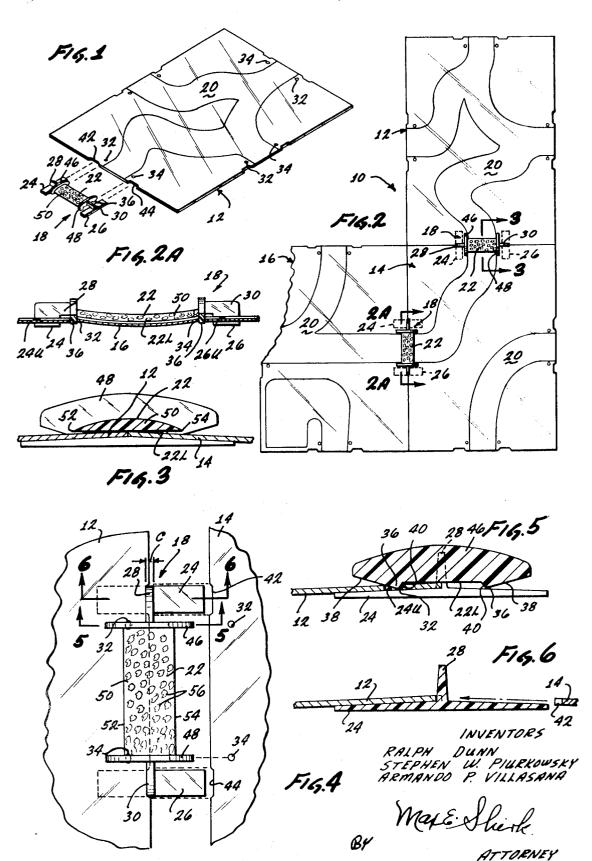
# BRIDGE CONNECTOR FOR TOY LAYOUT

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1

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BRIDGE CONNECTOR FOR TOY LAYOUT
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3 Claims

10

#### ABSTRACT OF THE DISCLOSURE

A connector for holding sheets of cardboard together while appearing to bridge roads printed on the sheets comprising an upper bridging portion for lying over the space between a pair of sheets, a pair of lower bridging portions for lying beneath the sheets and holding them against the upper bridging portion, and a pair of intervening portions passing between the sheets to join the upper and lower bridging portions. The intervening portions hold each lower bridging portion so that it lies beyond a respective end of the upper bridging portion. Each of the cardboard sheets has a pair of small recesses formed along its edge for receiving the intervening portions of the bridge connector, so that there is substantially no apparent gap between the sheets. The upper bridging portion has small protuberances that fit into corresponding holes in the cardboard sheets, to resist separation of the sheets.

## BACKGROUND OF THE INVENTION

(1) Field of the invention

This invention relates to toy construction apparatus.

#### (2) Description of the prior art

A toy layout representing a city can be constructed by employing many cardboard sheets with different portions of the city printed thereon, and by connecting the sheets. One way of connecting the sheets is to print roads 40 on them and to employ connectors that have the appearance of bridges that bridge the road so that it continues from one sheet to the next. Connectors for use with such cardboard sheets or modules should be able to hold the sheets securely in place with respect to one another, and 45 in a manner that provides a neat, realistic appearance to the entire layout.

## OBJECTS AND SUMMARY OF THE INVENTION

An object of the present invention is to provide parts 50 for enabling construction of a toy layout of neat, realistic appearance.

Another object is to provide a toy connector for holding together sheets of cardboard or the like in a secure and entertaining manner.

In accordance with one embodiment of the invention, a bridge connector is provided for a toy layout, that holds a pair of sheets in edge-to-edge relationship so that the sheets are securely fixed in place and so that there is no appreciable gap between the adjacent edges of 60 the sheet. The connector includes an upper bridging portion which lies over and bridges the space between the sheets, a pair of lower bridging portions that lie beneath the sheets to hold them against the upper bridging portion, and a pair of intervening portions that connect the 65 upper and lower portions. The lower portions are located beyond opposite ends of the upper portion so that the sheet can be slightly flexed to hold it securely in place. The sheets are formed with recesses at their edges for receiving the intervening portions, so that adjacent edges 70 of the sheets can lie abutting one another, instead of being separated by an unsightly gap. The sheets generally

2

have roads printed on them, and can be held so that the connector appears like a bridge placed in series with the roads. The upper bridging portion carries protuberances that fit into corresponding holes in the sheets to resist separation of the sheets.

The novel features of the invention are set forth with particularity in the appended claims. The invention will be best understood from the following description when read in conjunction with the accompanying drawings.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a bridge connector and sheet constructed in accordance with one embodiment of the invention:

FIG. 2 is a plan view showing the connector and sheet of FIG. 1, with another similar connector and pair of sheets, all connected to form part of a large layout;

FIG. 2A is a partial view taken on the line 2A—2A of FIG. 2;

FIG. 3 is a sectional view taken on the line 3—3 of FIG. 2;

FIG. 4 is a plan view of the connector of FIG. 1, showing the manner in which it is installed to couple a pair of sheets;

FIG. 5 is a view taken on the line 5—5 of FIG. 4; and FIG. 6 is a view taken on the line 6—6 of FIG. 4.

# DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. 2 illustrates part of a toy layout 10, which a child may play with by placing toy automobiles, figures, and other miniature accessories on the layout surface. The layout is formed by many sheets, such as the three sheets 12, 14 and 16 shown in the figure, the sheets being connected together by toy connectors 18 constructed in accordance with the invention. It may be noted that the particular sheets shown in the figure have roads 20 printed thereon, which terminate at the middle of each edge of the sheet, so that when a pair of sheets are joined the roads connect with one another.

The sheets are preferably connected together so that their adjacent edges abut one another to leave a negligible gap between them. Each connector 18 joins a pair of sheets in this manner, and holds it securely in place to the other sheet. Furthermore, the connector 18 allows a sheet to be readily removed and replaced at another position, without damage to the sheet.

As shown in FIG. 1, each connector includes an upper bridging portion 22 which lies over and bridges the space between a pair of sheets which it connects, and a pair of lower bridging portions 24, 26 which lie beneath and bridge the space beneath the sheets. A pair of intervening portions 28, 30 join each of the lower portions 24, 26, to an opposite end of the upper bridging portion 22. The intervening portions 28, 30 are constructed so that they hold the respective lower bridging portions 24, 26 beyond an end of the upper bridging portion 22. As shown in FIG. 2A, the lower surface 22L of the upper bridging portion 22 is generally bowed down slightly so that it lies at a level approximately even with the upper surfaces 24U and 26U of the lower bridging portions. This means that the cardboard sheet 12 is bowed slightly between the lower bridging portions 24, 26. This bowing helps to assure firm contact of the cardboard with the lower and upper bridging portions to hold it securely to the connector.

In order to accurately and securely locate the bridge connector, each sheet is provided with a pair of holes 32, 34 near its edge which can receive a pair of protuberances 36, formed on the lower surface 22L of the upper bridging portion 22. Each connector 18 has four of such protuberances, a pair of protuberances located on each side

to engage two holes of a sheet. As shown in FIG. 5, each protuberance 36 has a gradually sloping outer side 38 for facilitating its ridging over the edge of a sheet during installation, and a steeply sloping inner side 40 to hamper its removal from a sheet once installed thereon.

If the edges of the sheets were straight, without recesses, then the intervening portions 28, 30 which connect the upper and lower bridging portions would hold the edges of adjacent sheets apart by an appreciable distance such as  $\frac{1}{16}$  inch. Such a gap allows the floor, on which 10 the layout is placed, to show through and destroy a neat assembled appearance. To prevent the appearance of an appreciable gap, the edges of the sheets are provided with a pair of recesses 42, 44 for partially receiving the intervening portions 28, 30 of the connector. Thus, for a con- 15nector width C (see FIG. 4) of 1/16 inch, each of the recesses 42, 44 will have a depth of about \( \frac{1}{32} \) inch. As a result, the sheets can be connected so that the gap between them is negligible, and the intervening portions 28, 30 are closely surrounded to leave a minimal open area 20 where the floor can show through.

The upper bridging portion 22 has a pair of rail-like parts 46, 48 at its opposite ends and a center region 50 of plate-like form. As shown in FIG. 3, the center region 50 is tapered at opposite sides 52, 54 so that there is no 25 large step up between the upper surface of a cardboard sheet and the upper surface of the plate-like portion. Accordingly, the plate-like portion 50 appears to form a bridge over which small vehicles can move. To further enhance the simulation of a bridge, the upper surface is 30 provided with many protuberances 56 that resemble cobblestones. The end regions 46, 48 of the bridging portion, which appear to form the rails on a bridge, prevent excessive flexing of the upper bridging portion under the stresses of the slightly deformed cardboard sheet. It may 35 be noted that the protuberances 36 which are received in holes 32, 34 of the sheets, are located on the bottom of these rail end regions 46, 48, and the large depth of these rail portions prevents the protuberances from easily being deflected out of the sheet holes. In a similar manner, the 40 intervening portions 28, 30 are of substantial depth, as shown in FIGS. 5 and 6, to prevent the lower bridging portions 24, 26 from easily deflecting. Since the lower bridging portions do not easily deflect downwardly, they can hold the cardboard sheet in a slightly deformed state 45 ther characterized in that: to hold it securely to the connector.

In some situations, thin sheets may be used, or the upper bridging portion may not be bowed downwardly. Then the sloping outer side 38 of the protuberances can be employed to press down the sheet while the lower portions 24, 26 abut the bottom of the sheets, to hold the connector firmly in place.

Thus, the invention provides a layout which includes many sheets, and connectors that hold the sheets together. The connectors hold adjacent sheets with their edges substantially abutting one another, and prevent shifting of the sheets relative to one another or accidental removal during play, while enabling release of the sheets when desired without damage to them. The connector has an attractive appearance which adds to the realism of the layout instead of detracting from it, and can be used to carry toy vehicles from one sheet to another along roadways printed thereon.

Although particular embodiments of the invention have

been described and illustrated herein, it is recognized that modifications and variations may readily occur to those skilled in the art and, consequently, it is intended that the claims be interpreted to cover such modifications and equivalents.

What is claimed is:

1. A toy layout combination including at least a pair of sheets having upper and lower surfaces and at least one edge and connector means joining said sheets together so that the edge of one sheet abuts the edge of another sheet, characterized in that:

 (A) each of said sheets is provided with a pair of spaced-apart recesses formed in an associated one of said edges; and

(B) said connector means comprises:

- (1) an upper bridging portion lying over and bridging said abutting edges, said upper bridging portion being bowed downwardly toward said sheets for bowing said sheets and having tapered opposite sides lying substantially parallel to said abutting edges for minimizing the step-up between the surface of said sheets and the upper surface of said upper bridging portion, whereby said upper bridging portion may serve as a bridge or the like for small vehicles travelling on said sheets:
- (2) a rail-like end region across each end of said upper bridging portion at right angles to said tapered sides for minimizing flexing of said upper bridging portion under stresses imparted thereto by said bowed sheets;
- (3) an intervening portion extending outwardly from each rail-like end region at right angles thereto and having a lower surface, said intervening portions being positioned on said edge recesses; and,
- (4) a lower bridging portion mounted on said lower surface of each intervening portion at right angles thereto and including portions extending under each sheet, said lower bridging portions having upper surfaces lying in approximately the same plane as the bowed, lower surface of said upper bridging portion.
- 2. A toy layout combination as stated in claim 1 fur-

said sheets include apertures adjacent said at least one edge; and

protuberance means on said rail-like end regions for engaging said apertures.

3. A toy combination as stated in claim 2 further characterized in that said rail-like end regions each includes a gradually-sloping surface extending from an associated one of said protuberances to the free ends of said end regions for facilitating insertion of said sheets between said end regions and said lower bridging portions.

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