, for each such set, the male interblock coupler means are frictionally and detachably mountable in the female interblock coupler means of other blocks of the set. Further, the body means of each toy block is comprised of two separate body members, coupled together along a median plane which aslo divides the male interblock coupling means, if such be provided on the particular block, into two male members, one forming a part of each of the body members. All of the structure of any one block may be integrally molded as part of and formed with one or the other of the body members of the body means.

CLAIMS

1. A toy block comprising a body having a plurality of wall members, each of the wall member having an inner surface and an outer surface, the inner surfaces defining a body cavity, the body comprising a first body member including a first group of the wall members and a second body member including a second group of the wall members, the first body member being coupled to the second body member by coupling means along a median plane and each of the first and second body members having peripheral edge surfaces at the median plane, a first wall of the first group of wall members having a first aperture therethrough and a second wall of the second group of wall members having a second aperture therethrough aligned with the first aperture, there being provided female interblock coupling means on the first wall of the first group of wall members and on the second wall of the second group of wall members, the female interblock coupling means comprising a first skirt member extending from the inner surface of the first wall at the first aperture into the body cavity and a second skirt member extending from the inner surface of the second wall at the second aperture into the body cavity, the inner wall surfaces of the first skirt member and the second skirt member defining a male interblock coupler means receiving aperture extending through the block and the first skirt member and the second skirt member being in aligned relationship, the inner end of the first skirt member and the inner end of the second skirt member extending beyond the median plane, the coupling means including interlock means on the inner ends of the first and second skirt members for interlocking the first skirt member to the second skirt member.

2. A toy block as claimed in claim 1, wherein the interlock means comprises a first peripheral shoulder and a first peripheral groove on the inner wall surface of the first skirt member and a second peripheral shoulder and a second peripheral groove on the outer wall surface of the second skirt member, the first peripheral shoulder being retained in the second peripheral groove and the second

in a direction substantially perpendicular to the direction of second male interblock coupler means 222. As described above in connection with embodiment 10, each of the first male interblock coupler means 220 and second male interblock coupler means 222 are divided by the median plane 224 to provide a first male member 224*a* on first body member 214 and a second male member 224*b* on second body member 216. Similarly, second male interblock coupler means 222 is divided by the median plane 224 to provide a first male member 222*a* on first body member 214 and a second male member 222*b* on second body member 216.

Fig. 11 illustrates another embodiment of the present invention, generally designated 230, in which there is provided a body means 232, comprised of a first body member 234, coupled to a second body member 236, by any of the above mentioned coupling means. A female interblock coupler means 238 is also provided which is similar to any of the above described female interblock coupler means. In the embodiment 230, the first body member 234 is coupled together with the second body member 236 along a median plane 240. Only one male interblock coupler means, generally designated 242 is provided in the embodiment 230, and may be generally similar to any of the male interblock coupler means described above.

Fig. 12 illustrates another embodiment of the present invention, generally designated 250, comprised of a body means 252, divided by a median plane 254 into a first body member 256 and a second body member 258. The first body member 256 may be coupled to the second body member 258 by any of the above described coupling means. Body means 252 in the embodiment 250 is provided with two female interblock coupler means 258 and 260, which are similar to any of the above described femile interblock coupler means. Both of the female interblock coupler means 258 and 260, which are in spaced apart relationship, extend through body means 256 from wall member 262 to wall member 264 thereof. Wall member 266 is provided with a pair of spaced apart male interblock coupler means 270 and 272, extending outwardly from wall member 266, and wall member 268 is provided with a pair of spaced apart male interblock coupler means 274 and 276. Each of the male interblock coupler means 270, 272, 274 and 276 may be generally similar to any of the male interblock coupler means described above.

Many other variations of configurations of toy blocks may be made. Thus, each toy block is provided with at least one female interblock coupler means. The toy blocks of any one set may be provided with no male interblock coupler means, one, two, three, four, or more male interblock coupler means, and, for each such set, the male interblock coupler means are frictionally and detachably mountable in the female interblock coupler means of other blocks of the set. Further, the body means of each toy block is comprised of two separate body members, coupled together along a median plane which aslo divides the male interblock coupling means, if such be provided on the particular block, into two male members, one forming a part of each of the body members. All of the structure of any one block may be integrally molded as part of and formed with one or the other of the body members of the body means.

CLAIMS

1. A toy block comprising a body having a plurality of wall members, each of the wall member having an inner surface and an outer surface, the inner surfaces defining a body cavity, the body comprising a first body member including a first group of the wall members and a second body member including a second group of the wall members, the first body member being coupled to the second body member by coupling means along a median plane and each of the first and second body members having peripheral edge surfaces at the median plane, a first wall of the first group of wall members having a first aperture therethrough and a second wall of the second group of wall members having a second aperture therethrough aligned with the first aperture, there being provided female interblock coupling means on the first wall of the first group of wall members and on the second wall of the second group of wall members, the female interblock coupling means comprising a first skirt member extending from the inner surface of the first wall at the first aperture into the body cavity and a second skirt member extending from the inner surface of the second wall at the second aperture into the body cavity, the inner wall surfaces of the first skirt member and the second skirt member defining a male interblock coupler means receiving aperture extending through the block and the first skirt member and the second skirt member being in aligned relationship, the inner end of the first skirt member and the inner end of the second skirt member extending beyond the median plane, the coupling means including interlock means on the inner ends of the first and second skirt members for interlocking the first skirt member to the second skirt member.

2. A toy block as claimed in claim 1, wherein the interlock means comprises a first peripheral shoulder and a first peripheral groove on the inner wall surface of the first skirt member and a second peripheral shoulder and a second peripheral groove on the outer wall surface of the second skirt member, the first peripheral shoulder being retained in the second peripheral groove and the second

peripheral shoulder being retained in the first peripheral groove for interlocking retention therebetween.

3. A toy block as claimed in claim 1 or 2, further comprising a plurality of internal ridges on the inner wall surface of the first skirt member, the plurality of ridges extending from regions adjacent the outer end of the first skirt member toward the inner end thereof.

4. A toy block as claimed in any one of the preceding claims, in which the second skirt member has a plurality of internal ridges on the inner wall surface thereof extending from regions adjacent the outer end toward the inner end thereof.

5. A toy block as claimed in any one of the preceding claims, further comprising first slot walls on the first skirt member defining first slots therethrough, the first slots extending from the outer end toward the inner end of the first skirt member.

6. A toy block as claimed in any one of the preceding claims, further comprising second slot walls on the second skirt member defining second slots therethrough, the second slots extending from the outer end toward the inner end thereof.

7. A toy block as claimed in claim 6, when dependent on claim 5, wherein the first slots on the first skirt member and the second slots on the second skirt member extend a distance equal to substantially one-half the distance from the respective outer ends to the respective inner ends thereof.

8. A toy block as claimed in claim 7 or in claim 6, when dependent on claim 5, in which the first slot walls extend through the first wall of the first group of wall members and the second slot walls extend through the second wall of the second group of wall members.

9. A toy block as claimed in any one of the preceding claims, wherein the coupling means coupling the first body member to the second body member further comprises a plurality of male body coupling members extending outwardly from the peripheral edge surface of the first body member and a plurality of male body coupling member receiving cavities in the peripheral edge surface of the second body member, the plurality of male body coupling members being positioned in the male body coupling member receiving cavities and frictionally retained therein to couple the first body member to the second body member.

10. A toy block as claimed in claim 9, wherein the male body coupling members each comprise a shaft portion and a headed portion coupled to the shaft portion and spaced from the peripheral edge surface, the headed portion having a greater width than the shaft portion.

11. A toy block as claimed in any one of the preceding claims, in which a third wall member of the plurality of wall members of the body comprises a first male interblock coupler means frictionally and detachably retainable in a female coupler means of another toy block.

12. A toy block as claimed in claim 11, wherein the first male interblock coupler means is divided by the median plane and comprises a first male member on the first body member and a second male member on the second body member, the coupling means further comprising a first headed male member coupled to the first male member of the first male interblock coupler means and extending into the body cavity, and an aperture in the second male member of the male interblock coupler means communicating with the body cavity and retaining first headed male member therein.

13. A toy block as claimed in claim 11 or 12, in which a fourth wall member of the plurality of wall members of the body comprises a second male interblock coupler means frictionally and detachably retainable in a female interblock coupler means of another toy block.

14. A toy block as claimed in claim 13, wherein the second male interblock coupler means is divided by the median plane and comprises a first male member on the first body member and a second male member on the second body member, a second headed male member being provided on the second male member of the second male interblock coupler means and extending into the body cavity, and walls in the first male member of the second male interblock coupler means defining a second headed male member receiving aperture communicating with the body cavity and retaining the second headed male member therein.

15. A toy block as claimed in claim 13 or 14, wherein the second male interblock coupler means is aligned with the first male interblock coupler means.

16. A toy block as claimed in claim 13 or 14, wherein the second male interblock coupler means extends substantially at right angles to the first male interblock coupler means.

17. A toy block as claimed in any one of claims 13 to 16, in which the third wall member of the plurality of wall members of the body further comprises a third male interblock coupler means frictionally and detachably retainable in a female interblock coupler means of another toy block.

18. A toy block as claimed in claim 17, wherein the fourth wall member of the plurality of wall members of the body further comprises a fourth male interblock coupler means aligned with the third male interblock coupler means and frictionally and detachably retainable in the female interblock coupler means of

another toy block.

19. A toy block substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

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