

**CONSTRUCTION:** SCALPEL, SOLDERING IRON, LASER, 3D PRINTING...

**Voie Libre**

# Voie Libre

#105

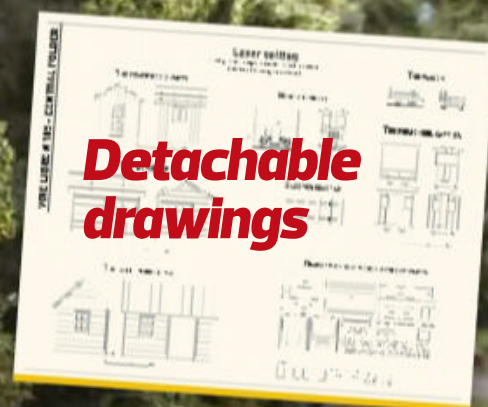
THE MAGAZINE OF RAILWAY CREATORS

**DOSSIER**

**LOADING WAGONS**

**LAYOUT**

**TOMME DE MER:  
IMAGINATION  
AT THE HELM!**



**Detachable  
drawings**

# RESURRECTING A LOST LINE

## JAHNSBACH IN H0-9

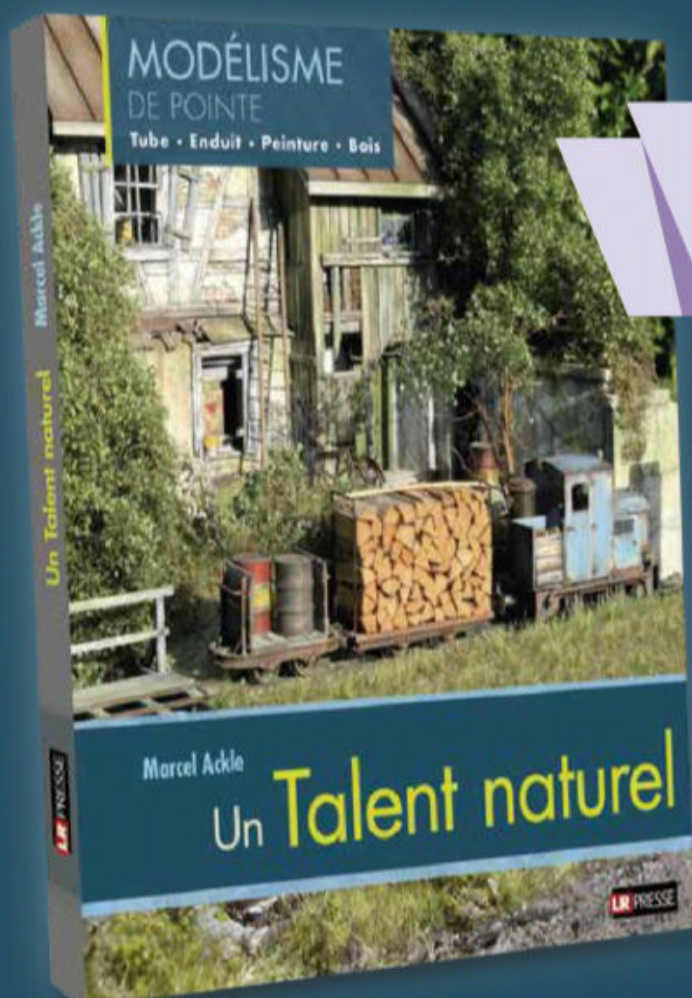
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January, February, March 2021

## Editorial #105

### REALISTIC OR WHIMSICAL?

**R**ailway modelling is an incredibly rich hobby, offering its fans the widest range of choices. It is hard to compare the two layouts we review in this issue: one, hyper-realistic, is based on an in-depth historical and geographical study of the location modelled. The other, totally whimsical, offers a dreamy blend of railway and seaside atmospheres, borrowing from places as distant as the westernmost and northernmost shores of Europe! You may well say that both

have in common the attractiveness of trains, the pleasure of scale modelling, the delights of scratchbuilding. True, but their universes are poles apart!

At *Voie Libre*, we do not choose: we are demanding when it comes to realism, delighted when projects are whimsical. And our historical, documentary and modelling pages are there for everyone's enjoyment. Have a wonderful spring!

*François Fontana*

→ Follow us on    Keep in touch all the year round with  on [blog.voielibre.com](http://blog.voielibre.com)

## In pictures



P.20



P.46



P.57

## TABLE OF CONTENTS

|                                         |    |                                    |    |
|-----------------------------------------|----|------------------------------------|----|
| <b>What's New</b> .....                 | 4  | <b>Rolling stock</b>               |    |
| <b>Spotlight</b>                        |    | Building a Billard tank wagon..... | 40 |
| The small Tramfabriek railcar.....      | 10 | <b>Layout project</b>              |    |
| <b>H0-9 layout</b>                      |    | Micro-layout.....                  | 44 |
| Jahnsbach, truer than life.....         | 12 | <b>Scenery</b>                     |    |
| <b>History</b>                          |    | A water mill .....                 | 46 |
| The railways of Saxony .....            | 18 | <b>How to</b>                      |    |
| <b>DOSSIER</b>                          |    | A 3D printed layout!.....          | 51 |
| Loading wagons.....                     | 20 | <b>Layout</b>                      |    |
| <b>Technique</b>                        |    | On the island in 0 scale .....     | 57 |
| Painting rolling stock.....             | 31 |                                    |    |
| <b>History</b>                          |    |                                    |    |
| The Panhard producer gas railcars ..... | 36 |                                    |    |
| <b>Technique</b>                        |    |                                    |    |
| Re-motorizing vintage                   |    |                                    |    |
| Egger-Bahn engines.....                 | 38 |                                    |    |

## Central folder

RÉGIE DÉPARTEMENTALE DU  
 LOIR-ET-CHER, PANHARD  
 RAILCAR A3-A6 SERIES  
 LASER CUTTING





H0-12

## BEMO : PILOT CARRIAGES



### BEMO

REF. 3275 205 ALL-RED

REF. 3275 218 RED

WITH WHITE STRIPES

PRICE OBSERVED: 115 TO 120€

Put into service in September 1971, therefore a little before the ABt 4151 to 4154 series, used with self-propelled vans Deh 4/4 51 to 55, these carriages differ from the remainder of the series by their smaller first class compartment and their use with the BDeh 2/4 units (expected soon from Bemo) that will be ideal to make up the short reversible sets used on the Schöllenenbahn branch from Andermatt to Göschenen. The body is neatly engraved, with two

large windows on the first class side, and reversible LED lights, three white and two red. Several connectors and hoses are add-on parts, for which instructions are supplied. If you want to digitize these models, plan for a function decoder with wires to be soldered to the electronic plate. Two versions are available: ABt 4191, as delivered, all-red livery. ABt 4194, more recent, red livery with white stripe.

*Jacques Royan*

## NARROW PLANET : CHANGE OF ADDRESS

Until recently, Narrow Planet designated both the narrow gauge scale model brand and the website where the models were sold, among many other ranges. To clarify things, the site has just changed names. Light Railway Stores is now accessible at the following address <[www.lightrailwaystores.co.uk](http://www.lightrailwaystores.co.uk)>. The design of the website has been completely overhauled. The home page provides for entries by brand, by gauges, by scales or by categories, and includes a general search engine. Those who are familiar with the online shop will easily spot the products that used to be available on the old site, as well as few new releases.

*Eric Fresné*

## LIGHT RAILWAY STORES





**H0-9**

## **KATO :** A NEW DRIVING MECHANISM

**KATO**

REF. 11-109 AND 11-110

The traditional 4-wheeler Kato chassis from the Pocket Line range for 9mm gauge has been fitted with a new motor: a small coreless motor which gives it improved smoothness and even better haulage capacity. What used to be a good power pack becomes an excellent one! The dimensions are unchanged, but the reference is now Kato 11-109 for the basic chassis and Kato 11-110 for the one featuring end platforms and double buffers. Soon available from the LR Presse shop.

*François Fontana*

**00-9**

## **MOSSKITO NG :** A RUSTON & HORNSBY TRACTOR

Here is one of the new releases discovered on the Light Railway Stores website. More than a true new release, this is a remake of an earlier kit. Neill Moss supplies a very attractive 27/32HP Ruston & Hornsby tractor in 00-9. The prototype is a classic of British 60cm gauge industrial railways, and a good number ran in France. The kit (ref. MM3) consists of etched nickel silver plates complemented by white metal castings. The parts must be

brazed together. This kit now has its own specific driving mechanism (ref. MDP11) also made out of etched metal. Transmission is via two pulleys, a belt and two worm gears. The PDF instructions that are available online from LRS give an accurate idea of the assembly process. An attractive model, typical of the 1930s, which will look great on an industrial layout with a string of Peco Rugga skips.

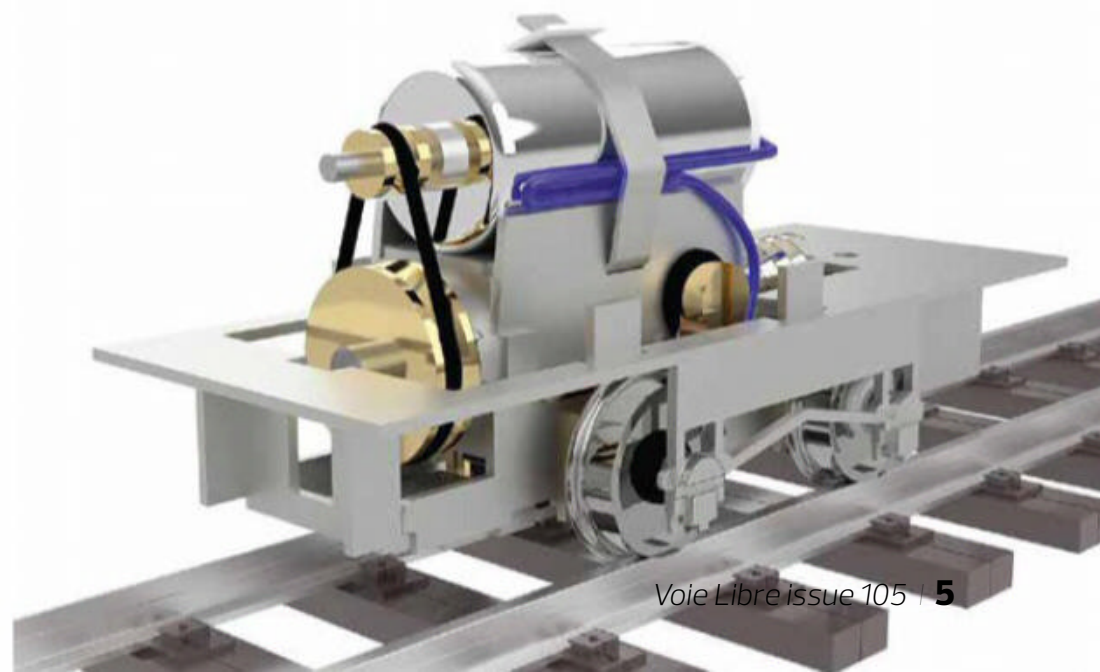
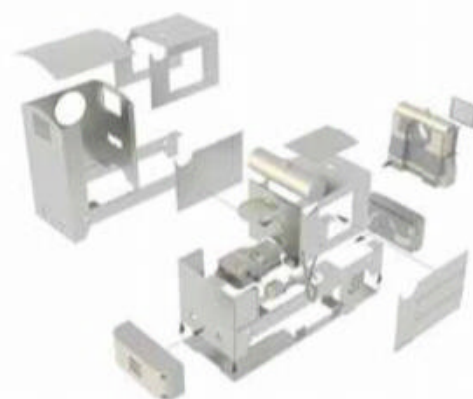
*Eric Fresné*

**MOSSKITO NG****R&H TRACTOR**

REF. MM3, PRICE: 110 £

**DRIVING CHASSIS**

REF. MDP11, PRICE: 45 £

[www.lightrailwaystores.co.uk](http://www.lightrailwaystores.co.uk)



## SCENERY

### FERRO MODÈLES : ULTRA-FINE ACCESSORIES!



This brand new company produces a range of 3D printed accessories, based on the UV resin technique. The models are extremely fine, and available either unpainted or painted. We selected a fine office set consisting of the desk, the armchair, the typewriter, the phone, the desk lamp and the wastepaper basket. Not forgetting freshly sawn boards with separating strips. Very, very fine, and quite splendid!

*François Fontana*



#### FERRO MODÈLES

<https://ferro-modeles.fr/>

**PAINTED DESK PRICE 14.90€**

**UNPAINTED PLANKS 6.90€**

**UNPAINTED CAST IRON RADIATORS 6.90€**

## JOSWOOD : SHIPMENT CONTAINERS

This is laser-cut card, but first and foremost laser-engraved, and what a fine job! Among the range of new releases, we selected the shipment containers, available with 5 different company names, and in 3 sizes. MWM, Deutz, Krupp, Lanz or O&K, the choice is yours! For H0:  
- 31 x 22 x 25mm for the small crates,

- 62 x 22 x 25mm for the medium crates,  
- or 83 x 32 x 30mm for the large ones. The outside faces are engraved in a brown card painted black, showing up the company names and logos in a dark shade. Joswood masters the laser technique so thoroughly that the models display no traces of soot nor burning.

*François Fontana*



#### JOSWOOD

<https://lasercut-shop.de>

**TWO MEDIUM-SIZED CRATES REF. 70212**

**PRICE: 9.90€**





## MJM : TURNOUT LEVERS



In its etched brass range, Marcel Jolly Modélisme produces non working turnout levers inspired by those that used to be found on the Tramways de la Sarthe network. The pouch contains enough parts to produce one lever by bending 3 pieces of metal. A dot of solder on the axis holds everything together. These levers are also available in 1/22.5 scale, at a price of 25€ per pair.

*François Fontana*



**MJM**  
mjmodelisme@free.fr  
H0 TURNOUT LEVER  
PRICE: 2.50€

## Book

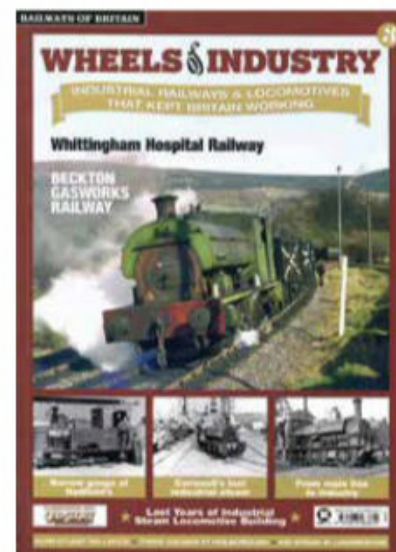
### NEW BOOKAZINES

These hybrids between books and magazines are obviously popular with British enthusiasts! After *Wheels of Industry* that we reviewed in an earlier issue and which now runs into its third volume, Kelsey Publishing has just published *Narrow Gauge Steam*

dedicated, as its title shows, to steam locomotives on narrow gauge. For both titles, there is lavish illustration and the texts are sufficiently informative for a first approach of the railways described. Even though most articles deal with Anglo-Irish networks, there is a piece about the Réseau Breton in issue number 2 of *Narrow Gauge Steam*.

*Eric Fresné*

**WHEELS OF INDUSTRY  
NARROW GAUGE STEAM**  
[www.kelsey.co.uk](http://www.kelsey.co.uk)  
PRICE: 8.99€  
100 PAGES IN A4 FORMAT





## Book

### *LES TRAINS DE NOS CAMPAGNES: ANNÉES 1960, LIGNES À VOIE ÉTROITE*

["OUR RURAL TRAINS – 1960S, NARROW GAUGE LINES"]

This book in A5 format, published in late 2020, condenses the railway atmospheres of yesteryear! First and foremost, it is a 200 pages compendium of photographs, mostly monochrome, with a short description of each railway, and providing an overview of the metre gauge lines that survived into the 1960s: Denain-Caudry, Somme, Saint-Just-en-Chaussée – Froissy, Réseau Breton, Blanc-Argent, PO-Corrèze, Vivarais and Lozère, Tarn, Provence, Corsica, Cauterets, Rhune and Superbagnères, Cerdagne, Montenvers, TMB and St Gervais – Vallorcine, Langres rack railway, La Mure railway, and many purely industrial railways, sometimes built to a narrower gauge, such as the Pithiviers – Toury. A knowledgeable enthusiast will not learn much from this book, but the scenes caught by the author's camera are delightful and the book makes for enjoyable reading. A pleasant journey through rural France in those days, frozen into shots. Who knows, one of them could prompt you to design a layout or a module... An ideal gift, including to oneself. In these days of lockdown, treat yourself to something that can replace a meal at the restaurant!

*Denis Gamard*

BY CHRISTIAN BUISSON

*LES TRAINS DE NOS CAMPAGNES : ANNÉES 1960, LIGNES À VOIE ÉTROITE*  
["OUR RURAL TRAINS – 1960S, NARROW GAUGE LINES"]

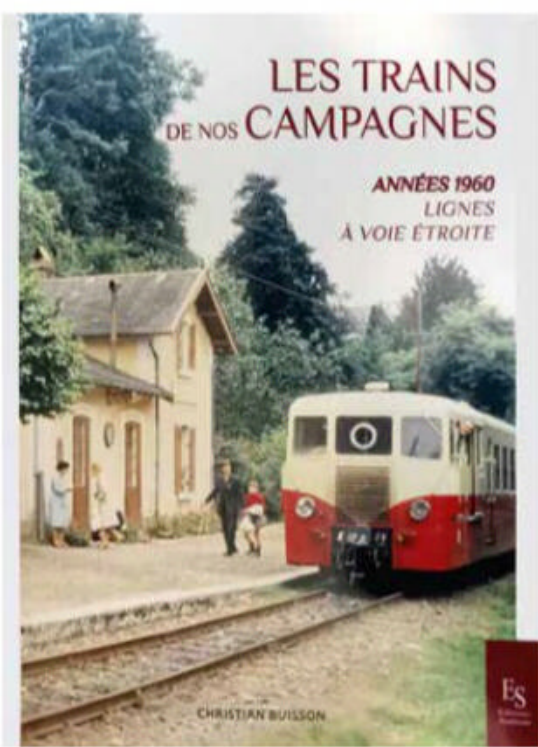
PUBLISHED BY SUTTON

200 PAGES IN A5 FORMAT

WITH MOSTLY MONOCHROME PHOTOGRAPHS

[www.editions-sutton.fr](http://www.editions-sutton.fr)

PRICE: 20€

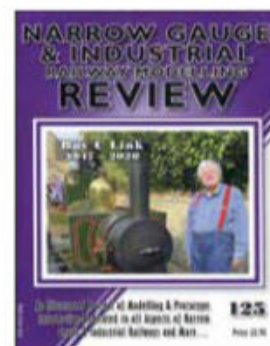
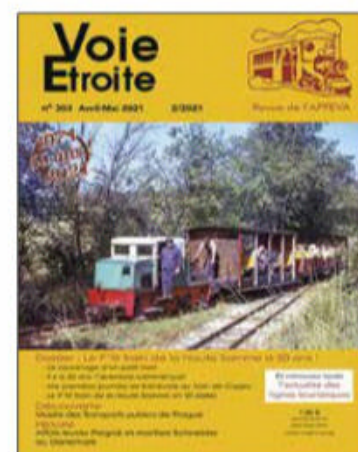
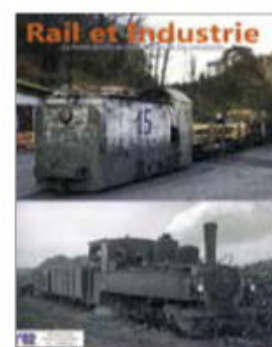
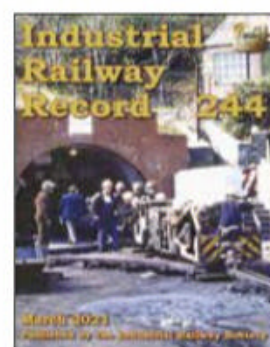


## Book

### THE DECAUVILLE LIST RE-PUBLISHED AT LAST

Based on the work of Keith Clingan and Jeffrey Lanham, the list of Decauville steam locomotives published in 1992 by the Industrial Railway Society is a reference work for enthusiasts. Over the past 30 years, the online availability of very many archival sources, as well as the exchanges between amateurs, have provided details about the career of a great number of engines. The IRS has therefore released an updated and enlarged edition of this Decauville list. This new list also covers the career of the 0-6-0 T locomotives built during the Great War by Kerr, Stuart on Decauville drawings. The list will feature

## PRESS REVIEW





a lengthy illustrated and bilingual introduction in English and French. Publication is normally expected before the end of the second half of 2021, and those interested can already contact the IRS at the following e-mail address: <France@irsociety.co.uk>.

*Eric Fresné*



Couverture non contractuelle

**KEITH CLINGAN, JEFFREY LANHAM, ERIC FRESNÉ, CHRIS DOWN**  
**DECAUVILLE STEAM LOCOMOTIVES, A WORKS LIST**  
**MANY MONOCHROME AND COLOUR ILLUSTRATIONS,**  
**160 PAGES A4 ITALIAN FORMAT**  
**PUBLISHED BY THE INDUSTRIAL RAILWAY SOCIETY**

Christopher Down continues to tell us about his travels through 1965 France in issue 244 of the **Industrial Railway Records**. This time, he takes us on a tour of the standard gauge railways of Usinor in Denain and of the Variscourt sand quarries in the Aisne, which had just bought second-hand engines from the Maizy sugar mill. Issue 82 of **Rail & Industrie** also looks at the sugar industry in the Aisne with an article about the Cramaille shredding plant. In addition, this issue features a fine study on rail/road handling vehicles. They are not narrow gauge, but some of them are quite exotic. **Voie Étroite**, in its Issue 303, duly celebrates the 50th anniversary of the P'tit Train de la Haute Somme (Froissy-Cappy-Dompierre) with a special dossier telling the story of the preservation of the sugar beet line and the early years of the tourist railway. In Issue 125 of the **Narrow Gauge & Industrial Railway Modelling Review**, David Ronald looks at an extraordinary railway ferry that operated across the Weser river in Germany in 1938. It enabled strings of V-tippers to cross from one bank, where the clay pits were located, to the other, where the brickworks stood. A great idea for a layout! **Chemins de Fer Régionaux et Tramways**, the magazine of the FACS, is no more. It has been replaced by **Transports & Patrimoine Ferroviaires** which is more in line with the current trend whereby magazines provide in-depth studies, while current news is largely available online. This first issue deals with the Léman-Express network and the 50th anniversary of the Paris RER!

*The Editorial Team*

# TRIBUTE

## FAREWELL TO A FRIEND

Jean-Claude Grancher has passed away. A great fan of narrow gauge and secondary railways, he was among the very first members of the GEMM association and part of the first team that organized the Expométrie show. Following on from a low-key debut, he gradually built this show into a leading event: moving from the hospitality rooms of a large private company to better known halls such as the Grand Dôme at Villebon or the exhibition centres at Pontoise and Chartres, not forgetting the large gymnasium at Les Lilas just outside Paris. In parallel, Jean-Claude had imagined, created and run a railway exhibition in the grounds of the French Army's 5th Regiment of Engineers in Versailles. A highly railway-oriented regiment, where he had performed his military service as an NCO. His professional career as a cabinet maker working in the field of press distribution had taken him all over France to explore preserved secondary railways and to meet local enthusiasts. Frequently vocal when things did not work out the way he wanted, he was above all a faithful friend and an incredibly generous person. His dedication to railway modelling and his unfailing passion for narrow gauge railways will be sadly missed in our world. The *Voie Libre* team expresses its deepest sympathy to his family and friends. The Editorial Team condolences.

*The Editorial Team*







Quite adorable! With the lower half of the body painted green, the upper part in varnished pitch-pine! Positively classy for a secondary railway with little traffic.

## TRAMFABRIEK

# THE SMALL RAILCAR

Freestyle, but neatly drawn!

Tramfabriek has released an 00-9 freestyle railcar, in brass and 3D printed resin, fitted to a Kato driving chassis. Lets take a closer look at it on the workbench.

Text and illustrations: **François Fontana**

### THE MODEL AT A GLANCE

**Model:** Ashover railcar

**Scale:** 00-H0 (1/76-1/87)

**Gauge:** 9mm

**Materials:** brass, 3D printed resin

**Driving mechanism:** Kato 4-wheeler chassis

**Tramfabriek** <https://tramfabriek.nl>

**Price:** 162€

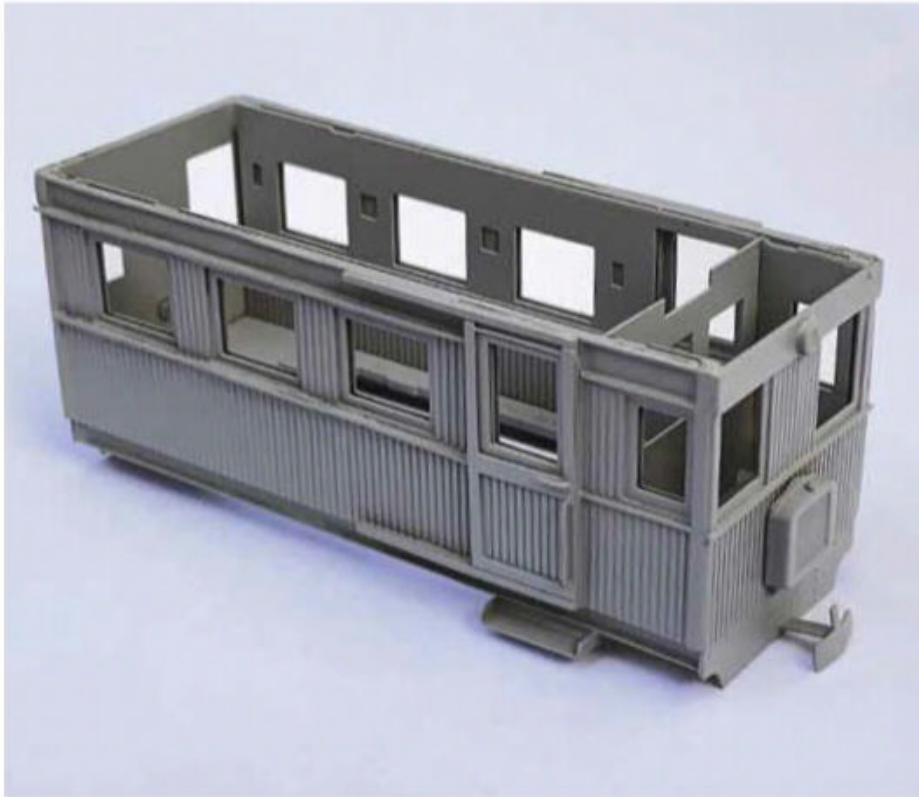
**T**he creation of this model was kicked off by a competition launched by the 009 Gazette. The suggestion was to design a railcar using body parts from an Ashover Light Railway carriage. Bob Telford proposed a project that the Tramfabriek team decided to produce as a kit. This small freestyle railcar is fully compatible with the many wooden-bodied

carriages that are widespread on narrow gauge railways!

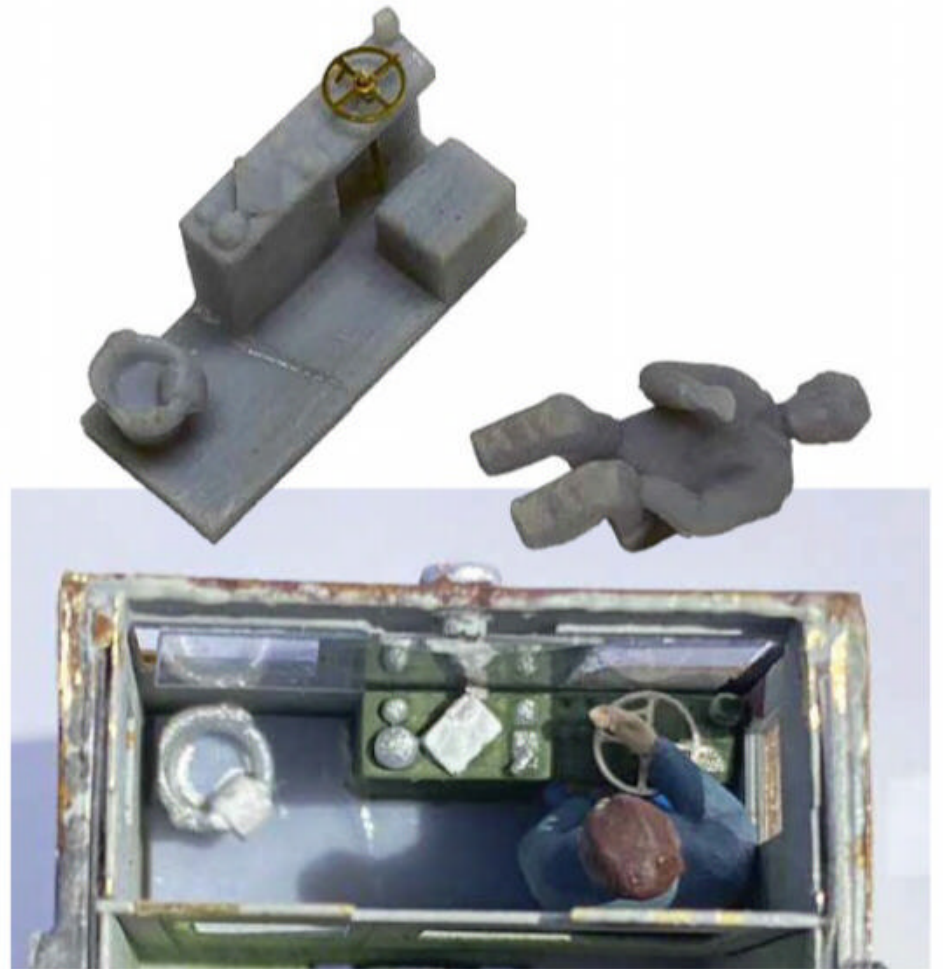
### THE KIT

The body consists of 5 thicknesses of 0.3mm thick brass, the floor comprises 3. The body is fairly heavy, there's no need for ballast! The roof, the mock floor that conceals the Kato chassis and the radiator are 3D printed in UV resin. All the parts fit





Once assembled, the body was given a coat of primer to check the condition of the surfaces. The engraving is sharp, the relief stands out, the outline is pleasing.



The tiny driving cab is furnished: dashboard, seat, driver and even a bucket!

together neatly, and the insets for the glazing (supplied pre-cut) are perfect.

As far as decoration is concerned, the etched brass frets offer a range of numbers, several builder's plates, and various sundry accessories to provide variations from one model to another. An inside lighting LED strip, micro-LEDs and a large condenser are supplied to ensure stable lighting.

## ASSEMBLY

Soldering is strongly recommended; champions of instant adhesive can avoid using the soldering iron, but this kit is really designed for soldering. The 3D printed parts fit perfectly, the pre-cut glazing slots in between the inside and outside panels without any need for adjustment. Fitting the lighting strip is ultra simple, while adding the condenser whose purpose is to avoid any flickering of the lights does not require any special skills. The instructions, in English, are very clear and well illustrated.

In my view, assembling the nano-parts of the front and rear lights is virtually impossible with standard tooling and without thorough training! As is the case whenever I am faced with such components, this part of the job winds up in... the dustbin. I am simply no good at nano, or else my fingers are too large... To sum up, I have a good

excuse! Too bad for my railcar, it won't have working lights, only inside lighting. This is a kit, including assembly of the body, for experienced modellers.

## OUT ON THE LINE

Simply wonderful, the new Kato chassis and its coreless motor performs even better than the earlier version. Running is

smoother still, and even displays some inertia. The railcar is truly delightful: a boxy wooden body, large windows, a detailed roof with a small silencer, a neat driving cab. Before long, a group of passengers, amputated below the waist, will take place on board. Assembling the body was an enjoyable job, with no headaches thanks to the thorough design of the model. —



The LED lighting strip fits under the roof. The large condenser prevents any flickering of the lights in case of faulty pick-up.



# Jahnsbach

## *Truer than life*

In this article, we discover Jahnsbach, a small station on the Saxon narrow gauge network. The station stood on the Thum – Meinersdorf line, which no longer exists. Jens Petermann has resurrected it in 1/87 scale on 9mm gauge track.

Text and illustrations: **François Fontana**

**T**he period modelled is the 1970s, the former railways of the erstwhile Saxon kingdom are now managed by the Deutsche Reichsbahn (DR).

Closure of unprofitable lines is planned, but oil supplies from the Soviet Union are unpredictable, delaying such closures somewhat. 75cm gauge railways are on a suspended sentence. The old IV K class steam locomotives have been overhauled and some even completely rebuilt. The large and modern 2-10-2s, recently



*In the early 1970s, a modern and comfortable railcar operates a slow speed service – the tracks are in very poor condition – on the Thum – Meinersdorf line. The small Trabant car provides a clue as to the place and times.*



## *The layout at a glance*

Scale: H0 (1/87)

Gauge: 9mm

Track: Tillig

Control: digital Ecos ESU

Dimensions: 50cm deep modules



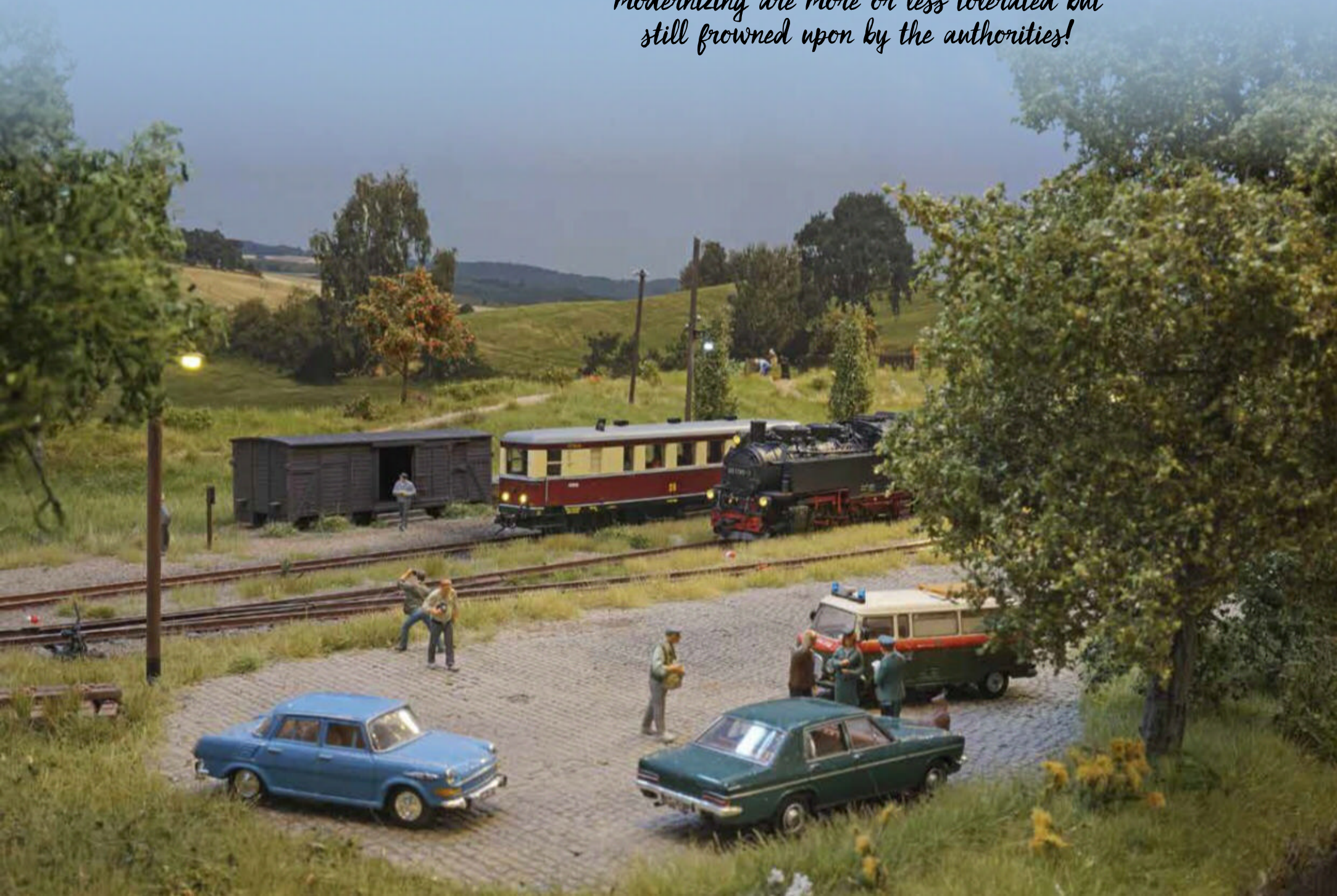
At the level crossing, the railcar makes itself heard loudly!

delivered, are in charge of heavy traffic, while the small number of passengers is handled by comfortable and fast railcars. Goods traffic, which is predominant, mainly spinning and paper products, calls on carrier trucks, avoiding the endless transshipment operations in exchange stations with the standard gauge network.

### **Jahnsbach**

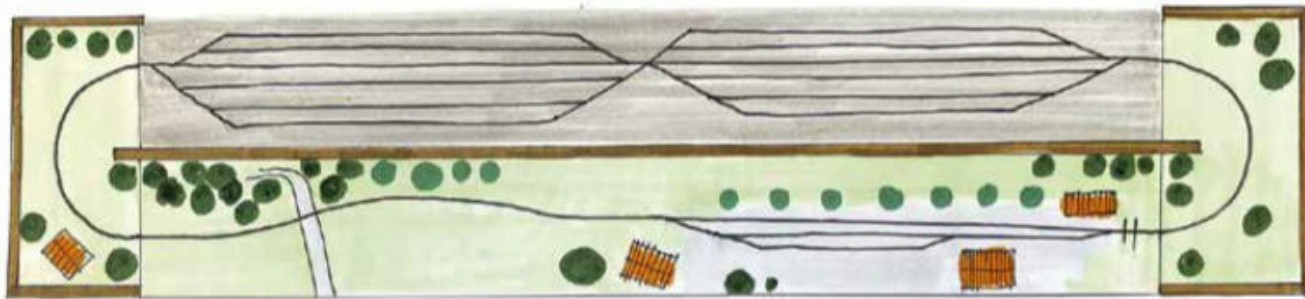
Jahnsbach, located at medium altitude in a hilly environment, is a halt on the ■■■

*Many enthusiasts have come to photograph the last trains on a line that is about to close. The police is on the look-out. the demonstrations in favour of keeping the line open and modernizing are more or less tolerated but still frowned upon by the authorities!*





# H0-9 Layout



## Layout Plan

### The Bimmlbahner

This is a group of Saxon railways fans, who have resurrected this impressive 75cm gauge network in the shape of many H0-9 layouts. The original network extended over more than 500km in the 1900s.

Wagons loaded with coal are parked on the two sidings. A small LKM V10C tractor is in charge of shunting duties. Coal, sugar beet and agricultural products are the most common loads seen in this yard.

■ ■ ■ Thum – Meinersdorf line, which closed on 28 September 1974. The two sidings are dedicated to goods transshipment, essentially coal.

The passenger trains call at the small halt, which features a single platform alongside the running line. Trains do not pass here.

### In 1/87 scale

Jens' approach consists in resurrecting the pre-closure period of the lines managed by the DR. Keen on prototypical modelling, he reproduced the halt in great detail, including the trees, their location and species, just as they appear on



The curved module on the left hand side discloses a few of its secrets. The photographic scenery visible here is located on the small side of the layout.







Same point of view on the right hand side of the layout, the specific arrangements of the curved scenery leading to the fiddleyard are more visible here. Behind the trees at left on the photo, the track disappears into the fiddleyard.

photographs taken at the time. Naturally, the buildings, the ground cover, the urban furniture are also all prototypical.

Technically, the layout structure calls on 18mm thick plywood, stable and sturdy for transport. Perhaps a tad heavy, but you feel quite small when standing next to Jens!

The Tillig track is laid on a sheet of cork. The turnouts are from the Modellbau Glöckner artisan range, operated by servomotors. The layout is controlled via

an ESU Ecos central unit, each locomotive being fitted with a sound decoder.

### Details galore

Regarding the scenery of the layout, walls and ground are engraved in plaster. Jens could not use commercial products, as he wanted to reproduce the typical obliqueness of the walls and wanted the horizontal joints to be truly horizontal. This would have been impossible with engraved commercial sheets: as soon

as they are curved and inclined, they generate parabolic horizontal lines. All the buildings were drawn identical to the preserved prototypes. Laser cutting and subtle colouring and weathering did the rest.

The trees are made out of twisted wire structures, coated and textured to reproduce the bark. The foliage is represented with filter cotton covered with Polak foliage. Jens found his bushes in the Mininatur range. Naturally, the ■■■



This surprising bogie railcar with 3 bodies used to provide a fast service (65kph on 75cm gauge track). Naturally, such speeds could only be achieved in the 1960s, when the railway was still in good condition!



# H0-9 Layout



A large 2-10-2 tank engine is in charge of a string of carrier bogies loaded with standard gauge hoppers. Note the LED strips that provide the variable lighting, to evoke various atmospheres.

■ figures and the road vehicles are perfectly in line with the period modelled.

## Rolling stock

The locomotives are all built on the basis of Bemo kits and of creations by Jürgen Weit. All of them are digitized with ESU sound decoders and fitted with LED lighting. The railcars are PMT models. Carriages and wagons are from the Technomodel range. All the stock is subtly weathered, not too heavily as maintenance was thorough in those days.

Naturally, all the scale rolling stock was present on the real railway in the 1970s. And the goods traffic is thoroughly realistic. Despite being very attractive, the small Saxon four-wheeler carriages are not part of Jens's stock, as they had already been replaced by long modern bogie carriages.

## Presentation

The layout extends over a length of 18 metres and a depth of 50 centimetres. The two half-circle curves that lead to the fiddleyard are completely decorated. Photographic backscenes, printed on polyurethane foam sheets, extend into the curves, offering receding perspectives and creating an impression of distance. A wide upper fascia conceals the layout lighting, provided by LED strips. The layout can be seen as a page of history, enhanced by the staging and the presentations given by Jens and his colleagues of the Bimmlbahner group. ■







*The last evening train rolls into Jahnsbach. Admire the way the layout and the backscene blend, the accuracy of the urban furniture and the splendid atmosphere provided by the lighting. Modelling flirts here with history!*



# Narrow gauge in Saxony

Created in the 1870s, the Saxon narrow gauge network reached its peak at the turn of the XXth century. In the 1970s, the East German regime closed most 75cm gauge lines. Uwe Haas takes us on a tour of those that survived.



Text and illustrations:  
Uwe Haas

In 1877, the kingdom of Saxony decided to build a large secondary railway network in 75cm gauge, to complement the standard gauge network. Like elsewhere, the choice was dictated by finan-

cial constraints, as narrow gauge railways were cheaper to build and to operate. By 1881, 23 lines had been opened and by 1913 represented a total mileage of more than 500km.

## SAXON 75CM GAUGE LINES

Freital-Hainsberg – Kipsdorf: 26.34km  
Radebeul Est – Radeburg: 16.55km  
Oschatz – Mügeln – Kemmlitz: 17.08km  
Zittau – Oybin/Jonsdorf: 16.03km  
Cranzahl – Oberwiesenthal: 17.35km

## A HUGE NETWORK

In 1945, as a result of significant war damage, of stock confiscations and of road competition, many lines stopped operating. In 1952, under the management of the East German Deutsche Reichsbahn (DR), the remaining lines were put back into service. But the stock was in poor condition and motley, so the DR ordered 24 newly-built steam locomotives of the 2-10-2 T type. In 1964, line closures resumed, with



On 20 December 1991, a passenger train hauled by 2-10-2 T N° 99 1779 leaves Friedewald station bound for Radeburg.





## GOODS

The narrow gauge line from Oschatz to Mügeln was used for goods traffic until 1990. Locomotive 99 1566 is seen arriving at Mügeln with a goods train on 13 September 1986.

some surviving only because of a shortage of diesel fuel for lorries. Maintenance became minimal and commercial speeds were reduced to as little as 10kph on certain stretches.

The lines closed massively in the late 1970s and only 5 have survived to this day as tourist railways, with daily services that are often steam-hauled.

Delivered in 1954, 2-10-2 locomotive 99 1783 takes on coal at Freital-Hainsberg on 8 November 1988.



In Zittau, the narrow gauge line runs through the town. 2-10-2 T N° 99 1759 is waiting outside the Zur Haltestelle restaurant before continuing its journey towards Oybin on 16 October 1989.



On the graded stretch between Freital-Hainsberg and Kipsdorf, goods traffic survived until 1990. 2-10-2 T N° 99 1780 is seen leaving Seifersdorf with a heavy goods train on 6 March 1989.



# LOAD YOUR WAGONS

It's springtime, wagons have shed their clothing and display their loads! Here are a few practical examples and some sources of inspiration, to make our layouts more life-like.

Text and illustrations (unless otherwise mentioned):  
Éric Fresné, François Fontana



|                                     |    |
|-------------------------------------|----|
| COVERING LOADS.....                 | 21 |
| CARRYING BRICKS .....               | 22 |
| MAKING LOAD SHAPES .....            | 23 |
| CARRYING EVERYTHING .....           | 24 |
| LOADS IN CONTAINERS .....           | 26 |
| A CONTAINER FOR A FLAT WAGON.....   | 27 |
| LOADING A ROAD VEHICLE.....         | 28 |
| OPENING THE DOOR OF A BOX VAN ..... | 29 |

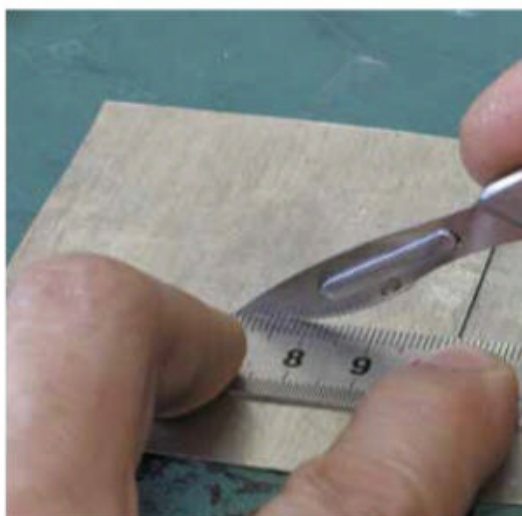


# 1 LEAD OR TIN TARPAULINS

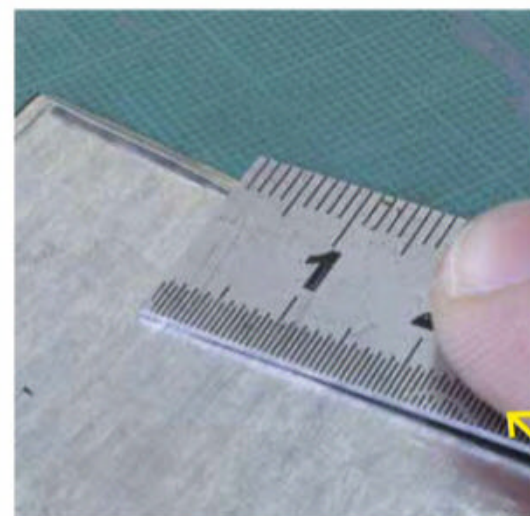
Pliable and available as thin sheets, lead and tin are perfectly suited to representing textiles such as tarpaulins used to cover loads.



**1** The basis of my load consists of 3D printed leftover parts. The poor condition of their surface is of no great importance. They will be covered by the tarpaulin, and they are used simply to give a general shape to the load.



**2** A lead sheet is traced and cut just like paper. A scalpel guided on the tracing lines with a ruler is enough to obtain a suitably dimensioned rectangle.



**3** It is possible and even very easy to mark the hems of the tarpaulin. Using the back of the scalpel blade, I trace a line along the edge of the sheet. I fold the sheet back along the inside of the line and crush the fold onto the sheet.

*This provides a lasting hem.*



**4** The tarpaulin is placed over the top of the load and finger-shaped. The metal will retain the shape it is given.



**ALL THAT REMAINS TO BE DONE IS TO PAINT, LIGHTLY WEATHER AND VARNISH THE TARPAULIN, AS WELL AS THOSE PARTS OF THE LOAD THAT REMAIN VISIBLE. INSTALLED ON A FLAT WAGON, LOAD AND TARPAULIN WILL GIVE IT SOME VOLUME AND A BIT OF EXTRA WEIGHT.**

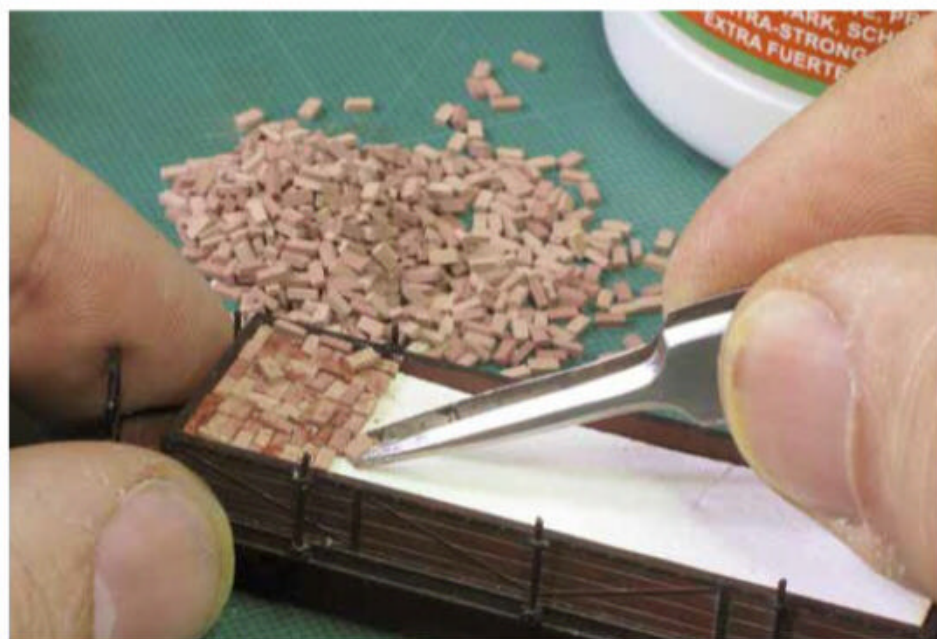


## 2 A LOAD OF BRICKS

Such loads used to be found on the 60cm gauge line between Skopje and Ohrid in ex-Yugoslavia. Even though it is a lengthy job, an open wagon can be filled with Juweela bricks.



**1** Filling the wagon completely is out of the question. One layer of bricks is enough. I cut out a rectangle of soft card to fit inside the wagon body.



**2** This is the most tedious phase of the job. On a bed of Cléocol adhesive, I fix the bricks next to each other, one by one. I mix two different shades and glue them haphazardly to provide a mosaic effect.



**3** A coat of silky varnish, applied with a brush, reinforces the load and improves its appearance.

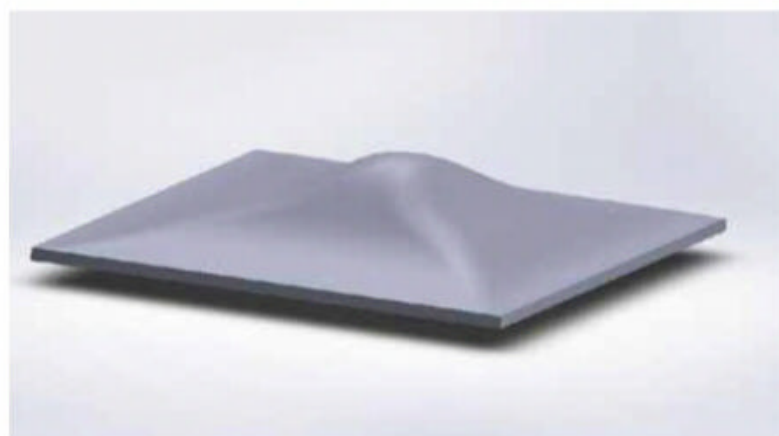


**THE LOAD OF BRICKS IS SIMPLY  
INSERTED INTO THE WAGON.**

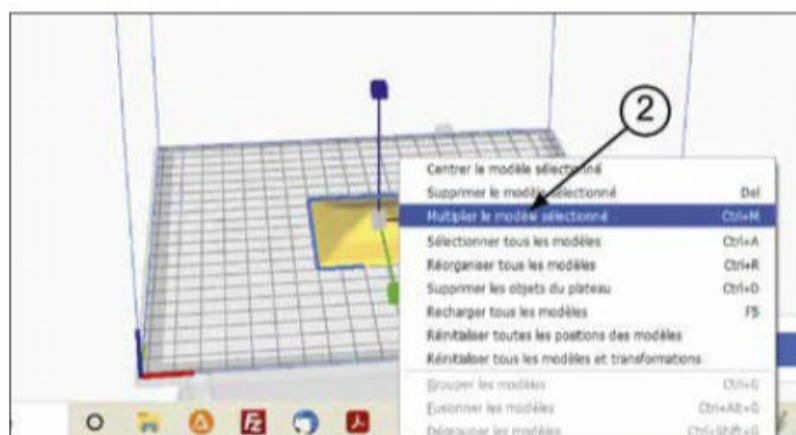


# 3 3D PRINTED LOADS

Many things can be loaded into an open wagon or on to a low-sided flat wagon. In the modelling world, 3D designing and printing is a quick and easy way of obtaining stacks of goods with realistic shapes.



**1** 3D design proper simply consists in defining a single model stack. My own is 3cm long and 4mm high. It allows me to generate an .STL file that will enable me to make loads for all my open wagons, irrespective of their dimensions.



**2** Creating the proper shape and dimensions takes place at the next stage, using the cutting software. As indicated by its name, this software generates a .gcode file which prints the part layer after layer. The functionalities of Cura, the one I use, enable me to pivot the part, duplicate it, redimension it and finally move it.

*These four operations mean I can generate a part with as many "humps" as I want, and which fits exactly into the body of the wagon.*



**3** Designed for two wagons in different scales, both these shapes originate from one single initial file.



**ONCE FINISHED, THE LOAD IS WEDGED AT THE PROPER HEIGHT IN THE WAGON BODY. IT REMAINS REMOVABLE, MEANING THAT DURING AN OPERATING SESSION, LOADING AND UNLOADING PHASES CAN BE INCLUDED.**



**4** The plastic base is covered with any type of material, coated with thinned white glue, in the same way as track is ballasted.



# 4 CARRYING EVERYTHING

Annette Rochaix delved into Jean-Louis' fabulous photo collection and found some fine pictures of loads. They show you many methods for loading wood and hay in bulk, as well as some incredible items such as these curved metal structures.



Squared logs loaded onto a bogie flat wagon at **Châtel-Saint-Denis** in **March 1960**. Note the logs that act as bolsters on the wagon.



At **Moldovita**, on **17 August 1992**, close up on a load. The logs are loaded to the very upper limit of the stanchions. There is no connecting rod between the disconnects.



*A standard load  
of logs*

at Rasca in Romania  
on 17 August 1992.



Photographies: **Jean-Louis Rochaix**



**At Samedan on the Rhaetian Railways**, this small flat wagon is loaded with logs. Note the chains of various sizes that hold the load in place.



**17 August 1992 again in Romania at Lostum**, a flat wagon loaded to the brim with hay. Nothing holds the load in place, but the speed of the train rules out any risk of the hay being blown off!



**March 1960 at Châtel-Saint-Denis**, a flat wagon carrying a metal structure. The ends are held in place by a rope tied around a simple log, itself lashed to the stanchions.



## 5 LOADS

Under the Scenecraft brand, Bachmann produces a range of small objets in 00 scale, which are both affordable and realistic. They are compatible with a continental layout in H0.

J.-L. Rochaix



This small flat wagon with a brakeman's cabin carries a motley load, carefully wedged in place! Gerona, Spain, 14 April 1965.

J.-L. Rochaix



24 February 1963 in Lausanne station, this small flat wagon is loaded with milk churns



2 The milk churns can be used straight "out of the box" to load a box van or a low-sided flat wagon, as was the case on the Pithiviers -Toury tramway, to create a small lineside cameo.



1 Sold for ca. 9 euros, each pouch contains 10 identical objects. Cast in translucent plastic, they are supplied painted. Besides the milk churns and drums we review here, the range comprises barrels and various other more modern items.



3 Supplied painted in silky black, the oil drums can also be used as they are. Depending on the period chosen for your own layout, you can redecorate them.

**FOR PERIOD II, PRE-1945, IT IS BEST TO USE A GREY SHADE THAT IS EVOCATIVE OF GALVANIZED METAL. ON A MORE RECENT LAYOUT, FAVOUR THE BRIGHT COLOURS OF THE MAIN OIL COMPANIES.**



# 6

# A CONTAINER FOR A FLAT WAGON

A wooden container for shipping valuable items, here is what Joswood produces. This brand supplies these wooden crates in three sizes and with 5 different company names.

**Company names:** MWM, Deutz, Krupp, Lanz or O&K

**Dimensions:** small (31 x 22 x 25)  
medium (62 x 22 x 25)  
large (83 x 32 x 30)

1

The Joswood crate ref. 40195 consist of planks, engraved and laser-cut. The outside cladding is engraved in coloured card, with surface paint.



2 The decorated cladding is assembled around the inside structure.



3 The card is weathered to look like coarse wood, with various water paints: Payne grey, yellow ochre, burnt earth.



J.-L. Rochaix

We were inspired by this load, photographed in San Feliu in Spain on 14 April 1965.



**CAREFULLY SLUNG AT ITS LOWER ANGLES, THE CRATE IS INSTALLED ON A FLAT WAGON WITH A SAGGING CHASSIS. AT ONE END, THE CRATE IS BLOCKED AGAINST A BOLSTER. AT THE OTHER END, A BLOCKING SYSTEM, SUPPLIED WITH THE KIT, IS GLUED TO THE WAGON FLOOR.**



# 7 LOADING A ROAD VEHICLE

A road vehicle can be loaded onto a flat wagon, provided it is firmly held in place.

J.-L. Rochaix



Photographed at Capolago on the Rhaetian Railways, on 21 October 1975, this bogie flat wagon is carrying a road crane. The cab of the crane has been lowered to avoid fouling the loading gauge, the vehicle is blocked with wooden chocks and even, behind the rear axle, by a simple log nailed to the decking.



**1** I chose a farm tractor, fitted with slings tied to the end hooks. The slings are 0.2mm diam. brass wire, from a length of multi-thread electric wire. They are simply threaded through a 0.5mm diam. hole.

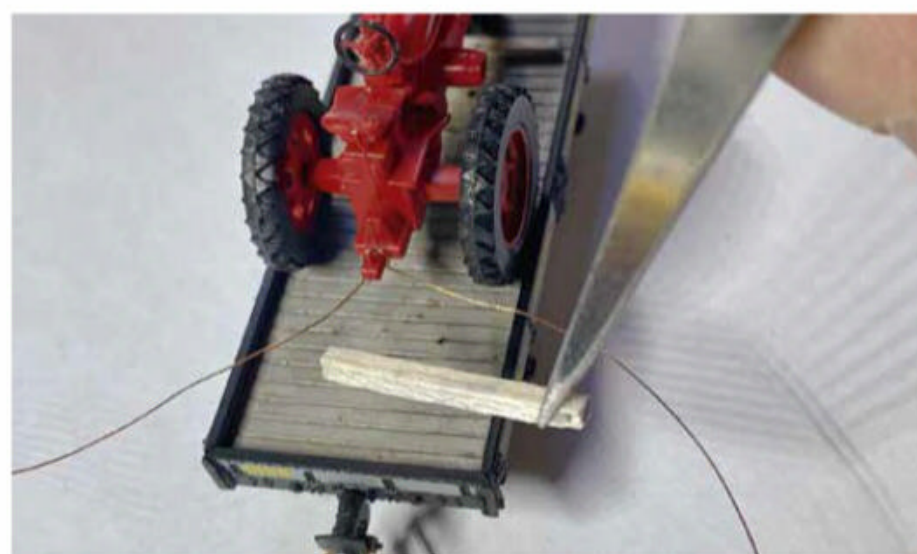
**2**

The chocks and pieces of wood are cut out of a strip of balsa.



**3**

The wood is stained with Payne grey water colour.



**4** The wood is glued onto the decking of an REE CFD flat wagon using white glue. The slings are threaded through 0.5mm diam. holes drilled in the decking, and glued underneath the wagon.



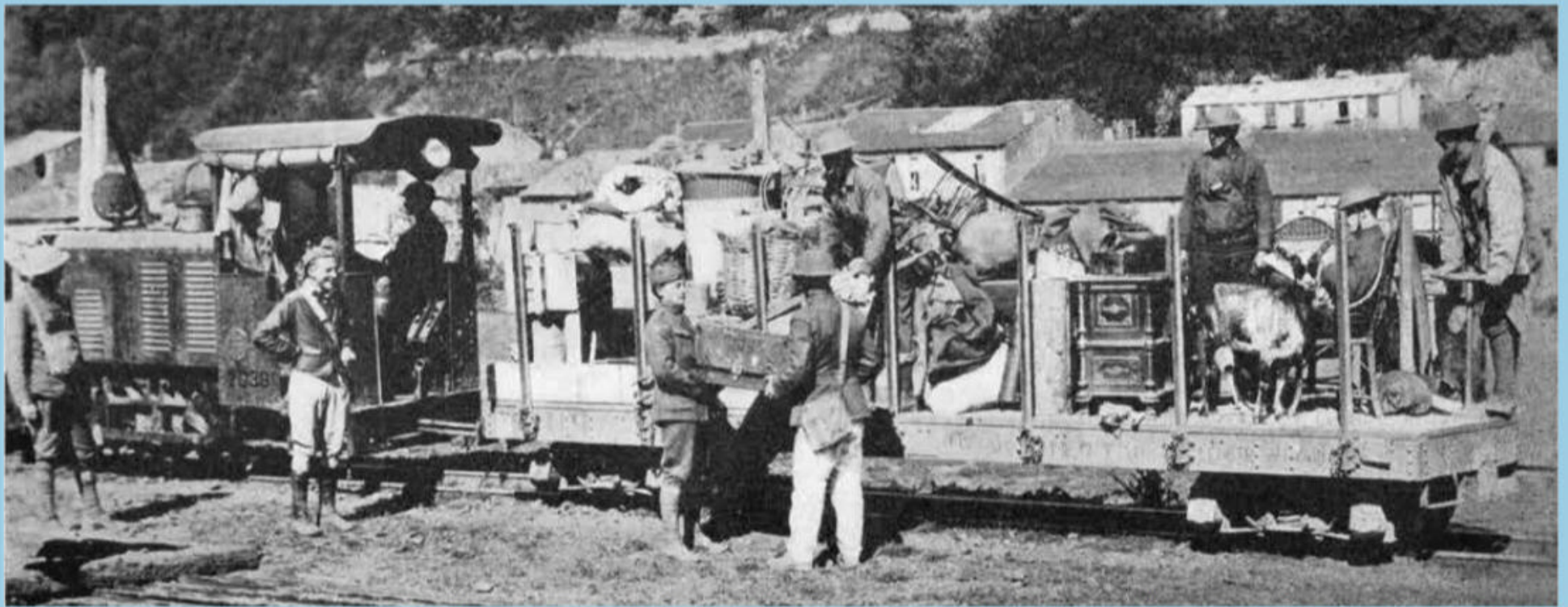
**THE TRACTOR HAS BEEN PROPERLY LASHED DOWN, AND IS NOW READY FOR THE JOURNEY.**



## 8

# OPENING THE DOORS OF A BOX VAN

Moving houses in a box van! Not really an interesting load, unless, for some reason, the sliding door of the wagon has been left open!



I quickly fell for this motley load! The desk, the armchair, the couch, the boxes and baskets, nothing is missing. There is even a goat. My own removal will call upon a box van.



**1** I chose an REE CFD wagon. First step: carefully un-glue the various parts of the wagon. Start by the roof, which is removed vertically by pressing lightly on the sides with a sharp tool. Un-glue one of the body sides. They are held together in the angles. From the inside, using a scalpel, cut through the plastic around the door. The scalpel blade should be at an angle of ca. 15 degrees. You will need to run the scalpel down the seam several times.



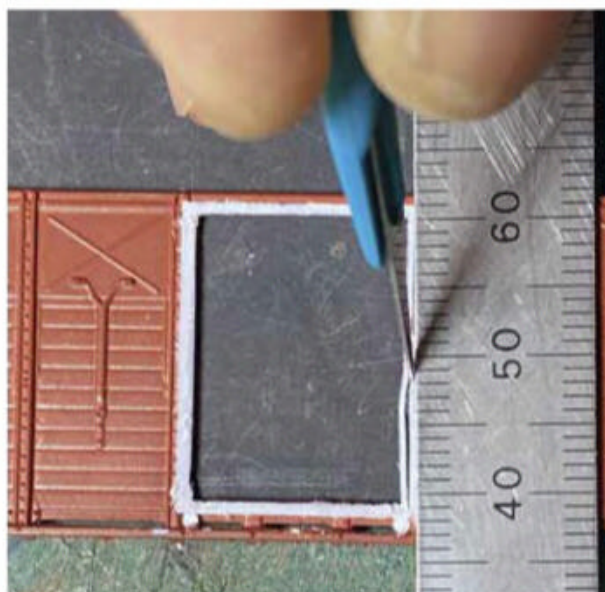
**2** On the side where the door closes, work from the outside to avoid damaging the metalwork details.



# SCENERY



**3** Cut the lower part of the castors on the lower rail.



**4** I trimmed the width of the frame where the door is open.



**5** The original colour is restored with brown, red and yellow.



**6** I weathered the various parts with acrylic washes. The wagon sides are re-assembled with cyano adhesive. The inside is given a coat of grey, the floor of brown.



**7** A motley collection of objects is stuffed into the wagon. I decided to show off the fine desk and its swivelling chair, as well as a couple of cast iron radiators from the Ferro Modèles range.



**ONCE THE CARPET IS LOADED, ONLY THE CANARY WILL BE MISSING! ALL THE FURNITURE HAS BEEN LOADED INTO THE BOX VAN.**



# *How to easily paint and weather* **YOUR ROLLING STOCK**

Having procrastinated somewhat, Éric Fresné found himself smothered in models that required painting. To cope with this invasion, he started looking for products and methods that were simple and quick to use. He describes them below.

Text and illustrations : Éric Fresné

**PAINT  
SHOP**



"Eugène, N° 86 has a hot box! We need to park it at the Laffaux Mill". The entire consist shown here was painted and weathered using the techniques explained in this article.



I'm no different from many modellers. While scratchbuilding or assembling kits of all shapes and sizes never puts me off, painting and its many phases and methods is always the source of some anguish... So I tend to postpone the job and unpainted parts pile up in a box. When the box finally overflowed, I jolly well had to get down to the painting stage! Amongst the unpainted parts, I happened to have a couple of small Renault FT tanks, and this led me to take a closer look at the methods used by our fellow military kit enthusiasts who work in 1/72 scale. And it turned out that a number of techniques and

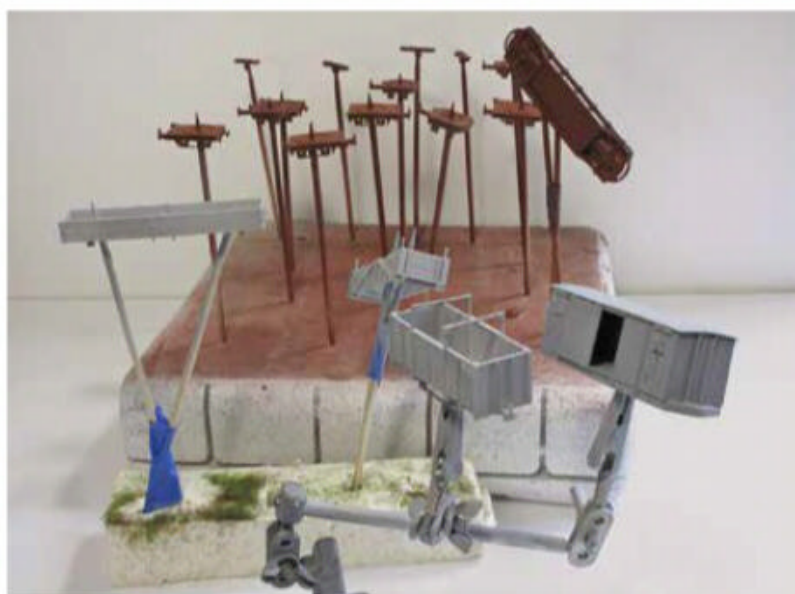
products they use are perfectly suited to railway modelling.

Choosing the methods I would use myself had to meet three conditions. They had to be simple, quick to use and above all easy to reproduce by anyone, meaning me. We are not talking here of tricks of the trade acquired over endless hours of hard work. Including the time required for the paint to dry out and for taking photographs, painting and weathering a good dozen models in H0e/00-9 required 5 afternoons when writing this article. I will do my best to describe these techniques. Many thanks to Franck Tavernier who helped me select the methods used.

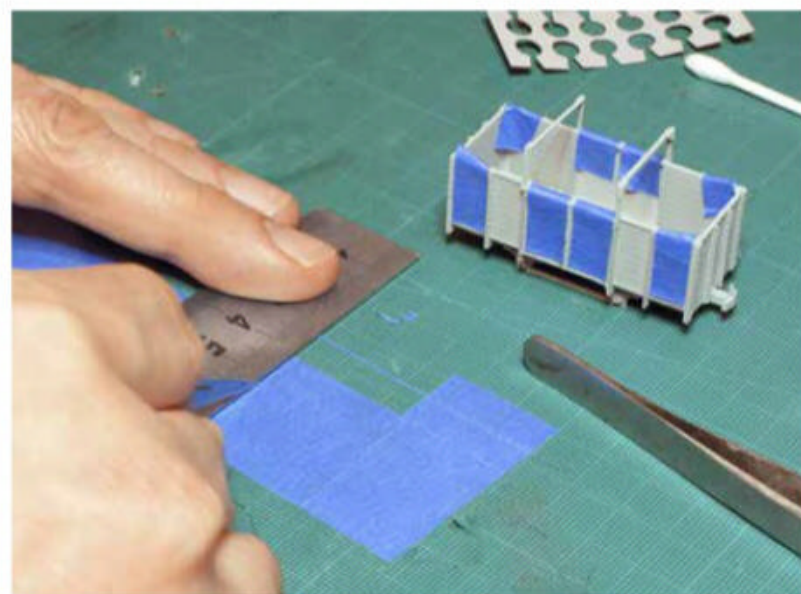
## THE PRODUCTS USED

- Standard acrylic paints or Prince August or Vallejo «Air» ranges for customary shades
- "AVF series" AK Interactive paints for "historical" military shades
- Vallejo Wash: European earth and rust
- Vallejo "European" thick mud and splash mud
- Molotow Blackliner felt-tip pens

*What is more, special ranges are available for airbrushing, combining a high degree of fluidity and significant covering power. There is nothing to prevent them being applied with a brush.*



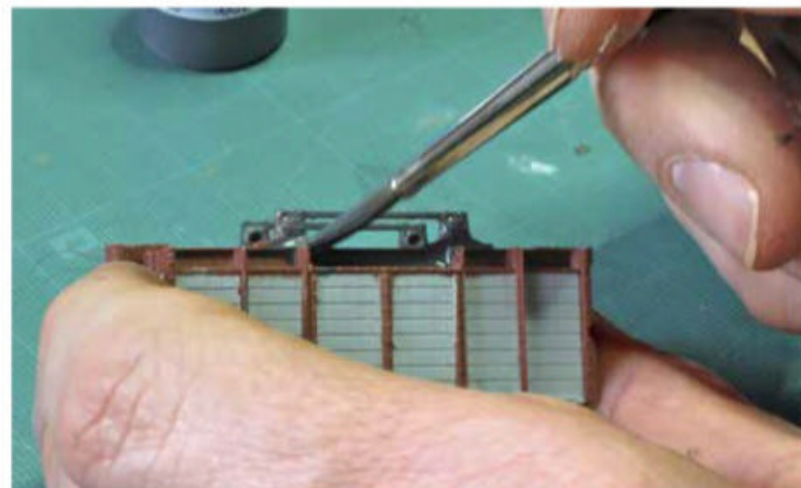
**1** Once the model has been thoroughly degreased, the first stage in decorating something made out of synthetic materials (plastic, resin 3D printing...) is to apply primer. The primer will even out the surface to be painted and ensure that the paint will hold properly. I use Tamiya primer in aerosol sprays. They are easy to find and several shades are available. Surfaces supposed to be made of wood are sprayed with grey primer, metal surfaces with rust primer. White primer is used when the surface colour is yellow or red, as it makes those shades lighter.



**2** It is even possible to carry out some "quick masking" on a wagon with a composite wood/metal structure. This will be most helpful during the painting and weathering phases. The Blue 3M adhesive tape, cut to fit, is ideal for flat surfaces.



**3** The two shades of primer on my sugar beet wagons show the different materials and hence the colours that will be applied at the painting stage.

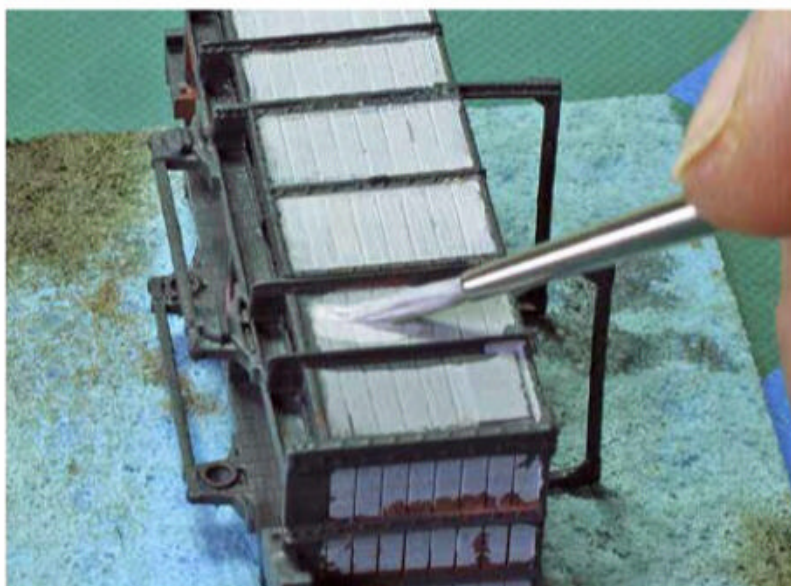


**4** The remainder of the work can be largely carried out using a paintbrush. Acrylic modelling paints are usually designed for this. In the case of a wood/metal bodied wagon, I begin with the chassis. Rather than black, I use a dark German grey that makes the model a little lighter.





**5** Once the chassis paint is dry to the touch, I tackle the body metalwork. With the wagon firmly held in one steady hand, I paint gently with the other. With a bit of practice, this isn't too difficult. Any small smudges will in any case be concealed by the following shades. In general, I paint first one side, then the other, leaving some time for the paint to dry before changing sides.



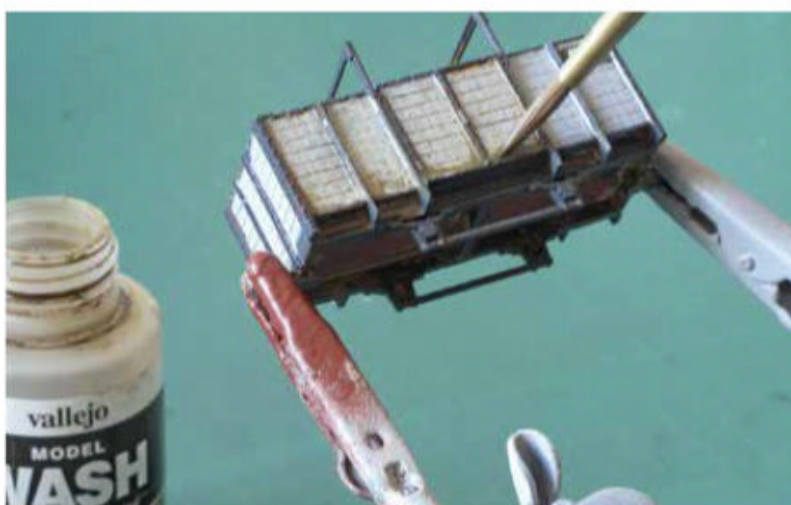
**6** Painting the woodwork takes place once the dark grey is thoroughly dry. Apart from the railway companies' official liveries, and depending on the effect you seek to achieve, various shades of brown or grey can be used. My sugar beet fleet is painted light grey, supposed to represent a livery that has been faded by the weather. Again using a brush, I apply highly thinned paint, the consistency of milk, one side after the other.



*This is why it is best to plan a "big" paint workshop and move from one room to another while the previous shades are drying. Take the time to check the surfaces already painted to improve their aspect and correct possible defects.*



**7** The inside of the body of the open wagons has been given a coat of highly thinned earth brown, that allows the grey paint to show through.



*The washes are simply acrylic washes: pigments suspended in a medium.*

**8** The time has come to apply some weathering. I used the washes sold by Vallejo. After having been stirred, a wash is applied with a paintbrush. The pigments settle in the hollows and along the raised detail. I proceed by small touches until the result sought after is achieved. I mainly use the European earth and rust shades for the chassis.



**9** Once the paint and quick weathering have dried completely, they are protected by airbrushing a coat of matt varnish.



**10** After 3 hours of work, interrupted by drying out phases, my wagons are ready to make up a sugar-beet train.



## MAKE YOUR OWN ACRYLIC WASH

If you cannot find what you need in the range of Vallejo washes, there's nothing to prevent you from making your own acrylic wash. My approach consists in mixing equal parts of matt acrylic

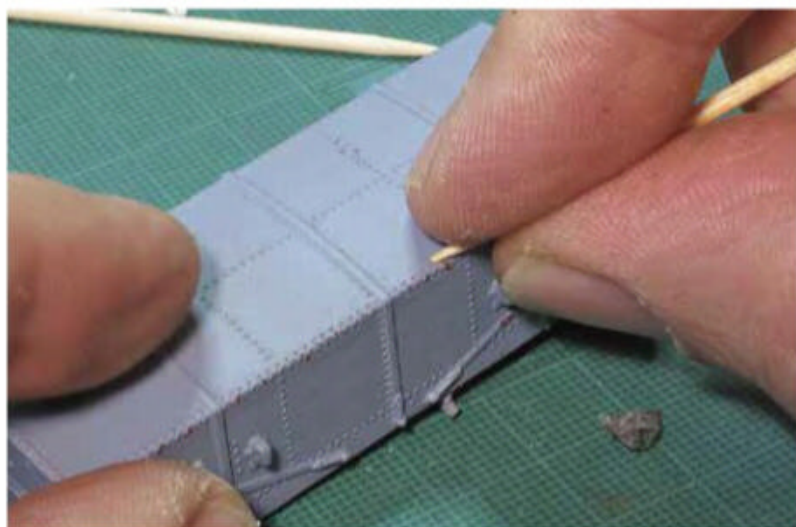
medium and demineralised water, to which are added a few drops of airbrush thinner, to make the blend more fluid, as well as the shade I am after. In this case, a medium grey-blue.



**11** This Pechot wagon has been entirely airbrushed in AK Interactive artillery grey. The colour is realistic, but applying it over the whole wagon gives it an appearance that is too uniform for my taste.



**12** The same wagon has been treated with a home-made grey wash, a little darker than the basic colour. All the raised detail on the bogies and frame is enhanced.



**13** On what are supposed to be the metal parts, the rust-shaded primer can be made to show up, to simulate traces of... rust! By drawing a simple cocktail pick over the paint before it has dried out fully, the top coat is scratched and the primer reappears.



**14** This Decauville 1915 tank wagon, not yet weathered, already looks realistically rusty without any added paint.

**15**

Should you by any chance need to paint a wagon or a locomotive in black, tone down the paint by adding, as you like, some grey, brown or even blue.

The Decauville wagon in the middle of the train has been painted black with some grey added. Compared to the second wagon painted pure black, the detail shows up far better.







**16** Vallejo also makes ready-to-use products for heavier types of weathering: the "muds".



**17** Having first received a coat of wash, then of mud, this flat wagon looks as if it has just returned from the front lines.

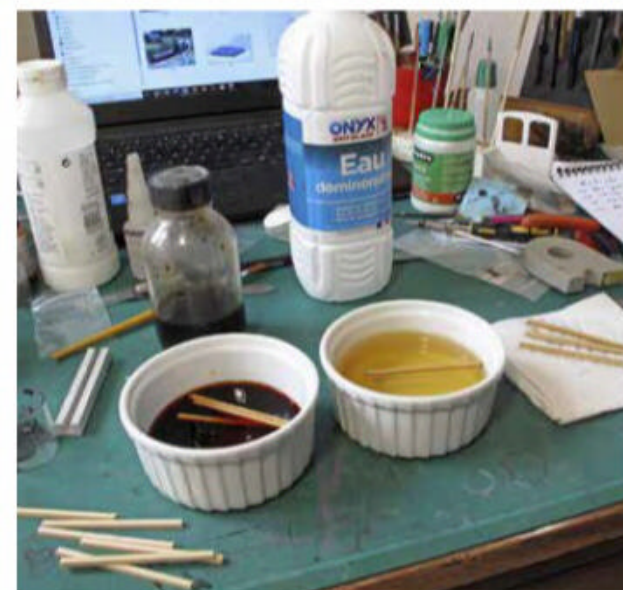
*The "muds" consist of acrylic pastes and are used to represent splashes of liquid or thick mud, depending on the references. They can be applied with a paintbrush or a bevelled cocktail pick.*



**18** To draw lines or apply fine lining, marker pens can be used. For black, providing a high degree of coverage and excellent resistance to light, the Molotow Blackliner pens are probably what is best. The shades applied to this military box van were applied by hand using an 0.3mm tip.



**19** If required, natural wood can be weathered easily and quickly. To do so, prepare iron acetate. In a glass jar, soak steel wool in household vinegar. It is best to work out in the open, as this mixture produces dihydrogen.



**20** To give your wood a greyish shade, dip it for a few seconds in the iron acetate, then rinse it in demineralised water. The longer the wood is in contact with the substance, the greyer it will become.



**21** Treated in this manner, the loads of wood blend nicely with the weathering of the wagons.



**22** After five afternoons of painting and weathering, the Quittancourt wagon fleet has grown considerably!



## A PANHARD RAILCAR FROM THE TLC NETWORK

# Pressing on the gas pedal!



Everyone is familiar with the gentle summer pleasures of handling charcoal when preparing a barbecue. However, in the past, some railcars drivers had to do likewise, to feed their producer gas motor!

Text: Vincent Lepais

**B**etween the Wars, Panhard and other builders used to offer motors adapted to lean gas, as well as generators – known as producer gas units – a technology they were familiar with. On the Tramways du Loir-et-Cher network, delivery of such Panhard units took place in 1928.



Panhard n°A6 with its parcels trailer.





Chassis of the Panhard unit in Blois (Loir & Cher).

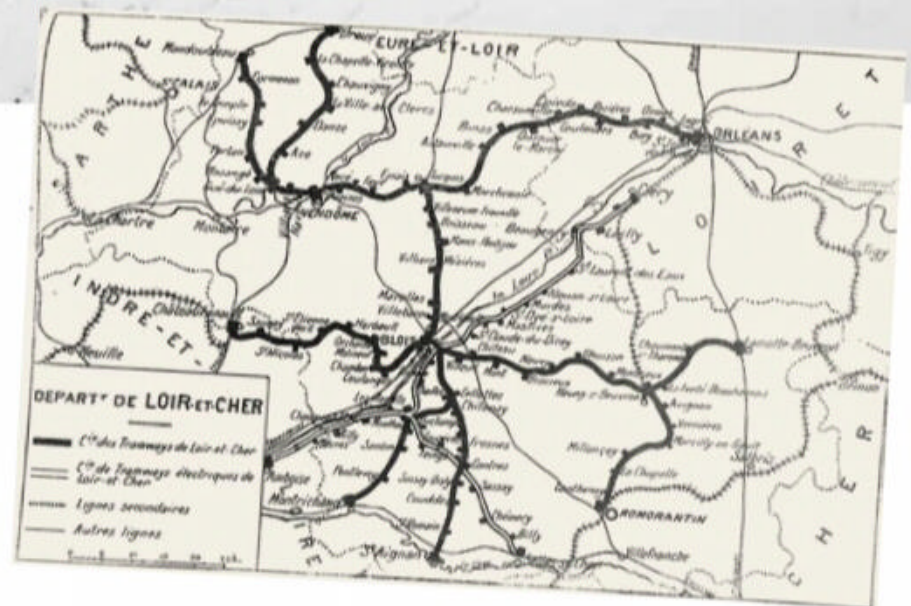
## IN THE SOLOGNE

The orders placed by the TLC with Panhard applied only to motorized chassis of the AGF1 type. The bodies were built by a coach-maker, Mr. M. Guffroy, based at 69 rue des Rosiers in Saint-Ouen, in the northern suburbs of Paris. This was quite usual, in those days, many railcars were supplied as a bare chassis, with the customer choosing the bodywork.

The two units were delivered on 5th and 27th November 1928, permission to put them into service was given on 1st December under numbers A5 and A6. They were assigned to the line linking Blois to Château-Renault. Just like the Campagne units numbered A3 and A4. Operation was made easier by the fact that the Panhard units had two driving positions, which was not the case for the Crochat A1 nor the De Dion A2. The only drawback of the Panhard was its valveless motor designed to work exclusively with a producer gas unit. This explains why both these units were withdrawn as early as 1933. Another unusual technical feature was that the driving position at the producer gas unit end was literally squeezed in between the generator and the scrubber, with the motor at the opposite end of the unit.

## TRAILERS

The Pétoilat company in Dijon supplied a series of four 4-wheeler parcels trailers in January 1929, numbered Rb 1 to 4. A peculiar feature was that they were only fitted with one door on one side, and only one coupling. Therefore, they had to be turned on a turntable at the end of each journey.



Map of the network

None of these various vehicles survived the closure of the network in 1934. All that is left are a few photographs to figure out what was the life of these unusual railcars.

## HOW DOES IT WORK?

In the generator part, wood or charcoal is burnt, without combustion being complete. Everyone is familiar with the dangers of such combustion in home heating systems, as it generates carbon monoxide (CO), deadly in small concentrations. But this gas is also combustible, and even explosive when its concentration in air becomes significant. It is the combustibility of CO that is used in a producer gas unit. Before being introduced into the motor, the gas must be run through a scrubber to retain the impurities and damp generated by any type of combustion. Besides the fact that it replaces petroleum-based products in motors, the advantage of the system is its ease of construction. The drawback is that getting it started can sometimes be a lengthy process.



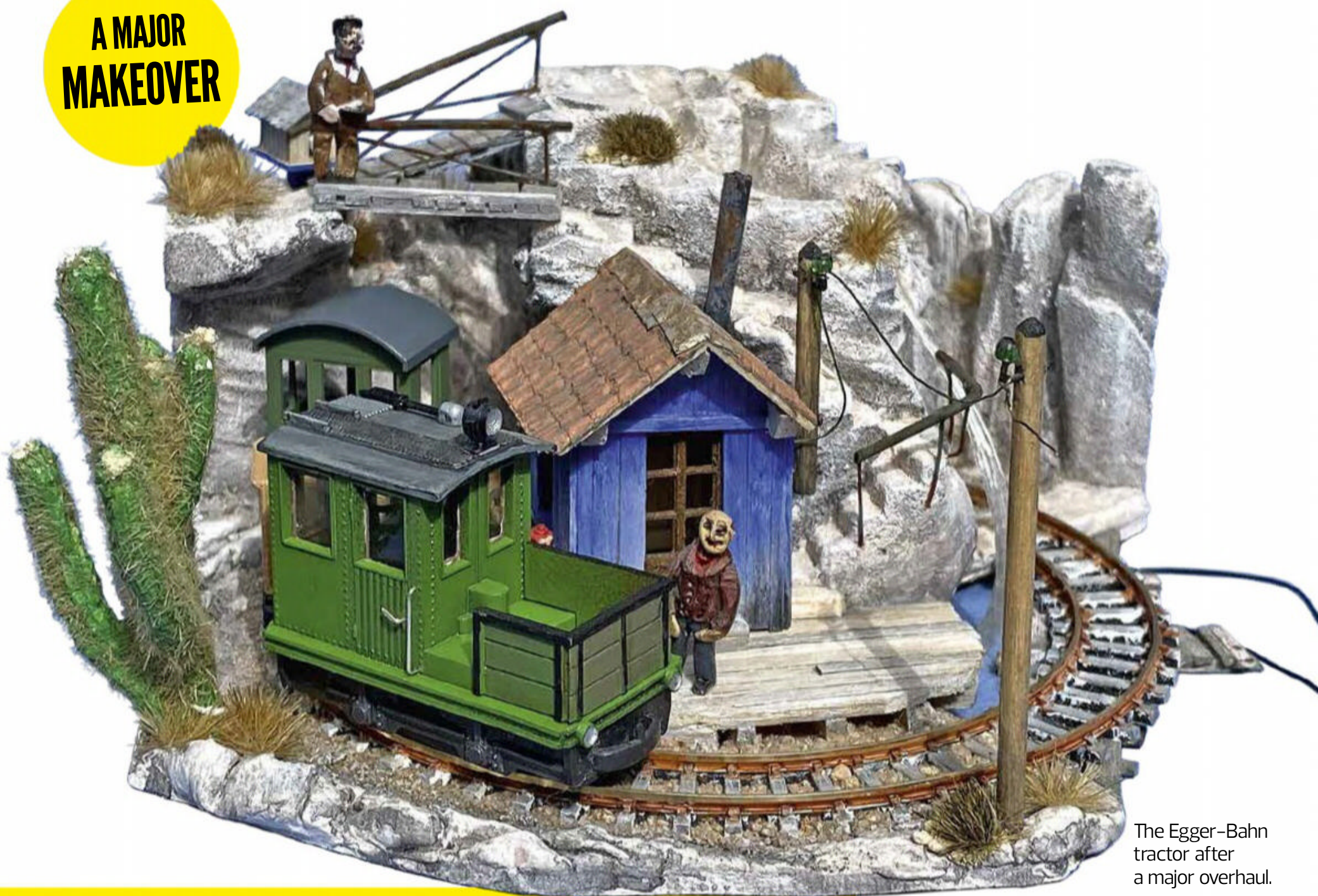


# *Rejuvenating* **AN ANCIENT EGGER-BAHN**

How to make something old into something new – well, not quite! You also need a bit of goodwill. Shall I tell you how?

Text and illustrations: François Fontana

**A MAJOR  
MAKEOVER**

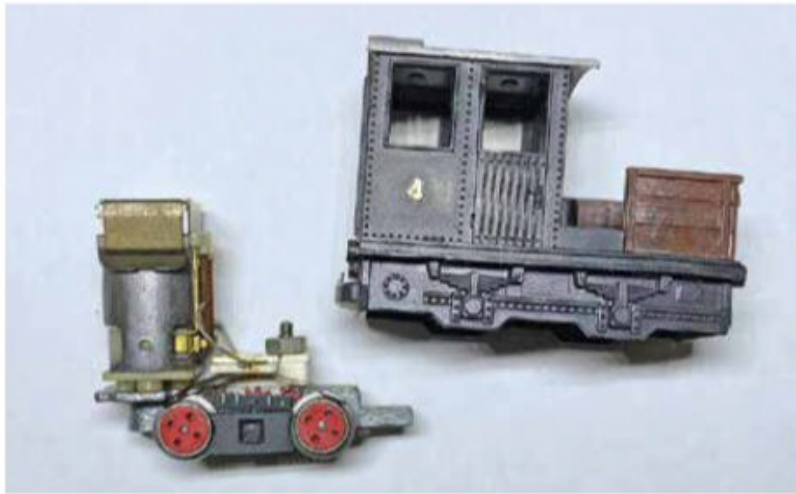


The Egger-Bahn tractor after a major overhaul.

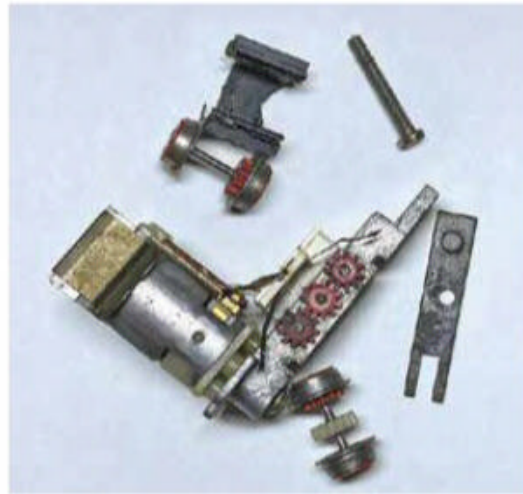
*This small project was motivated by the release of the Tramfabriek motor upgrade kit for the Egger-Bahn chassis. I had a tractor lying around, and I was keen to get it to run properly. But before reaching that stage, a bit of work was required!*

Website: <https://tramfabriek.nl/eggerultimate.html>





**1** Here it is, the famous tractor with its wooden body, derived from the prototypes that were used for the maintenance of the Rhine embankments. My model is a Jouef production from the 1970s: bad temperamental motor, running too fast, faulty fixing of the chassis to the body, front lamp lost, silencer missing. In summary, a dirt cheap model bought in a swapmeet.



**2** Dismantling the model is quite simple, the magnetic block between the axles is removed from below, and frees the keeper plate and the transmission gears. The motor is held in place by two screws. To be honest, all this is pretty crummy!



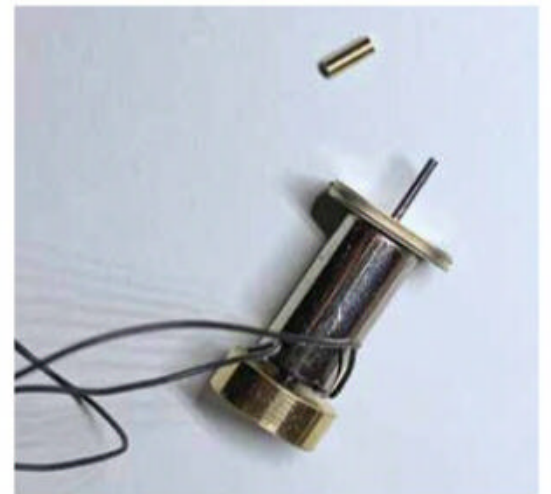
**3** A quick soak! All the parts are steeped in C spirit for a few minutes, to soften all the old lubricants mixed with dust and all kinds of hairs!



**4** The next step in the cleaning process consists in giving the parts a good scrub. I use a stiff paintbrush, in a highly suitable dish! The delicate part consists in removing the grease between the teeth of the gears.



**5** Using the small Tramfabriek puller, I remove the worm gear. If you want to avoid this stage, remember to order a suitable worm with the upgrade kit. Removing the worm is not always easy, the job can sometimes be tricky!



**6** The motor upgrade consists of a nickel silver plate into which a coreless motor is fixed. The motor features a flywheel. A sleeve is supplied to adapt the diameter of the worm gear to that of the motor shaft.



**7** A drop of locking medium fixes the assembly. Re-assembling the chassis consists in doing the opposite of what you did when dismantling it... What a surprise!



**8** I happened to have an Egger-Bahn lamp handy, so I glued it onto the roof, then painted the body green, and weathered the planks in a brown shade. From the inside, I added window frames and glazing. On the outside, a chromium-plated handrail and a fine door handle. Wish I could hop into such a machine every morning to go to work!

*Once on the track, it's like having a new model. The tractor runs smoothly, silently, with good slow running, and ample power for such a small machine. Truly delightful!*



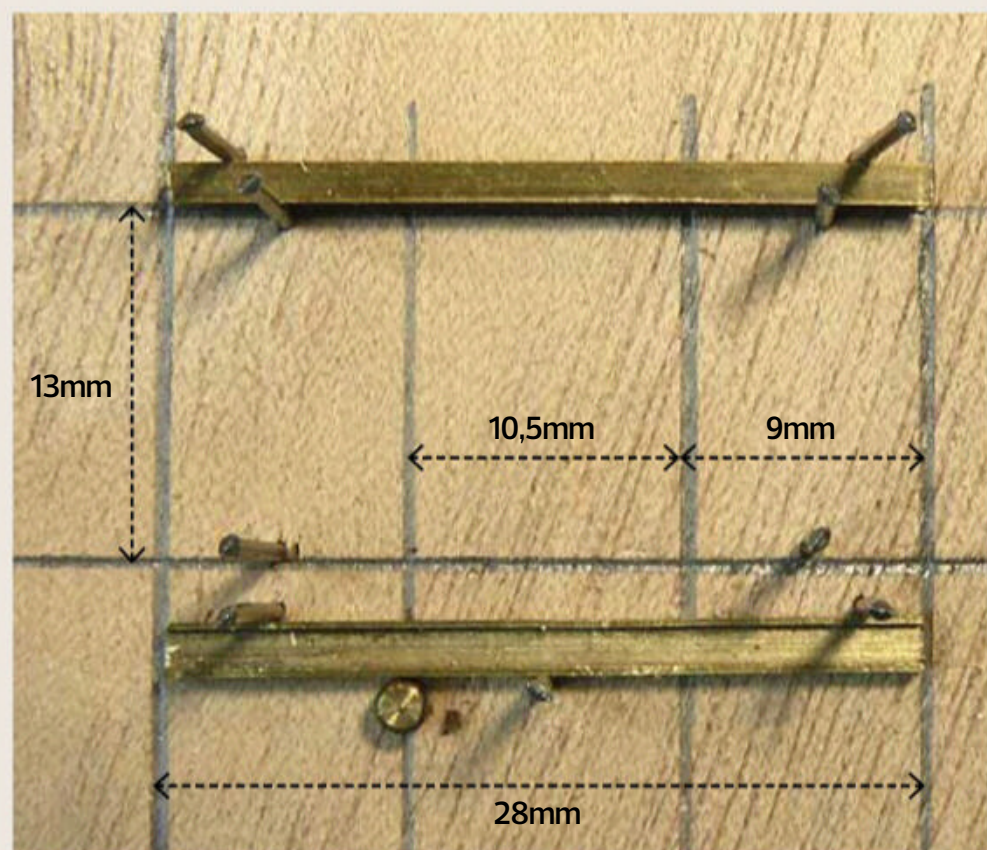
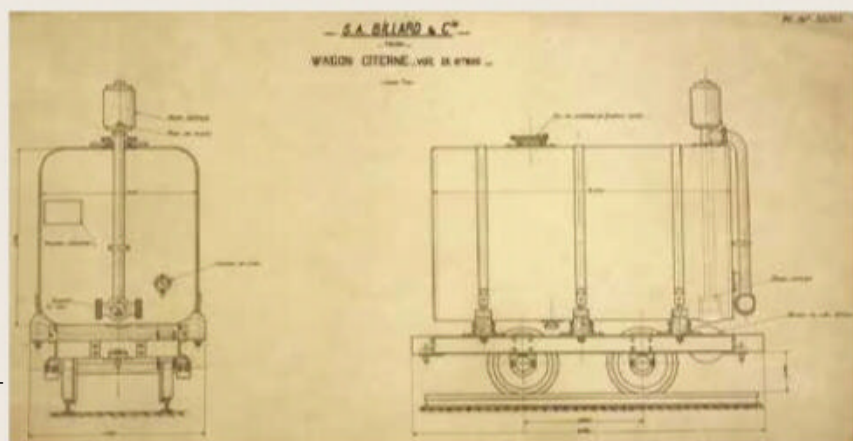
# My Billard tank wagon **TRUE TO LIFE**

When Christophe Menier shared his discoveries from the Billard archives on the *Voie Libre* forum, he naturally gave rise to vocations. And for Christophe Deblaère, this meant an urge to build a tank wagon. Many thanks to both of them!

Text and illustrations: **Christophe Deblaère**



**T**his tank wagon never emerged from the Billard works... but it will from my own! Christophe Menier published several Billard drawings on the *Loco-Revue* forum, including this small tank wagon. I am most grateful to him! As usual, this construction project aims at being simple, but with some delicate phases however. This is a tiny, tiny model. ■



**1** Tracing takes place on a wooden board, nails hold the various strips in place. Start by carefully soldering the brass bearings. The 13mm gauge will be adjusted depending on the tip-to-tip length of your axles. What you are aiming for is a slight force-fit.





**BILLARD  
BILLARD!**

## SUPPLIES REQUIRED

Various **brass strips** (2 x 1mm U or H, 3mm flat or 3 x 1mm L, brass wire, various tubes)

A piece of **hardwood**

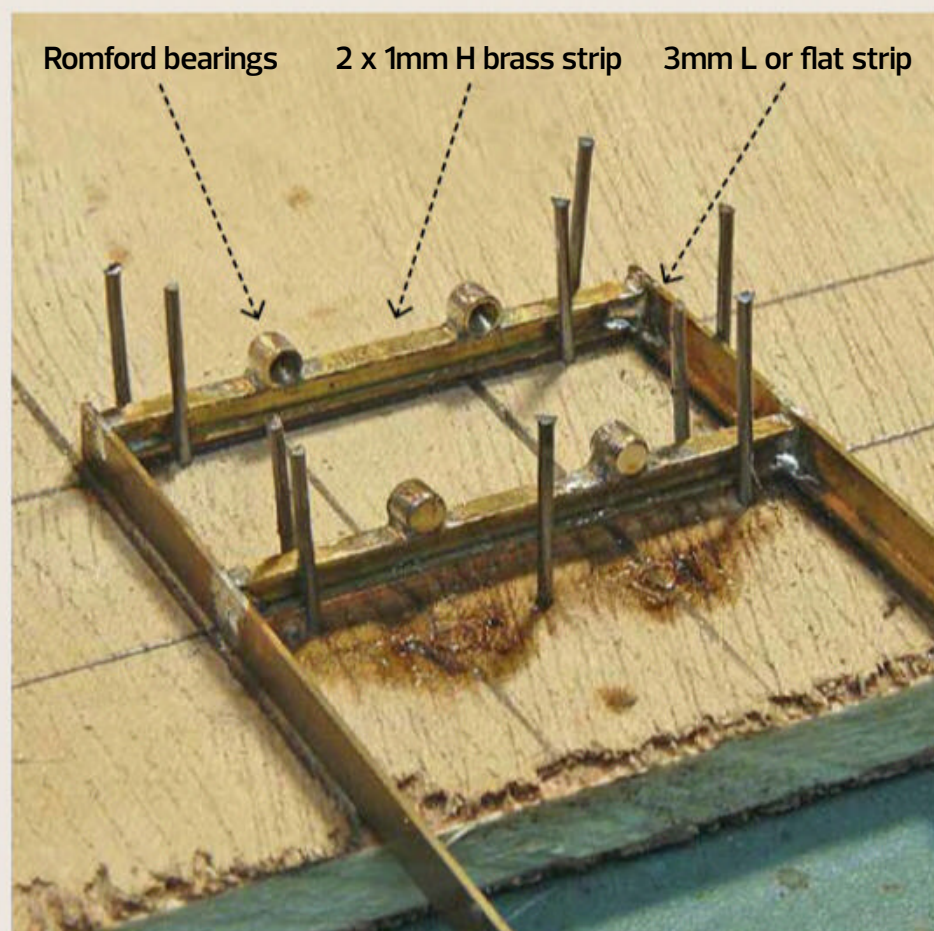
3 x 3mm **balsa or samba wood**

**Leftovers** from kits (washers, railings...)

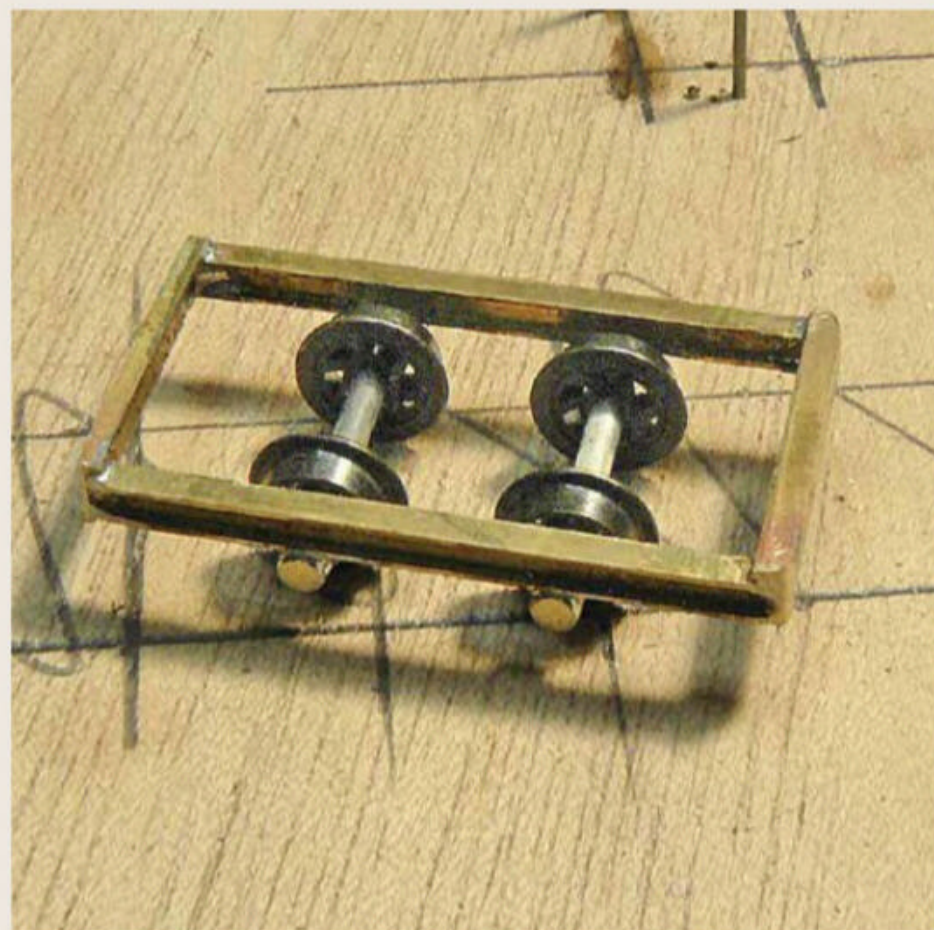
Round Romford **bearings** (2 x 2mm)

Micro-modèle **axles** ref. PE JR 097

Cyano **adhesive**, solder, standard modeller's tooling



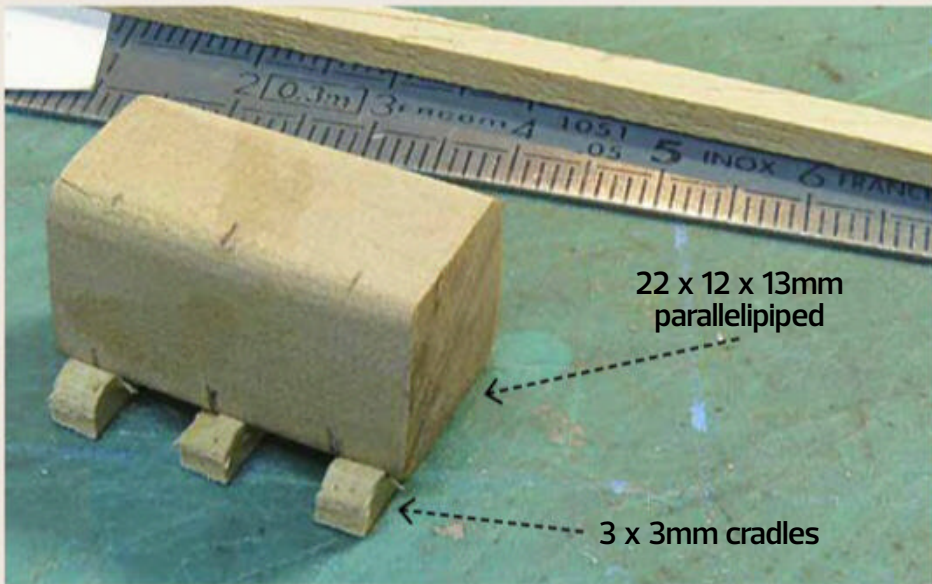
**2** The various parts are soldered together, ensuring they are perfectly square. Adjust and trim at the end of the work, this is often easier.



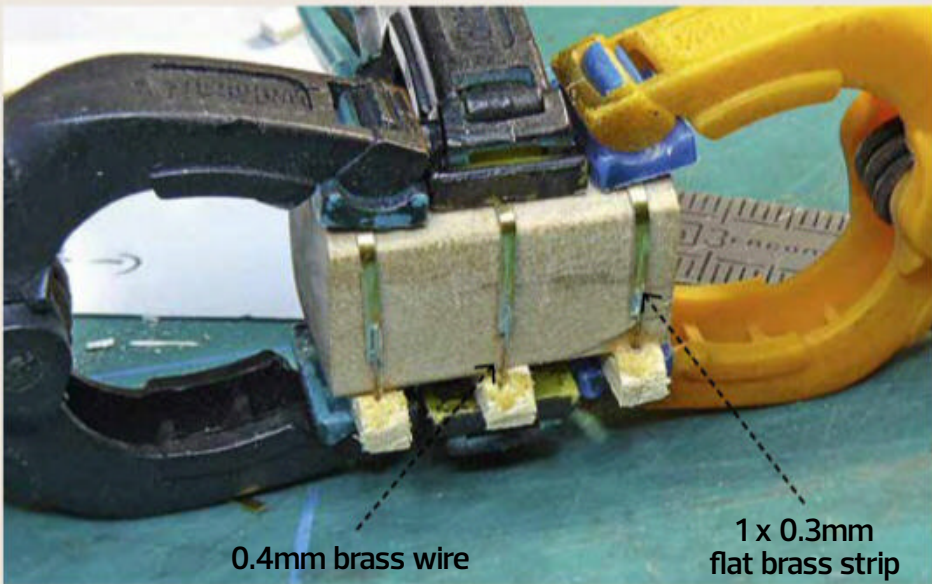
**3** The axles have been fitted and tested: all is well! On either side, and in the middle, drill out the holes where the buffer/coupling hook will fit.



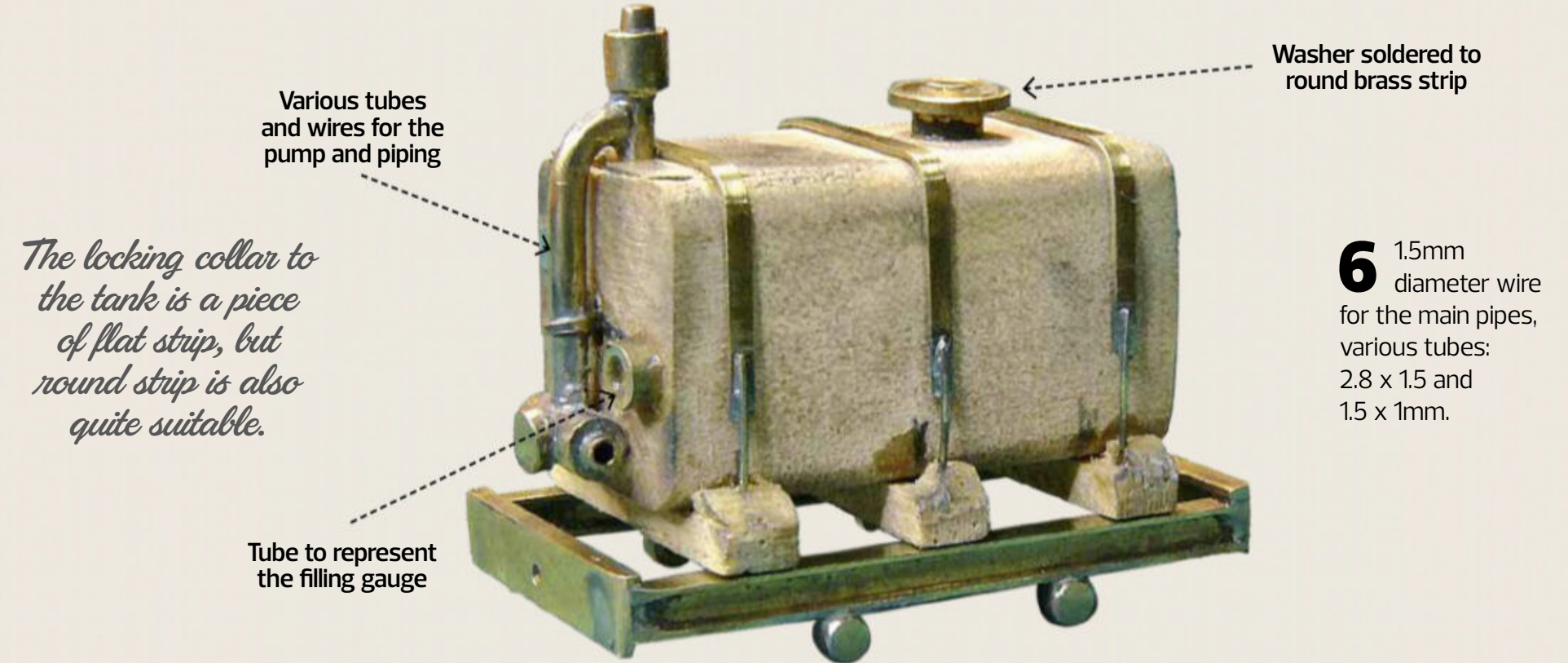
# Motive power



**4** Creating the tank: hardwood, as it easy to sand, with few fibres. The cradles are shaped out of 3 x 3mm balsa wood (or out of a strip of any sort of wood). The location of the lashing points is identified...

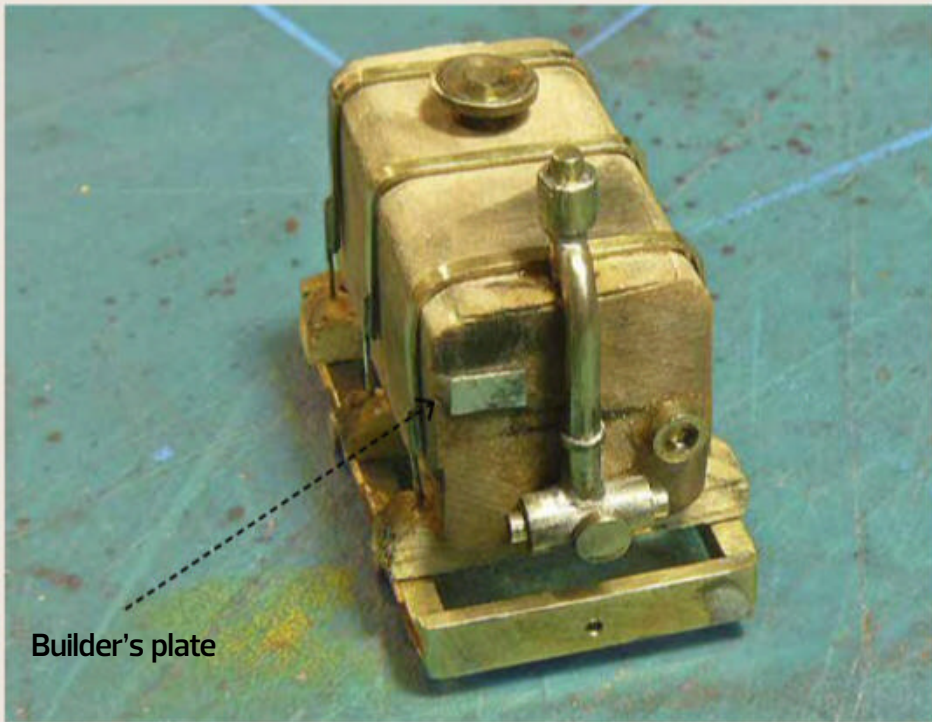


**5** The lashing consists of brass strips onto which a short length of brass wire is soldered on either side to simulate a threaded rod, held in place with cyano adhesive.

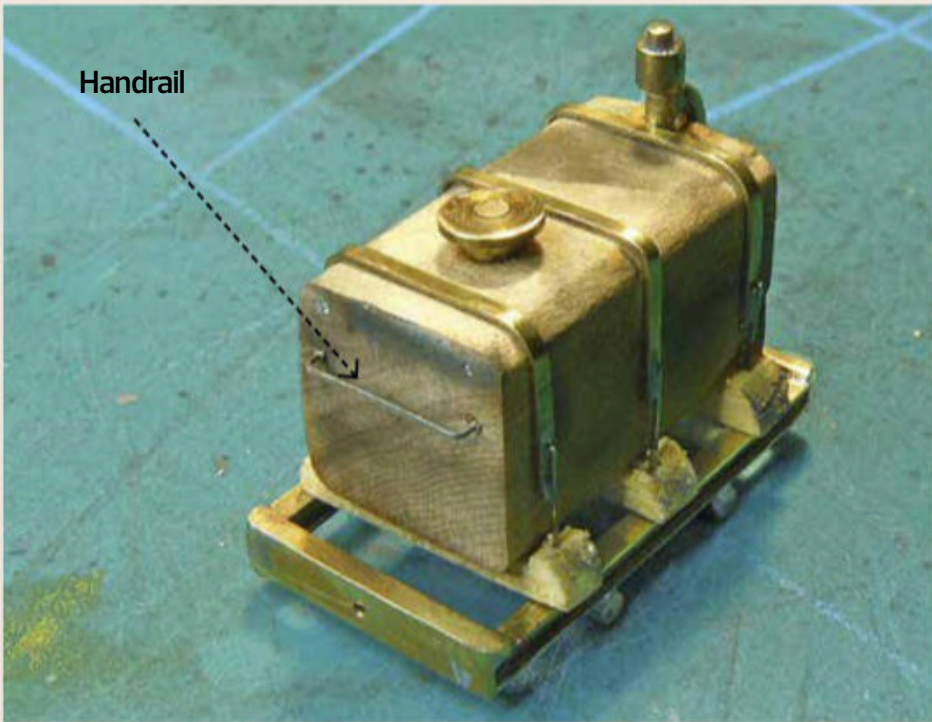


*The locking collar to the tank is a piece of flat strip, but round strip is also quite suitable.*

**6** 1.5mm diameter wire for the main pipes, various tubes: 2.8 x 1.5 and 1.5 x 1mm.

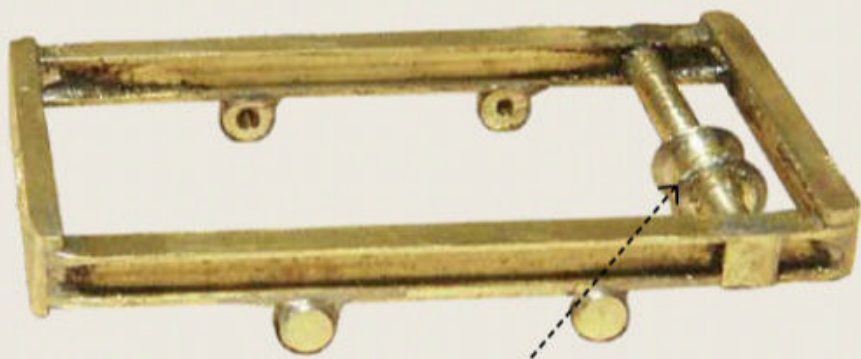


**7** The builder's plate is a tiny piece of brass, measuring ca. 3 x 1.5mm!



**8** The handrails was scavenged from an old kit, but 0.4 or 0.5mm diam. brass wire will do fine also.





Drum for the electric cable of the pump

**9** The electric cable drum consists a length of tube, two washers to represent the sides, fitted to a 1.5mm diam. axle. This assembly is free to rotate and two plates are soldered on each side to prevent the axle from working loose. The precise location will be determined taking into account the fact that the drum must rub neither on the buffer beam, nor on the tank cradle.



**10** The sub-assemblies are ready to be painted: primer and black paint for the chassis and recycled buffers. The tank will be grey, add a few touches of colour and your tank wagon will be ready to supply your various work sites! Keep in mind that felt-tip pens can be used conveniently for applying certain shades. This is sometimes far easier than using a paintbrush and paint!

*Abandoned in a station, this Billard tank wagon is expecting a... Billard tractor!*





# Operations, processing, shipment

It is possible to combine everything, from operations to shipment, on a small surface. Provided you take advantage of height.



Text and illustrations: François Fontana



## MinitrainS track

Short straight track ref. 9301 x 7  
Short curved track ref. 9302 x 3  
Straight isolation track ref. 9304 x 6  
Short straight track ref. 9313 x 2

Long straight track ref. 9311 x 2  
Long curved track ref. 9321 x 8  
Left-hand turnout ref. 9306 x 1  
Right-hand turnout ref. 9316 x 3

This is a small layout, just 62 x 48cm. Closed on one of its long sides, it offers different viewpoints on the other three. On the first small side, operations take place at an altitude of 10cm. This is where the precious logs are loaded onto wagons. Two sidings are enough to park the trains. The engine is always on the downhill side, the wagons must be held back on the gradient! The two sidings adjoin a rocky outcrop which conveniently masks the view towards the other side of the layout. A long curve, one turn and a half, takes the track down to the sawmill.

On the side, the sight of trains running past the abyss can be enjoyed. At the front of the layout, two girder bridges, which share a common central pile, carry the track over the processing plant sidings. We have lost 4cm at the pile, a further 0.5 at the turnout leading to the engine shed. The track continues round the back of the buildings, passes through a short tunnel dug into the cliff and ends on a headshunt by the beach, at altitude zero. This headshunt serves the wharf siding in the foreground, and the factory inside the spiral curve. Inside a building, a traverser allows the engine to run round its train.

The project calls on 14cm radius MinitrainS track. The necessary sectional elements are shown on the diagram. Six isolation tracks enable engines to be stored on the dead-end sidings and under the engine shed.







DOWN BY THE RIVERSIDE

# The Valley Floor Mills



The Valley Flour Mills, an attractive diorama combining ultra-modern and more conventional techniques.



Having moved homes and left a large busy city for a quiet area in the Alpine foothills, but with less less space for modelling, Gilbert Gribi has switched to building dioramas in On30.

Text and illustrations: **Gilbert Gribi**

**W**e are invited to witness the birth of his very first diorama. A grain mill in the Western USA. He describes its design and construction, cleverly blending traditional and more innovative techniques. I hand the keyboard over to him.

**Gilbert Gribi:** Having spent 17 years building a large layout, I have now turned to creating small dioramas. They are easier to handle, easier to carry around, easier to take to shows!

I opted for an American grain mill with a waterwheel. Two pipes feed water into the elevated water raceway, built out of wood. Two sluice gates can redirect the water to the overflow chute. There is no water for the time being, the mill is undergoing maintenance. This diorama is built in 1/43.5 scale, allowing me to use figures and a few accessories in this scale.

## ASSISTED DRAWING

All the parts of the building were drawn using the 2D Zwcad software. The basic structure of the walls calls on 1mm thick museum board, and is cut and engraved using my laser cutter. It is then clad with

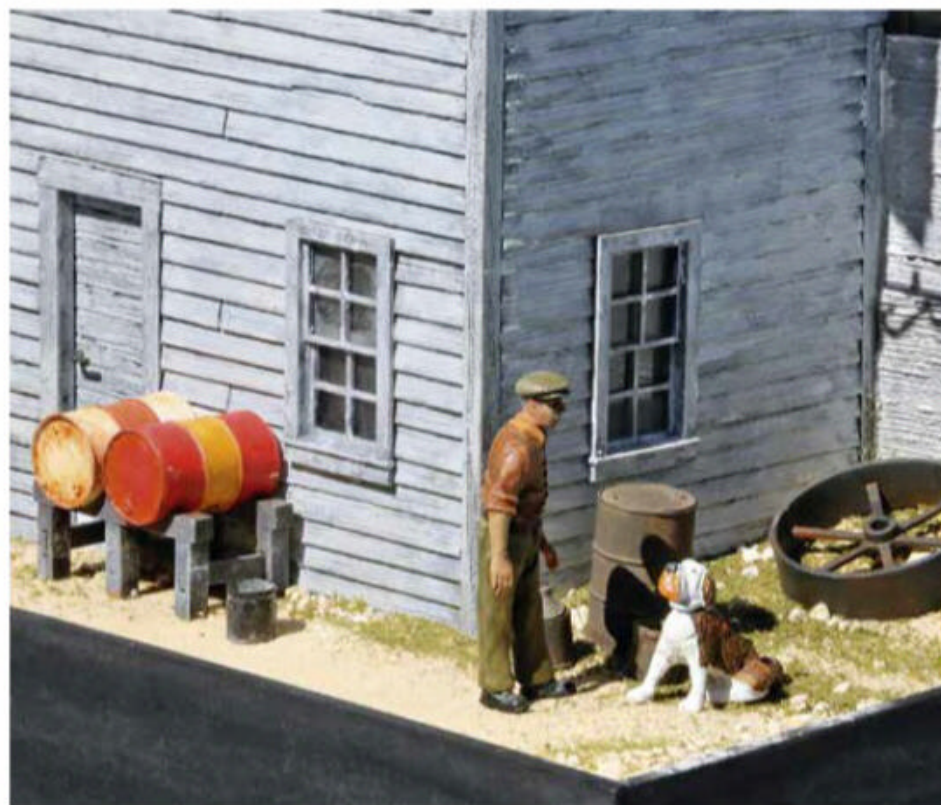
strips of samba wood. The framework, the water raceway and the various uprights are wood strips from the Kappler range.

The windows are from the Grandt Line range (ref. 3702), and despite being in 1/48 scale, they blend in well with the remainder of the building. The structure on the ground is 3mm thick museum board. The small amount of vegetation is from the Woodland Scenics range.

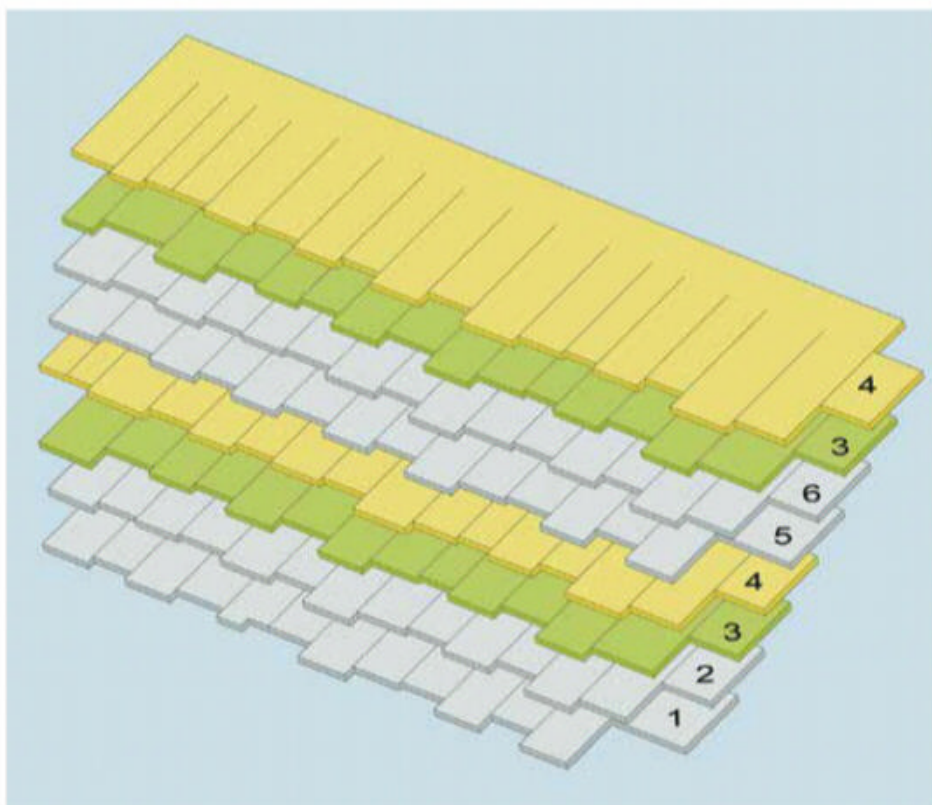
## ENGRAVED AND PAINTED BY HAND

The cladding boards are cut out individually and engraved using a small Proxxon blade. A first coat of grey oil paint is applied to them. Once dry, the boards are glued onto the museum board and given a coat of white oil paint, stippled on with a small flat brush. The windows are painted in the same manner, over a first coat of Tamiya grey.

The various parts of the wood raceway are engraved with the same blade, and thinned oil paints are then applied, natural Sienna and natural Umber. A few days later, these parts are weathered with various grey oil paints. The brick bases are cut out of balsa squares, and the joints engraved with a spatula. ■■■



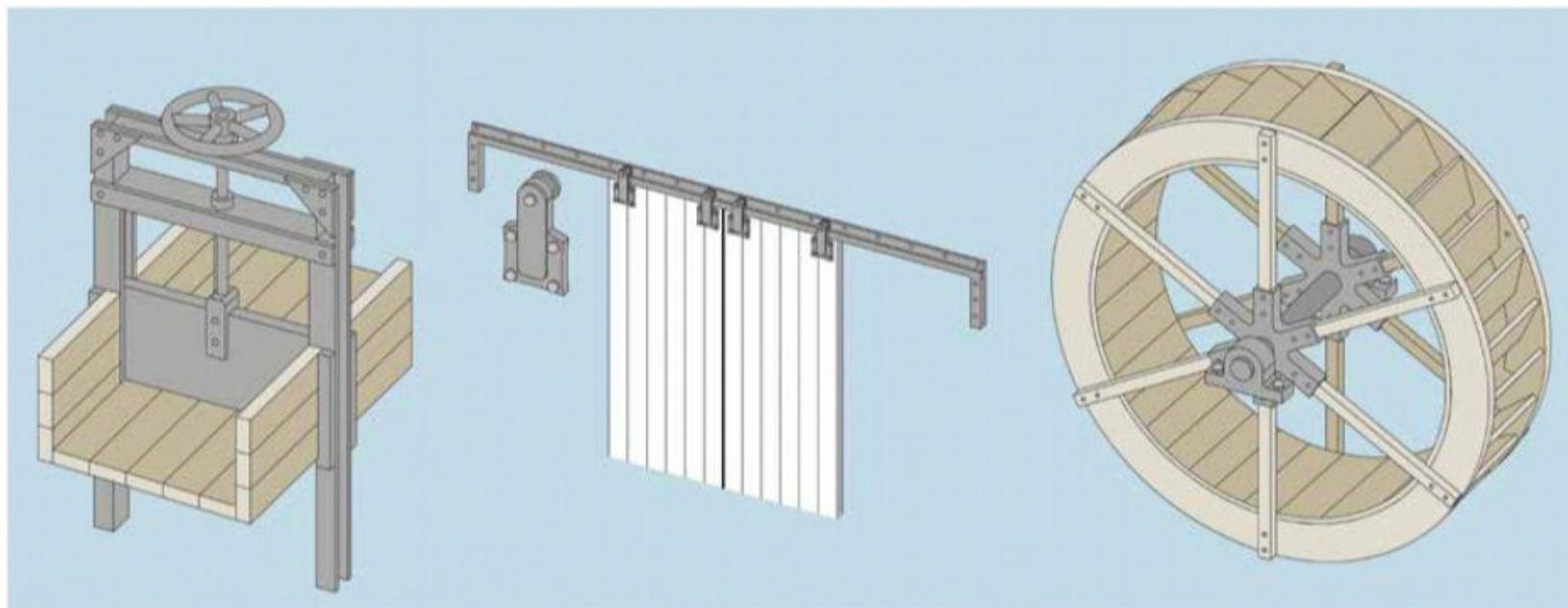
The walls are clad with engraved boards, which are painted with oil paints.



The shingles are cut into strips and laid in a repetitive pattern.



# SCENERY



The specific details found on this type of structure were modelled and 3D printed. The waterwheel consists of four different parts.

## 1/87 SCALE



THE VALLEY FLOUR MILLS



## A LASER-CUT ROOF, BUT NOT ONLY!

The roof shingles consist of strips of 240g Canson drawing paper, 0.3mm thick. They are numbered from 1 to 6. From strip N° 6 onwards, application is repetitive: 123456 - 3456 - 3456, etc. They were painted light grey with oil paint.

For the strips of tarred paper on the roof at the rear, I used paper tissues painted with Tamiya matt black. They are covered with grey pastel powder to tone down the black and give them a weathered appearance. Once painted, they can easily be torn to simulate a dilapidated roof. The tar joints are drawn with a 1.7mm black Posca felt-tip pen. Once dry, the ink from this pen becomes matt. ■■■



The waterwheel once cleaned, assembled and fitted with Grandt Line bolts, before being painted.





# SCENERY



Plaster, resin, metal, wood, museum board, most common modelling materials can be found on this diorama. What brings everything together is the colour and weathering.



At the back of the mill, a small cameo scene puts the diorama in context. The farmer who has brought a sack of grain is about to return home.

## IF REQUIRED

If you are interested in his drawings and provided they are for your own personal use only, you can send Gilbert a message at the following address <mailto:gglaval@bluewin.ch> not forgetting to state your name.

## PRINTED DETAILS!

The waterwheel, the sluice, the blue cart and other accessories are 3D creations printed with my Form 2 printer. Attempting to print the waterwheel as one single part would have required many struts, which would have had to be removed once the wheel was cleaned and hardened. This would have been awkward considering its shape. I opted to print it in several parts: the central component with the blades, the two side flanges and the axis. I used a 3D template to help assemble these four parts. A few grooves made with a scalpel remove the smooth appearance of the resin used for printing.

To ensure that the primer holds properly on the resin parts, they must be thoroughly degreased: I spray acetone over the resin surfaces, provided there are

no polystyrene parts such as the bolts, which were added after the parts were painted. Once assembled, the waterwheel was given a coat of white Tamiya Surface Primer, thinned with the Lacquer Thinner product. A Tamiya grey was then applied. To avoid giving the wheel a uniform appearance, I applied various grey oil paints.

The corrugated sheet metal is from the American Builders in Scale artisan range (<http://www.builders-in-scale.com/bis/parts-metal.html>). Its shiny aspect was removed using ferric chloride thinned with water. The rust weathering was obtained with cadmium orange and natural Sienna oil paints.

The various stone walls, as well as the course bases were cast in resin or synthetic plaster. The figures, the horse and the cart are from the Phoenix range. \_

An attractive diorama that would deserve a place on a larger layout!







**PLAN**  
IN THE CENTRAL  
FOLDER

Sleepers, buildings, rolling stock, everything is made out of laser-cut card!

## A WHOLE *laser-cut layout!*

For many years, Nobuo Koizumi has been using computer-drawn patterns, printed on paper and glued onto plastic sheet, to create his models. He discovered laser-cutting and tells us all about it.

Text and illustrations: **Nobuo Koizumi**

**F**or many years I have been using 2D drawing software (Canvas X) to draw my cutting patterns. These patterns are glued onto plastic sheet before cutting out my parts in the conventional manner. I had never before used a blade or laser cutter, not even a 3D printer. The arrival of a fab lab just next to my home gave me ■■■

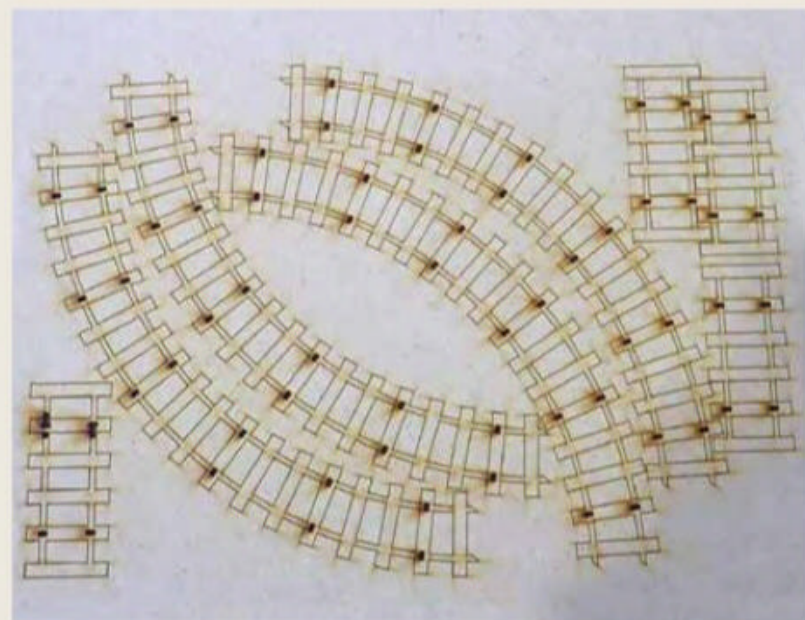


## HOW TO?



8 lengths of track, 3 buildings, 2 motorized vehicles and 4 small wagons, Nobuo Koizumi sets out to test laser-cutting.

The rails are held in place by staples located under the sleepers.



The sleepers, cut out of 2.5mm thick MDF.

■ the opportunity to take the plunge. I registered as a member and began studying how to master and control a laser cutter. This project, which I have called "Speeder Train Starter Set", consists of tracks, buildings and trains, enough to assemble a tiny layout in 0-16.5 scale. I will make: an oval of track with sharp radius curves, a station building, a rolling stock workshop, a trackside shanty, two motor-trolleys and a few small wagons.

### Radius 150mm

I began by drawing sleepers to the ultra-sharp radius of 150mm, before cutting them out of 2.5mm thick MDF. I made four quarter-circle segments and four straight segments to obtain an oval. The drawing, made under Canvas X, is then exported as an .eps. file. At the fab lab, the laser cutters are controlled by the Illustrator software. The various lines of the drawings are coloured depending on their function: outlines, engraving and cutting. For the cutting lines, two colours are used: the cuts used to hollow out closed shapes and the cuts used to separate the parts. I had to remove from the drawing all the parasite lines concealed in the original, which would have generated imperfections with the laser machine.

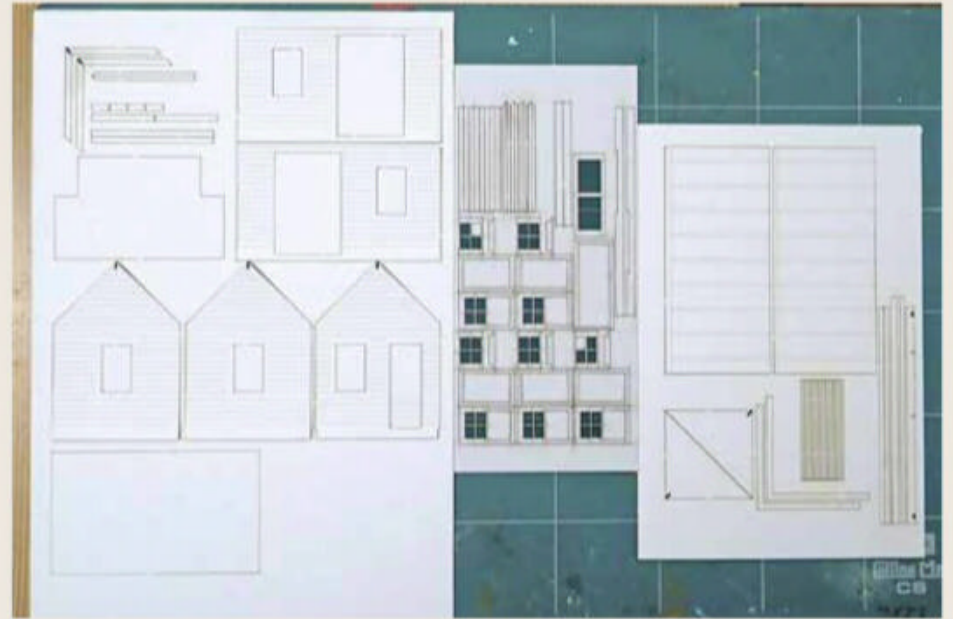
### Home-made spikes

As I wanted portable sectional track, I could not fix the rails – Peco code 100, curved by hand – through the sleepers using the usual spikes. The idea I came up with was to hold them in place using small brass staples, 0.2mm thick and measuring 1.5 x 8.5mm, shaped into a U form, slipped into place from the rear of the sleepers and folded back to hold the rail base. There is one staple every 3 sleepers. At the ends of each section, the MDF is filed down to accommodate the rail joiners.





The project features 3 buildings.



Once cut, the parts are still held in place by tabs that must be snapped off with a scalpel.

## Buildings

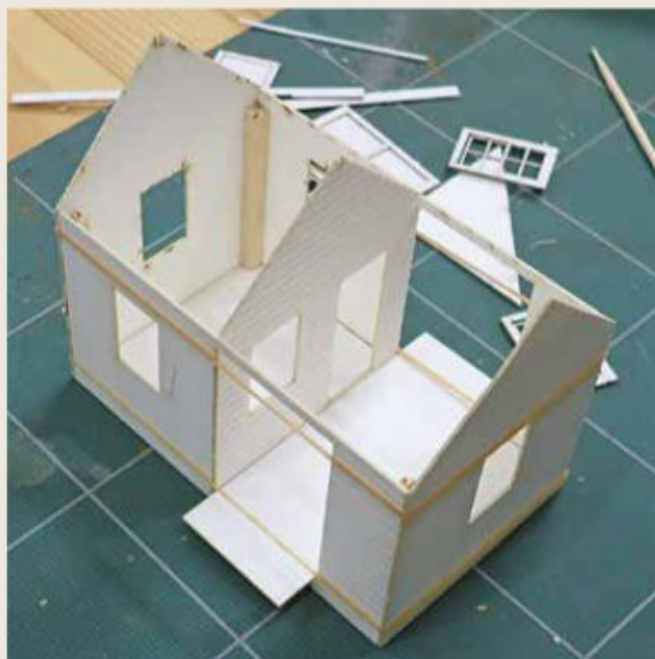
Buildings and other structural elements are perfectly suited to laser cutting. The repetitive cutting out of window frames is made considerably easier. For the walls and roofs, I used 1mm thick white coated card. Doors and windows are cut out of 0.6mm thick card. As the laser cutter is fitted with a blower, a few tabs must be left to hold the parts in place, to avoid them being blown away! I drew 3 buildings: an office with a ticket booth fitted with sash windows, a typically Japanese technical workshop with sliding openings, and a small shanty. Once assembled, the the buildings are given a coat of primer from a spray can. The paint is applied with an airbrush. The roofs are weathered with pastels.

## The station building!

This building comprises a sales booth with an awning, where tourists can buy a ticket for an excursion on the high speed trains! The angles are reinforced on the inside with wood squares. The entire surface is coated in grey primer, the walls are painted light green with an airbrush, the roof is painted green and the windows and bracing are outlined in white. ■■■



The roof is assembled on two formers that fit inside the gables.



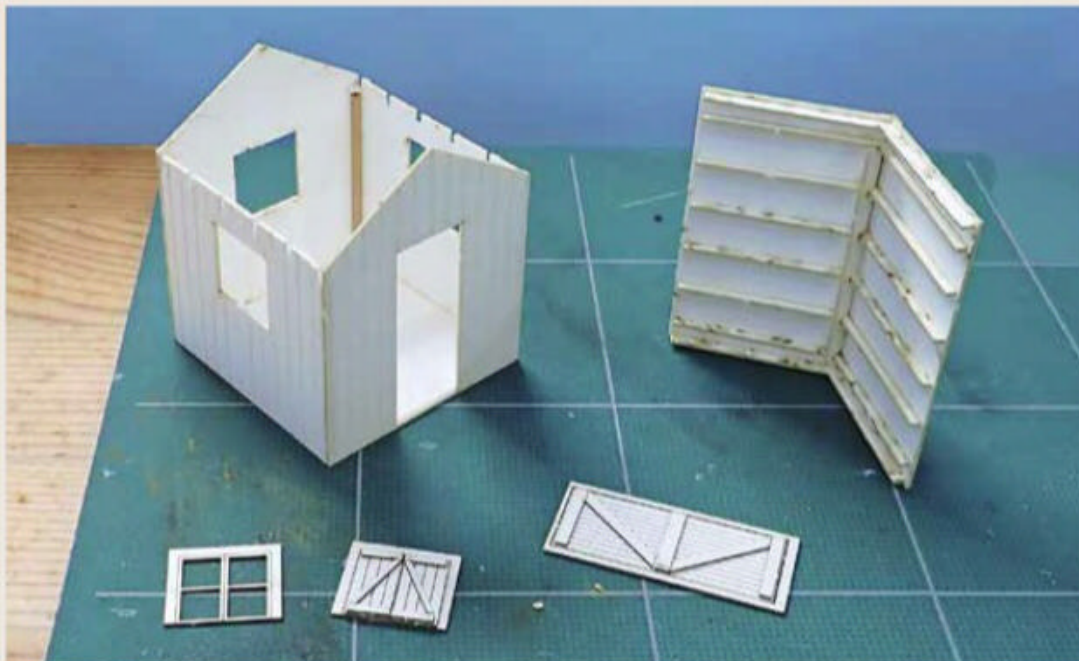
The inside angles are reinforced with wood strips.



The small station building: an office with a sales booth protected by an awning.



# HOW TO?



The roof rafters are fixed directly under the roof. They fit into the slots cut out of the top of the walls.

The workshop has been assembled, it will now be painted.



Light weathering at the bottom of the walls gives the structure an aged, but well maintained, appearance.



*The trackside shanty completed and lightly weathered.*

## The trackside shanty

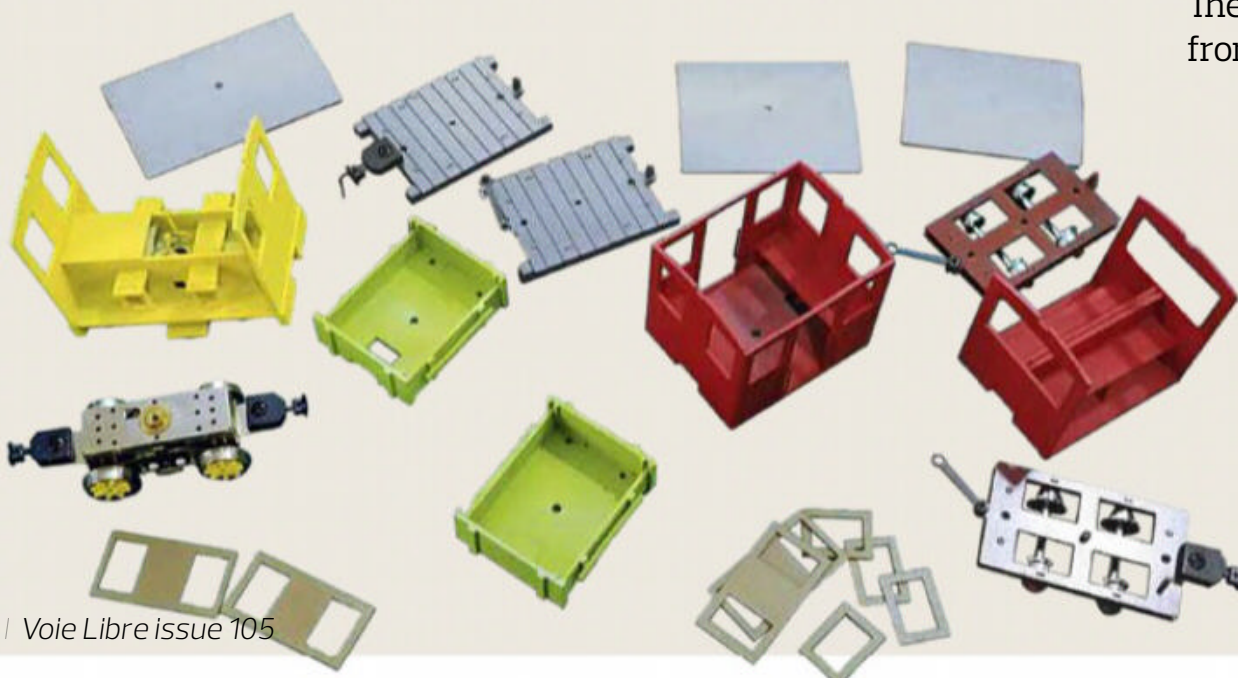
The small shanty stands next to the tracks, it is used for storing maintenance tools. The rafters are glued under the roof.

## The workshop

The workshop is located alongside the track. The sliding doors and windows between the structural beams give it a traditional Japanese architectural style. The model is built and assembled in the same way as the station building. Brown-grey weathering gives it the appearance of aged wood.

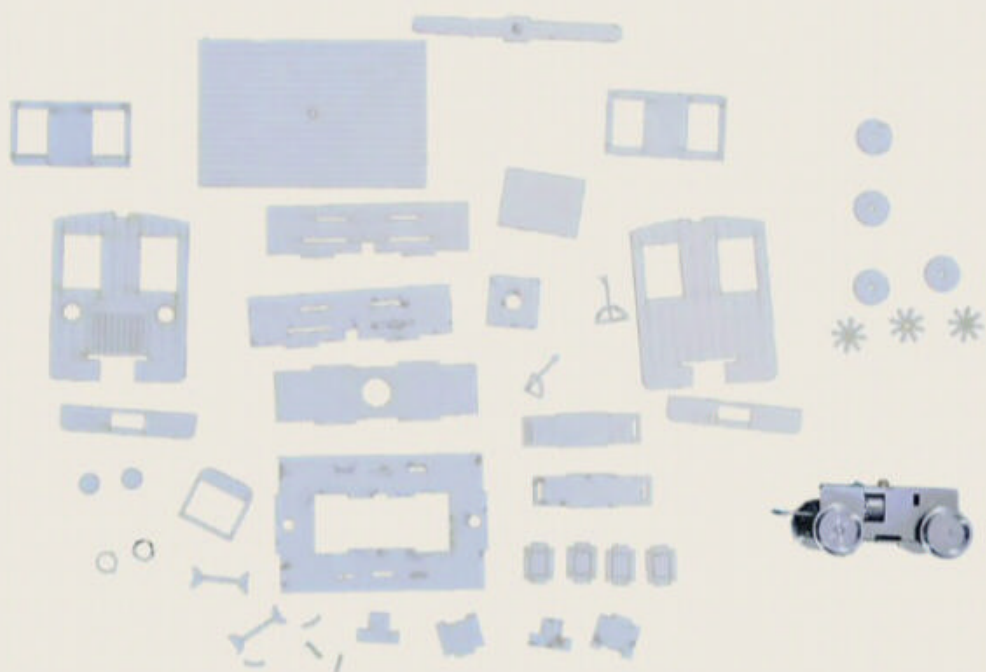
## Rolling stock

As polystyrene does not lend itself to laser cutting, I designed my rolling stock with the same 1mm thick white coated card as used for the buildings. The driving and carrying bogies are from the Aru Model artisan range.

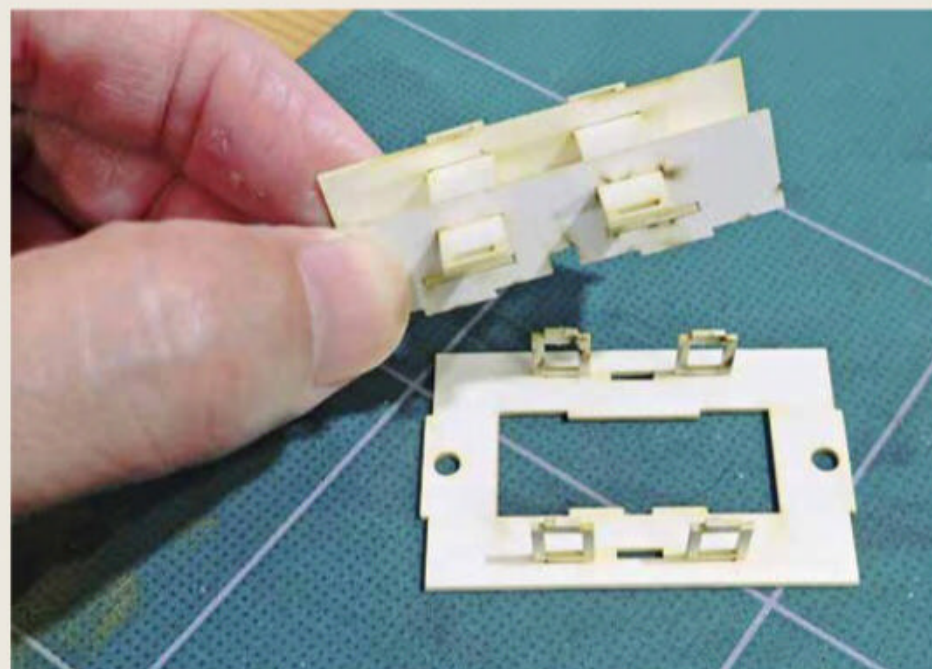


Metal chassis for the technical side and card for all the remainder!

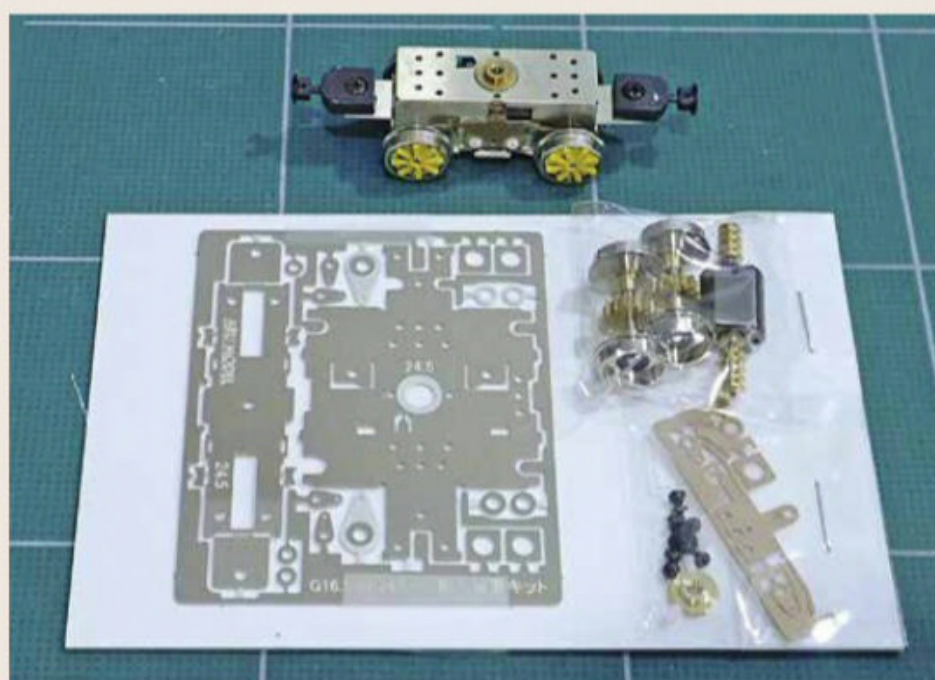




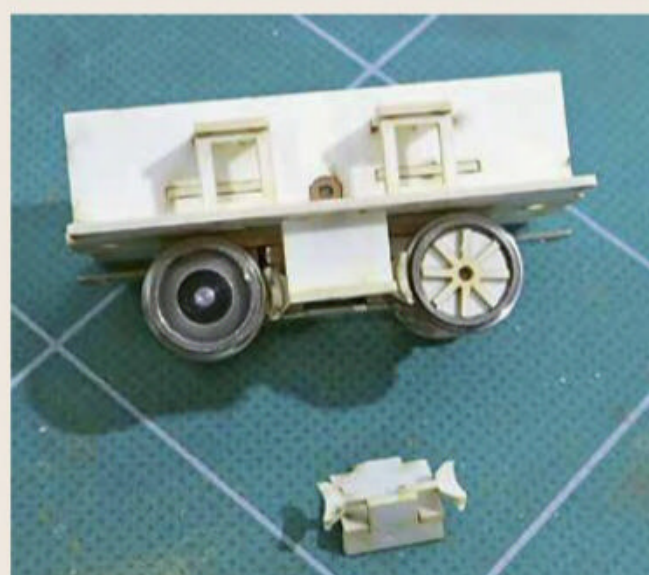
The motor trolley puzzle, laid out flat!



The body floor, the sides of the central chest and the seats.



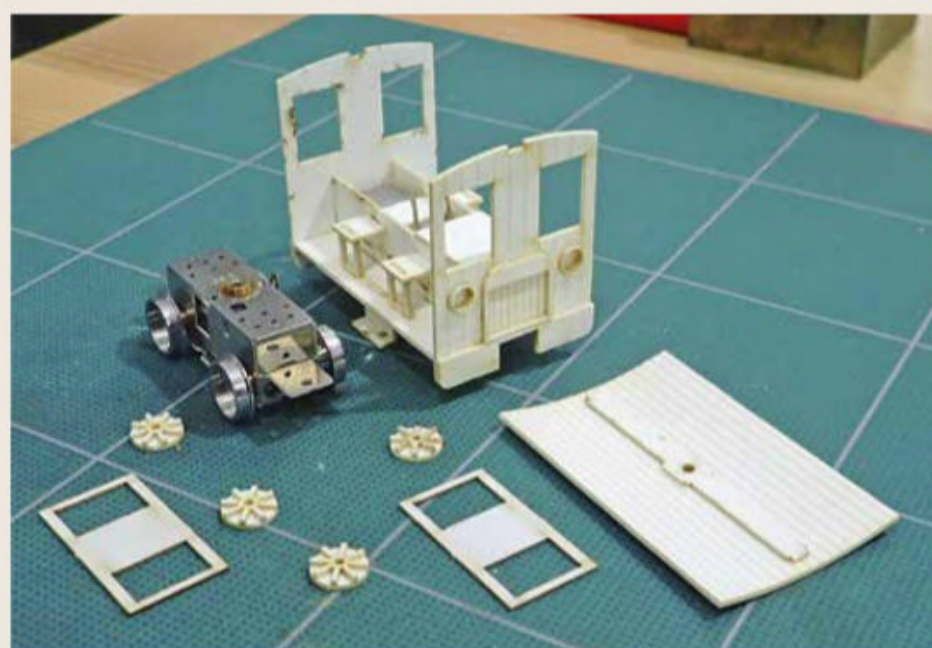
The Aru Model driving mechanism, supplied in kit form. The etched metal parts must be folded before assembly, a few tacks of solder hold everything in place, but using adhesive can be sufficient. Electrical pick-up is via the wheel webs on one side, via the ground on the other.



The wheel rims and the brake blocks are added to the motor block, located in the body floor.

## The motor trolley

The prototype I chose is an open motor trolley built by the American company Fairmont Railway Motors. The motor is concealed in the central chest, and the seats are located on either side. I opted for an Aru Model driving bogie with a 24.5mm wheelbase, similar to the Tenshodo model; it is supplied in kit form. The centre of the wheel web is hollow, meaning I can fit mock rims. The bogie is designed for Kadée couplers, but I fitted link and pin couplers. I built two motor trolleys, the first is painted yellow, the second, which features a few minor modifications, is painted blue. ■■■



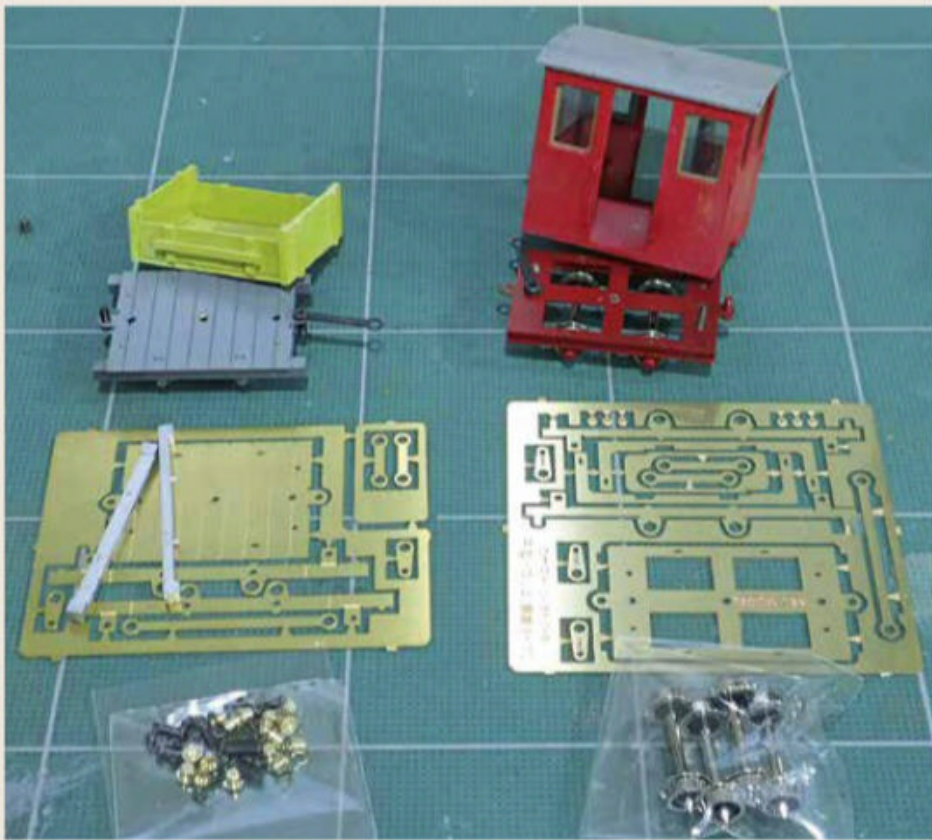
All the components prior to painting.



*The blue speeder, ready for the road!*



# HOW TO?



The wagons and their specific chassis.  
Brass models from Aru Model range.

## The wagons

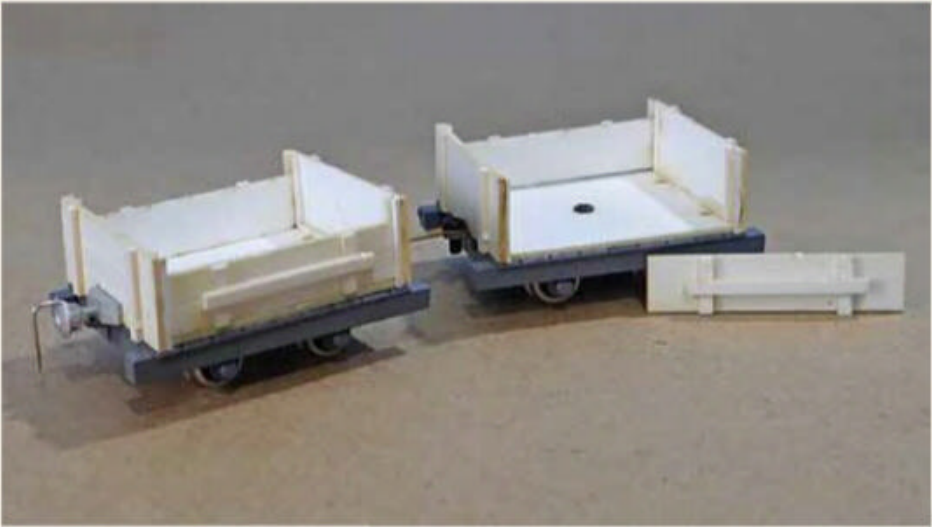
The drop-side wagons and the toast-rack wagons, cut out of 1mm thick card, are fitted onto chassis from the Aru Model kit range, some with a wood structure, the others made of metal parts. The tourist toast-rack wagons are former workmen carriers. The models are given a coat of grey primer, then painted with and airbrush.

## To conclude

Laser-cutting is well worth investigating, computer-assisted drawing requires care and time, but I enjoyed the work. These approaches come very much into their own when repetitive tasks are required. My layout is now ready and can be assembled on the corner of a desk! ■

## ADDRESSES

Wagon chassis: <http://arumo.a.la9.jp/r0031.htm>  
Driving chassis: <http://arumo.a.la9.jp/r0114.htm>



The goods wagons.



The old miner carrier wagons have been converted to carry tourists.

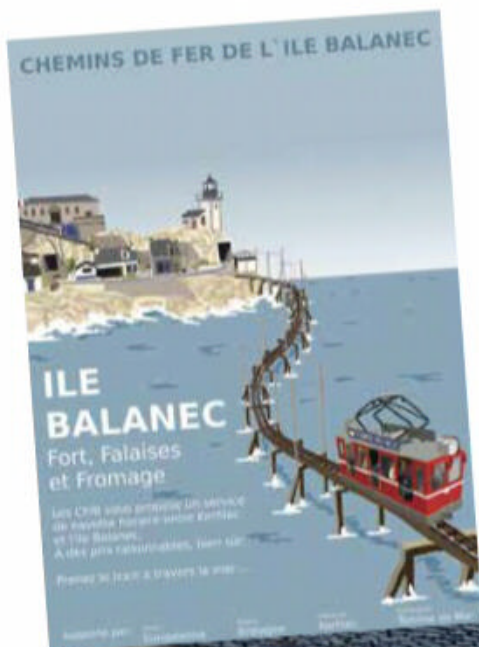


*A very pleasing set-up, but above all  
a fine exercise aimed in mastering a new tool.*



# Tomme cheese by the Sea

## *Insular maturing*



This is a fine story told by Daniel Jünger, a story that seems so accurate that it might well be true! Actually, it is purely the fruit of his imagination!

Text: François Fontana based on input from Daniel Jünger  
Photos: Daniel Jünger

**François Fontana:** Hallo Daniel, “Tomme de Mer” [“Tomme cheese by the Sea”] is a truly weird name for a layout. Can you explain?

**Daniel Jünger:** This layout, and its background story are a fiction I developed on the basis of many small things, personal urges, memories. This was a first creation, I had collected a few items of rolling stock, some vehicles and some H0 scale building kits, and wanted to create something ...



The Balanec island railway with all its rolling stock.



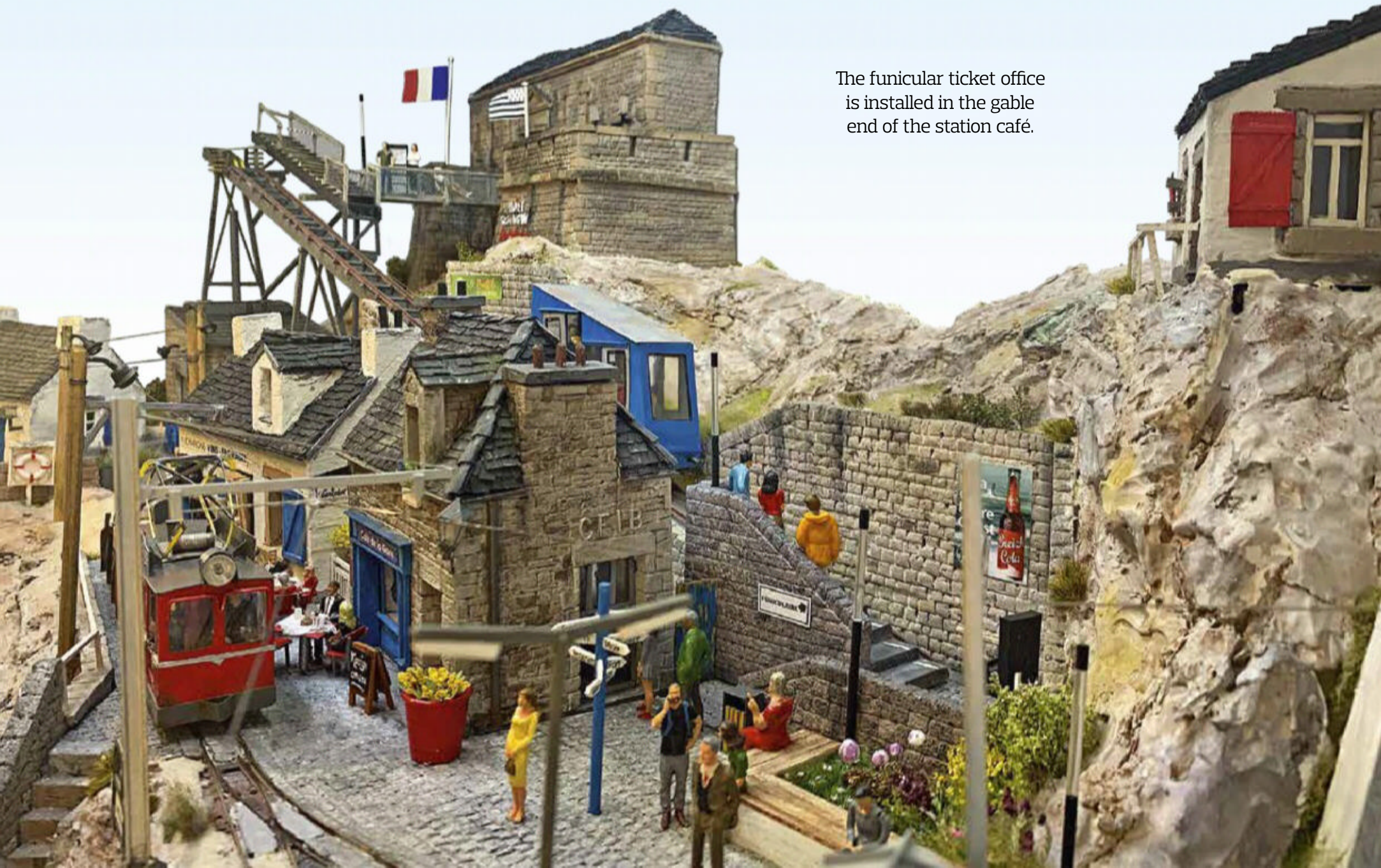
## 0-16.5 Layout

### *Layout Plan*



### *The layout at a glance*

Scale: 1/48  
Gauge: 9 and 16.5mm  
Control: digital  
Dimensions: 100 x 55cm



The funicular ticket office  
is installed in the gable  
end of the station café.



*The small café  
sells kouign-  
amann cake,  
for which  
Daniel has  
a soft spot!*

■■■ to show off all this equipment. But I had no real purpose. I bought a Kato N scale chassis and some rails to run a home-made railcar. Pretty soon, I realized that building a showcase layout with a backscene, lighting and a single viewpoint was the right solution. I did not feel like undertaking to reproduce vegetation, too complex a task in my view.

I have a soft spot for rocky seashores, fortresses designed by Vauban... So I thought of an island off Saint-Malo and imagined that bunker galleries were to be found under the fort, that the island was inhabited. I enjoy having plenty of houses around the place – I am an architect – and imagined a railway line connecting the island to the coast, even at high tide, like the insular railways of the islands of Juist or Spiekeroog in Northern Friesland. The bunkers have become cellars, ideal for maturing cheeses, of the “tomme” variety that is widespread in France. Tomme cheeses are common in mountainous areas, why not have a “tomme cheese by the sea”? The story was launched, all that remained was to build the layout.

**FF: So you began assembling a wooden caisson and laying the track?**

**DJ:** No, not really! I started by building the small railcar, then a Breton house to see if this was manageable. Then came the idea of the funicular leading to the fortress, so I built that. Still without any clear aim. I sculpted the retaining walls out of Styrofoam, built the length of track elevated on metal girders, as well as the funicular engine house; it was inspired by the funicular in Pau. Then I built other houses and arranged all this on a table before figuring out that I needed a structure of 100 x 55cm. Only then did I have the wood cut.

**FF: And the fortress still wasn't built?**

**DJ:** No, I drew it and built it later. It was inspired by the fort of Petit Bé, on an island

facing Saint-Malo. The prototype was a bit too large for my layout, so I shaved off one storey and made it narrower. The bastion on the right hand side became a restaurant and the fort, a hotel. There had to be a reason for the funicular.

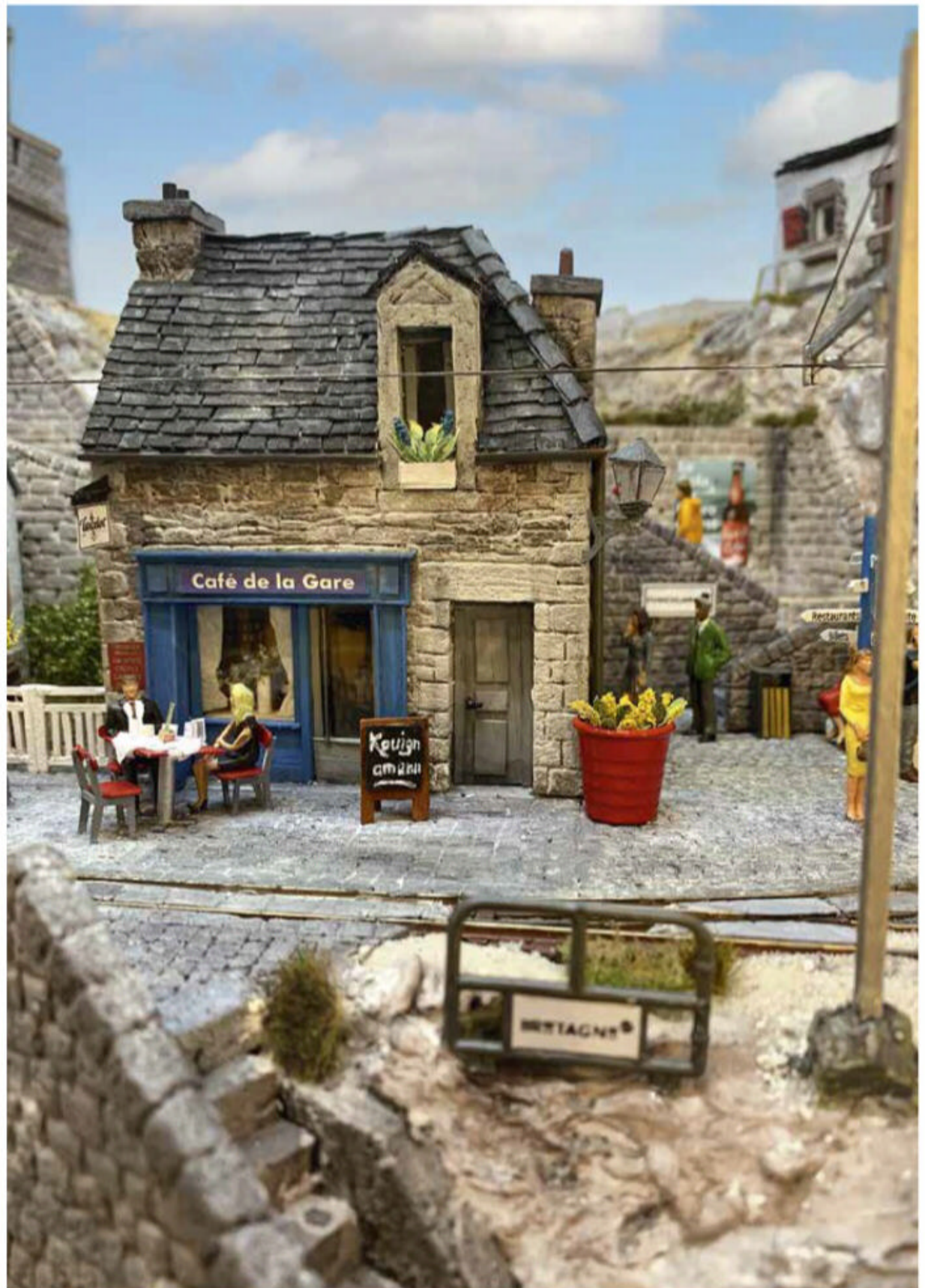
**FF: Over the entire layout, viewers can detect the hand of the architect!**

**DJ:** Yes, I tried to imagine what an architect might have drawn in the light of such a reality. In front of the fort, I imagined that the structure serving the funicular station was a kind of wooden drawbridge. I'm not sure such a structure would meet

health and safety requirements! For the entrance to the gallery of the Tomme de Mer Museum, on the right hand side of the layout, I imagined a very contemporary concrete structure, with a small reception building. Note that in this location, the overhead wire masts have been replaced: modern metal masts have taken the place of the old wood poles.

**FF: Which techniques did you use for the scenery?**

**DJ:** The rocks are carved out of polystyrene. Actually, I proceed by gluing small blocks together. They are covered ■■■





## 0-16.5 Layout



When the layout was assembled, the relief was built out of blocks of polystyrene coated in plaster.

... with plaster, which is engraved while still wet. This structure is then coloured with washes. A few clumps of grass are planted with an electrostatic applicator. An island is an island only if there is water! However, as I did not want to run the risk of reproducing water, I opted to represent the sea at low tide. The foreshore is made out of plaster, washes, some sand. The beached inflatable boat is sufficiently evocative of the seaside!

### FF: What about the buildings?

**DJ:** The walls are cut out of foamboard. I work from documents and attempt to model what I have observed during trips in Brittany. I noticed that all houses are not rendered; many are built out of rough stone. I also wanted to model traditional wooden shops; such is the case for the station café. The cheese shop is far more modern, while the Albatros sandwich stand is inspired by a prototype located at Saint-Briac.





**FF:** The layout features a number of humorous touches, can you tell us more about them?

**DJ:** The owner of the cheese-and-wine shop is called *Madame Charbon* ("Mrs Coal") because in the *Asterix the Gaul* comics, the wine merchants from central Gaul always sell coal. On the signpost, the directions of the cities of Ys\* and Condate\*\* are indicated! The little boy standing at the cafe terrace wears a Brest football club supporter's T-shirt. The tourist with a black T-shirt, who is on the phone, could be myself.

Finally, the island is called Balanec, a reference to the German author Jörg Bong who, under the pseudonym Jean-Luc Bannalec [inspired by the village of Bannalec between Quimper and Lorient], tells the adventures of Police Commissioner Dupin in Brittany; the Commissioner can be seen waiting ■■■

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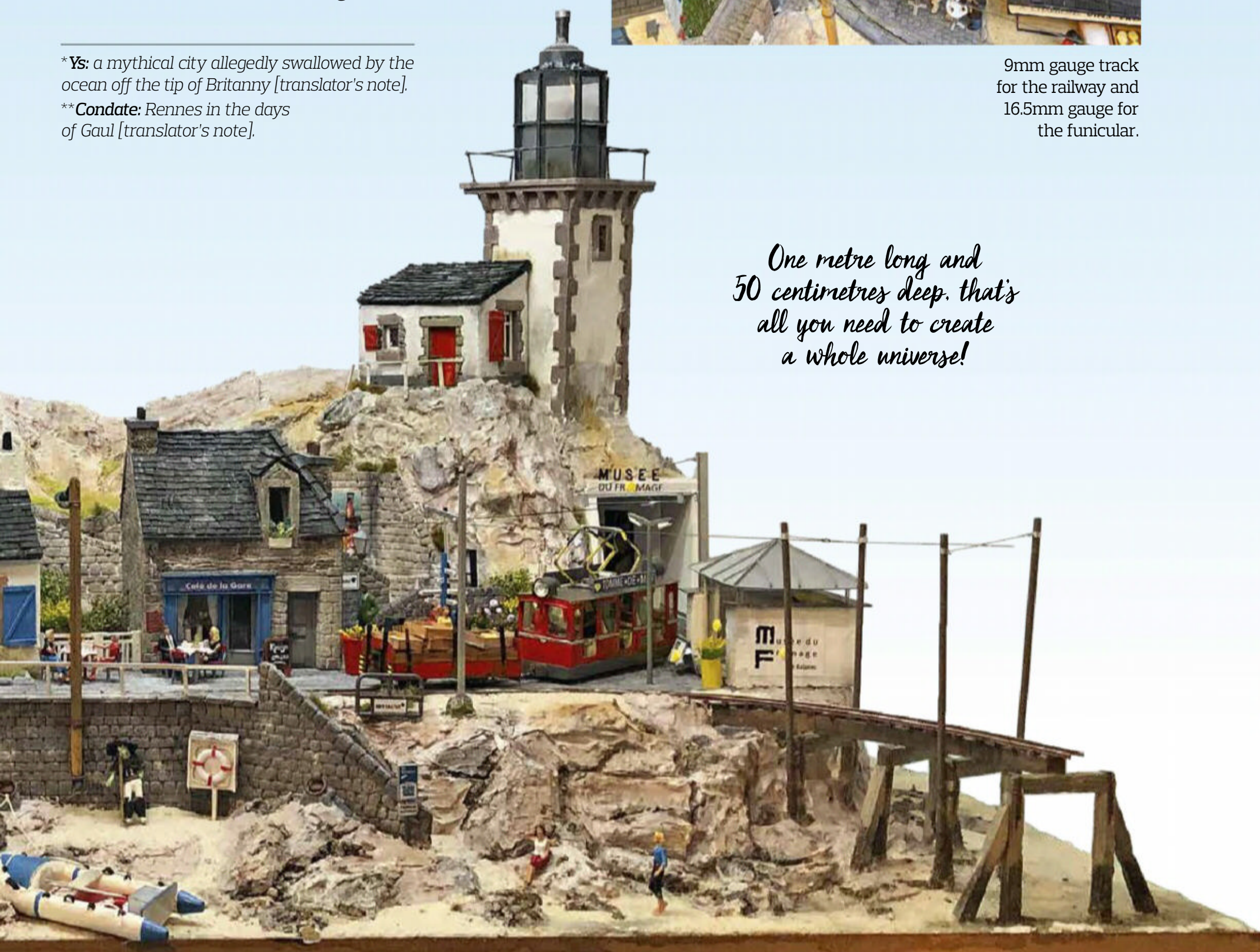
\***Ys:** a mythical city allegedly swallowed by the ocean off the tip of Brittany [translator's note].

\*\***Condate:** Rennes in the days of Gaul [translator's note].



9mm gauge track  
for the railway and  
16.5mm gauge for  
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## 0-16.5 Layout

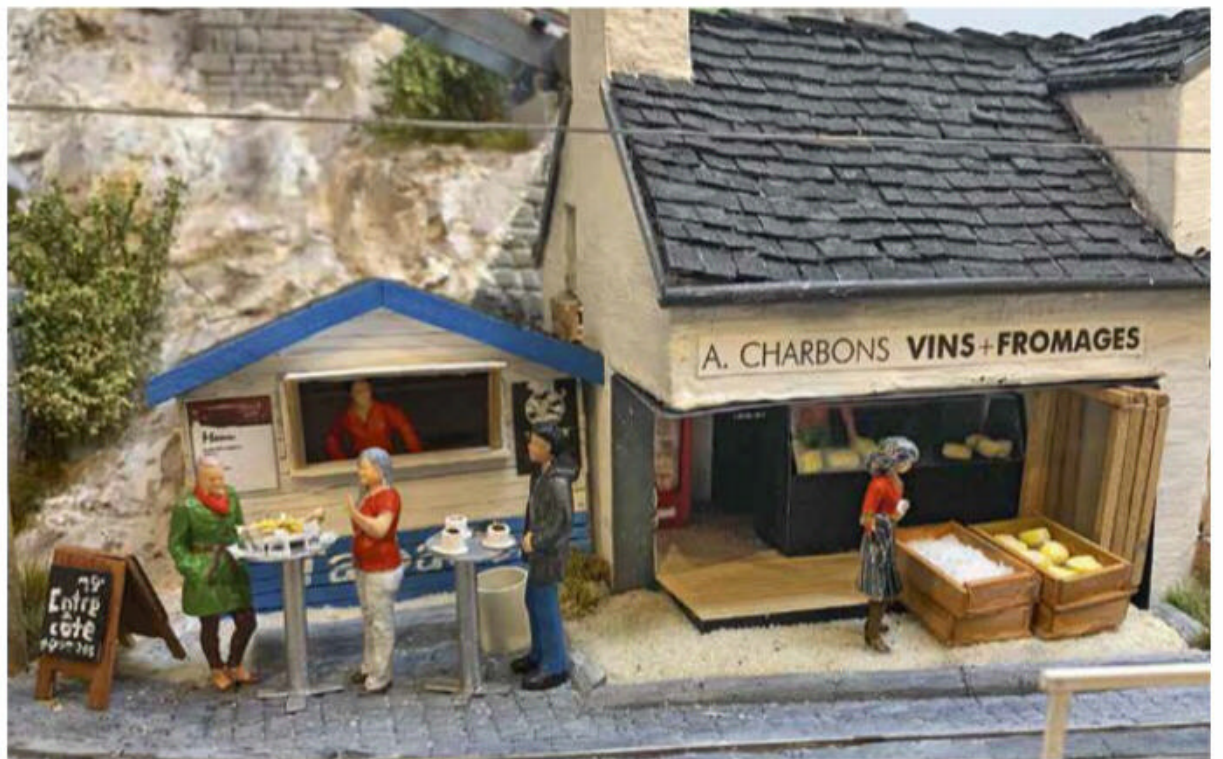
■■■ for his steak and chips outside the Albatros. As for the Ankou\*\*\*, he drifts around between the lighthouse and the foreshore!

**FF: Let us end this presentation with the rolling stock...**

**DJ:** The small railcar started out in life as a mine personnel carrier, converted for tourist use. It was scratchbuilt out of plastic sheet on a Kato N scale chassis. The small trailer that is used to carry the Tomme de Mer cheese loaves collects the electric current. The model is fitted with a decoder, and works perfectly. The cab of the funicular is inspired by the degli Angioli prototype in Lugano. The motor and the winch are located in the house under the last pylon. ■

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\*\*\**The Ankou: a traditional Breton ghost [translator's note].*



The cheese shop and Madame Charbon's stall, where wine is also for sale!

*The railcar is about to venture onto the trestle leading to the continent.*





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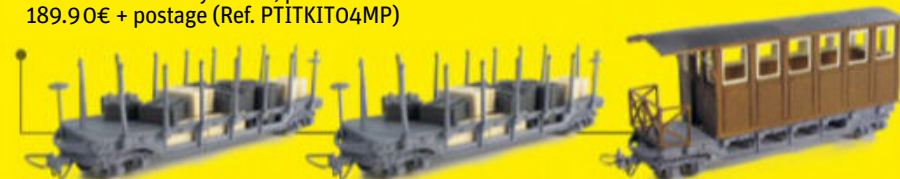
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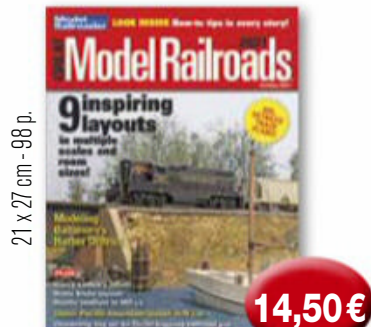


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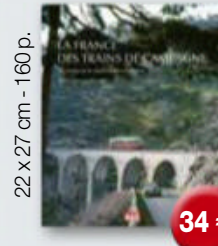


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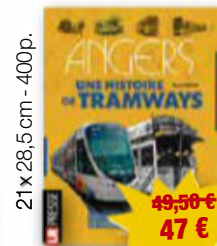


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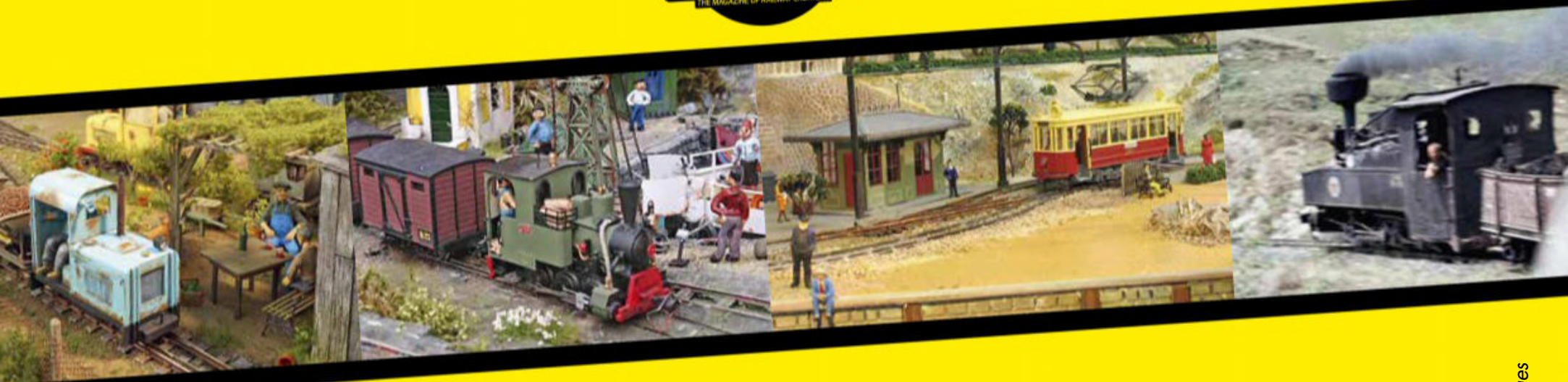
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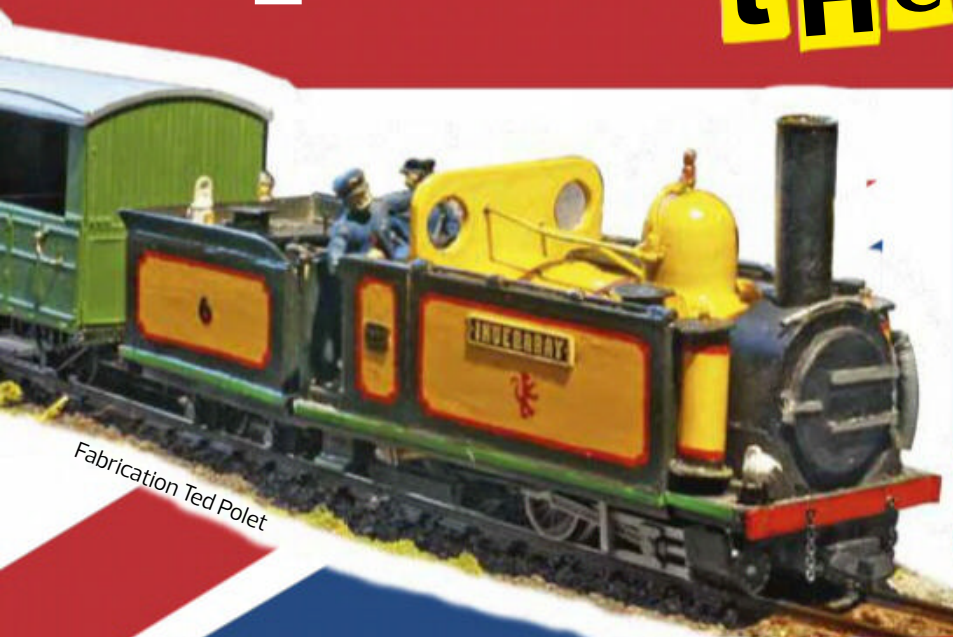
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**Nouveau ! Le tome 2**

# LE RÉSEAU BRETON

**Tome 2** | De 1945 jusqu'à nos jours

par Dominique Paris et Pierre-Henri Emangard

## Le Réseau Breton

De 1945 jusqu'à nos jours

PAR DOMINIQUE PARIS  
et PIERRE-HENRI EMANGARD TOME 2

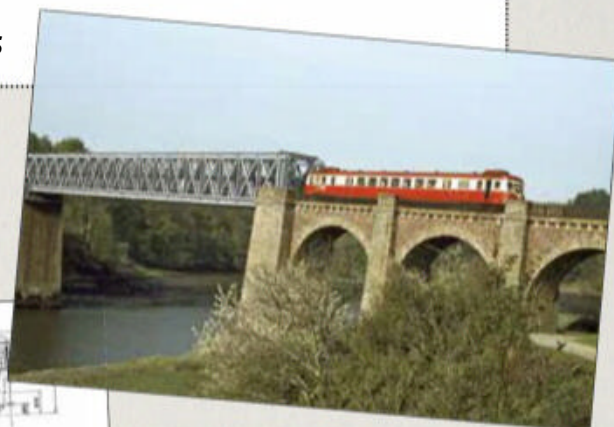
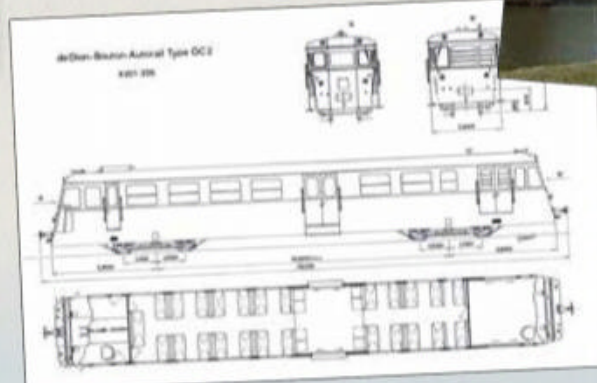


Dans ce deuxième volume, les auteurs décrivent et analysent l'évolution du Réseau Breton depuis son âge d'or dans les années 50 jusqu'aux péripéties de la fermeture partielle en 1967 et l'exploitation de la voie normale subsistant depuis cette date. Le matériel roulant est également étudié, avec la mise en service des autorails tant à voie métrique qu'à voie normale, l'arrivée des 141TC puis des engins diesels. Enfin, une partie est consacrée au recensement du matériel préservé et à son exploitation actuelle sur les réseaux touristiques. Plus de 500 photos et plans illustrent les 320 pages de ce tome 2.

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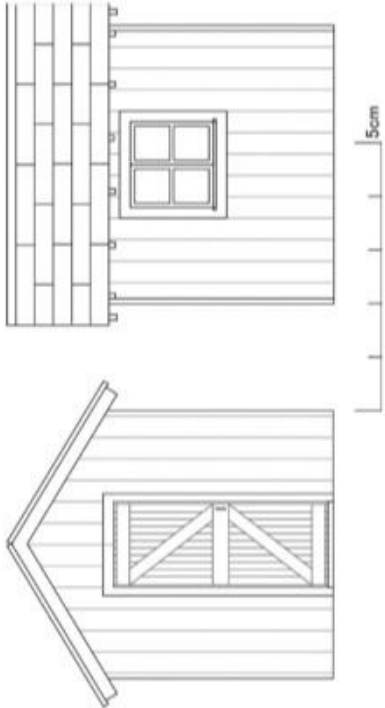


Laser cutting

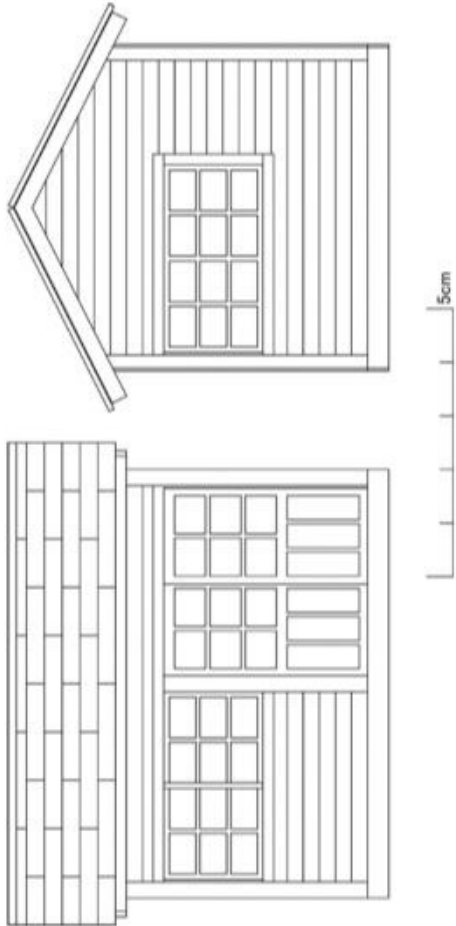
Cutting plan for the parts listed in the article p.51-56.

Scale 1/43.5. Drawing Nobuo Koizumi.

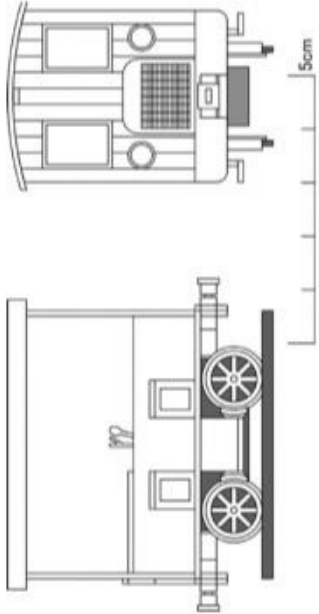
THE TRACKSIDE SHANTY



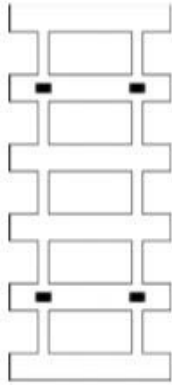
TEH WORKSHOP



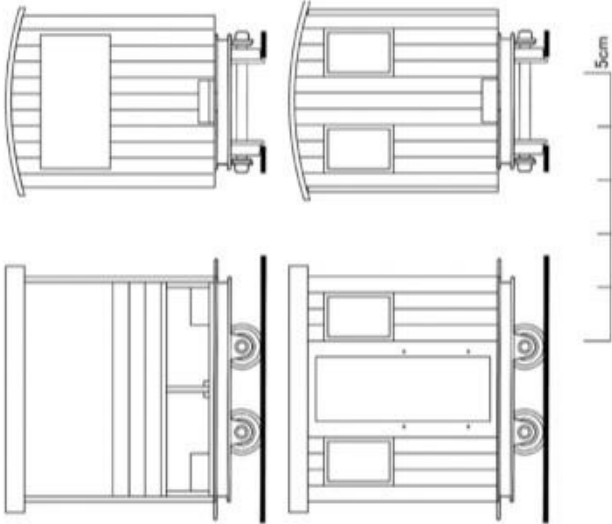
MOTOR TROLLEY



SLEEPER DIAGRAM



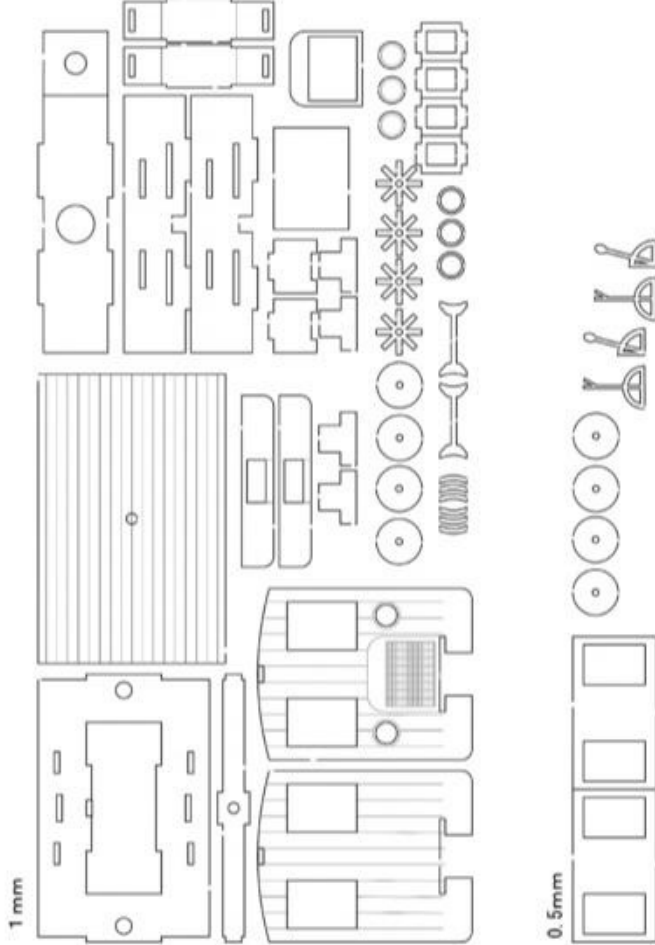
TEH PERSONNEL CARRIER



THE WAGON



DIAGRAM OF THE MOTOR TROLLEY PARTS



THE STATION BUILDING

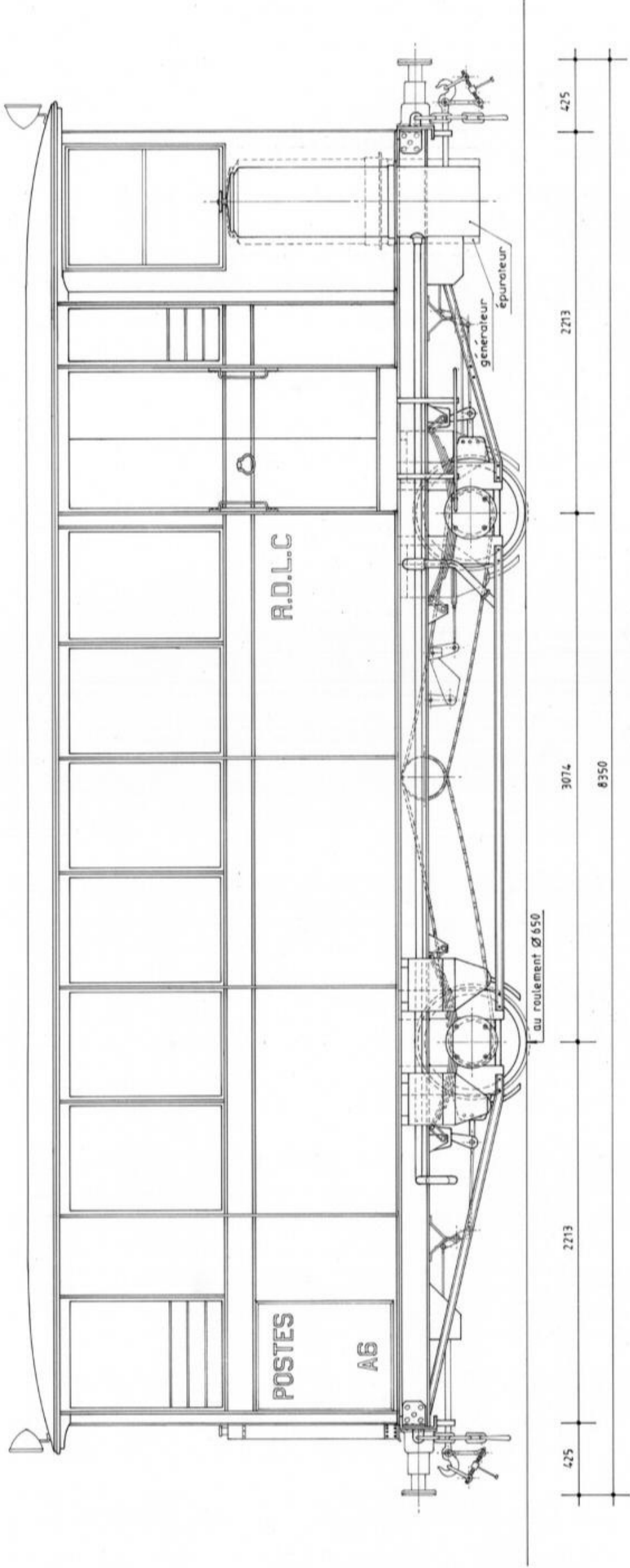




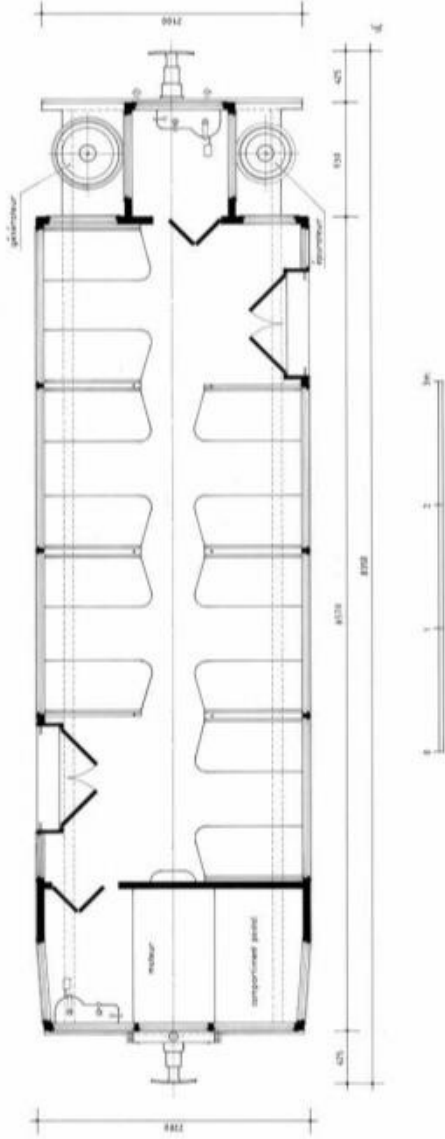
Régie Départementale du Loir-et-Cher  
Panhard railcar A3-A6 series

SIDE ELEVATION  
Scale 1/20.

Drawing Vincent Lepais.



FLOORPLAN  
Scale 1/43.5.



END ELEVATIONS  
Scale 1/43.5.

