L. REES.

CONSTRUCTIONAL TOY.

APPLICATION FILED OCT. 17, 1914.

1,180,797.

Patented Apr. 25, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

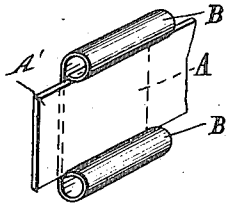


Fig. 2.

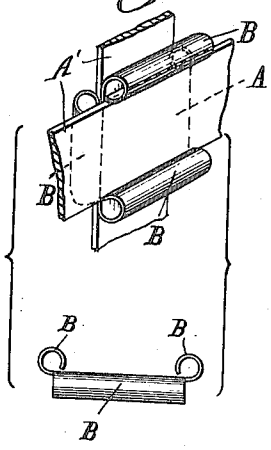


Fig. 3.

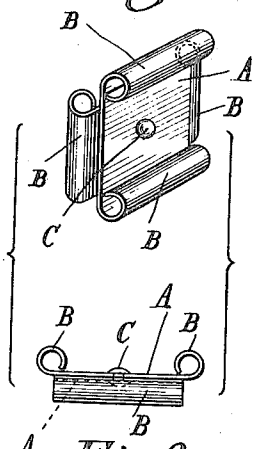


Fig. 4.

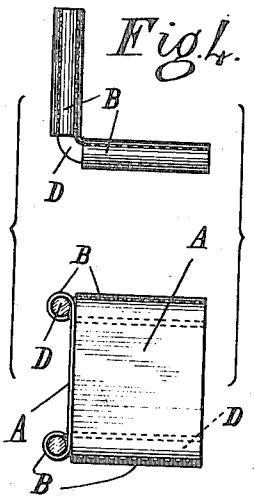


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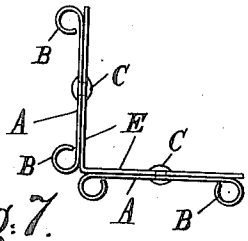


Fig. 6.

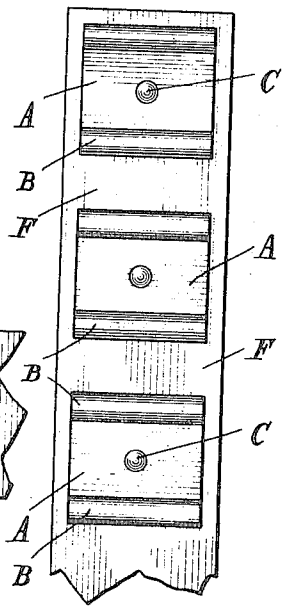
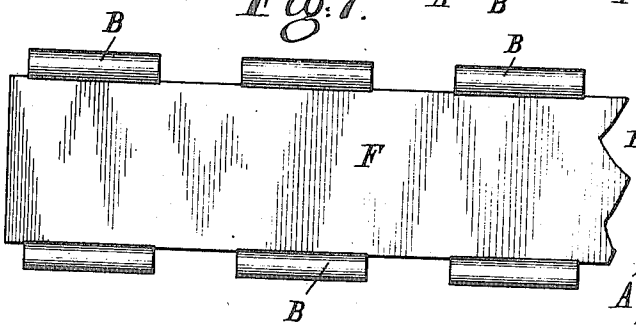


Fig. 7.



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2 SHEETS—SHEET 2.

Fig. 8.

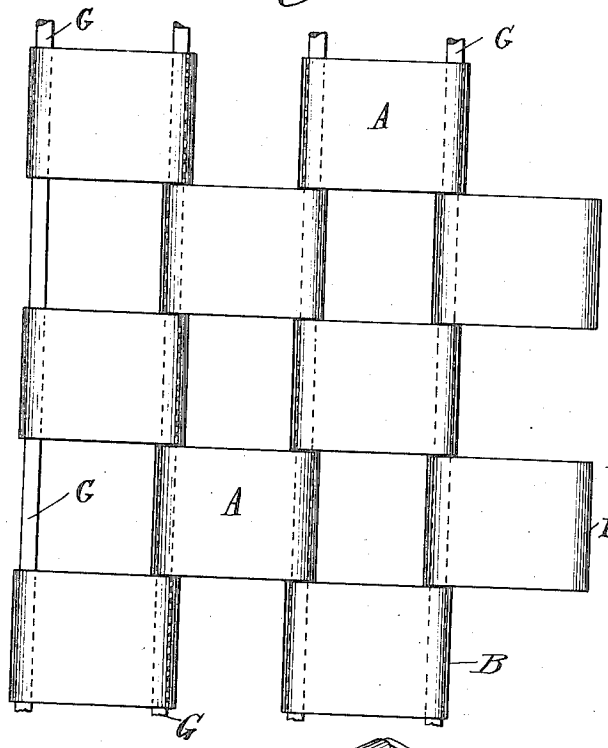


Fig. 10.

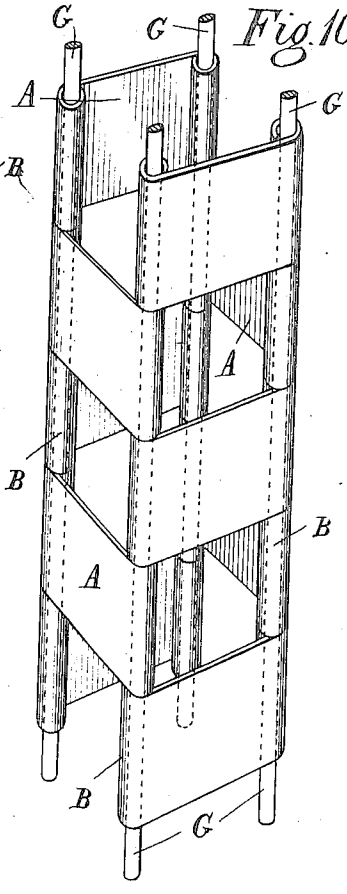


Fig. 11.

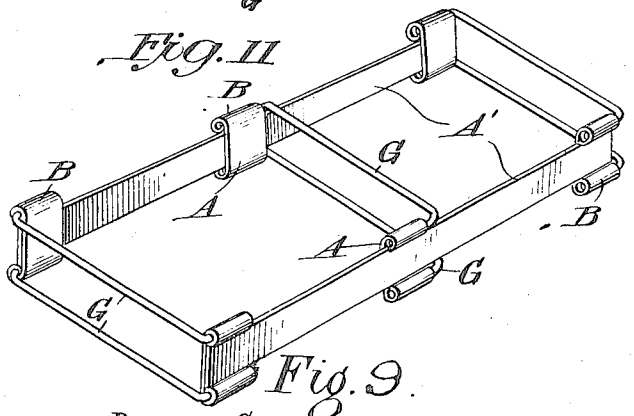
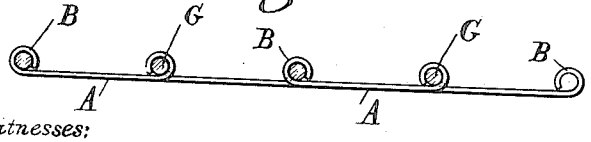


Fig. 9.



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CONSTRUCTIONAL TOY.

1,180,797. Specification of Letters Patent. Patented Apr. 25, 1916.

Application filed October 17, 1914. Serial No. 867,138.

To all whom it may concern:

Be it known that I, LEON REES, a subject of the King of Great Britain, residing at London, England, have invented certain new and useful Improvements in Constructional Toys, of which the following is a specification.

The object of this invention is to construct pieces which can be joined and held together to form structural toys such as bridges, railway tracks, houses and other devices and be readily assembled or disassembled at will.

Now my invention consists in the construction of plates or equivalents having two or more opposite curled spring edges or walls, so constructed and positioned as to engage and hold flat strips when placed between such curled spring edges or walls and engaging the outer surfaces of such curls, or for engaging and holding rods or their equivalent within the curls or both whether such devices are employed singly or in multiple or in conjunction with plates or devices to which they are fixed or pivotally connected together, or connected together by wires or otherwise.

The annexed drawings clearly show the articles in single and combined form.

Figure 1 is a perspective elevation of a clip shown holding one strip of metal. Fig. 2 is a perspective elevation and an edge view of a clip shown holding two strips of metal at right angles to each other. Fig. 3 is a perspective elevation and an edge view of two clips constructed as shown at Fig. 1 and riveted together, the rivet forming a pivot pin. Fig. 4 is a side view and a top view of two clips formed in one piece and of right-angled formation. Fig. 5 is a side view of two clips pivotally riveted to a right angled piece of metal. Fig. 6 is a face view of a number of clips constructed as in Fig. 1 and pivotally riveted to a strip of metal. Fig. 7 is a face view of a strip of metal formed with a number of curled edges or clips. Fig. 8 is a view of a number of clips constructed as in Fig. 1 connected together by rods passing through the curled portions. Fig. 9 is an edge view of Fig. 8. Fig. 10 is a perspective elevation of a number of clips constructed as in Fig. 1 and connected together by rods passing through the curls or tubular members, the clips and rods being arranged to form a square hollow tube or post. Fig. 11 is a perspective elevation illustrating a structure formed by connecting a number of clips, plates and rods.

Referring to the drawings A designates the body of one of my improved clips, which is preferably made of sheet metal and is provided on its top and bottom edges with resilient tubular members B, curled on the same side of the sheet to form spring clips, as best shown in Fig. 1. These tubular members are adapted to retain between them an elongated flat metal plate A′ used in constructing a toy, and rods hereinafter described, are adapted to pass through said tubular members.

In Fig. 2 I have shown my improved clip provided on its top and bottom edges with the resilient tubular members B, which extend forwardly and on its lateral edges with similar tubular members which extend rearwardly. The tubular members on each side of the plate are adapted to retain between them an elongated flat metal plate A′ used in constructing a toy, and rods hereinafter described, are adapted to pass through said tubular members.

I may also take two flat pieces A, each having two tubular members B, and pivot them together by a rivet C, with the curls extending away from the adjacent faces of the clips, so that the pieces can be moved about the pivot in relation to each other, as shown in Fig. 3. Again, I make the sheet A as an angle piece, see Fig. 4, with the two opposite edges of the angle curled as at B, so as to form four tubular members and an angle wire D may be inserted in each adjacent tubular member to reinforce said angle piece, or I can use a plain angle piece E, see Fig. 5, and rivet at C, a plate A having the tubular members B to each angle, so that each plate A may be moved about its pivot C and positioned as desired.

In Fig. 6, I have illustrated an oblong sheet F of metal provided with a plurality of pivotally mounted clips A having on certain of their edges the tubular members B, or I may provide a single elongated sheet of metal F with a plurality of tubular members B. as shown in Fig. 7.

In the constructions in which the clips are pivoted together or pivoted to another plate or strip, it is for the purpose of allowing the curled edged plates to be adjusted to any angle in relation to each other or to said plate or strip.

The other articles I employ are the plain

or flat shaped strips A′ of any suitable length and of a width or size that can be inserted between the curled edges B, and in contact with the outer surfaces thereof, and be held rigidly by the spring of the curled edges or clips so that by using one or other of the different kinds of curled clip edged plates a structural toy can be readily assembled or disassembled at will.

I may in the case of a single strip A, as at Fig. 1, having two curled edges, connect a number of them together, say three, or more by a rod or rods G which are passed through the curls B and by this means I have a construction in which strips may be positioned side by side or at an angle to each other or in U-shape or square in cross section. This will be readily understood by reference to Figs. 8 and 9 which illustrate a number of clips joined together by rods G, which clips can be positioned and held together in square formation as in Fig. 10 or otherwise.

In the embodiment of my invention illustrated in Fig. 11 I have shown a series of pairs of clips A connected together by rods G, the ends of the rods being bent at angles to enter the curls of the clips and the elongated flat plates A′ are grasped and held by the curls or jaws B of the clips. The structure thus formed is merely illustrative of one form in which the elements may be assembled.

By adjusting the pieces which are pivoted together or pivoted to an angle or other plate, the strips may be positioned at any angle required.

What I do claim as my invention is:—

1. An element for structural toys comprising a flat sheet metal member substantially rectangular in shape provided on certain of its opposite edges with resilient tubular portions spaced apart and forming jaws for gripping a metal plate between them and for holding rods which are passed through said tubular portions.

2. An element for structural toys comprising a flat sheet metal member substantially rectangular in shape provided on its top and bottom edges with resilient tubular portions arranged at angles to said member and spaced apart and forming jaws for holding a metal plate between them, and for holding rods which are passed through said tubular portions, said tubular portions being formed by turning back the upper and lower edges of said flat member to points adjacent to the surface of the clip.

3. An element for structural toys comprising a flat sheet metal member substantially rectangular in shape provided on its top and bottom edges with resilient tubular portions arranged at right angles to said member and spaced apart and forming jaws for gripping the lateral edges of a metal plate which is placed between them, and similar tubular portions provided on the lateral edges of said member and extending in the direction opposite from said first named tubular portions and spaced apart and forming jaws for engaging the lateral edges of a metal plate which is placed between them and holding said last named plate at right angles to the first plate, said tubular portions being also adapted to retain rods which are passed through the same.

4. A structural toy comprising a plurality of flat members provided on certain of their edges with resilient tubular portions arranged at angles to said members and spaced apart and forming jaws, plates held by the tubular portions of each member which engage the lateral edges of said plates, and rods passing through said tubular portions for securing the members together.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

LEON REES.

Witnesses:
O. J. Worth,
A. Nutting.