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(54) Tracks for locomotive toys and method of manufacturing them.

(57) The track for a locomotive toy, which track can be rolled up and put away when not required for use and does not require any assembly of track sections by the user, comprises a layer of felt material (1) defining by variations in its thickness a track layout (2) capable of guiding the movement of a locomotive toy along the layout (2). The method of making the track comprises defining a track layout (2) in a sheet of felt material (1) containing a thermo-setting resin by impressing the shape of the track layout (2) in the felt material (1) under heat and pressure.

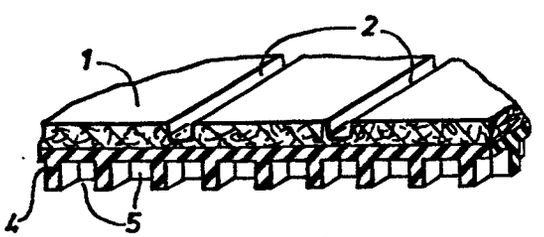

FIG. 2.

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TITLE MODIFIED
see front page

Tracks for Locomotive Toys

This invention relates to tracks for locomotive toys.

Locomotive toys are very popular form of toy and many such as model railway engines and model racing cars, run on special track sections joined together to form a layout. It is, however, necessary to ensure that a reasonably secure join is made between the track sections in order to maintain continuity and avoid derailment or like accident. To achieve this end, fairly rigid structures and mating parts are employed. Very young children, for example three-year olds, do not however possess much skill in assembling parts and are moreover quite likely to play with a track section by hitting another child with it. Rigid track sections with mating parts are not therefore suitable for use by the very young. On the other hand sufficient rigidity must be provided to enable the track to fulfil its function in guiding the locomotive toy and the easy storage obtained by having the layout divisible into sections is an advantage.

The invention as claimed is intended to provide track for a locomotive toy which is suitable for use by very young children and is easy to store.

According to the invention, track for a locomotive toy comprises a layer of felt material defining by variations in its thickness a track layout capable of guiding the movement of a locomotive toy along the layout.

The advantages offered by the invention are that the track is safe in the hands of very young children, can be rolled up and put away when not required for use, and does not require any assembly of track sections by the user.

Advantageously, the felt material can be bonded to a flexible backing layer. The flexible backing layer strengthens the construction but still allows the track to be rolled up and put away when not required for use.

The felt material can be a needle felt carpet material. Such material can be easily cleaned using a vacuum cleaner.

The flexible backing layer can be a resilient polymeric material such as rubber. This has the advantage of providing a non-slip surface underneath the track. The outer surface of the flexible backing layer can be formed with ribs or an array of pockets. This has the advantage of saving material and providing strength with resilience.

The track layout can take the form of two spaced parallel lines of indentation in the felt material layer. The track layout can define a closed loop.

The surface of the felt material layer can carry an image of scenery. The surface can be contoured to correspond to parts of the image.

The layer of felt material can define by the variations in its thickness a channel, broad relative to its depth, defining a track layout capable of guiding the movement of a locomotive toy along the layout. The channel has the advantages of being easy for a very young child to use, easy to keep free from dust and providing good guidance for the toy.

The channel can be at least three times as broad as it is deep and preferably between three and ten times or, better still, between four and six times. With these dimensions, the channel is well suited to toy trains or racing cars.

The width of the channel can correspond to '00' gauge.

Several channels can be arranged side-by-side, each for use by a respective locomotive toy.

The invention also provides a method of making track for a locomotive toy, the method comprising defining a track layout in a sheet of felt material containing a thermo-setting resin by impressing the shape of the track layout in the felt material under heat and pressure.

Two ways of carrying out the invention are described in detail below with reference to drawings which illustrate two specific embodiments, in which:-

Figure 1 is a plan view of track for a model railway,

Figure 2 is a cut-away perspective view of a part of said track,

Figure 3 is a plan view of track for a model railway, and

Figure 4 is a cut-away perspective view of a part of said track.

Referring to Figure 1, track for an "00" gauge clockwork model train comprises a layer of felt material having two spaced parallel lines of indentation 2 in its surface defining a track layout. The lines of indentation

correspond to "OO" gauge and define a closed loop of "double" form with a cross-over 3. The layer of felt material 1 defines a rectangle approximately 90 x 135 centimetres and is bonded to a layer of rubber 4 (Figure 2). The overall thickness of the composite material is approximately 6 millimetres and the rubber layer 4 has a matrix of square pockets 5 formed in its outer surface. The surface of the felt material layer is printed to depict sleepers of the railway track and rural or urban scenery but no attempt is made to show this feature in the drawing.

The track is manufactured in a vulcanising and moulding press using a transfer printing sheet to print the scenery, a piece of medium grade contract needle felt carpet material and a sheet of unvulcanised rubber. One face of the press has raised parts to define the lines 2 and the opposite face has raised parts to define the pockets 5. If desired, the said one face can be shaped so as to form scenic contours (for example, a hill) on the surface of the felt material corresponding to a part of the image on the transfer sheet. The rubber layout is placed on the said opposite face, the carpet material is placed on the rubber layer, the transfer sheet is placed on the carpet material, the press closed and heat and pressure applied. Currently available carpet material of the type specified contains an acrylic resin and setting of this resin takes place in the vulcanising press so that the carpet material takes up a permanent compression and set in the press. Desirably, carpet material of greater than usual resin content is used to obtain well-defined lines of indentation 2.

The finished track is safe in the hands of very young children, can be rolled up and put away when not required for use, and does not require any assembly of track sections by the user. The rubber backing provides a non-slip under surfaces to the track. Dust or dirt which accumulates in the lines of indentation through the track being left down as a floor covering in a child's room can be removed by cleaning the track like a mat with a vacuum cleaner or brush.

The outer surface of the rubber layer can alternatively be ribbed if desired.

Referring to Figure 3, track for an "OO" gauge clockwork model train comprises a layer of felt material having a channel 2' in its surface defining a track layout. The width of the channel corresponds to "OO' gauge and defines a simple closed loop. The channel is approximately five times as wide as it is deep. The layer of felt material 1' defines a rectangle approximately 90 x 135 centimetres and is bonded to a layer of rubber 4' (Figure 4). The overall thickness of the composite material is approximately 6 millimetres and the rubberlayer 4' has a matrix of square pockets 5' formed in its outer surface. The surface of the felt material layer is printed to depict sleepers of the railway track and rural or urban scenery but no attempt is made to show this feature in the drawing.

Again, the track is manufactured in a vulcanising and moulding press using a transfer printing sheet to print the scenery, a piece of medium grade contract needle felt carpet material and a sheet of unvulcanised rubber. One face of the press has a raised part to define the channel 2' and the opposite face has raised parts to define the

channel 2' and the opposite face has raised parts to define the pockets 5'. If desired, the said one face can be shaped so as to form scenic contours (for example, a hill) on the surface of the felt material corresponding to a part of the image on the transfer sheet. The rubber layer is placed on the said opposite face, the carpet material is placed on the rubber layer, the transfer sheet is placed on the carpet material, the press closed and heat and pressure applied. Currently available carpet material of the type specified contains an acrylic resin and setting of this resin takes place in the vulcanising press so that the carpet material takes up a permanent compression and set in the press. Desirably, carpet material of greater than usual resin content is used to obtain a well-defined channel 2'.

Again, the finished track is safe in the hands of very young children, can be rolled up and put away when not required for use, and does not require any assembly of track sections by the user. The rubber backing provides a non-slip under surfaces to the track. Dust or dirt which accumulates in the channel through the track being left down as a floor covering in a child's room can be removed by cleaning the track like a mat with a vacuum cleaner or brush. The channel 2' provides particularly good guidance for the wheels of the model train.

The outer surface of the rubber layer can alternatively be ribbed if desired.

Instead of a simple closed loop, a double loop with a cross-over point can be provided if desired. In this case, the felt material within the channel at the cross-over point can be given a configuration such as to guide the

train over the cross-over point to reduce the possibility of derailment.

Several channels can be arranged side-by-side, for example four, to define a race track for toy cars.

Claims:

1. Track for a locomotive comprising a layer of felt material (1) defining by variations (2) in its thickness a track layout capable of guiding the movement of a locomotive toy along the layout.

2. Track as claimed in claim 1, wherein the felt material (1) is bonded to a flexible backing layer (4).

3. Track as claimed in claim 1 or 2, wherein the felt material (1) is a needle felt carpet material.

4. Track as claimed in any preceding claim, wherein the flexible backing layer (4) is a resilient polymeric material.

5. Track as claimed in claim 5, wherein the resilient polymeric material is rubber.

6. Track as claimed in any preceding claim, wherein the outer surface (4) is formed with ribs.

7. Track as claimed in any of claims 1 to 5, wherein the flexible backing layer (4) is formed with an array of pockets.

8. Track as claimed in any preceding claim, wherein the track layout takes the form of two spaced parallel lines of indentation in the felt material layer. The track layout can define a closed loop.

9. Track as claimed in any of claims 1 to 7, wherein the layer of felt material (1') defines by the variations in its thickness a channel (2'), broad relative to its depth, defining the track layout.

10. Track as claimed in claim 9, wherein the channel is at least three times as broad as it is deep.

11. Track as claimed in claim 10, wherein the channel is between three and ten times as broad as it is deep.

12. Track as claimed in claim 11, wherein the channel is between four and six times as broad as it is deep.

13. Track as claimed in any of claims 9 to 12, wherein the width of the channel corresponds to '00' gauge.

14. Track as claimed in any of claims 9 to 13, wherein several channels are arranged side-by-side, each for use by a respective locomotive toy.

15. Track as claimed in any preceding claim, wherein the track layout defines a closed loop.

16. Track as claimed in any preceding claim, wherein the surface of the felt material layer carries an image of scenery.

17. Track as claimed in claim 15, wherein the surface of the felt material layer is contoured to correspond to parts of the image.

18. A method of making track for a locomotive toy, the method comprising defining a track layout in a sheet of felt material containing a thermo-setting resin by impressing the shape of the track layout in the felt material under heat and pressure.

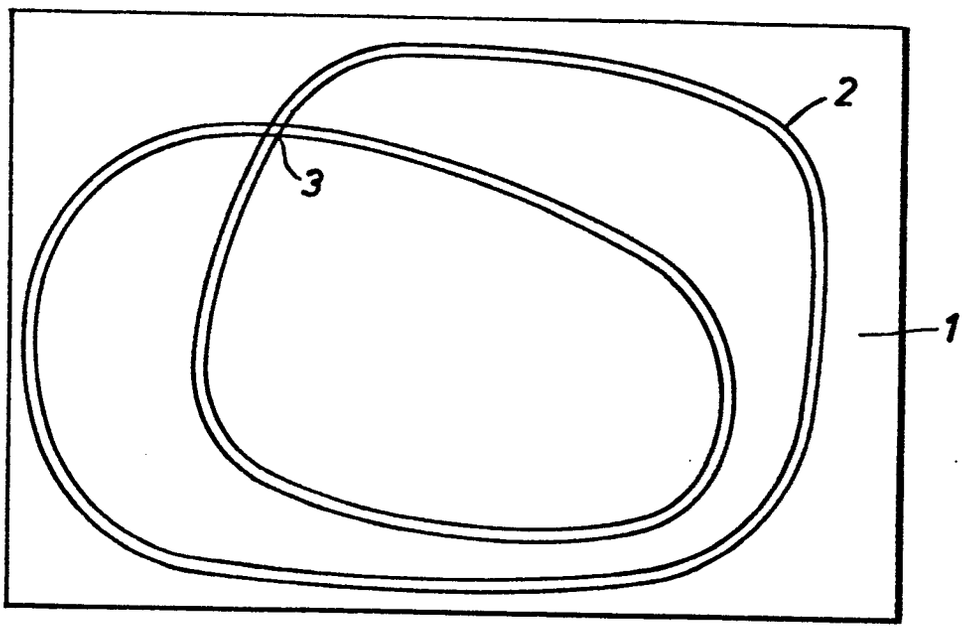

FIG. 1.

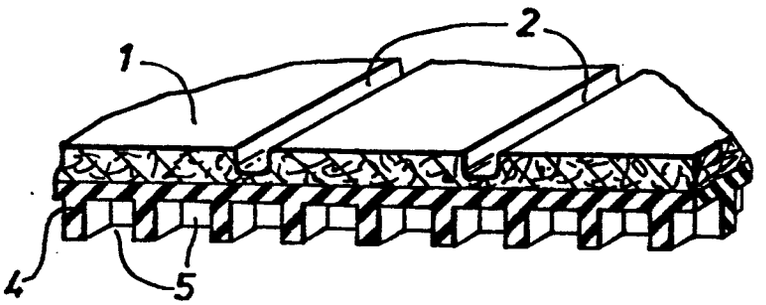

FIG. 2.

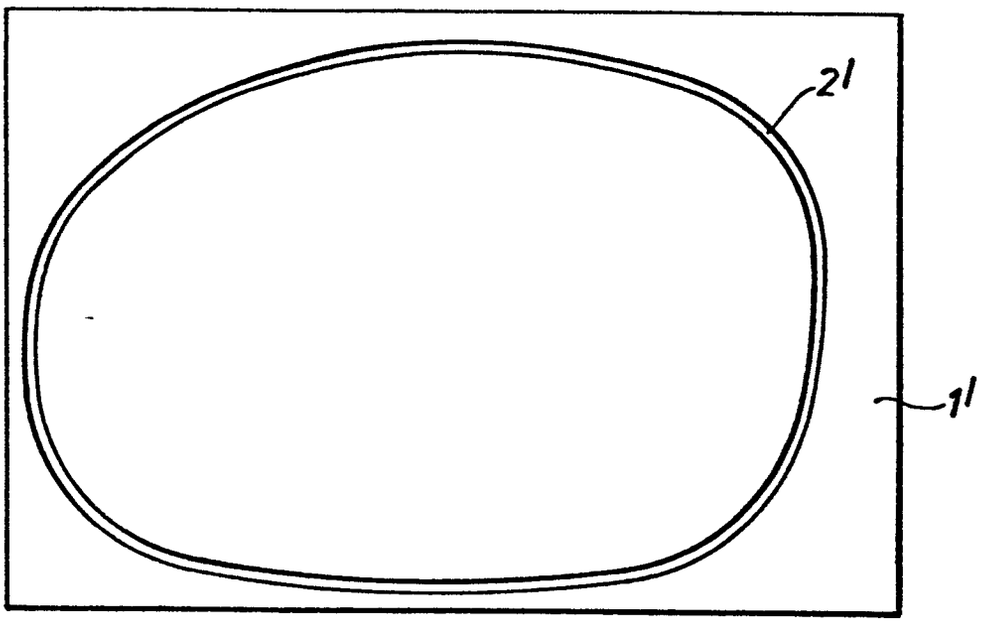

FIG. 3.

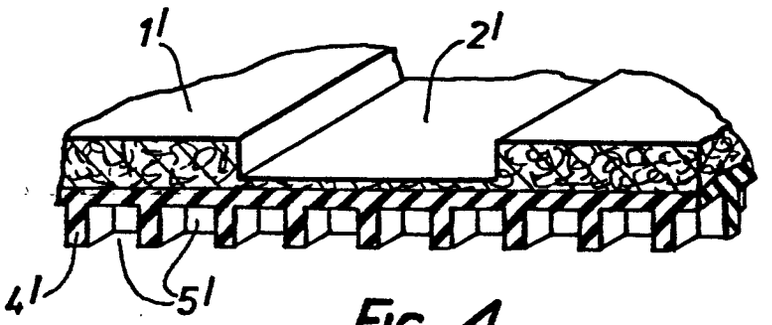

FIG. 4.

European Patent Office

EUROPEAN SEARCH REPORT

Application number

EP 79 301 426.7

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
X	DE - U - 7 221 502 (W. ENDERLE) * claims 1, 3, 4; page 1, paragraph 3 to page 2, paragraph 3; fig. 1, positions 2, 4, 13, 17, h * -- DE - U - 6 751 858 (J. NEIKEN) * claim 1; fig. 2, 3 * -- DE - A - 2 013 304 (DLW AG) * page 1, last two lines; page 3, lines 7 to 10; fig. 1 * -- DE - A - 1 660 777 (A. KOGLIN et al.) * claims 1, 3 * ----	1-5, 9-12, 14,16 8,15, 17 18 18

CLASSIFICATION OF THE APPLICATION (Int. Cl.³)

A 63 H 18/02
A 63 H 19/36
D 04 H 1/10

TECHNICAL FIELDS SEARCHED (Int.Cl.³)

A 63 H 18/00
A 63 H 19/00
D 04 H 1/10

CATEGORY OF CITED DOCUMENTS

X: particularly relevant
A: technological background
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T: theory or principle underlying the invention
E: conflicting application
D: document cited in the application
L: citation for other reasons

&: member of the same patent family, corresponding document

X The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Berlin	02-11-1979	DROPMANN

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