A. C. GILBERT.

TOY COLUMN OR GIRDER.

APPLICATION FILED APR. 11, 1916.

1,260,366. Patented Mar. 26, 1918.

Fig. 1

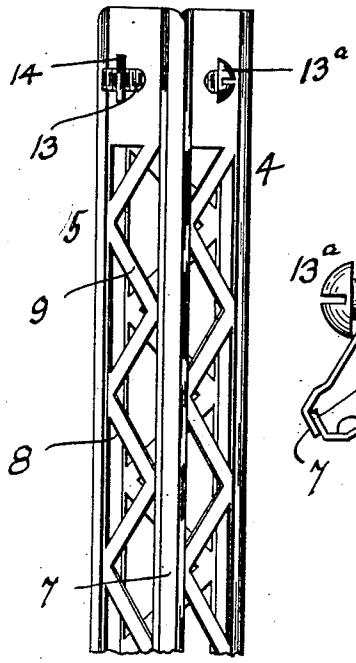


Fig. 3.

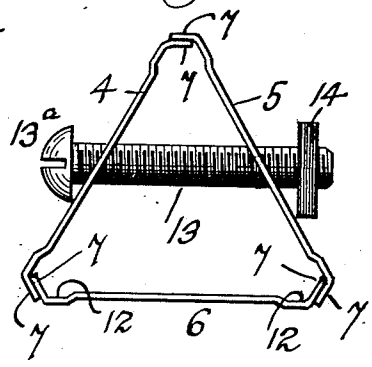
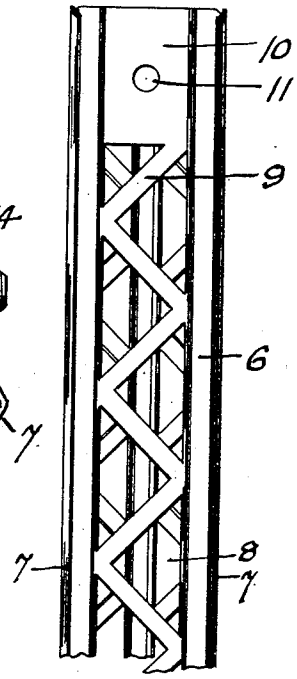
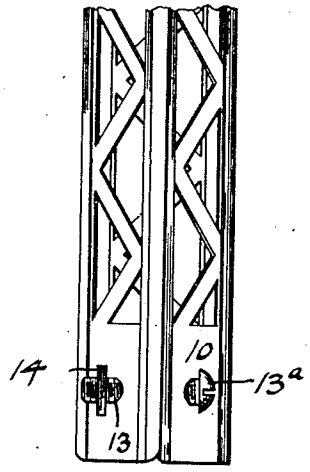
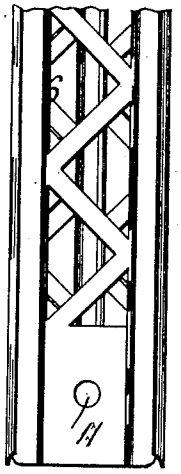


Fig. 2.







WITNESS

J. S. Coleman

INVENTOR.

Alfred C. Gilbert

BY

his ATTORNEY.

UNITED STATES PATENT OFFICE.

ALFRED C. GILBERT, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE A. C. GILBERT COMPANY, OF NEW HAVEN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

TOY COLUMN OR GIRDER.

1,260,366. Specification of Letters Patent. Patented Mar. 26, 1918.

Application filed April 11, 1916. Serial No. 90,464.

To all whom it may concern:

Be it known that I, ALFRED C. GILBERT, a citizen of the United States, residing in the city and county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Toy Columns or Girders, of which the following is a full, clear, and exact description.

This invention relates to toy building construction, and more particularly to miniature columns or girders of metal which simulate structural steel.

One of the primary objects of the present invention is to furnish a miniature girder or column of triangular cross-section built up from a plurality of elements or strips which are preferably made of sheet metal and stamped out to give the triangular structure an openwork effect similar to that of a large commercial column or girder made up of a multiplicity of parts.

Another object of the invention is to provide a toy construction block in which three elements or strips arranged in triangular form may be firmly secured together by very simple means, which also permits them to be taken apart very readily.

To these and other ends, the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

In the accompanying drawing,

Figure 1 is an elevation of a triangular column or girder embodying my improvements;

Fig. 2 is another elevation looking at one of the strips flatwise; and

Fig. 3 is a top plan view of the column or girder.

The improved column or girder comprises three main elements or strips designated 4, 5 and 6 respectively. Each of these strips may be of the same kind described in my application Serial No. 814,533 for toy building construction. Each strip is preferably made of sheet metal and comparatively flexible, and such strip is provided along the side edges with integral bent up flanges 7, so that the strip has a channeled cross-section. As will be noted from Fig. 3, these side flanges 7 do not extend exactly at right angles to their respective strips, but, on the other hand, the flanges of each strip diverge from each other to a certain extent forming an angle of, say one hundred and thirty five degrees, with the main body portion of the strip. It will also be observed that each strip is stamped out intermediate of its ends to present a plurality of openings 8, which create integral diagonal members 9 in the nature of truss members, which extend between and interconnect the respective marginal portions of the strip. Inasmuch as each strip is stamped out in this manner throughout a considerable portion of its length, the resulting column or girder is given an openwork effect similar to that of a large commercial girder or column made up of a multiplicity of separate parts. The ends of the strips are left uncut so as to present solid portions 10 which are provided with perforations 11. In the particular form shown, the middle portion of each strip is offset inwardly to a certain extent so as to form channels 12 along the margins of each strip adjacent the flanges 7, but this is not a material feature.

In forming the triangular column or girder, the strips 4, 5, 6 are arranged in the manner shown in Fig. 3, with the side flanges 7 of each strip overlapping the side flanges of adjacent strips. In the particular example illustrated, the strip 6 is interposed between the strips 4 and 5, that is to say, one flange 7 of the strip 4, and one flange 7 of the strip 5 are placed against the outer faces of the respective flanges of the strip 6. The other flanges of the strips 4 and 5 overlap each other, and in the particular instance shown the flange of the strip 5 is outermost, as shown at the top of Fig. 3. It will be observed that owing to the angle at which the flanges are directed with respect to the body portions of the strips, the elements of the girder may be very readily placed in the form of a substantially equilateral triangle. When so placed, the flanges of each strip lie substantially flat against those of the adjacent strips, and furthermore, the edges of certain flanges fit or nest in the angles formed between other flanges and other strips, as shown in Fig. 3. Thus, when bolts 13 are passed through the registering perforations at opposite ends of the strips 4 and 5, and nuts 14 are screwed up on said bolts, the strips 4 and 5 will be tightly compressed on the strip 6. In this manner, the several strips may be firmly secured together, the interposed strip being tightly clamped between the other two, and such other two

strips being held tightly together at the apex which they form, by the clamping pressure exerted by the bolt in a direction generally parallel to the plane of the interposed strip. In order to facilitate assembling, the bolts 13 are provided with nicked heads 13ª, so that the bolts can be readily screwed into the nuts 14, while the latter are held stationary. This provides for a very easy assemblage of the parts, in spite of the fact that the bolt head and the nut do not have seating faces parallel to the strips which they abut.

The construction is a very simple one owing to the fact that it is only necessary to use two fastening bolts, the interposed strip being firmly held in place merely by the friction exerted thereon by the other strips. This keeps the interposed strip from sliding lengthwise. It will be apparent that the column or girder may be very readily assembled and taken apart, and that it forms a very efficient toy construction where a separable member of triangular cross-section is required. In making a box-like member from three strips instead of four, as has been heretofore customary, the number of parts is reduced, and yet the construction is well adapted to the building of various kinds of toys.

I do not claim broadly herein the strip *per se* as claimed in my application Serial No. 814,533 above identified.

Various changes in the details of the device may be made without departing from the scope of the invention as defined in the claims.

What I claim is:—

1. In a toy or miniature column or girder, the combination of three light flexible sheet metal strips arranged in triangular form, each of said strips being stamped out through a considerable portion of its length to present an openwork lattice structure involving integral diagonals or truss members, one of said strips being interposed between the other two, and detachable fastening members passing substantially centrally through such other two strips for holding all of the strips in assembled relation so as to constitute a separable miniature triangular box girder or column; substantially as described.

2. In a miniature or toy box girder or column for use in toy building construction, the combination of three light flexible sheet metal strips arranged in triangular form, each of said strips being cut out throughout a considerable portion of its length to present an openwork lattice structure and being provided at both side edges with inturned integral flanges whereby each strip is given a channeled cross-section, both flanges of each strip overlapping the adjacent flanges of the adjacent strips, and detachable bolts for holding said strips in assembled relation so that they constitute an openwork miniature triangular box girder or column; substantially as described.

3. In a miniature or toy box girder or column, the combination of three light flexible sheet metal strips arranged to form a triangular structure, each of said strips being provided with integral inturned side flanges whereby it presents a channeled cross-section, both flanges of each strip overlapping the adjacent flanges of the other strips, one of said strips being located between the other two so that its flanges are disposed at the inside of the structure, and detachable fastening members passing substantially centrally through such other two strips for clamping them together on the third strip and thereby holding all said strips in assembled relation; substantially as described.

4. In toy building construction, two strips arranged at an angle to each other and having edge portions in engagement, a third strip interposed between the first two, and forming therewith a triangle, and means for holding the strips detachably in assembled relation, comprising bolts passing through the first two strips at each end of the structure and clamping them on the third strip; substantially as described.

In witness whereof, I have hereunto set my hand on the 7th day of April, 1916.

ALFRED C. GILBERT.