Aug. 12, 1930. A. R. FUCHS 1,772,890

TOY

Filed April 6, 1921 3 Sheets-Sheet 1

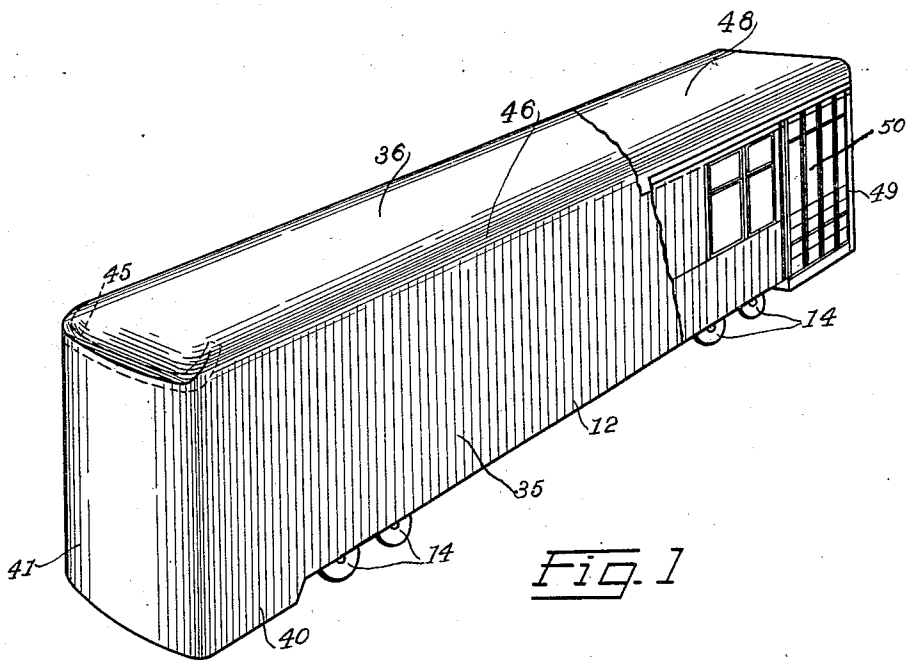


Fig. 1

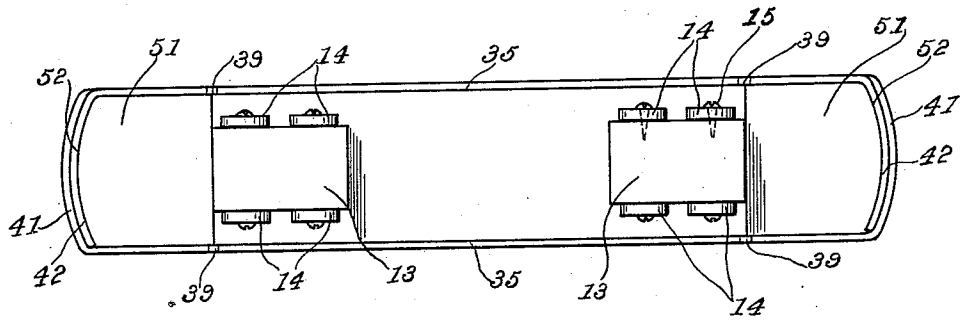


Fig. 2

Alfred R. Fuchs INVENTOR.

Aug. 12, 1930. A. R. FUCHS 1,772,890

TOY

Filed April 6, 1921 3 Sheets-Sheet 2

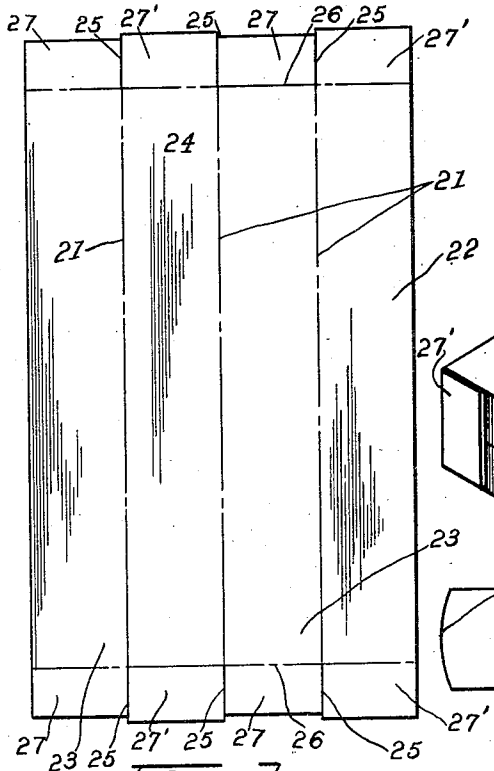


Fig. 3

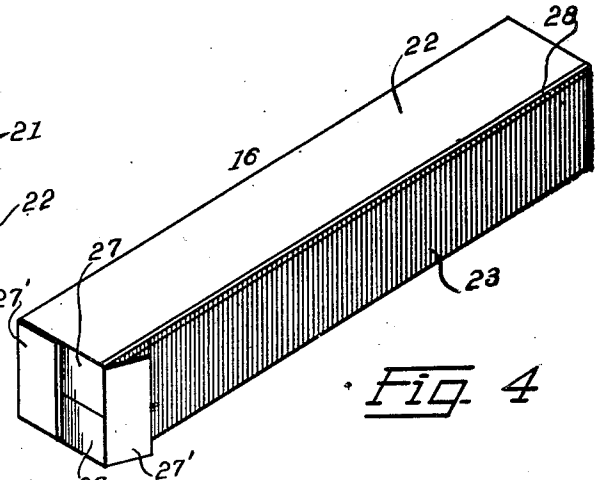


Fig. 4

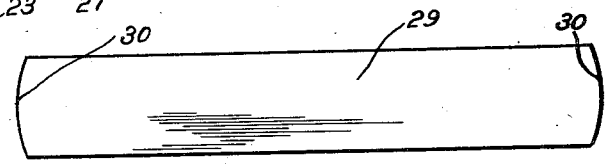


Fig. 5

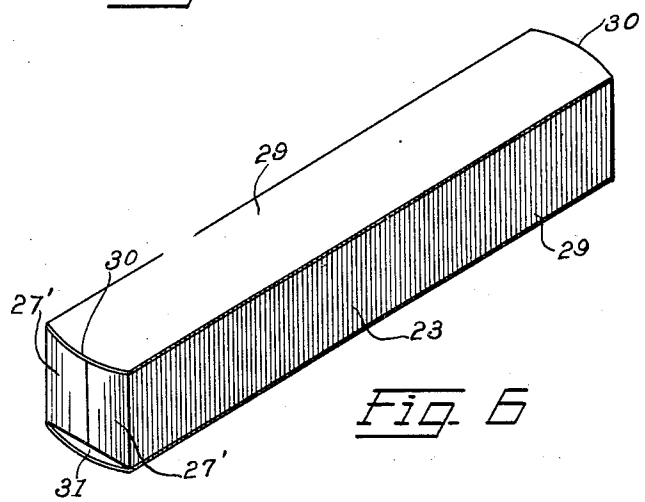


Fig. 6

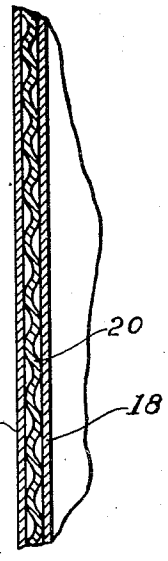


Fig. 7

Alfred R. Fuchs INVENTOR.

Aug. 12, 1930. A. R. FUCHS 1,772,890

TOY

Filed April 6, 1921 3 Sheets-Sheet 3

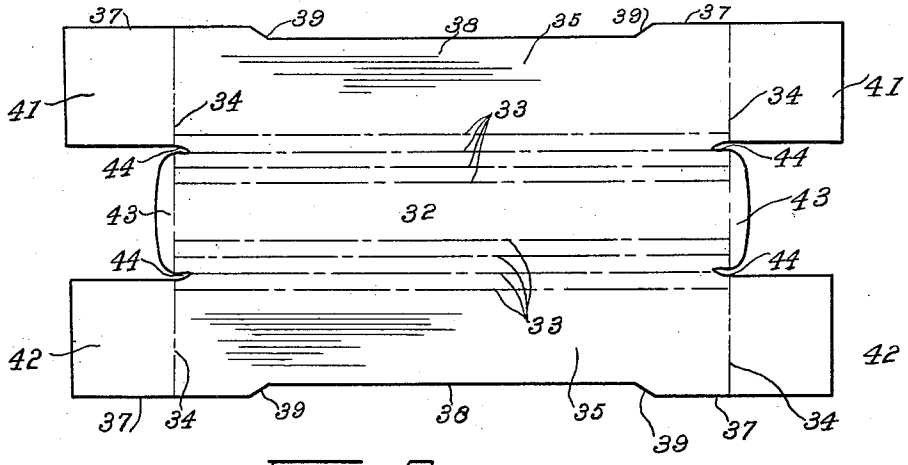


Fig. 8

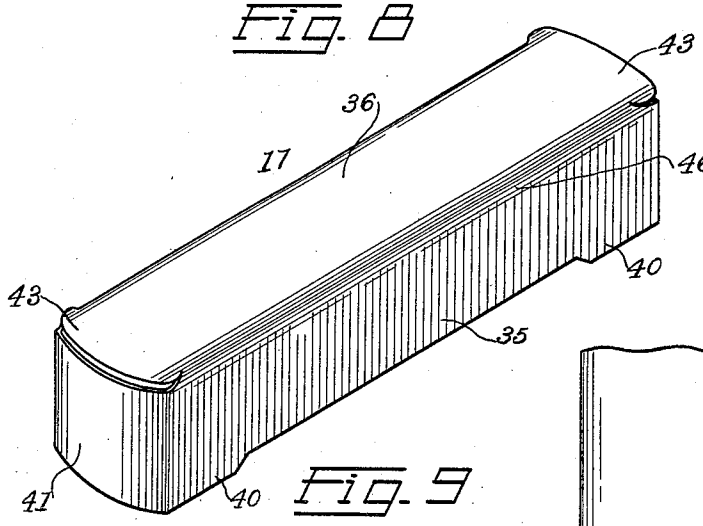


Fig. 9

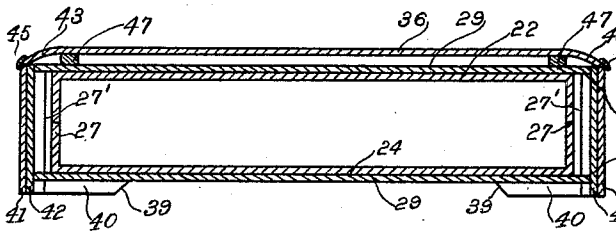


Fig. 10

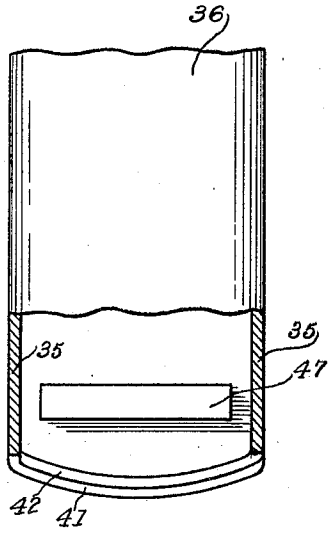


Fig. 11

Alfred R. Fuchs INVENTOR.

Patented Aug. 12, 1930 1,772,890

UNITED STATES PATENT OFFICE

ALFRED R. FUCHS, OF CHICAGO, ILLINOIS

TOY

Application filed April 6, 1921. Serial No. 459,043.

This invention relates to toys and more particularly to toys made of sheet material.

In toys made of sheet material, it has been customary prior to the present invention to make the same of sheet metal, if the same were intended to be substantial, as other sheet materials were not of sufficient rigidity to provide a toy of sufficient strength to stand up under hard usage.

Certain objections have always been present in sheet metal toys, especially when placed in the hands of small children, due to the fact that there are usually sharp edges present in the same that might cause injury to a child, this being especially true if the toy is damaged or broken in playing with the same.

It is a purpose of the present invention to construct a toy of fibrous sheet material that is both strong and of sufficient rigidity to maintain the toy in its desired shape, and at the same time avoid all sharp edges and corners in the same.

It is a further purpose of the invention to provide a toy constructed of sheet material comprising at least one layer or ply of corrugated sheet material and at least one layer or ply of uncorrugated or flat sheet material. Preferably the sheet of material from which the toy is to be made comprises a layer or ply of corrugated sheet material sandwiched or interposed between two layers of plain or flat sheet material, said layers being secured together so as to form what is ordinarily referred to as corrugated fibre board or "box board." This corrugated board is commonly used for shipping containers and is much stronger than a piece of wood of the same thickness. It is at the same time readily formed into a desired shape and is light and strong and presents no sharp corners or edges.

It is another important object of the invention to provide a toy vehicle, such as a toy car constructed of fibrous sheet material comprising a ply of corrugated fibrous sheet material, and particularly to construct the body portion of a toy car of a composite sheet comprising a ply or layer of corrugated sheet material, preferably corrugated fibrous sheet material.

It is well known that considerable difficulty exists in ornamenting sheet metal toys in an artistic manner and at the same time keeping the cost of production of the same down to a reasonable figure. It is also well known that the most easily ornamented sheet material is paper, it being possible to place illustrations thereon that are quite faithful as to detail by a comparatively inexpensive printing process. It is however quite difficult to secure a sheet of paper in the form of a label in a permanent manner to metal or wood or any substance dissimilar to paper, while it is comparatively a simple matter to secure such a sheet of paper in the form of a label to another sheet of paper are cardboard or other material similar to paper.

It is accordingly a particular object of the invention to provide a toy car comprising a body portion of composite fibrous sheet material comprising a layer or ply of corrugated sheet material and an outer layer or ply of plain or uncorrugated sheet material to which is secured on the outer surface thereof by any desired adhesive a strip or sheet of paper having the representation of a car body thereon. Preferably several separate strips are used, one for the roof, one for each side and one for each end of the car body.

More specifically it is an object of the present invention to construct a body for a toy car of an outer and an inner member, the inner member being a rectangular closed box like member, formed of a sheet of corrugated fibre board, said sheet preferably comprising a layer of corrugated fibrous material secured between two layers of plain or uncorrugated fibrous material, and the outer member being also preferably formed of a sheet of corru-

gated fibre board, but being only closed on five sides the sixth side being open so that said outer member can be slipped over said inner member, and secured permanently thereto. The outer member is preferably provided with curved ends and an arched roof and is shaped generally to conform to the shape of a car body such as that of an ordinary street car.

It is a further object of the invention to provide a toy car body of the character described above with an inner box like body member having spacing members with curved end portions secured to the top and bottom thereof to reinforce the outer member described above at the curved end portions thereof, and to provide said car body with a covering of paper having a representation of a car printed thereon in colors.

The car body described above may be of any desired shape to simulate any desired type of car and is provided with wheels of any preferred construction, wooden wheels mounted on wooden blocks by means of screws being shown in the drawings.

Other objects and advantages of the invention will appear as the description of the accompanying drawings, showing one form that my invention may take proceeds. However, I desire to have it distinctly understood that I do not intend to limit myself to the details shown in the drawings or described in the specification, but that I intend to include as part of my invention all such obvious changes of structure and modifications of parts as would occur to a person skilled in this art and as would fall within the scope of the claims.

In the drawings:

Fig. 1 is a perspective view of the car constructed in accordance with my invention the outer paper covering thereof being broken away so as to show the same only at one end thereof,

Fig. 2 is a bottom plan view of the structure shown in Figure 1,

Fig. 3 is a plan view of the blank from which the inner box is formed,

Fig. 4 is a perspective view of said box, showing one of the end flaps open,

Fig. 5 is a plan view of one of the curved ended re-inforcing and spacing members,

Fig. 6 is a perspective view of the inner box like member with the re-inforcing and spacing members in place thereon,

Fig. 7 is an enlarged fragmentary detail sectional view of the composite sheet of material from which said inner box like member and said outer member is made,

Fig. 8 is a top plan view of the blank from which the outer member is made,

Fig. 9 is a perspective view showing the same in its completed form, without the flaps forming the ends of the roof secured in their final position,

Fig. 10 is a longitudinal section of the completed car body showing the inner member assembled within the outer member, the paper covering being omitted, and,

Fig. 11 is a fragmentary plan view of the device shown in Fig. 10, the same being partly broken away so as to show the construction of the end portion of the outer member.

Referring in detail to the drawings the improved toy car comprises a body portion 12 having blocks 13 secured to the bottom thereof. Said blocks 13 have wheels 14 secured thereto by means of screws 15 or any other suitable fastening devices.

The body portion 12 of the toy car preferably is made of corrugated fibre board comprising two layers of flat or uncorrugated fibrous material with a layer of corrugated fibrous material secured between said other two layers. The body portion 12 preferably comprises an inner box like member 16, shown in Fig. 4 of the drawings, and an outer member 17, shown in Fig. 9 of the drawings. The member 16 is made in the form of an elongated rectangular box, in any preferred manner, and one desirable way of making the same is shown in the drawings.

Referring now to Figs. 3 and 4 a blank of corrugated fibre board, such as shown in Fig. 7 comprising the outer flat uncorrugated layers of fibrous material 18 and 19 and an intermediate layer 20 of corrugated fibrous material secured together in any desired manner, cut in the form shown in Fig. 3 is provided. The blank is provided with a main body portion having the longitudinal scorings 21 therein thus providing the sections 22 and 24 forming the top and bottom of the completed box respectively, and the sections 23 forming the sides of the completed box. The blank is also provided with the slits 25 in line with the scorings 21 and the transverse scorings 26 to form the end flaps 27 and 27′. The blank is then bent over a suitable forming member along the scorings 21 to form an open ended box square in cross section and the adjacent edges of the member 22 and member 23 are secured together by means of a strip of tape 28 secured thereto by any suitable adhesive. Then the flaps 27 are bent into the position shown in Fig. 4 and adhesive is applied to the outer faces of the same and if desired to the inner faces of the flaps 27′, these are then folded into position over the flaps 27 and held in this position, by any suitable means, until the adhesive dries, thus forming a closed inner box like member 16. In Fig. 4 one of the flaps 27′ is shown in position against the flaps 27 and the other flap 27′ is shown prior to being moved into such position.

Referring now to Figs. 5 and 6, to this box 16 are secured, on the upper and lower faces 22 and 24 thereof the strips 29 also of corrugated fibre board, one of these strips being

shown in Fig. 5. Each of the strips 29 is of the same width as the top and bottom faces of the box 16 and the straight side edges thereof are of substantially the same length as the box 16. However, said strips 29 are provided with curved end portions 30, and said strips are mounted on said box faces so that the side edges thereof coincide with the adjoining corners of the box, thus providing pairs of curved extensions 31 at each end of the box 16.

The outer member 17, referring to Figs. 8 and 9 is also formed of a blank of corrugated fibre board comprising a main body portion 32 having two groups of closely spaced parallel scorings 33 and with transverse acorings 34 adjacent to the ends thereof. The scorings 33 are provided for the purpose of forming the curve joining the roof and the sides of the car and define the side portions 35 and the roof 36. The side portions 35 are provided with offset edges 37 joined to the edges 38 by means of the oblique angular edges 39 to form depending portions 40 for the sides 35 to more nearly conform to the outline of a modern car with depressed vestibule floors and folding steps.

The transverse scorings 34 define end flaps 41 and 42, the flaps 41 being longer than the flaps 42 for a purpose to be described. Between the flaps 41 and 42 are the flaps 43 having curved edges and being separated from the side forming portions of the blank by the slots 44, said slots tapering to a point.

The blank 32 is shaped on a suitable form, the flaps 42 and 41 being overlapped with the flaps 42 underneath, these flaps being bent on a curve as shown in Figs. 9 and 11 in any desired manner. Adhesive is applied to the adjacent faces of the flaps prior to overlapping the same, and these are then held in the overlapped curved position until the adhesive dries, when they will retain this shape. The flap 41 is made longer than flap 42 to allow for the thickness of the material of the side members 35. The flaps 43 which have preferably been bent to a curved shape are then secured to the curved ends 41 by means of the strips of tape 45 secured thereto by any desired adhesive, said tape being shown in dotted lines in Fig. 1. It will be seen from Figs. 1 and 9 that the scorings 33 provide gradually curved or arched roof portions 46 connecting the sides 35 with the roof 36.

After the inner member 16 and outer member 17 have thoroughly dried, adhesive is applied to the side faces 23 of the box 16 and the outer member is slipped over the box like member 16, so that the edges 38 thereof coincide with the bottom corners of the box 16 with the members 29 secured thereto. If desired suitable spacing members or blocks 47 may be provided between the top 36 of the member 17 and the member 29 mounted on the top 22 of the member 16 to insure the proper relationship between the inner and outer members and to add to the rigidity of the device. However, said spacing members are not absolutely necessary and need not be provided. The parts are clamped in this position until the adhesive is dry, thus forming the car body as shown in Fig. 10. To this body is then secured by means of adhesive a paper covering 48 extending down across the top and partially down the sides of the body, said covering 48 being preferably colored to represent the roof of a car. Then an end covering representing the ends of a car is secured to the ends thereof lapping around said end and onto the side of said body as shown at 49 in Fig. 1, and finally a paper covering strip 50 is applied to each of the sides of the car body, said strip being printed on one side to represent the side of a car. It will be noted that strip 50 overlaps both the members 48 and 49 thus compensating for any slight variations in the size of the car body in the manufacture thereof without spoiling the artistic appearance of the finished article. If desired wooden blocks 51 having curved ends 52 may be fitted in the space between the depending portions 40 and glued in place therein to hold said depending portions rigidly in position and maintain the curvature of the depending portions of the flaps 41 and 42.

It will be noted upon reference to Fig. 10 that a strong light body is provided said body being transversely, longitudinally and vertically reinforced by the walls of the inner box like member 16, the spacers 47 and the spacing portions 31. It will be noted that the end walls of the device are especially strong constituting four distinct layers of corrugated fibre board 41, 42, 27′ and 27.

Having thus described my invention, what I desire to claim and secure by U. S. Letters Patent is:

1. A toy car comprising a body portion of composite fibrous sheet material, comprising a plurality of plies of paper-like fibrous material, one of said plies being corrugated and an outer ply being uncorrugated, and a covering layer of paper having the representation of a car body printed thereon secured to said uncorrugated ply by an adhesive.

2. A toy car of the character described comprising an inner box like member of corrugated fibre board and an outer member of corrugated fibre board simulating the shape of a car body, said outer member being open on one side and being secured to said inner member face to face.

3. A toy car of the character described comprising an inner box like member of corrugated fibre board and an outer member of corrugated fibre board said outer member being open on one side and being adapted to be passed over and secured to said inner mem-

ber, said outer member having curved end portions.

4. A toy car of the character described comprising an inner box like member of corrugated fibre board and an outer member of corrugated fibre board said outer member being open on one side and being adapted to be passed over and secured to said inner member, said outer member having curved end portions, and said inner member being provided with spacing members having curved ends to reinforce the curved end portions of said outer member.

5. A toy car of the character described comprising an inner box like member of corrugated fibre board, an outer member of corrugated fibre board, said outer member being open on one side and being adapted to be passed over and secured to said inner member, a pair of blocks secured to the bottom of said inner member at opposite ends thereof, and wheels secured to said blocks.

6. A toy car of the character described comprising an inner box like member of corrugated fibre board, an outer member of corrugated fibre board, said outer member being open on one side and being adapted to be passed over and secured to said inner member and a pair of blocks curved at one end secured to the bottom of said inner member at opposite ends thereof.

7. A toy car of the character described comprising an inner boxlike member of corrugated fibre board and an outer member of corrugated fibre board having bowed out ends, said outer member being open on one side and being adapted to be passed over and secured to said inner member said inner member being provided with means for holding the ends of said outer member bowed out.

8. A toy car of the character described comprising an inner boxlike member of corrugated fibre board and an outer member of corrugated fibre board, said outer member being open at one side and being adapted to be passed over and secured to said inner member, said outer member having rounded corners at the top thereof and said inner member having means for holding the said corners in rounded condition.

9. A toy simulating an object, comprising a complete closed inner box-like member of corrugated fibre board, said box like member being of a fixed shape and serving as a supporting core and an outer member of fibrous material simulating said object and covering said inner member, said outer member being open on one side and being secured to said inner member on the adjoining faces thereof.

10. In a toy of the character described, an outer member of fibrous material having a decorated surface, an inner rectangular supporting closed boxlike member mounted within said outer member, said inner member being adapted to maintain itself in boxlike rectangular form against external pressure and having certain of its outer faces secured face-to-face to certain of the inner faces of said outer decorated member, and means mounted between said inner and outer members to maintain said outer member in a shape differing from that of the inner member.

In witness whereof, I hereunto subscribe my name this 4th day of April, A. D. 1921.

ALFRED R. FUCHS.