

May 17, 1955

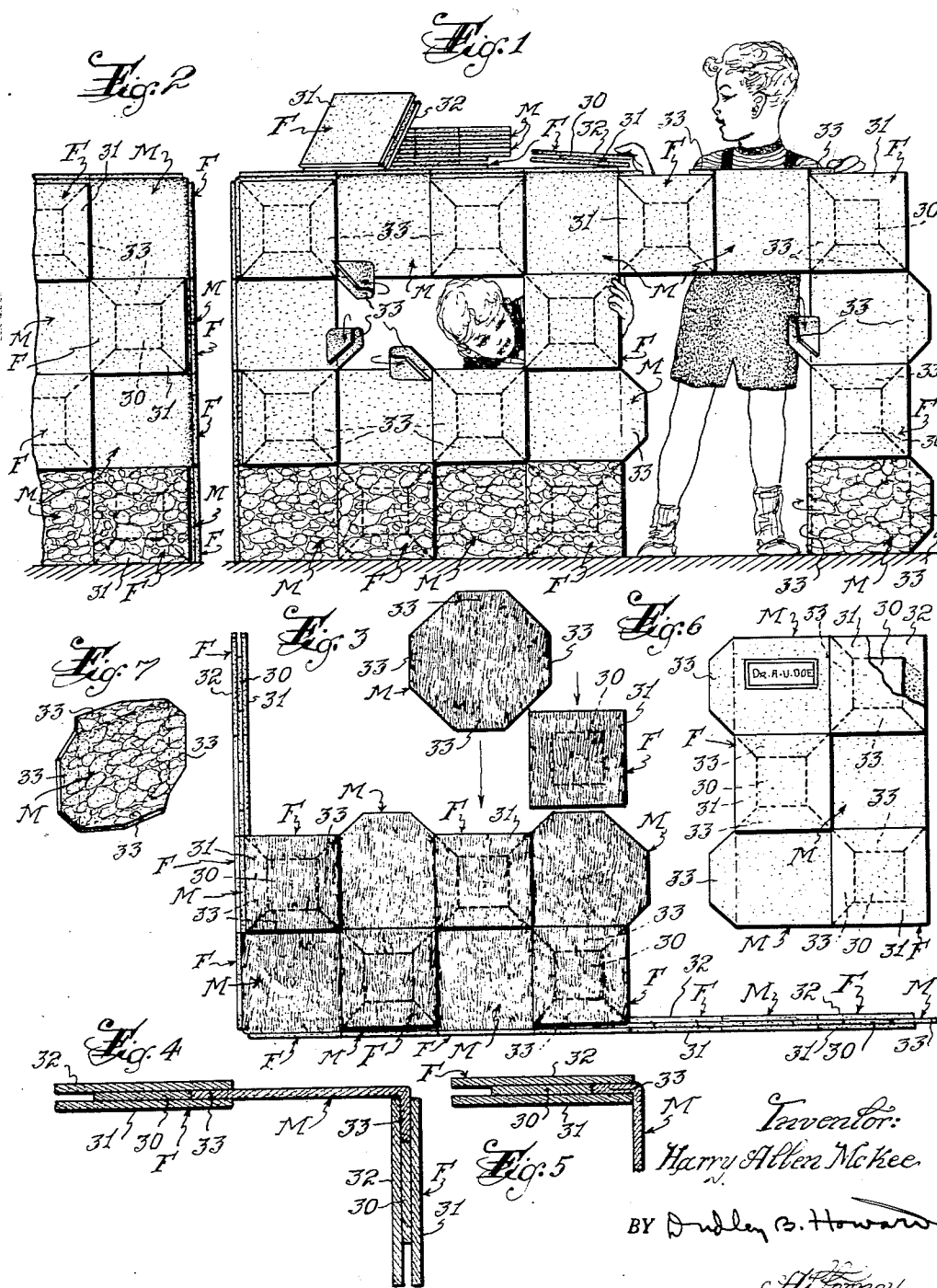
H. A. McKEE

2,708,329

PLAYHOUSE CONSTRUCTOR SET

Filed May 15, 1952

4 Sheets-Sheet 1



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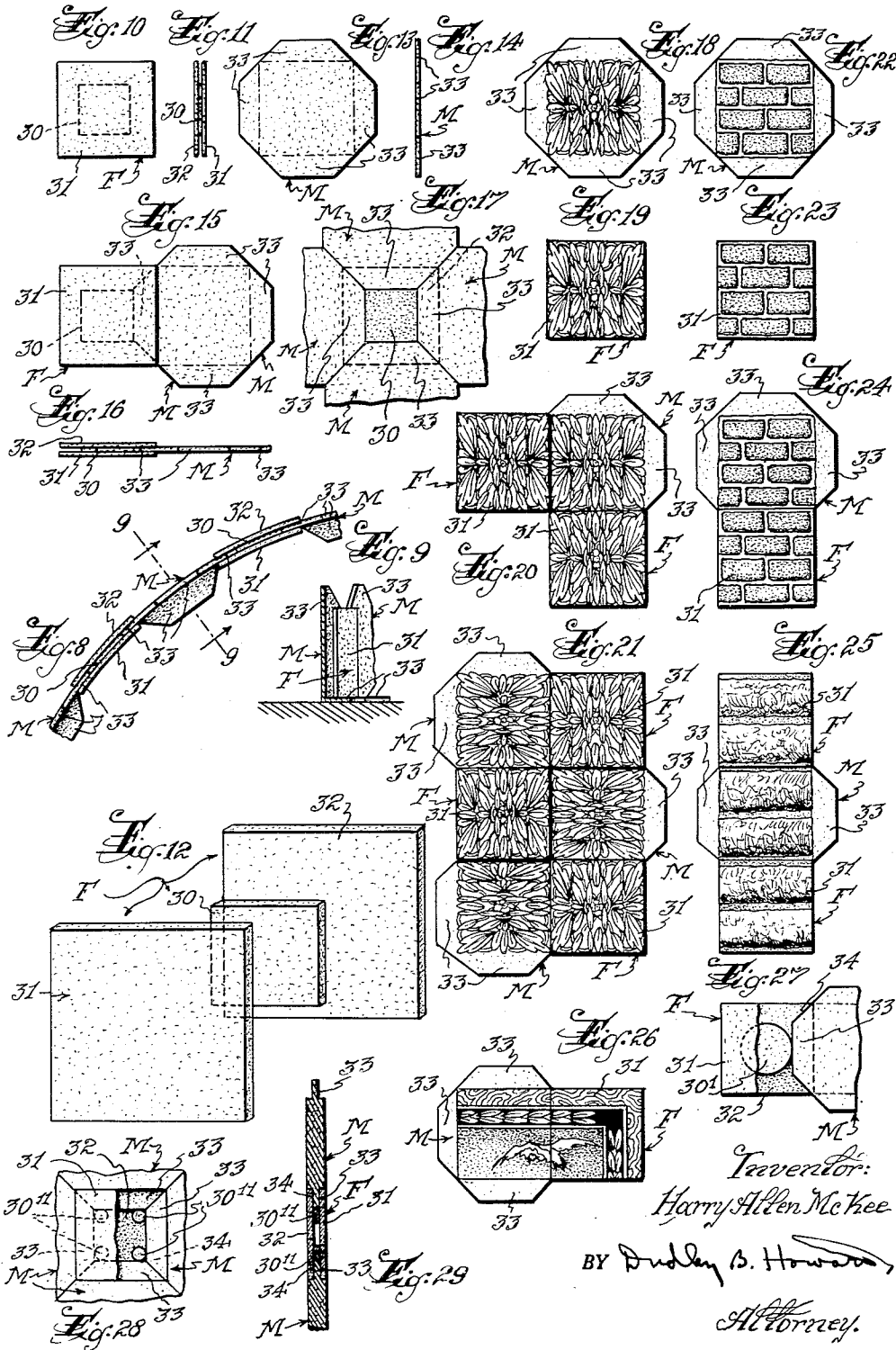
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PLAYHOUSE CONSTRUCTOR SET

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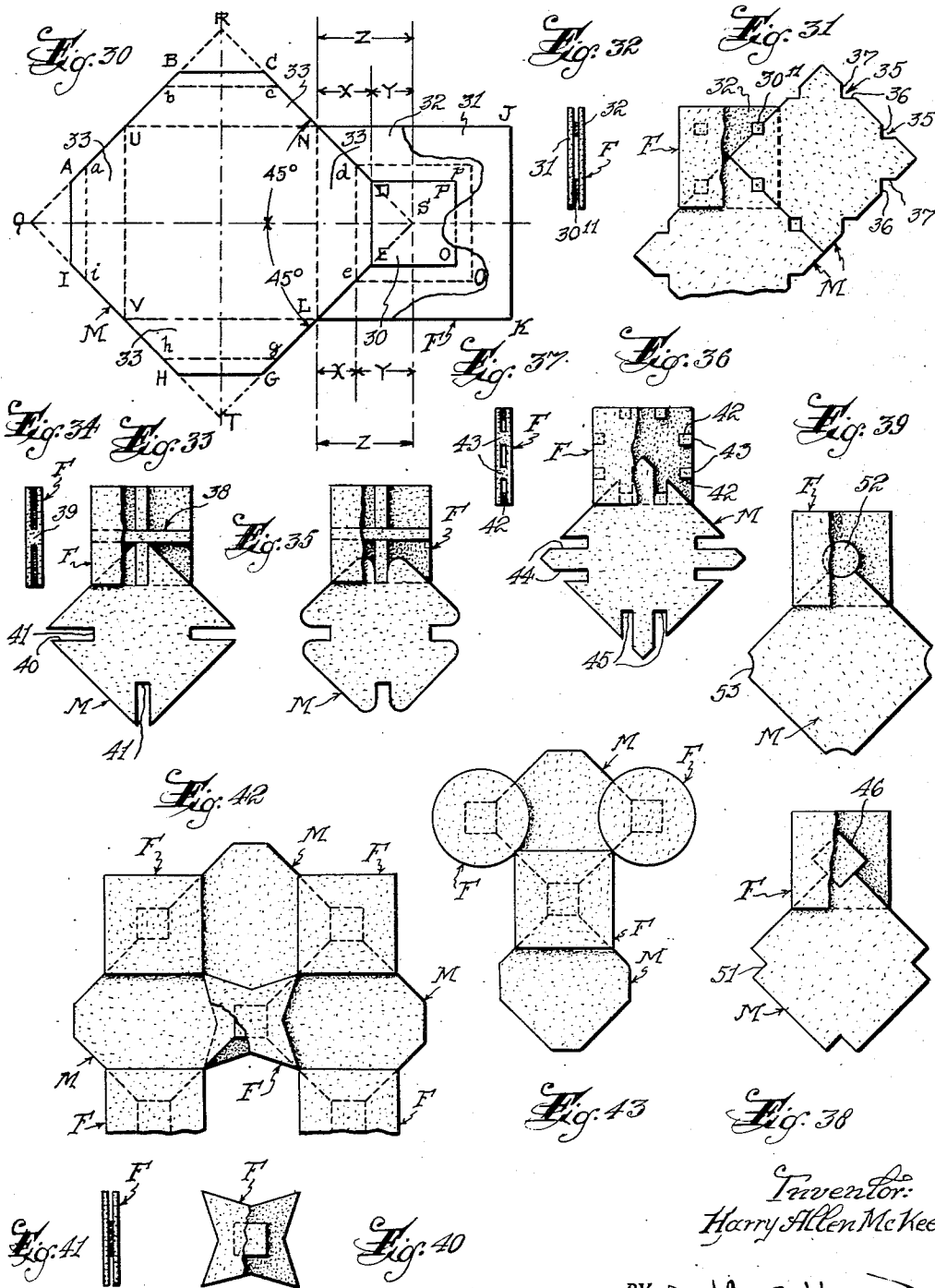
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PLAYHOUSE CONSTRUCTOR SET

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4 Sheets-Sheet 3



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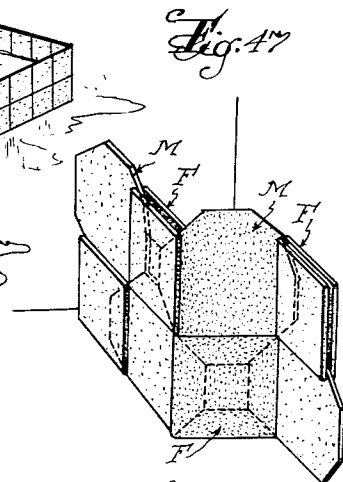
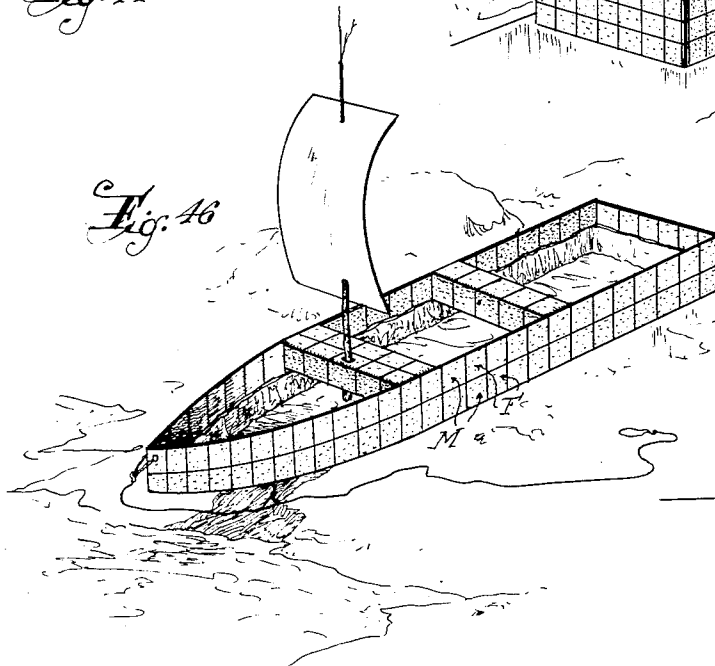
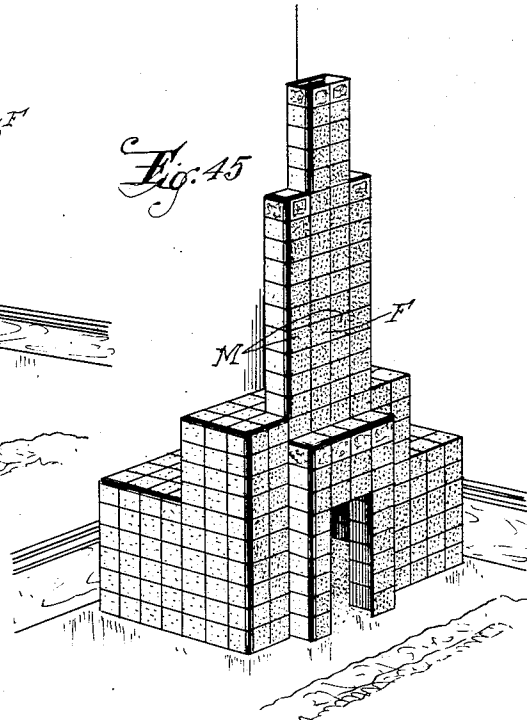
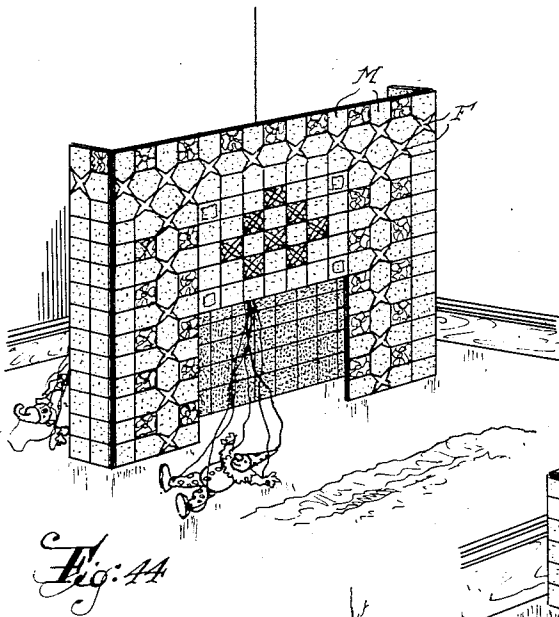
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PLAYHOUSE CONSTRUCTOR SET

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4 Sheets-Sheet 4



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2,708,329

PLAYHOUSE CONSTRUCTOR SET

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Application May 15, 1952, Serial No. 287,954

1 Claim. (Cl. 46—31)

The invention relates to amusement and educational devices for children and has particular reference to constructor sets for the building of knockdown playhouses and other toy structures.

I am aware that prior to my present invention others have invented toy building constructor sets comprising mated pairs of plate-like units adapted for interlocking engagement in tongue and groove manner somewhat similar to the principle of my invention, but all of the known constructor sets in this category are too complicated for use by very young children such as would be small enough to play inside the houses or other structures which they build.

It is the primary object of my invention to provide a constructor set made up of mated interlockable units of improved construction which fit together in such a simplified manner that a four years old child can learn to assemble them with a minimum of instruction.

Although it is intended that the mode of assembly of the improved mated units of the set shall be so simple as to be practically self-evident to a very young child, the building process should be subject to variation so that there will be room for discretion and the exercise of ingenuity. I have provided for this by making the respective units capable of assembly in different angular relations and by covering their exposed flat faces with pictorial representation of various types of building material, such as brick, stone, logs, etc., or with typical wallpaper designs of a decorative nature which conform to the pattern of an overall composite design. For example, faces which should be on the outside of a playhouse will bear a building material design and the opposite faces will have a wallpapered appearance. In this way, a discerning child will be given the opportunity to discover the proper sides to face outward and inward and also the proper angular relation in which the adjoining units must be arranged to complete the intended overall design for the exterior and interior walls. By supplementing each constructor set with a booklet of sample building structures and wall designs to be copied, the educational possibilities may be expanded indefinitely.

A further object is to provide mated male and female constructor units whose interlockable connector means are of such construction that the units will be guided into precisely fitted engagement with each other once they have been roughly aligned.

The above and other objects, features and advantages of the present invention will be more fully understood from the following description when considered in connection with the accompanying drawings, in which:

Fig. 1 is a front elevation of a playhouse under construction with use of the improved constructor units; Fig. 2 is a fragmentary side elevation of the same; Fig. 3 is a fragmentary plan view of the partially constructed roof; Fig. 4 is a vertical section of a corner of wall and roof; Fig. 5 is a similar view taken through a horizontally adjoining vertical row of constructor units; Fig. 6

is a front elevation of the door which is to occupy the door opening shown in Fig. 1; and Fig. 7 is a perspective view of one of the male units used because of its outer surface design in construction of the bottom wall row to represent footing stone.

Fig. 8 is a fragmentary plan view of a curved wall or enclosure in which connector tabs of the male units in the bottom row are bent laterally to provide a footing for the wall; and, Fig. 9 is a vertical section on line 9—9 of Fig. 8.

Fig. 10 is a detail plan view of the rudimentary form of female constructor unit; Fig. 11 is an edgewise elevation of the same; and Fig. 12 is an exploded perspective view of the three laminae of which the female unit is composed.

Fig. 13 is a detail plan view of the rudimentary form of male constructor unit; and Fig. 14 is an edgewise elevation of the same.

Fig. 15 is a plan view of united male and female units; and Fig. 16 is an edgewise elevation thereof.

Fig. 17 is a plan view of a female unit when united with contiguously arranged male units on all four sides, the latter being broken away and the female unit being shown with the outer lamina on its exposed side removed.

Fig. 18 is a detail plan view of a male constructor unit which bears a floral wallpaper design on one flat face; Fig. 19 is a similar view of a cooperative female unit having the same design; Fig. 20 is a plan view of a male unit and two female units bearing the same design united in an arrangement wherein corresponding axes of the several unit designs are all parallel; and Fig. 21 is a similar view of six units united in an arrangement wherein the corresponding axes of adjacent unit designs are perpendicular to each other.

Fig. 22 is a detail plan view of a male constructor unit which bears a brick wall design on its flat face; Fig. 23 is a similar view of a female unit having the same design; and, Fig. 24 is a similar view of the mated units when assembled with the corresponding axes of their respective designs parallel in conformity to the usual appearance of the wall of a brick house.

Fig. 25 is a plan view of two female units and one male unit assembled together, showing all units as bearing a log design and arranged with their corresponding design axes parallel in usual representation of the wall of a log house.

Fig. 26 is a plan view of male and female constructor units in assembled relation, wherein the design is intended to represent a wall border for the interior of a room.

Fig. 27 is a fragmentary plan view of a male constructor unit engaged with a female unit having a modified form of separator means for the outer laminae.

Fig. 28 is a similar view of four male constructor units engaged with a female unit having still further modified separator means for its outer laminae; and Fig. 29 is an enlarged vertical cross-sectional view of the modified structure shown in Fig. 28.

Fig. 30 is a fragmentary plan view of interlocked male and female constructor units, wherein various form and size relations are diagrammatically revealed.

Fig. 31 is a plan view, partly broken away, of two male units of modified form engaged with a female unit similar to that shown in Figs. 28 and 29; and Fig. 32 is an edge elevation of the female unit.

Fig. 33 is a plan view, partly broken away, of interlocked male and female units of another modified form; and Fig. 34 is an edge elevation of the female unit.

Fig. 35 is a plan view, partly broken away, of interlocked male and female units wherein the male unit is

modified further but the female unit is the same as in Figs. 33 and 34.

Fig. 36 is a similar view of interlocked male and female units of still further modified form; and Fig. 37 is an edge elevation of the female unit.

Fig. 38 is a plan view, partly broken away, of interlocked male and female units of differently modified form.

Fig. 39 is a similar view of interlocked male and female units of another modified form.

Fig. 40 is a plan view of a star-shaped female unit; and Fig. 41 is an edge elevation of the same.

Fig. 42 is a plan view of the star-shaped female unit when combined in interlocked relation with male and female units of the preferred form.

Fig. 43 is a similar view showing male and female units of the preferred form combined in interlocked relation with two female units of circular shape.

Fig. 44 is a front elevation of a string puppet stage in the construction of which female units of different external form are used to create an ornamental design.

Fig. 45 is a perspective view of a tower building constructed with units of the preferred form.

Fig. 46 is a similar view of a boat structure.

Fig. 47 is a similar view of a wall structure having an offset therein.

Referring in detail to the drawings, wherein like reference characters designate corresponding parts in the several views, Figs. 1 to 6, inclusive, illustrate the manner in which the constructor units of this invention are used in building a playhouse. Then, in Figs. 8 and 9, the manner of construction of a curved wall or other enclosure is shown. Again, in Figs. 44, 45, 46 and 48 there are illustrated, respectively, a string puppet stage, a tower building, a boat structure, and a wall with offset portion, all constructed by use of the improved constructor units. These illustrative examples are cited to give an idea as to the adaptability of the mated units to employment in making various types of toy structures for the amusement and education of children. Obviously, all sorts of structures can be made, such as play stores, railroad stations, circus arenas, animal cages, etc. For those structures which are to be occupied by the children who build them, such as playhouses, the constructor units should be of rather large size. On the other hand, very small units may be manufactured for use in building miniature depots, bridges, tunnels and other structures for model railroads.

Turning now to Figs. 10 to 17, inclusive, and Fig. 30 in particular, it will be observed that a complete set of constructor units is composed of multiples of only two distinct types of unit, viz: male and female in respect to the mechanical manner of joinder, wherein connector tabs of the former fit grooves or recesses of the latter.

Each female unit F of the rudimentary embodiment of the invention (Figs. 10, 11 and 12) is in the form of a flat square plate, which may be about ten inches square when intended for construction of playhouses like the one shown in Figs. 1 to 6. This unit preferably is laminar in structure to simplify the process of fabrication. As shown particularly in Fig. 12, a small, preferably square separator lamina 30 is interposed between two larger square laminae 31 and 32. When these three laminae are placed tightly together and securely united, as by use of glue, stapling, or other suitable means, all should be concentrically arranged with their corresponding straight marginal edges parallel, as shown in broken lines in Fig. 10 and in solid lines in Fig. 11. Each male unit M of the rudimentary embodiment (Figs. 13 and 14) is eight-sided in marginal configuration and substantially equal in thickness to the separator lamina of the female unit. If there should be any reason for variation in the thickness of the several laminae of the female unit, the male unit for cooperative association therewith should be no thicker than the inner separator lamina 30 in order that suitable connector portions of the male unit may fit

between the outer laminae 31 and 32 of the female unit with sufficient snugness to insure considerable frictional resistance to accidental disengagement.

While the eight-sided male unit M may have the shape of a regular octagon with equal sides and angles, the irregular eight-sided figure shown is preferred because deeper penetration of the groove in the female unit F and consequent increased area of frictional contact between the connector tabs of the male unit and groove walls of the female unit will be afforded.

The fundamental geometrical form and size relations common to the several embodiments of my invention disclosed herein may be explained in greater detail by reference at this time to Fig. 30. Therein, eight-sided figure ABCDEGHI (in solid lines) is the outline of a male constructor unit M and large square figure JKLN is the outline of a mated female unit F. Small square figure DEOP outlines separator lamina 30 of female unit F, one edge face DE of which serves as penetration-depth determining abutment front for flat abutting contact with edge face DE of male unit M.

By circumscribing male unit M with a square QRST in superimposed relation to long sides AB, CD, EG and HI thereof, and by inscribing a square LNUV whose corners bisect the said long sides of said male unit, certain important geometric relations of the male unit to the female unit become apparent, viz: (1) diagonal QS of the circumscribed square of male unit M is disposed at right angles to the abutted edge face DE of separator lamina 30 of female unit F with corner S coincident with the center of said lamina; (2) sides RS and ST of the circumscribed square of said male unit coincide respectively with diagonals KN and JL of said female unit; (3) trapezoidal portions DELN, LGHV, VIAU and BCNU of each male unit provide connector tabs 33 for engagement within adjacently located groove segments of four female units to be mated therewith; and (4) inscribed square LNUV exactly matches the outline JKLN of the female unit and squarely adjoins the same on line LN.

It will be observed that depth of penetration x of connector tab 33 bears a definite ratio to the radial distance y of edge face DE of separator lamina 30 from the center of the latter, the sum of distances x and y being z , which distance z represents a desirable maximum penetration to be sought whenever practicable in the interest of rigidity of structure and high frictional resistance to accidental separation. By comparison, if the marginal outline of male unit M were changed to the regular octagon figure *abcdeghi* (Fig. 30) and the separator lamina 30 of female unit F were correspondingly enlarged to the outline figure *deop*, it should be clearly apparent that the ratio x to y is undesirably changed so far as rigidity and frictional contact are concerned. However, it may be desirable to reduce the frictional resistance in some instances, as when the constructor units are intended to be used by very small children who might be deterred by excessive friction from properly uniting the respective male and female units or from dismantling the structures which may be built.

For convenience of reference, each of the four straight edges of separator lamina 30 of the female unit F (Figs. 30, 33 and 34) which constitutes a penetration-depth determining abutment front will be termed a "butt front." This term will be understood to include either a continuous flat surface, or a straight front made up of spaced flat surfaces lying in the same plane (Figs. 36 and 37), or a front constituted by a straight line tangential to one or more circular separator means 30 (Figs. 27, 31 and 32). Similarly, the face or combined faces of each connector tab 33 of a male unit which are intended to abut the one or several faces of a butt front of a mated female unit will be known as a "butt front." In other words, each butt front of a female unit is constructed to match any butt front of a mated male unit in form and area. The side edges of each connector tab 33 of a male unit,

which are adapted to flatly abut the contiguous side edges of adjoining connector tabs of other male units when united with a female unit and serve in the assembly process as converging guide means, will be termed "lateral abutment faces."

Now, when four male units M of rudimentary form have been assembled with a single female unit F of rudimentary form in the manner shown in Fig. 17, there will be perfect abutment between all meeting edges. Figs. 1, 2 and 3 in particular reveal the fact that the exposed faces of all male units in a wall or roof will be square and equal in area to the exposed faces of all female units. The overall design thus will be a lot of abutting squares with the male ones indented in the manner of panels which will give an unnatural checkerboard effect unless the monotony be relieved by the addition of superimposed eye-catching designs more appropriate to the exposed surfaces of a building structure. A simple and realistic way to relieve that monotony is depicted in Figs. 1 and 2, in which male and female units bearing a pebbled design on their exterior faces are included in the complete constructor set for use in the base or footing stone horizontal row. To give the playhouse an even more realistic appearance, the male and female units for the roof are designed to look like shingles, as shown in Fig. 3.

Figs. 18 and 19 show male and female units, respectively, which have a floral wallpaper design on those faces which are to be interiorly located. The design on each unit has two distinct orientation axes to be taken into consideration when matching unit designs together in the construction of an interior wall or ceiling, as in either of the distinct overall designs shown in Figs. 20 and 21, respectively. Either of these overall designs is obtainable by appropriate relative angular arrangement of the respective male and female units, because the male units fit the female units equally well when rotated in any direction through an angle of ninety degrees. Concerning the arrangement in Fig. 21, it will be observed that corresponding design axes of adjoining units are rotated ninety degrees to afford an alternating orientation effect.

Figs. 22 and 23 disclose a brickwork design for exterior surfaces of the mated male and female units. To carry through with the brick house effect, the corresponding design axes should be arranged in parallelism so that the bricks will all appear in horizontal rows as shown in Fig. 24.

Fig. 25 represents the properly oriented assembly of one male and two female units bearing a log design on their exterior faces when building a log cabin.

In Fig. 26 there is shown a segment of an interior wall corner showing a decorative border effect for rooms which is made possible by including a number of male and female units having the design represented in this figure of drawing. A similar border effect, or trim, may be applied to constructor units which are to surround window or door openings.

The respective constructor units in a set may be made of any suitable material. One which is cheap, light in weight, and easy to manipulate is corrugated cardboard. This material can be procured in suitable thickness and is especially desirable because of its adaptability to easy bending on straight lines. When making changes in direction of a wall, it is necessary to bend the connector tabs of all male units bordering on the corner to be made in the structure, as indicated clearly in Figs. 4 and 5. Therefore, it is my practice to score the connector tabs of the male units along the broken lines in Fig. 13, especially when material less easy to bend than corrugated board is used in their manufacture. Like corrugated board, sheet metal is easily bent as required in the progress of construction, but plastic material, which otherwise is highly desirable, must be bent while in a heated state during manufacture of the male constructor units, so there should be inclusion in each set of a sufficient number of corner male units with permanently bent con-

connector tabs. Fig. 7 shows such a corner unit, which actually has oppositely bent tabs for a special situation in which a wall changes direction oppositely within the span of one constructor unit, as shown in Fig. 47.

In Fig. 1, the mode of removing surplus and unsightly connector tabs in wall openings is depicted. They may be torn off along the scored lines as shown, or in a constructor set intended for exclusive production of a playhouse of fixed architectural design they may be omitted during manufacture.

Figs. 1 and 6 demonstrate the method of providing for a swinging door in a wall opening left for that purpose. At the hinge side of the door and wall opening, the connector tabs of all male units are engaged with the grooves in the corresponding female units to serve as hinges. Male unit connector tabs on all other edges of the door are severed therefrom, or bent inward (arrow).

It is quite practicable to include in a matched set of units, for a particular building structure which customarily would have windows, a number of transparent plastic units to fit window areas instead of the usual opaque units.

Fig. 3 shows the manner in which the male and female units are moved into their places in the roof under construction. All a child has to be taught to do is to fit the units together in a base row and then to add successive rows thereto by moving the female and male units into engagement with alternate male and female units in the direction of the arrows. The female units in each instance should precede the male units as shown. When a male unit approaches a female unit, the connector tab which is presented for engagement within the groove in the latter need not be advanced with precise alignment, for the tapering side edges of the tab will be guided into that alignment by contact with adjacent tapering edges of the connector tabs of male units already assembled in the building structure.

It should now be apparent that the act of mechanically fitting the respective male and female units together is so simple and easy that a very young child can accomplish it with very little preliminary instruction. However, the oriented axes of surface designs, both exterior and interior, present a problem to be solved as the child advances in experience and knowledge. By supplementing each constructor set with a booklet containing illustration of the particular structure for which the set has been composed, or other structures which also may be made therewith, any child with normal intelligence should be able to work out for himself the mode of assembly of units and in doing so derive considerable education in building processes. The possibilities for valuable training are virtually unlimited.

Previously herein, the central lamina 30 of the female constructor unit has been described as being square in outline and of such dimensions that each straight side thereof which constitutes a butt front is equal in length to the butt front constituted by each straight front edge of each connector tab of the male unit (also shown in Figs. 1 through 17). While these structural limitations are very much preferred, it is within the scope of the invention to make some modifications which may be dictated by practice of the invention, such as those shown by way of example in Figs. 27, 28 and 29, and in Figs. 31 to 43 inclusive.

In Fig. 27, the central lamina 30' of the female unit is represented as being circular instead of square. Due to the specific isosceles trapezoid form of the connector tabs of the male units, their tapered side edges will guide them into proper abutment with each other when entering the marginal groove 34 of a female unit. The essential requirement is that the diameter of circular lamina 30' shall be sufficient to present a butt front which will meet the butt front of any connector tab of a male unit that is inserted in groove 34 of the female unit. Therefore, the diameter of circular separator 30' should be

equal to the length of each side of the square separator lamina shown in Fig. 10 for instance.

It makes no particular difference as to how each female unit is provided with its marginal groove so long as the essential dimensions and butt front forming means are adhered to. If plastic material is used in its construction, the female unit may be produced by molding process, in which case the finished unit may be completely integral in structure. In other words, although the outer flanges of the female unit may in some instances be formed by separate laminae, that will not be the case if the central separator means is an integral part of the said flanges. The term "lamina" will be used however to mean either the separator means or the plate-like outer flange-forming portions which are joined to the separator means in any manner.

Another modified form of separator means is disclosed in Figs. 28 and 29. In this instance, four separator blocks 30''—30'' are arranged between outer laminae or plates 31' and 32' in a square formation of the same outside dimensions as the square separator lamina in Fig. 10 to present four butt fronts tangential to the cylindrical faces of adjacent blocks. With this form of groove penetration-depth determination means, the rigid fit of male and female units shown in Fig. 17 will be practicable, whereas in use of female units having the circular separator means disclosed in Fig. 27, the said female units will require care in the orientation of their axes during construction of a wall or the like, which will not be effected automatically upon engagement with the male units as in the use of square separator means. However, the female units with circular separator means may be rotated, though possibly with considerable difficulty in overcoming friction, to permit adjustment in axial orientation of their surface designs after the wall has been completed. Incidentally, the angular rotation may be of any degree instead of the usual ninety degrees permissible with square separator means.

Fig. 29 also illustrates a modification in construction of the male constructor unit, which consists in making the included square portion as thick as the overall thickness of a female unit. The connector tabs 33—33 however will be thin enough to fit the groove 34 of the mated female units. The reason for thickening the central square portion of the male unit in this manner is to avoid the previously mentioned indented or panel effect which may not always be desirable.

Figs. 31 and 32 disclose use of a female unit F of the structure shown in Figs. 28 and 29 in combination with a modified form of male unit M which affords maximum penetration of said female unit by the connector tab 33 of said male unit. Actually the lateral abutment faces of the tab converge at a point which reaches to the center of the female unit. The said lateral abutment faces are provided with notches 35 equidistant from the center of the unit. The side faces of each notch are at right angles to each other and one face 36 is perpendicular to the diagonal of the circumscribed square (line QS in Fig. 30) in order that the combined faces 36 of both notches shall constitute a butt front for abutment against the cooperative butt front provided by the adjacent pair of separator blocks 30'' of mated female unit F. The other faces 37 of notches 35, being at right angles to faces 36, will clear blocks 30'' both during assembly of the interlocking units and during dismantling of the same. Referring to diagrammatic Fig. 30, it will be noted that in the formula x plus y equals z , y will be 0 for the structure illustrated in Figs. 31 and 32, so x will equal z , which is the condition most to be desired.

Figs. 33 and 34 disclose a female unit F which has cross-shaped separator means 38 providing butt front faces 39 substantially flush with the respective marginal edges of laminae 31 and 32 and located medially thereof. Each connector tab 33 of the mated male unit M is bifurcated by provision of a central slot 40 parallel to,

and bisected by, diagonal line QS (Fig. 30). The bottom wall 41 of each slot 40 forms a butt front for abutment against the adjacent butt front of the mated female unit. Excellent penetration is afforded by this construction, but not quite that obtainable with the structure disclosed in Figs. 31 and 32.

Fig. 35 discloses a structure which differs from that shown in Figs. 33 and 34 only in the rounding of the bifurcate points of each male connector tab 33 to make them more durable and less likely to stab the hands of the users.

Figs. 36 and 37 show the employment of pairs of spaced blocks 42—42 as separator means for outer laminae 31 and 32 of each female unit F. These blocks 42—42 are disposed with their outer faces 43—43 substantially flush with the corresponding marginal edges of outer laminae 31 and 32. Outer faces 43—43 of each pair of blocks 42—42 constitute a butt front. Each connector tab 33 of the mated male unit M is provided with parallel slots 44—44 paralleling and equidistant from diagonal line QS (Fig. 30). The bottom faces 45—45 of these slots combine to form the butt front of the connector tab. The tab material intervening between slots 44—44 is extended and pointed in conformation with the tapered side edges of the tab to afford maximum penetration of the female unit and also maximum lateral abutment area.

Fig. 38 shows a female unit F which differs from that illustrated in Figs. 10 to 17 in the angular disposition and relative size of the square central separator lamina. In this instance, separator lamina 46 is rotated through an angle of forty-five degrees from its arrangement in the rudimentary embodiment in order that each of its corners may be presented toward the center of the male connector tab to be engaged therewith. The dimensions of lamina 46 are so small that the connector tab of the male unit may be long enough to reach nearly to the center of the recess in the female unit. This increased depth of penetration is augmented by providing a medially disposed rectangular notch 51 in each connector tab of the male unit to straddle the engaged corner of female lamina 46. With rectangular male and female butt fronts of this nature, mutual guidance of male units into engagement with any female unit during assembly by the tapered lateral abutment faces, which has already been described, is aided further by entrance of the corners of the central lamina 46 of the female unit into the notches 51 of the male connector tabs during the final stage of assembly manipulation. In addition to this final guidance, there will be more positive resistance to circumferential displacement of the male units about the center of a mated female unit following assembly, such as is more likely to occur when the separator lamina of the female unit is circular, as in the Fig. 27 embodiment.

Fig. 39 represents a modification of the structure shown in Fig. 27, wherein the central separator lamina 52 of the female unit is also circular but is reduced to a very small diameter in order to permit deep penetration of the connector tabs of mated male units. That depth is increased further by providing central circular notches 53 in the connector tabs of the male units to be used therewith.

Heretofore in the present disclosure, each female unit has been square in the outline of its outer laminae 31—32 to match the exposed included square (LNUV in Fig. 30) of each male unit after assembly of several male and female units in a building structure, whereby the visual effect of a checkerboard has been created. The disadvantages of such a monotonous design have been pointed out, together with a suggested way of relieving the same, viz: by applying a surface design of some sort to the respective male and female units. Another way to do the same thing is to vary the marginal configuration of the female units, which can be done without altera-

tion of the male units. Figs. 40 and 41 give an example of such alteration of the configuration of a female unit F by making it star-shaped, which is decorative as well. Fig. 42 shows the combined effect of star-shaped female units interspersed in an overall design wherein other female units are square. Another variation in configuration of the female units for the same purpose is illustrated in Fig. 43, wherein some of the female units are circular.

Fig. 44 depicts a string puppet stage constructed with male and female units of which some female units are star-shaped and others bear surface decoration to afford an artistic effect appropriate to a theatrical set.

Figs. 45 and 46 have been added to show two more kinds of play structures which may be built with the improved constructor units. A tower building is represented in Fig. 45 and a boat in Fig. 46.

Employment of male units having diagonally opposed connector tabs bent in opposite directions, as illustrated in Fig. 7 and previously described herein, in the building of a wall having a lateral offset therein is shown in Fig. 47.

It will be understood that it is intended to cover all changes and modifications of the examples of the invention herein chosen for the purpose of illustration which do not constitute departures from the spirit and scope of the invention.

Having thus described the invention, I claim:

A constructor set for building playhouses and other toy structures comprising distinct interlockable plate-like units of exclusively male and exclusively female structures respectively, the female unit being formed by two outer laminae of suitable marginal configuration and interposed separator means uniting said outer laminae in an integral structure with space therebetween to provide a recess opening marginally through all side edges of said unit, said separator means being constructed and arranged to provide outwardly presented butt front surfaces lying in the four sides of a square and located in-

ward of the side edges of the outer laminae, the male unit being constructed to provide four equally spaced radially projecting connector tabs adapted to enter the recess of a united female unit, each of said connector tabs having forwardly tapering lateral abutment faces lying in adjacent sides of a circumscribed imaginary square whose four corners angularly match all four connector tabs, each male connector tab being provided with an outwardly presented butt front surface arranged perpendicular to a diagonal of said circumscribed square for abutting contact with a cooperating butt front surface area of a united female unit, whereby when four male units are united with a female unit there will be even guiding contact between adjoining lateral abutment faces of all male connector tabs and limiting abutment between corresponding male and female butt front surfaces, an inscribed square area of each male unit which has its straight sides arranged at a forty-five degrees angle to the sides of said imaginary circumscribed square and its corners medially intersecting the sides of the latter square being sufficiently thicker than the connector tabs to make its flat exposed surfaces substantially flush with the corresponding surfaces of a female unit joined to said male unit.

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