

CANE BINS AND OTHER THINGS

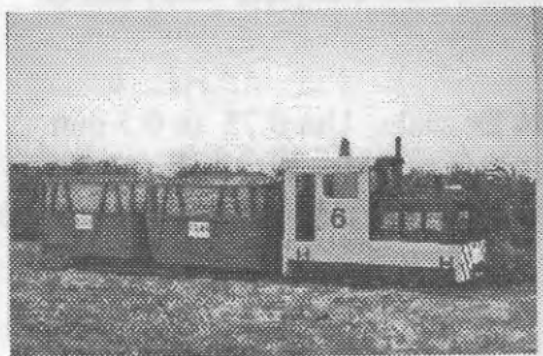
By Bob Dow

Introduction

This session is intended to give an overview of locomotives and rolling stock used (and in use) on the narrow, narrow gauge railways of Queensland (i.e. 2' and 2'6"), and some simple approaches to modelling these items. Slides will be used to demonstrate the considerable variety of rolling stock, in particular cane bins, that may be modelled. The narrow gauge railways of Queensland are intimately associated with the sugar industry. Queensland has one of the largest systems of 2' railways in the world to support this very important export industry. There is about 4000 km of track in use. Besides the sugar tramways there have been mining, timber and other narrow gauge common carrier lines e.g. Innisfail tramway, that were either 2' or 2'6" gauge lines. Today, there are a number of 2' gauge passenger railways in daily use e.g. Dreamworld and the Bally Hooly tramway at Port Douglas. Traffic on the sugar lines is related to harvest and crushing needs, though in the slack (season) maintenance trains run regularly. During the crushing (season) trains run 24 hours a day to keep up the supply of cut cane to the crushers. For an excellent background on the development of the Australian central sugar milling system refer to the article "Origins of the Australian central sugar milling system: The CSR legacy" by Robert F McKillop in Light Railways Number 138, October 1997.

Bins

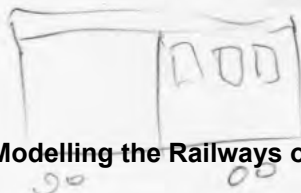
The sugar cane railways transport cut cane from the fields to the mill. The bins also act as storage reservoir at the mill so that a constant supply of cane is



maintained to the crushers. It is interesting to note that some mills that have done away with their railways from field to mill, keep the railway system within the mill so that a constant supply may be maintained. Published in the Australian Model Railway Magazine February 1997, pages 37 to 39 was an article on Scratchbuilding Sugar Cane

Bins that I actually wrote in 1994. Since then approaches to modelling bins have become more refined. This article is still useful though as it explains how bins

*Tramway clean
passenger Van*
Bob Dow

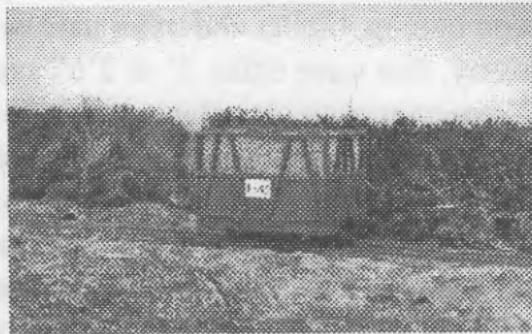


can be modelled from scratch, without the need for any specialised techniques or tools, and has some good photographs of bins.

Bins were introduced when mills changed from whole stalk crushing to cut cane crushing. Many early bins were adapted whole stalk cane trucks, so that they were short (wheelbase) although relatively wide. As harvesting techniques became more refined different mills developed different bins to accommodate their particular requirements. For example, mills where the bins are taken by truck or tractor to the harvester in the field use short wheel base bins, where as mills where the bins do not leave the sidings tend to use larger bins.

Bins are basically baskets on wheels. The challenges that need to be overcome when modelling these are:

- mesh - what to use
- frame
- wheels - small diameter
- lack of weight
- couplers
- cost
- detail.



6 ton Racecourse Mill bin

Mesh: fine grade stainless steel wire mesh is available in various sizes. For HO scale 50 mesh size is ideal. For bulk purchases of mesh visit Melwire at Rocklea. Stainless steel mesh is relatively strong for its fine appearance. This allows the modeller to dispense with internal frame as described in the AMRM article. Simply build the frame out of suitable styrene strip e.g. 0.75 mm square. Glue mesh to the inside of frame. This structure once complete (box) will be very sturdy.

Frame: build out of styrene strip appropriate for scale. Use 0.75 or 0.5 mm square for HO. For O scale 1 mm square strip is suitable. Simply build sides and ends to required pattern glue to floor piece. Mesh cut to appropriate size is glued to the insides.

Wheels: For HO and N2.5 most N gauge axle point wheel sets are suitable. I use Unimat low profile wheels as these wheels will run on code 40 rail if so desired. Axle boxes are made from styrene strip e.g. 2 x 4 mm strip, 4 mm long. Drill out hole for axle prior to gluing into position.

Weight: provided bins are built with wheels square and free running, there is no need to add extra weight. It desired lead can be added underneath the floor to improve tracking.

Couplers: I use Micro Trains 1025 N gauge couplers. It is important that couplers have some lateral movement if the relatively light bins are to track properly. Some modellers have used dummy couplers to keep costs down, but this restricts the modeller to very short wheel base bins.

Cost: As a large number of bins are generally required, low cost materials and methods are desirable.

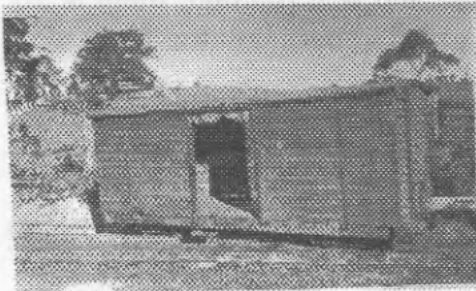
Detail: Clips on the edges of the mesh can be cut from fine styrene sheet. Numbers can be produced by typewriter (word processor) or paper or card. Bins are numbered so that records of weight of cane received at the mill can be maintained. Some mills have adopted a bar code system of bin ID. Cut cane can be modelled from fine millet brooms. Suitable colours are reefer gray, red oxide or even yellow for bins.

Casting

There are a number of persons who cast model railway items using polyurethane. The approach is to build a master. A rubber mold is than made of the master, and then the required number of polyurethane casts are then poured. For bins this a good approach as it allows a large number of bins to be built more quickly. The disadvantage is that it costs more. A great deal of care needs to taken with the master as this dictates to a large degree the quality and level of detail of the final product. This approach will be demonstrated in this session.

Other Rolling Stock

Many mills have their own work trains. These are used for ballasting, weed control and track maintenance. A large variety of wagons, many "scratchbuilt" at the mills are used. Plans are attached for a freelance work wagon, which is not dissimilar to the type of wagons used. Ballast wagons, tankers and flat wagons offer additional modelling opportunities. These items are simply scratchbuilt from styrene or other suitable material, and use N gauge bogies for HOn2.5.

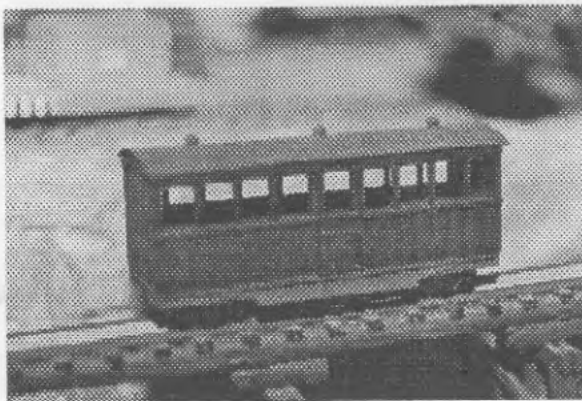


Mapleton Tramway 5 ton fruit van at Nambour

Many narrow gauge railways had passenger carriages. The Innisfail tramway had a number of 20' enclosed coaches that were built at Ipswich and Townsville workshops. Again these items can be scratchbuilt or cast, and the Micro Trains N gauge archbar trucks

work out to a cost effective, scale correct bogies. The Port Douglas Shire tramway also conveyed passengers. There are many other examples.

The Innisfail tramway also had brake vans, as well as goods wagons (H wagon), bulk sugar wagons, log bogies, box wagons (C wagon) and flat wagons (P wagons). The 7' brake vans used on the Innisfail tramway are probably the smallest brake wagons used on a real common carrier in the world.



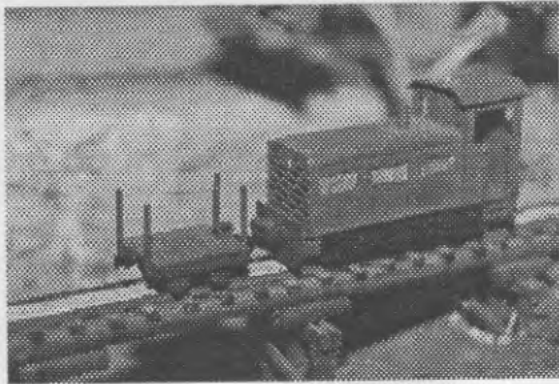
*Innisfail tramway 20' coach
HOn2.5*

Locomotives

Steam locomotives

There are a few kits available of Queensland narrow gauge locomotives available, e.g. Chivers Finelines Hudswell Clark 0-6-0. Many locomotives were modified by the various mills, so that free lance locomotives are acceptable in model world. Attached are some plans for a free lance 0-6-2T locomotive that captures the canefield appearance. This locomotive utilises the Bachmann 2-6-2 N gauge chassis. It is straightforward construction, and it is suitable for a first attempt. No major modification is required to chassis, as the locomotive body has been designed to fit the chassis. An overview of the construction method will be presented during the session.

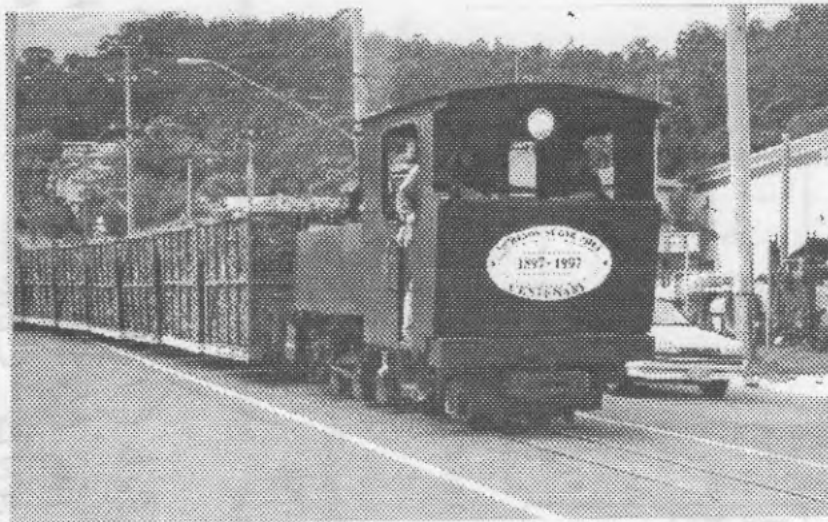
Diesel locomotives



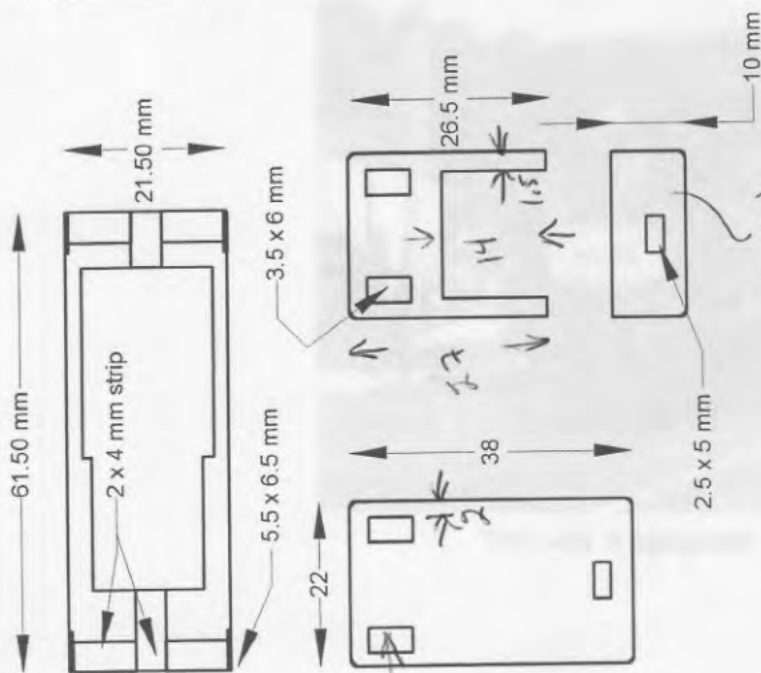
Plans for the Bundaberg Jenbach 0-6-0 diesel locomotive are attached. This was the first Australian built diesel locomotive used in the cane fields. This model utilises the Bachmann N gauge Plymouth switcher chassis. Again this is a straightforward construction. No modification is required to chassis. An overview of the construction method will be presented during the session.

Conclusion

The narrow gauge railways of Queensland offer an interesting mix of contemporary and historical modelling opportunities. It is hoped the information presented has created some interest. I am happy to give further advice if required, I can be contacted by post at 54 Aberdare St Darra Qld 4076, or email bobdow@medeserv.com.au.



Bundy Fowler # 5 Nambour Photograph R. Dow 1997

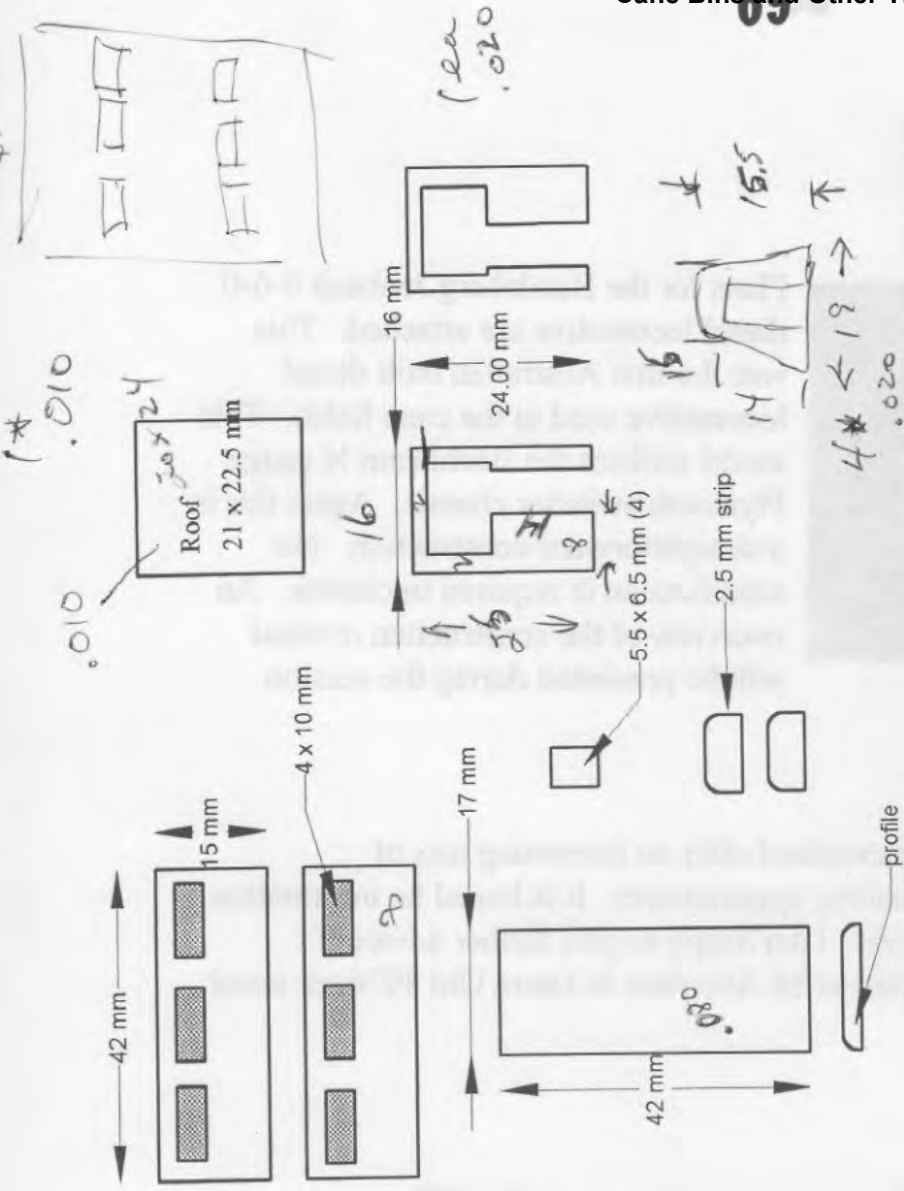
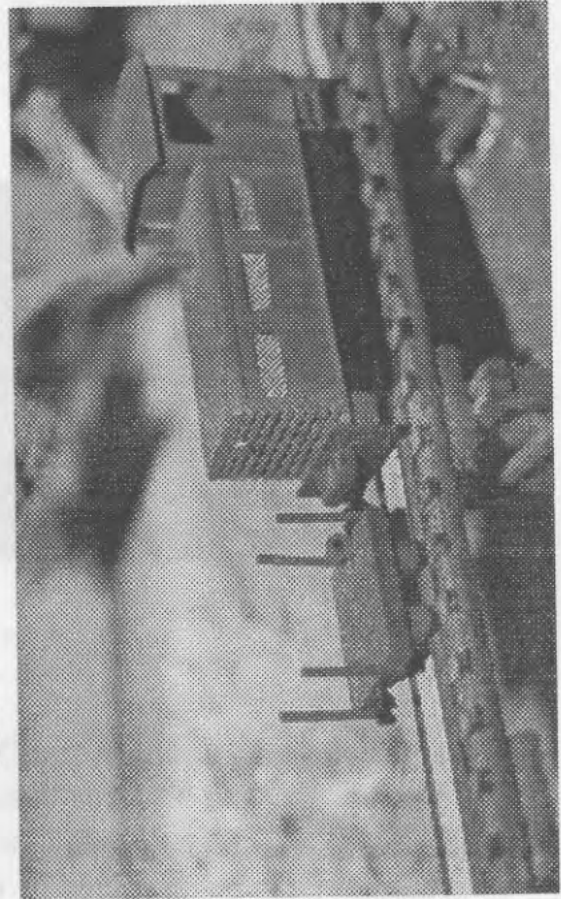


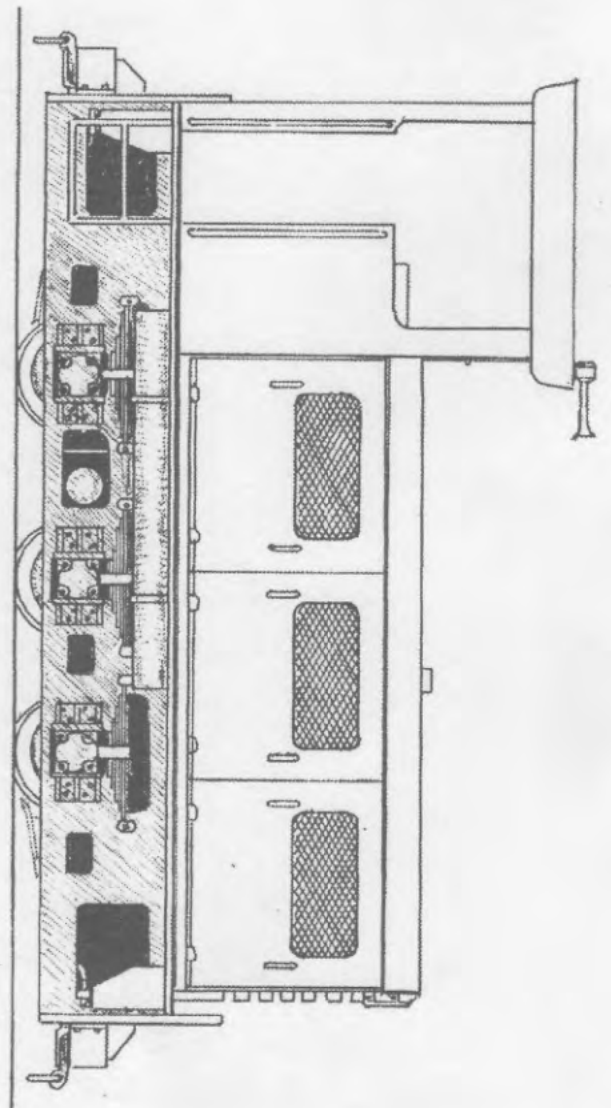
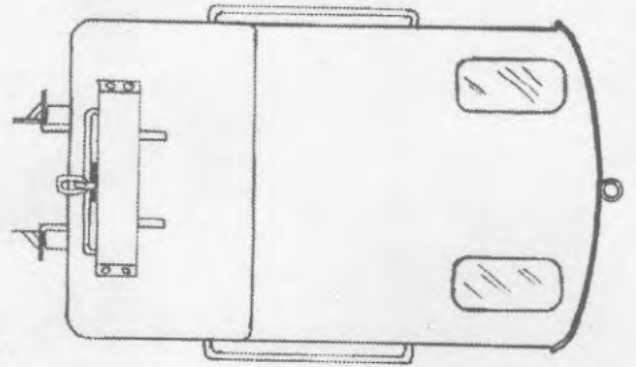
Bundaberg Jenbach Diesel 2 * 12 x 21
(c) R B Dow 1998

3.5 mm = 1 foot 0.5 mm styrene sheet unless otherwise indicated.

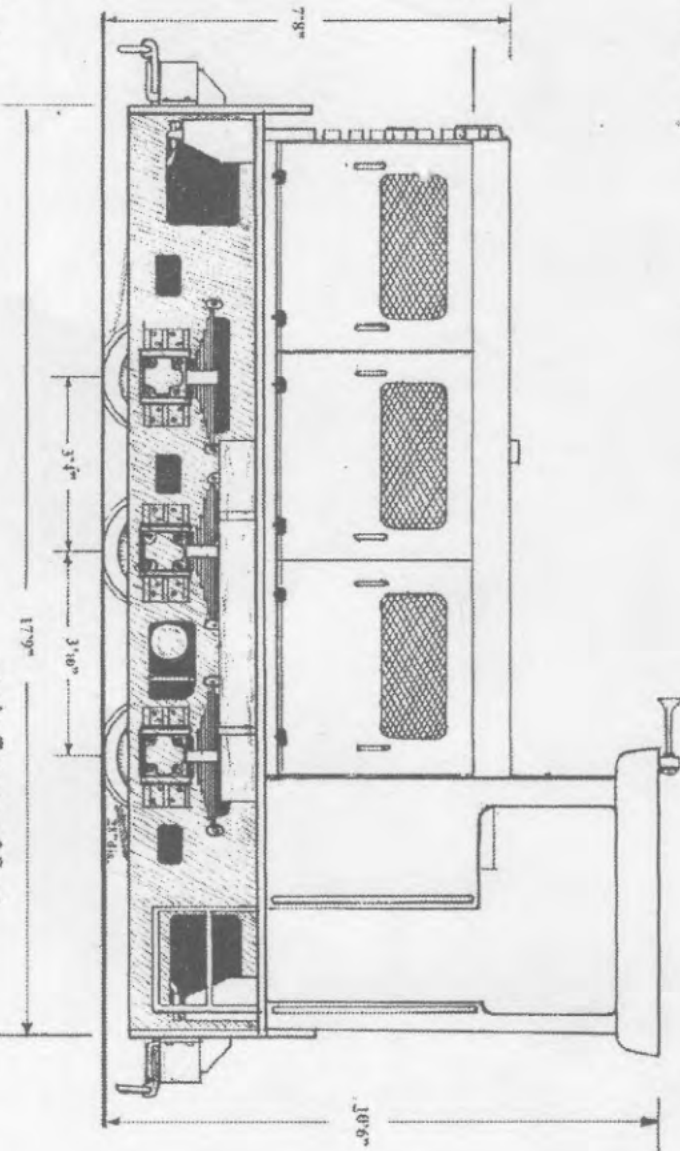
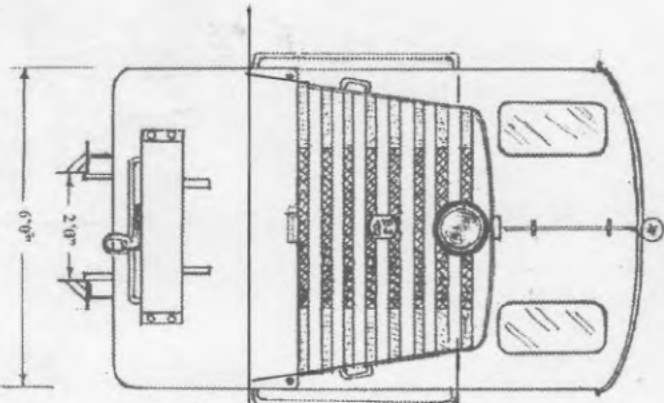
From Dow, Bob (1998). "Cane bins and other things", in *Modeling THE RAILWAYS OF QUEENSLAND Convention Notes 31* October 1998, pp 64-72.

Hood 42 x 46





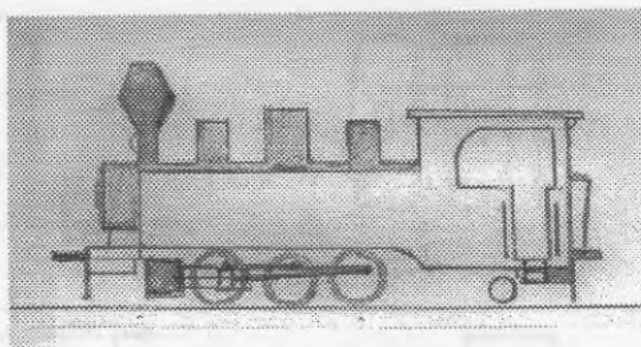
NOTE :- Detail at rear of cab
not known as no
information can be
obtained.



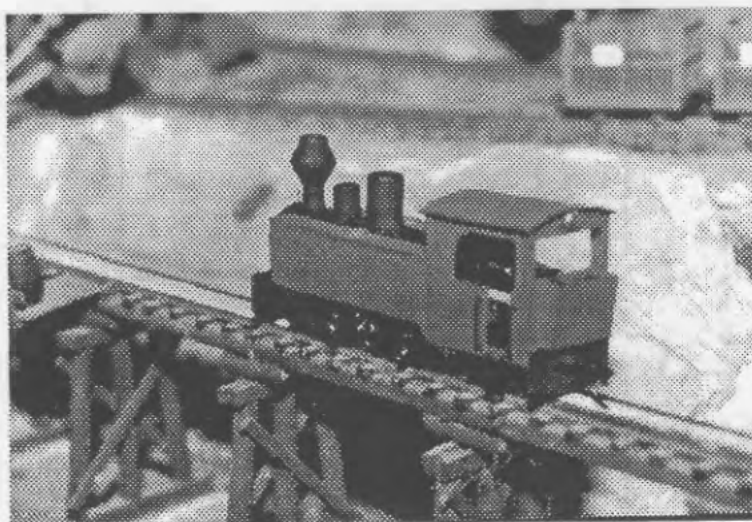
NORTH ETON SUGAR MILL,
Diesel No 1 Bundaberg Jenbach B J 100. 0-6-0 d/m chain drive.

Scale 7mm = 1foot.

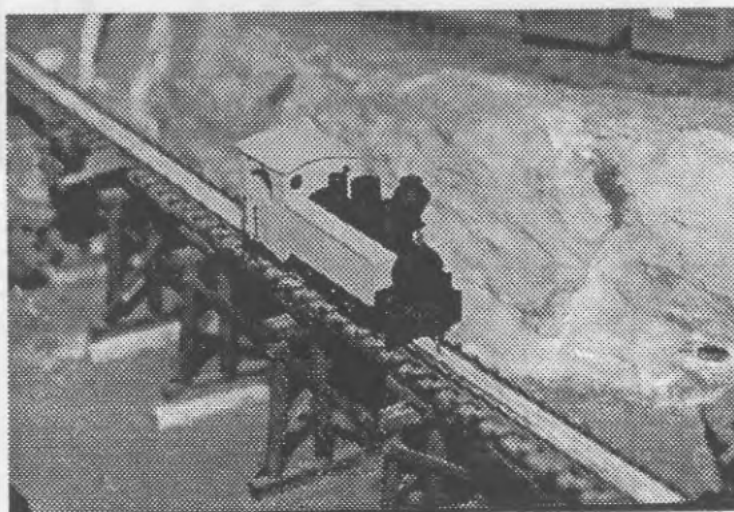
drawn by Jim Fainges 1998



0-6-2 FL Steam locomotive



Freelance Steam Locomotive 0-6-2
using the
Bachmann N gauge
2-6-2 chassis,
a great model to
explore basic
techniques and
approaches for building
locomotives.





HOn2.5 3.5 mm = 1 foot

Notes for FL Steam Locomotive

2 x 4. 8 mm strip

1. against rear cab wall for coupler mount (21 mm)
2. continuation of front of tanks (21 mm) - # 2
3. support for smoke box saddle (21 mm) - # 3
4. smoke box saddle (13 mm) - # 4
5. curved buffers (10 mm)

2 x 4 mm strip

1. support for cab floor (6.5 mm)
2. behind front buffer plate (7 mm)

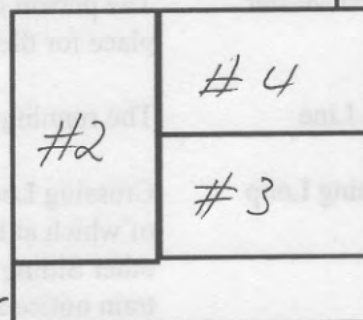
1.5 x 1.5 mm strip

1. along inside floor sides (18 mm)
2. support lugs inside cab sides (16.5 mm)

Hand rails

9 mm staples (drill # 70)

Expanded view of loco front,
under smoke box.



0.7mm styrene
strip spacer