



(11) **EP 2 092 969 B1**

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention
of the grant of the patent:
22.09.2010 Bulletin 2010/38

(51) Int Cl.:
A63H 19/16 *(2006.01)* **A63H 33/10** *(2006.01)*
A63H 33/12 *(2006.01)*

(21) Application number: **08021319.2**

(22) Date of filing: **09.12.2008**

(54) **Construction system for miniature locomotives with a motor**

Bausystem für Miniaturlokomotiven mit Motor

Système de construction pour des locomotives miniatures à moteur

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT
RO SE SI SK TR**

(30) Priority: **14.01.2008 ES 200800081**

(43) Date of publication of application:
26.08.2009 Bulletin 2009/35

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Description

Object of the invention

[0001] The present invention relates to a system for constructing miniature locomotives with a motor, which includes noteworthy innovations and advantages.

Background of the invention

[0002] Up until now, miniature locomotives have tended to be supplied at the point of sale in pre-assembled form due to the complex system for assembling them, since they are basically made up of a large number of iron parts that require joining processes that involve the use of specific tools that the general public do not have available and do not have the skill to use, which makes it impossible for consumers to assemble them manually. This can be seen in the closest prior art document DE 485 417.

[0003] Thus, model assembly and miniature train enthusiasts cannot combine both passions for the aforementioned reasons, and on the other hand, the applicant is unaware of a construction system that has the features set out in the description below.

Description of the invention

[0004] This invention has been developed in order to provide a construction system that solves the aforementioned disadvantages, also providing other additional advantages, which will be evident from the description below.

[0005] Therefore, it is an object of this invention to provide a construction system for miniature locomotives with a motor, characterized in that the locomotive's main body is made up of a plurality of previously shaped parts made of wood or the like to be manually snap fitted, which define a specific configuration and a plurality of metal sheets previously folded with a mould or template, which are to be applied to the outside of these parts made of wood, having provided joining means between the wooden parts and metal sheets in order to keep fixedly both components. The configuration of the main body is such that the inside of it is substantially hollow.

[0006] Thanks to these features, enthusiasts of model assembly and miniature trains can combine both passions. The assembly of the locomotive is relatively straightforward for the general public with a low cost of manufacture and purchase for the consumer, and there is no need to use specialised tools that require technical knowledge.

[0007] According to another aspect of the invention, the aforementioned joining means the parts consist of a plurality of holes made in the metal sheets through which rivets, screws or nails are penetrated, which pass through the wooden part. Preferably, the holes made in the metal sheets are located near the edges of each of their sides.

[0008] Other features and advantages of the construction system this invention concerns will be evident from the description of a preferred, but not exclusive, embodiment, which is illustrated, by way of example and not limited thereto, in the attached drawings, wherein:

Brief description of the drawings

[0009]

Figure 1. This is a perspective view of the body of a locomotive partially assembled according to the system of this invention;

Figure 2. This is a perspective view of a portion of the locomotive's body, specifically the front of thereof.

Description of a preferred embodiment

[0010] In order to carry out the invention's system of construction for miniature locomotives with an electric motor, the main body of the locomotive, which is a close likeness of a classic steam locomotive, constitutes a plurality of parts (1a-1i) made of wood, conglomerate or the like, previously shaped and punched, and with sizes appropriate to a small scale, so that they can be snap fitted, which define a specific configuration, corresponding to the locomotive's skeleton, as clearly shown in figure 1; and a plurality of metal sheets (2) previously folded by means of a mould or template, which are to be applied manually to the outside of these wooden parts (1a-1i), as can be seen in figure 2, having provided joining means between the wooden parts and metal sheets (2) in order to keep fixedly both components, and being the configuration of the main body such that the inside thereof is substantially hollow.

[0011] The metal sheets (2) may have decoration or graphical printing on the outer side.

[0012] Joining means mentioned above consist of a plurality of aligned holes (3) made in the metal sheets 2, through which small rivets, screws or nails 4 are inserted, which pass through the wooden part.

[0013] We will not go into greater detail regarding the electric motor used to drive the locomotive constructed using the system described herein, since any conventional electric motor known in the state of the art that includes the moving parts of the locomotive and the system for rolling along the rails can be used.

[0014] The details, shapes, sizes and other accessory elements, as well as the materials used to manufacture the invention's system of construction, may be conveniently substituted with others that are technically equivalent and do not stray from the essential feature of the invention or the extent defined by the claims stated below.

Claims

1. A construction system for miniature locomotives with a motor, wherein the locomotive's main body comprises a plurality of previously shaped parts (1a-1i) made of wood or the like, to be manually snap fitted, which define a specific configuration **characterized by** a plurality of metal sheets (2) previously folded and cut by means of a mould or template, which are to be applied to the outside of these wooden parts; having provided joining means between the wooden parts and metal sheets in order to keep fixedly both components, and being the configuration of the main body such that the inside thereof is substantially hollow. 10
2. A construction system according to claim 1, **characterized in that** the joining means consist of a plurality of holes (3) made in the metal sheets (2) through which rivets, screws or nails (4) are penetrated, which pass through the wooden part (1a-1i). 20
3. A construction system according to claim 2, **characterized in that** the holes (3) made in the metal sheets (2) are located near the edges of each of their sides. 25
4. A construction system according to claim 1, **characterized in that** the thickness of the metal sheets (2) is thinner than the thickness of the wooden parts (1a-1i). 30

Patentansprüche

1. Bausystem für motor Miniaturlokomotiven bei dem der Hauptkörper der Lokomotive aus eine Vielzahl vorgeformter Teile (1a-1i) aus Holz oder Ähnlichem besteht, die von Hand zusammengesteckt werden und eine spezielle Konfiguration bilden, **gekennzeichnet durch** eine Vielzahl von zuvor mittels einer Form oder Vorlage gefalteter und gestanzter Metallplättchen (2), die außen an den vorgenannten Holzteilen angebracht werden müssen, wobei zwischen den Holzteilen und den Metallplättchen Verbindungselemente vorgesehen sind, um beide Bestandteile zusammenzuhalten und wobei der Hauptkörper so ausgebildet ist, dass sein Inneres im Wesentlichen hohl ist. 35
2. Bausystem nach Anspruch 1, **dadurch gekennzeichnet, dass** die Verbindungsmittel aus eine Vielzahl von Löchern (3) in den Metallplättchen (2) bestehen, durch die Ösen, Schrauben oder Nägel (4) hindurchgeführt werden, die die Holzteile (1a-1i) durchdringen. 40
3. Bausystem nach Anspruch 2, **dadurch gekennzeichnet, dass** die Löcher (3) in den Metallplättchen 45

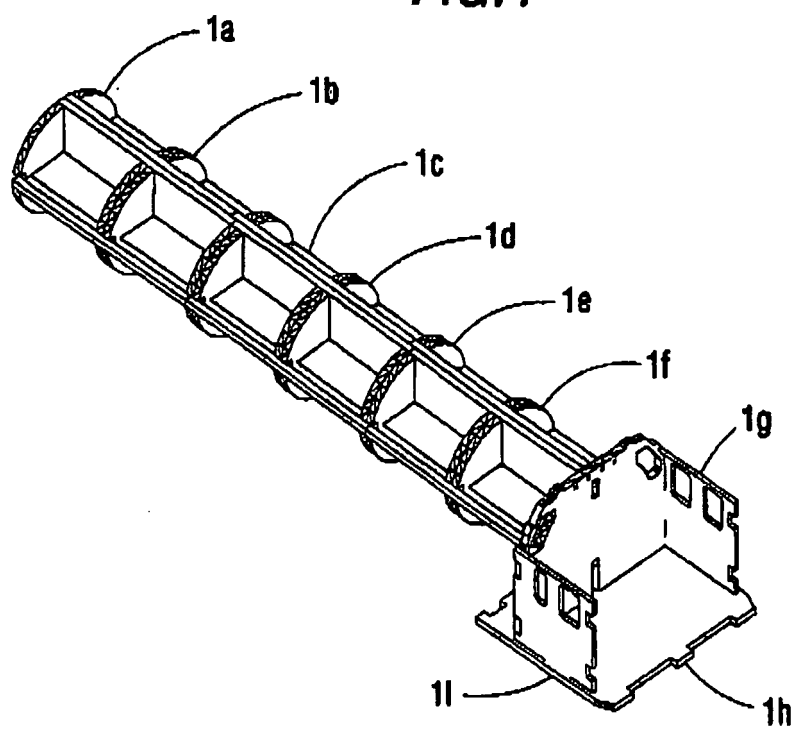
(2) rundum auf allen Seiten in der Nähe der Ränder vorgesehen sind.

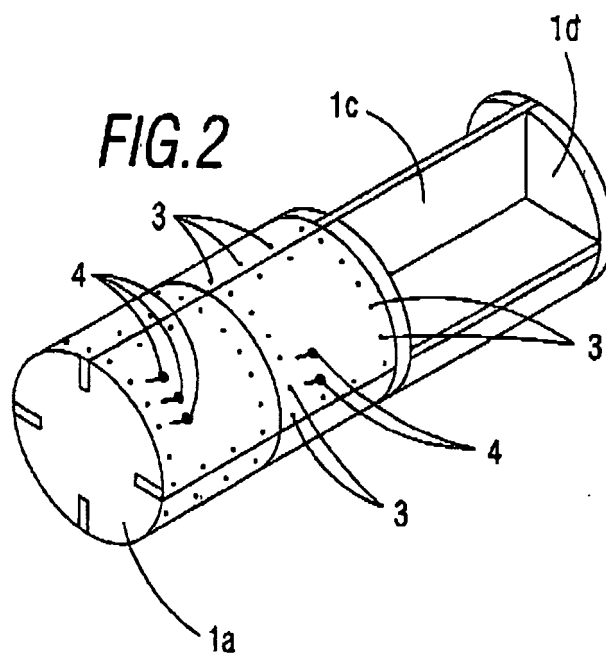
4. Bausystem nach Anspruch 1, **dadurch gekennzeichnet, dass** die Stärke der Metallplättchen (2) dünner ist als die Stärke der Holzteile (1a-1i). 5

Revendications

1. Système de construction pour locomotives miniatures, à moteur, dont le corps principal de la locomotive comprend une série de pièces préformées (1a-1i), en bois ou dans une matière analogue, pour son montage par assemblage manuel, définissant une configuration spécifique, **caractérisé par** une série de tôles métalliques (2) préalablement pliées et coupées au moyen d'un moule ou d'une matrice, qui doivent être appliquées à l'extérieur desdites pièces en bois; des éléments d'assemblage ont été placés entre les pièces en bois et les tôles métalliques afin que les deux composants restent fixes et le corps principal présente une telle configuration que l'intérieur de celui-ci est substantiellement creux. 10
2. Système de construction, selon la revendication 1, **caractérisé en ce que** les moyens d'assemblage consistent en une série de trous (3) pratiqués dans les tôles métalliques (2) dans lesquels sont introduits des rivets, des vis ou des clous (4) qui passent à travers les pièces en bois (1a-1i). 15
3. Système de construction, selon la revendication 2, **caractérisé en ce que** les trous (3) pratiqués dans les tôles métalliques (2) sont situés de chaque côté des tôles près des bords. 20
4. Système de construction, selon la revendication 1, **caractérisé en ce que** l'épaisseur des tôles métalliques (2) est plus fine que l'épaisseur des pièces en bois (1a-1i). 25

FIG. 1





REFERENCES CITED IN THE DESCRIPTION

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