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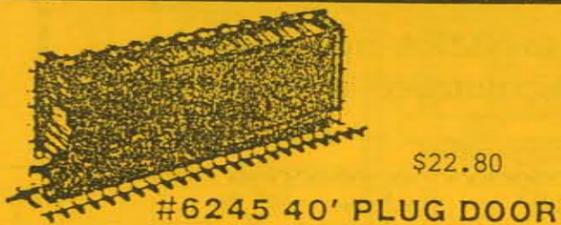
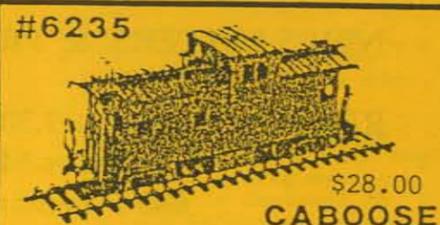
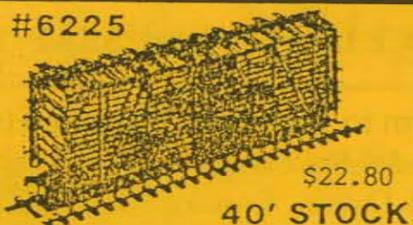
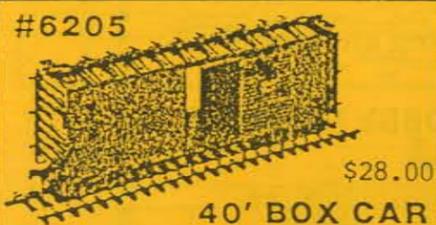
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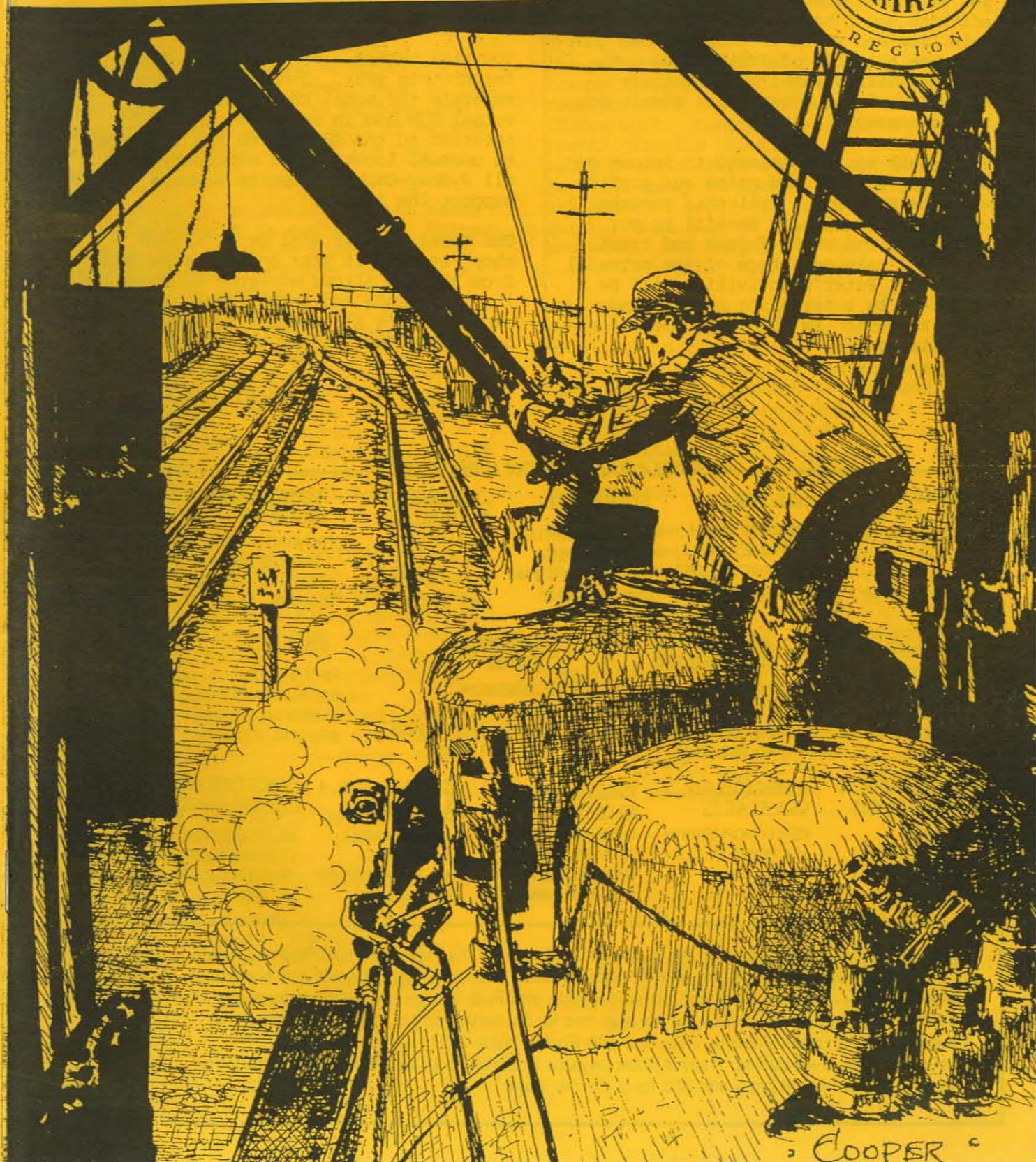
MAIN LINE

NATIONAL MODEL RAILROAD ASSOCIATION - AUSTRALASIAN REGION

VOLUME 6 NUMBER 1

JANUARY, FEBRUARY, MARCH 1989

REGISTERED BY AUSTRALIA POST PUBLICATION # NBH 7190



COOPER

FROM THE PRESIDENT

1989 is off and running and so are we. Our program is set through to June and you will note some changes. For several editions now I have been producing the Main Line and so it is only logical that I assume the role of Editor. Do not despair, Bill's Bumblings and those marvellous front covers will remain for the foreseeable future.

Peter Webb has volunteered to become our publicity officer and raise our profile with the Public. I feel this program will be of particular benefit to our interstate and NZ Divisions and trust they will take advantage of the material produced. Peter's activities will be supported by a rerailing program and close attention to Main Line content and presentation.

The Main Line can only be as good as its input and I therefore request that all members participate. You don't have to write an article. Place an add (its free), ask a question, let off some steam, share an idea, share some research, notify a coming event. We do a lot of talking at our meetings and a lot of information gets exchanged. The only way our interstate and country members can share in that is through this medium. That's its primary role and why modelers join our association.

You will notice a change in our AGM format this year. I have decided to separate the model contest from the actual AGM and in an effort to add interest to the AGM, moved its venue to an unusual location. I sincerely hope all Sydney-Canberra region members support the idea.

The model contest will be a "closed shop" event this year and its separation from the AGM allows everyone to focus on its importance and participate. No excuses, it's all amongst friends, so get started now and BE IN IT!

Peter B.

AUSTRALASIAN REGION DIRECTORY

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MAINLINE is the official journal of the Australasian Region of the National Model Railroad Assoc., Inc. It is published four times per year in approximately February, May, August and November. Articles, letters, members classified advertisements and club notices are solicited from the membership and are considered to be donated free for the benefit of the hobby. They should be forwarded to the Editor Mainline, P.O. Box 529 Epping NSW 2121.

Paid advertising is welcomed. Current rates payable in advance for four issues are \$110 for a full page, \$60 for a half page and \$30 for a quarter page.

BILL'S BUMBLINGS

ART OR SCIENCE ??



Layout building, like many creative efforts, is a blend of art and science. The art is mainly in the way it looks, the science in how it runs. You can buy most of the science - or, more accurately, engineering technology - over the counter, as indeed, much of the art. But much remains to be done when layout building, so what sort of balance needs to be struck between the two extremes?

From the magazine pages, art wins hands down. Appearance is everything. Unless layouts have extensive scenery, including trees, they just don't get a look in. The diorama is probably the ultimate form of this art, though science creeps in here and there, with operating features, sound effects and the like. Videos have largely changed this, because, unless the motion matches appearance in realism, the effect is shattered. Still, rail videos, especially model rail videos, aren't all that common, so most modellers still rely on magazines for much information and guidance.

Science, on the other hand, is actively disliked by many modellers. Magazine articles attract criticism because they take up space that could be occupied by arty topics like scenery, stock and structures. Besides, the projects look too hard and require experience to do well. Such projects include: electronics - throttles, sound, train detection; computer/layout interfacing; high-tech drive trains in locos, and so on.

There seems to be a difference between perception and reality here, for these same people will read, and associate with, a nicely detailed, artistic layout in a magazine article, then go out to quite happily operate their totally unscenicked layout! Their mind fills in the missing visual realism and, once the trains start to roll, the scenery becomes less relevant.

They are conditioned to assess layout worth by appearance - the art end, yet practice operation, the science end of things.

The perception that 'high tech' projects are not proper modelling is unfortunate. Much pleasure can be gained by making things work. Constant-brightness lights, inertia throttles, CD switch machine power, even computer interfacing (a great asset to operating realism) are all possible projects, easier and quicker than all but the simplest art projects. Not only that, they are fun ... well, if they work, they are.

MR's Don Hansen - perpetrator of science-style articles, has grouped modellers in the spectrum from art to science as: Landscapers; Nostalgists; Scale Buffs; Switchboard Artists and Performers. There are a lot more 'Performers' about than even they know. Their aversion to anything that is 'non-art' is probably to their disadvantage.

So, the question still remains .. do we need more emphasis on art, or science? The obvious answer is: The mix that satisfies you. Somewhere between the 'abandoned railroad' approach, with nice appearance but poor or non-existent operation and at the other end, the vast despatcher-style panel operating a bare circle of track. Art needs science, for without it, you have a static, sterile dust collector; Science needs art, to give it a frame of reference, a body around the live heart. In combination, they are unbeatable!

....Bill Cooper

ON THE ROCKS

WOULD THE PERSON who borrowed my ROCK MOULDS please return them, so that work can progress on the FERN VALLEY.
BILL COOPER, 861 724.

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APPOINTMENTS

Publicity Officer In an effort to increase public awareness of our association the executive has approved the appointment of our first Publicity Officer - Peter Webb. His brief is as follows:-

"Promote the NMRA through all available media and at appropriate venues".

Our thanks and full support go to Peter in this important role.

New Editor From January 1989 Peter Burrows will edit the Main Line. Our thanks go to Bill Cooper for his past efforts and continuing support through his artwork and commentary.

1989 MODEL COMPETITION

Dust off your paints, order those super detail kits and fire up your Dremel, this year's model competition will be held on Saturday 13 May at 30 Nullaburra Road, Newport N.S.W. Our host will be Mike Bartlett who's home offers spacious but sheltered accommodation for our valuable models.

The categories to be judged under NMRA rules will be:

- Locomotives - Steam
- Locomotives - Diesel and Other
- Locomotives - Electric Traction
- Passenger Cars
- Freight Cars
- Maintenance of Way
- Structures - Off Line
- Structures - On Line
- Diorama
- Modules (Note 1)

Note 1:- Until a directive is forthcoming from H.Q; modules will be judged basically under Diorama rules but must satisfy module standards to be judged in the module category.

BE IN IT AND GROW IN
YOUR FAVOURITE PASTIME

ON THE COVER

An arduous, but necessary steam-era task - filling the sand box. Diesels still need sand, but you aren't on top of a hot boiler, just a hot, smelly noisy hood. Here, a Central Vermont branch-line Consolidation gets attention in the traction department, circa 1950.

NEXT SYDNEY MEETINGS

Sat 18 FEB - Franz Persson
17 Bromley St. Canley Vale
Phone: 727 5380

Sat 18 MAR - John Saxon
37 Beatrice St. Clontarf
Phone: 949 4767

Sat 15 APR - John Van Der Donk
14 King St. Parramatta
Phone: 635 9851

Sat 13 May* - Mike Bartlett
30 Nullaburra Rd. Newport
Phone: 99 4966

Sun 4 Jun AGM Thirlmere See notice below

* 1989 Model Contest - See notice this edition
All commence at 2 p.m. Please call host to confirm attendance.

1989 AGM

The NMRA (Australasian Region) 1989 Annual General Meeting will be conducted at The Rail Transport Museum, Thirlmere N.S.W. on Sunday 4th June at 2.30 p.m.

Travel to our AGM by steam. 5910, a Baldwin 2-8-2 is currently scheduled to convey passengers to and from the venue as per the timetable below (a carriage has been reserved).

Sydney (Central)	9.33 a.m.	6.00 p.m.
Strathfield	9.49 a.m.	5.44 p.m.
Granville	10.03 a.m.	5.29 p.m.
Campbelltown	10.53 a.m.	4.41 p.m.
Thirlmere	12.10 p.m.	3.30 p.m.

Special return fares are available for our group - Adults \$20, Children \$12, Family \$65. Bring your steak etc for a bar-b-que and enjoy the atmosphere of the prototypes puffing their stuff. The AGM will be conducted at 2.30 p.m. in a reserved passenger car.

An Easy-to-Make Snowplow Jig

By JOHN ALANIVA
Special to the HOTBOX

Courtesy of NCR Hotbox

**A Hotbox
Hot Tip**

As this is being written, the temperatures are in the high 90s, making it difficult to think of snow (or does it?), but snow is behind this article for the Winter HOTBOX. Since my Lake Shore and Michigan Railroad is set in Michigan, all the diesels in the fleet are equipped with snowplows. Trying to mount plows on 25 engines using the methods recommended on the Details West snowplow package seemed awfully tedious, so I came up with the following jig that allows for perfect alignment every time and really speeds up the process.

Start with some .025 brass strip at least 1" x 2" and a scrap piece of track at least a foot long. I used brass track since I had plenty left over from a previous layout.

Cut the brass strip approximately 1 1/4" wide. Place it in a vice and bend it to a 90-degree angle as shown in Fig. 1. Check the bend with a modeler's square and rebend if necessary. Warm up your soldering gun at this time.

Next, fix the scrap track to a piece of 1x2 wood cut to the same length at the track. Be certain that the track is nailed down as straight as possible.

Apply some soldering flux to the rail and the brass angle. Place the brass angle on the track

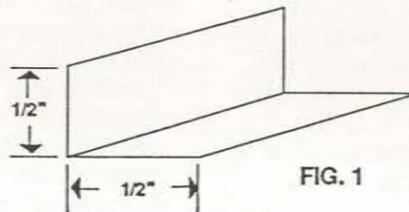


FIG. 1

BILL OF LADING

- Foot-long track section
- Foot-long piece of 1x2 wood
- .025 brass 1"x2"
- Solder and gun
- Snowplow kit

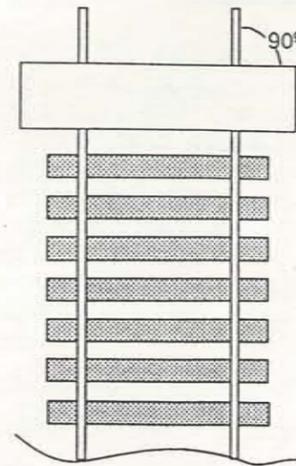


FIG. 2

aligning it as shown in Figs. 2 and 3, leaving about a quarter-inch of rail sticking out in front of the angle. Now solder the brass angle to the rail.

After the assembly is cool, cut out your favorite snow plow template and glue it to the

front face of the brass angle using Walther's Goo. Drill out the holes with the bit specified on the template instructions and you now have a permanent, easy-to-use snowplow mounting jig.

If your diesels use different plows on each pilot, make another brass angle to solder on the other end of the jig. Or, if you're really into plows and put different styles on different units, make up several jigs to suit your needs. They're inexpensive and easy to assemble.



FIG. 3

I have followed with interest the development of the Australian module standard for HO in 'Mainline'. As someone who has experienced many hours of enjoyment running on N scale modular systems both here and in the US I can only applaud any effort to fill this missing link in Australia.

I do feel however, that a major advantage of N-Trak, HO-Trak and the original NMRA module guidelines has been overlooked in the selection of UTILUX 6 pin plugs for the system. These connectors are excellent items but any plug which disconnects all tracks when separated to troubleshoot one track closes your whole system down. If individual connectors are used for each track, that section of track on a module can be isolated while the parallel track keeps running. Additionally the wiring for several controllers on the one track is considerably reduced. If the whole layout stops during a lengthy troubleshooting, the public impression stops with it.

Regards,



(Dane Parker)

Thanks for your letter Dane. If you refer to the June 88 Bulletin, pages 33 - 35 you will see that a module should not rely on the rails to extend power to the next module. In fact the rails should be paralleled by a pair of wires connected between the terminal blocks at each end. Therefore these terminal blocks are the best places to isolate problems as they permit isolation of each rail individually (only a screwdriver is required) whilst not disrupting power to adjacent modules....Ed.

BY GERRY HOPKINS

Franklin County has appeared at a number of exhibitions over the past few years and visitors often remark about the way the trains slow down - stop - speed up automatically at a very realistic rate. For those who wish to build a similar system I shall endeavour to document my circuits and systems in as simple a way as possible. I shall not get technical, just use the kiss principle.

R2 = 1K 1/2watt	R-1274
C1 = 220 uf 25v Electro Cap	R-4160
C2 = 1000 uf 25v Electro Cap	R-4180
D1 = 1.5 amp bridge rect	Z-3304
D2 = 1N4002 Diode	Z-3202
Q1 = DS547 transistor	Z-1300
Q2 = BD681 Power Darlington	Z-1462
Q3 = TIP3055 transistor	Z-2008

MISC	
Heat Sink for TIP3055	H-3495
Zippy box	H-2855
5 pin DIN plug	P-1550
Socket to suit	P-1552
Circuit Board	H-5612
Switch DPDT Centre off	W-2100
2 metres of 4 core flex	
Transformer [optional]	DSE1990

Basic Throttle

The basic throttle can be built up as either a hand held unit or as a panel mounted unit. The numerous options will be explained a little later in the article. The unit can be run from 12-20 volts AC or DC (unfiltered) and will handle a current of up to 2 amps, more than enough for most layouts. A simple form of pulse shaping is used to give reliable starting. This pulse will NOT cause your motor to over heat. There is a little bit of inertia built into the basic unit but this can easily be varied according to your requirements. There is an adjustment for minimum speed and maximum speed so that the control knob can be used for the full range of speed settings of your locos.....not just the first 1/4 turn as is often the case. (This is called expanding the range!)

The part nos. shown refer to Dick Smith's catalogue but can be purchased at any electronics shop. N.B. 1N4002 are 10¢ each at Dickies but \$2.69 for 2 at TANDY!!!!

Construction

First, cut a few pieces of circuit board to fit the zippy box, (the extra pieces will come in handy later) then drill the box lid to take the speed control knob and the direction switch. Use the template,[Fig.1] otherwise they may not allow enough room for the other components. Attach the heatsink and power transistor to the end of the box as shown. Drill a 4mm hole at the other end of the box for the 4 core cable.

Mount the components on the circuit board as shown in Fig.2. Note where the tracks have been cut on the circuit board, mount the components on the OPPOSITE side to the copper track, use solder NOT super glue, NOT Araldite!!!! When soldering the components to the board be careful not to leave any small wisps of solder to short between two adjacent copper tracks. Pass the 4 core cable through the hole in the box and tie a single knot about 60mm from the end, there is no need to pull the knot too tight. Strip the outer sheath back about 45mm and remove it. The RED and BLACK wires can be soldered to the direction

Options

It is possible to add many options to the base unit, at the time of building or at a later date.

- direction indicating LEDs
 - push button speed control
 - automatic train control
 - conversion to 'memory throttle'
 - radio control (larger scales)
- These will be covered when you have built the basic throttle.

Parts List [for basic unit]

VR1 = 50K trim pot	R-1945
VR2 = 20K trim pot	R-1943
VR3 = 50K pot	R-6809
R1 = 56K 1/2watt	R-1118

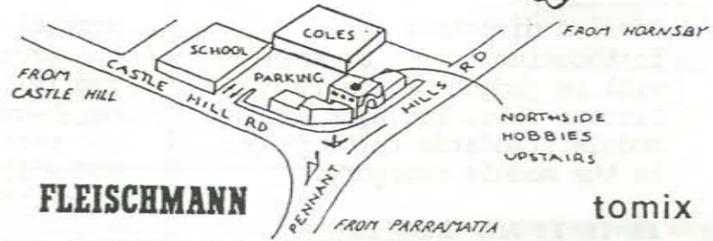
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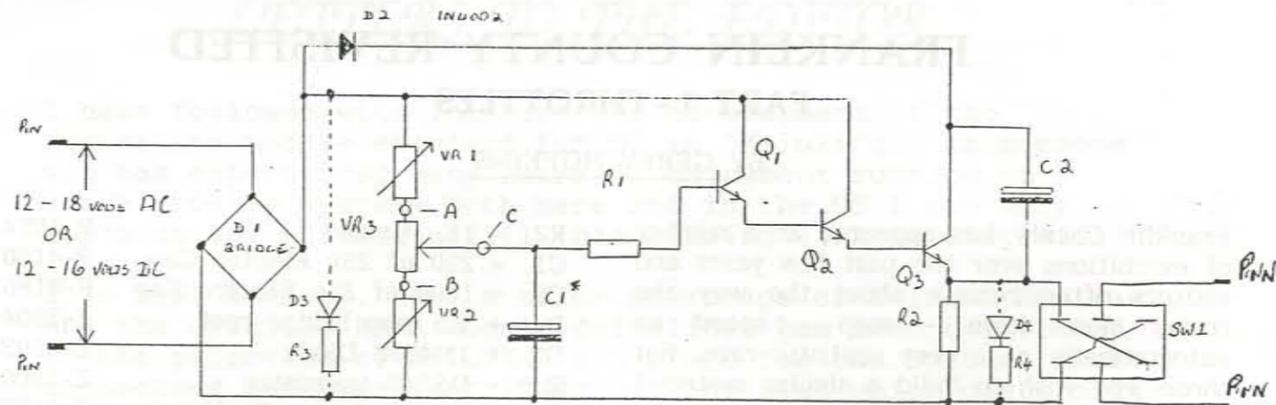


FIG 6

- D3 LED RED
- D4 LED GREEN
- R3 1K 1/4WATT
- R4 470Ω 1/4WATT
- R5 22K 1/4WATT
- R6 4.7K
- VR4 50K TRIMPOT.

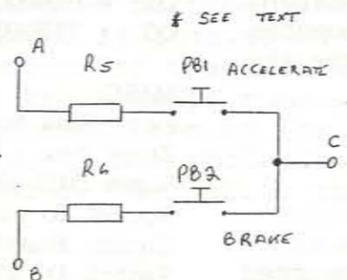


FIG 5

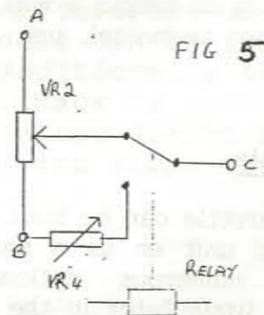
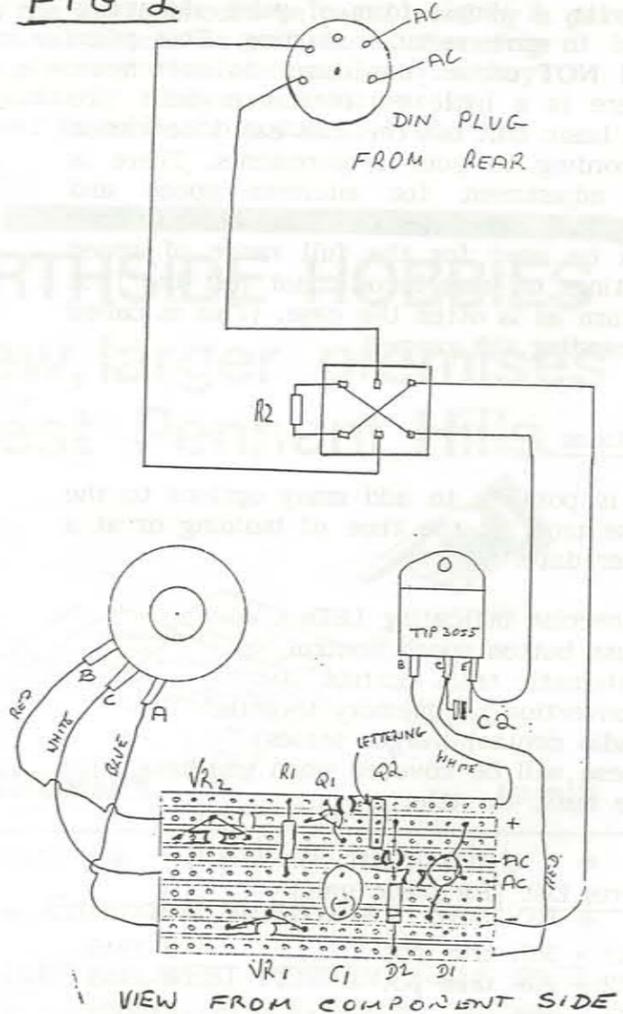


FIG 2



VIEW FROM COMPONENT SIDE

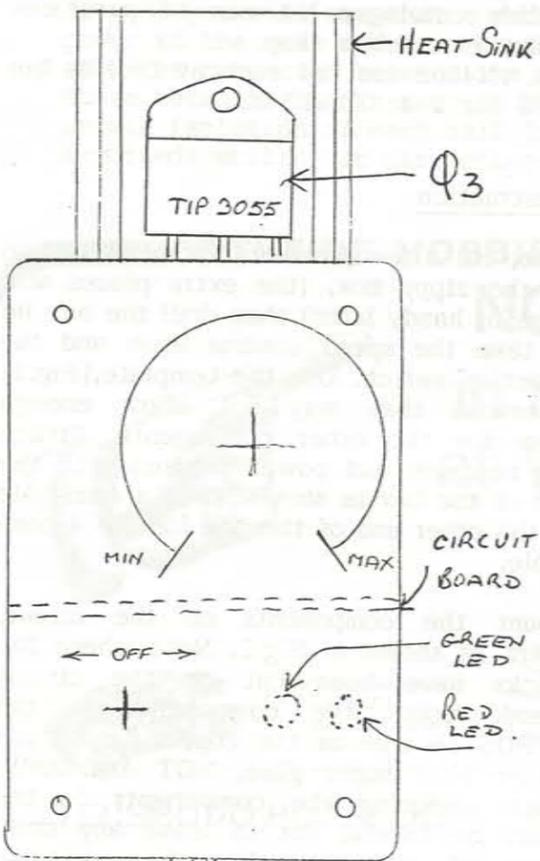


FIG. 1.

4 CORE CABLE

switch as shown in fig 2 and the BLUE and WHITE wire to the circuit board at points AC. There is no polarity with blue and white so you can connect them which ever way you like. If the red / black are connected wrongly then the train will travel in the direction OPPOSITE to the switch. [Murphy's Law states "if there is a 50/50 chance of connecting the wires right, you will get it wrong ---90% of the time!!!]

Now solder the 5 pin DIN plug onto the end of the lead, remember to slide the plastic cover onto the cable first!!! Connect the leads as shown in Fig.2 Set both the trim pots to their middle positions, you might forget later! Solder four wires to the back of the DIN socket, to correspond with the plug. Connect these wires to your layout and place a loco on the track. With the speed control knob set at minimum, switch the direction switch to the right - the loco should move to the right. (Remember Murphy's Law?)

Adjust VR2 until the loco JUST stops moving. Switch the direction switch OFF and wind the speed control knob to MAX speed, count to 10! Now turn on the direction switch, the loco will move away at a reasonable speed. Adjust VR1 so that the loco moves at its SCALE top speed.

Switch the direction switch off and wind the speed control knob to minimum. Wait for one minute the switch on again, wind the knob to maximum and check the acceleration of the loco, it should move as soon as you move the knob. The acceleration should be gradual all the way to top speed. Once the loco has reached its top speed, wind the knob straight back to minimum. The loco should slow at a prototypical speed. I suggest you try the throttle at a few operating sessions before trying any of the modifications or "Customizing" steps that follow.

CUSTOMIZING

If you require a throttle that responds quicker lower the value of the capacitor C1 to 47 uf or 100 uf. If you require more

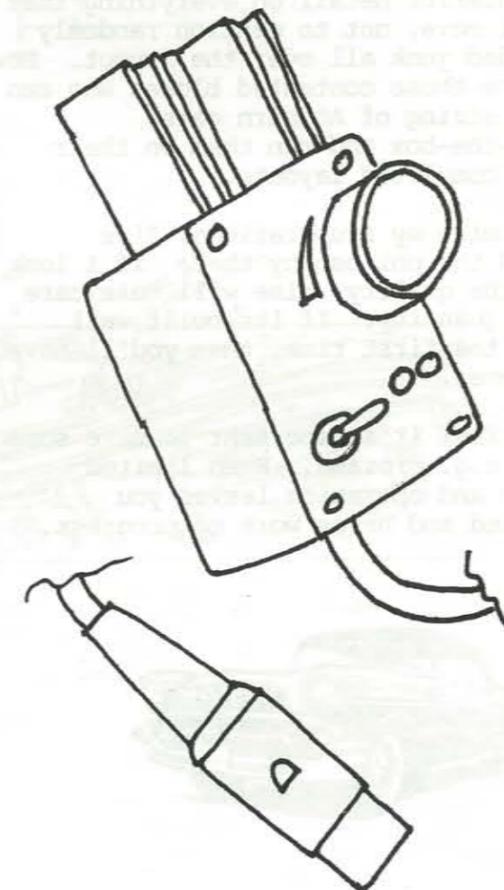
inertia increase the value to 470uf. You might wish to fit a small switch so that you can select either value.

Shown in Fig.4 is another variation, this allows you to use push buttons instead of a control knob. With this version you might wish to fit a number of buttons around the layout ...it will save on walk round throttles. For this I suggest you increase C1 to 1000 or 2000uf.

Fig 1 also shows a few extra LEDs, red for power on and green for track power.

Fig 3. shows how to fit a relay in the circuit this can be used for interlocking or automatic control, both of these I will explain in the next issue.

I have not shown any form of OVERLOAD protection, this is up to you. I use a 1.6 amp thermal overload, some people like to use auto lamps others just fuses. Whichever you use locate it between the transformer and the DIN socket, with the throttle shown in this article use a maximum of 2.0 amps I will detail a heavier throttle later.



DESIGNS FOR A TRANSIENT TIME

TYALGUM PHASE 1

BY PHIL MORROW

This heading could be the start of a million topics. It's an unlikely heading to some ramblings on toy train layout design. But sitting 35,000 feet above the Great Australian Bight, any title is a good way to turn, a need to escape a rough days work, into a relaxed sharing of thoughts on this hobby. So with that out of the way, let's talk trains.

Once having made the commitment to seriously model trains, it becomes quite difficult to settle on a modelling concept. (Prototype or freelance, era, region etc). Even more frustrating is getting the room to build in. Time is needed to make these decisions.

My passion is for steam narrow gauge, logging, contemporary wood product, short lines and the Western Pacific.

My disability is a fetish for full under body detail on everything that moves, full interior detail on everything that doesn't move, not to mention randomly discarded junk all over the layout. How I admire those contented blokes who can take a string of Athearn cars, out-of-the-box and run them on their almost completed layouts.

To minimise my frustrations, I've adopted the philosophy that; if I look after the quality, time will take care of the quantity. If its built well enough the first time, then you'll have it forever.

I also feel it's important to have some layout e.g. diorama. Even limited scenery and operation leaves you fulfilled and helps work to progress.



Many of us seem to become committed to this hobby in our late adolescence/early matrimonial days. At such times, available space for a layout is as rare as hens teeth. But a layout room will come with time.

My first "layout" was 6 ft x 1.5 ft module, perched atop an old kitchen table domiciled in the spare bedroom of our rented flat. This set up survived for about six years. That module is currently undergoing a major reconstruction after its most recent and seventh move. I plan to move it at least one more time, into the final grand plan.

But let's look a little closer at the original, it was a valuable step in my modelling development.

There are two elements, a workshop and the layout.

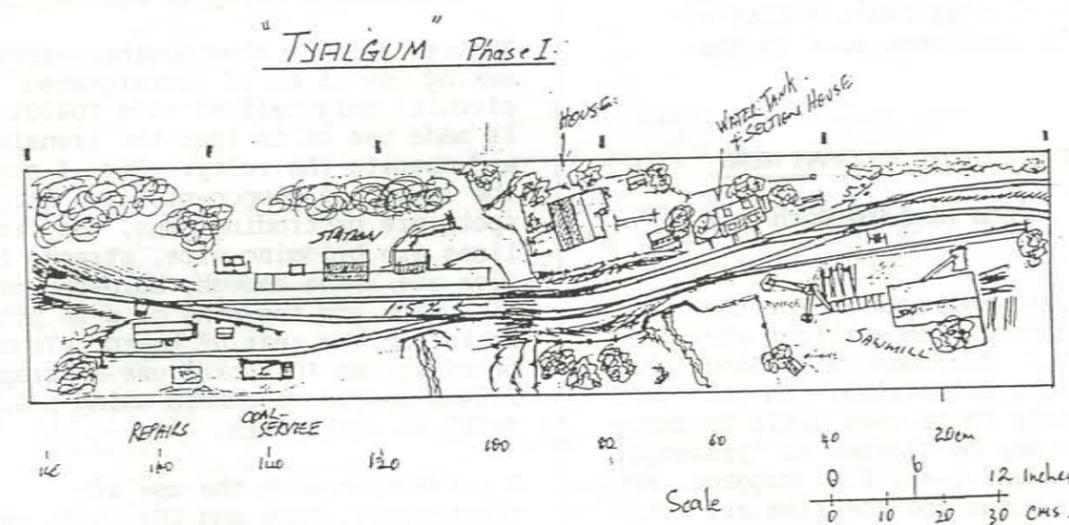
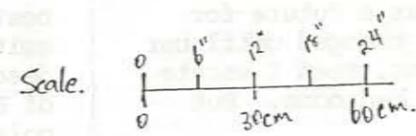
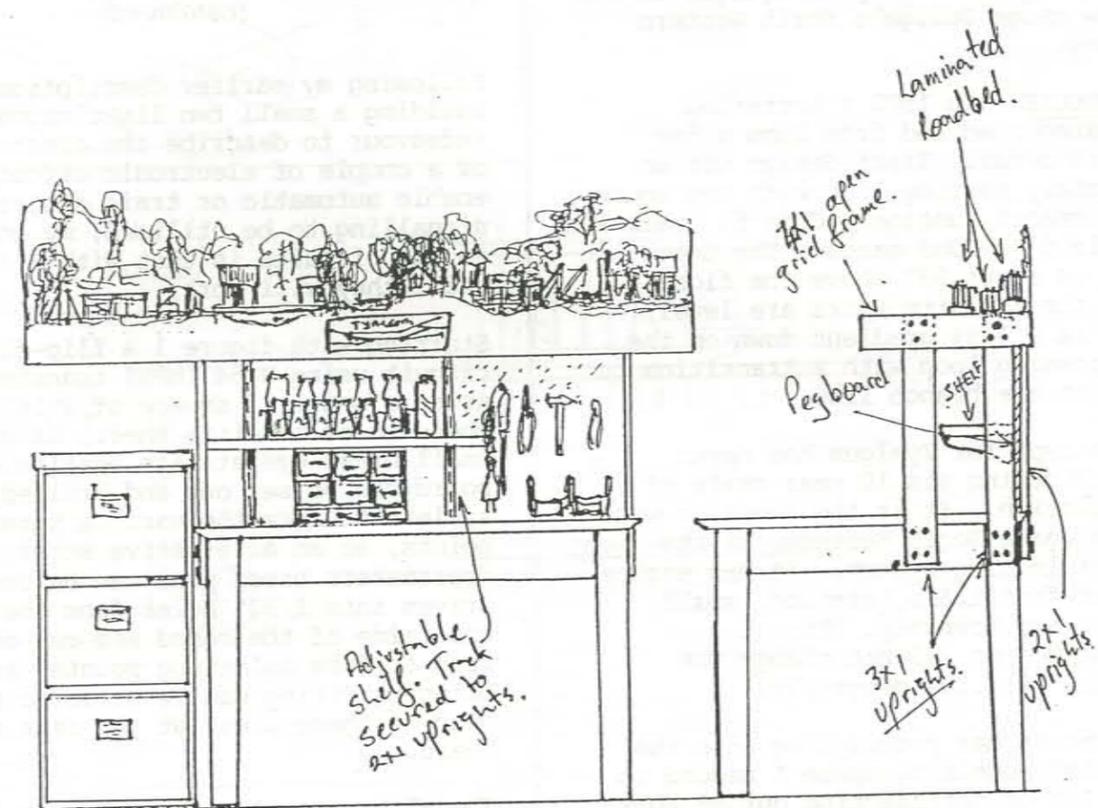
THE WORKSHOP: I have to have somewhere to work. A dedicated place to build trains, write out the bills, dream of trains and study or work into the late of night.

A second hand furniture dealer provided such a place, a 4 ft x 3 ft kitchen table, bought in 1973 for \$7.00. This was my study until 1975 when my then girlfriend bought me an electric train set. This was my standard (joke) response to the question; "What do you want for Christmas/Birthday". So she got a husband and I found I needed a layout.

The study desk then became a work bench. A pair of 3" x 1" uprights were bolted toward the rear at either end with a pair of 2" x 1" uprights bolted at the back.

Pegboard, 18" tall, was placed against the rear uprights and a shelf was constructed, half way up this back board and about 30" long. The layout was then built, secured above the workbench, a frame-work of 4" x 1" open grid design 6' long and 18" wide, bolted to the uprights from the table.

TYALGUM MODULE + WORKSHOP.



So began the township of Tyalgum on the narrow gauge Gulugaba North Western Railway.

THE MODULE: In 1977 I installed laminated road bed from 25mm x 8mm pacific cedar. Track design was an elementary passing loop with two spurs and a branch junction. Code 55 track was hand laid to HO_n3 gauge. The track level is about 53" above the floor. While the industry spurs are level, there is a 1.5% gradient down on the main passing loop with a transition to 3% up on the branch line.

The concept for Tyalgum has never changed during its 10 year state of incompleteness. It is the junction with the Gulugaba North Western, of the Kyngra logging branch. It has engine service facilities, station, small sawmill and township. Its reconstruction will not change the purpose, just the geography.

This set up has provided me with the dedicated modelling space I needed to get a lot of satisfaction out of this hobby. This set up has a future for expansion and was not changed until our expanding family necessitated I vacate the last of the spare bedrooms. But that's another story.

Well, that seems to have got rid of the flight to Perth. I hope I've helped your motivation at least a little. Maybe we'll chat some more in the future.

ACHIEVEMENT PROGRAM NEWS

from Richard Roth

What is a Passenger Car? For the purpose of model competitions etc. the National A.P. Chairman (Rick Shoup) has clarified the definition. In the "CARS" category only those cars built to carry the public may be classed as "Passenger Cars". Headend cars, i.e. Baggage, RPO, inspection autos and the like are not passenger cars.

However, ex-passenger cars converted to MOW service, or similar, are classed as passenger cars. I hope this clears up a grey area in the rules.

AUTOMATIC SIGNALLING

by Don Turnbull
(continued)

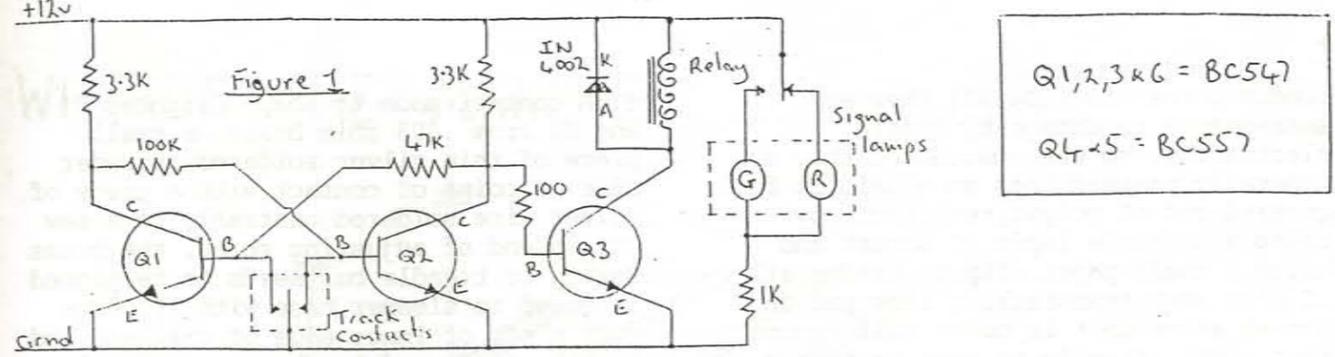
Following my earlier description of building a small two light signal I will endeavour to describe the construction of a couple of electronic circuits to enable automatic or train controlled signalling to be utilised, my only claim to the circuits is that with a little skill they will work.

Starting with figure 1 a flip-flop circuit using BC547(NPN) transistors and using a small 2" square of 1/16" phenolic or bakelite sheet, if some small brass eyelets are available the board can be set out and drilled for the eyelets to form the various termination points, as an alternative stout dressmakers brass pins can be used driven into 1/32" holes from the underside of the board and cut of 1/4" long to form soldering points, any small bridging wiring can be soldered to the head of these pins, at the rear of the board.

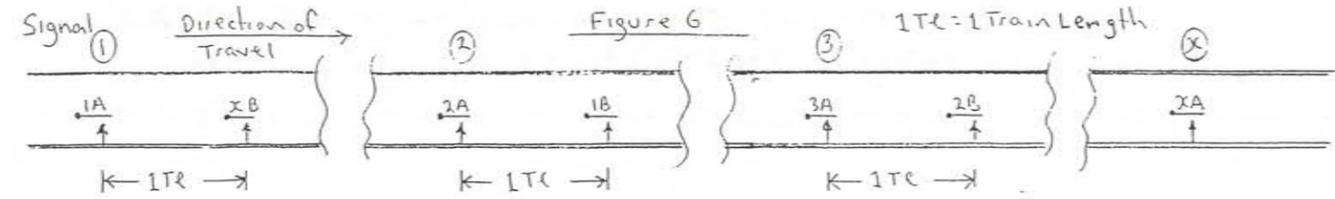
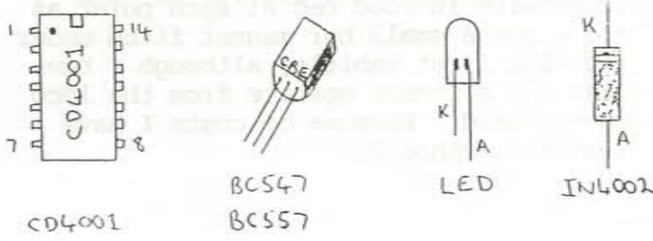
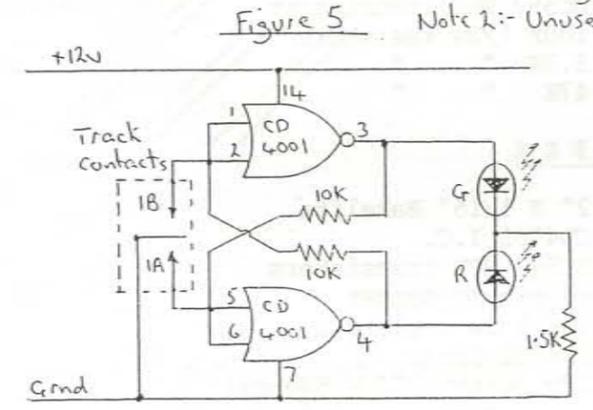
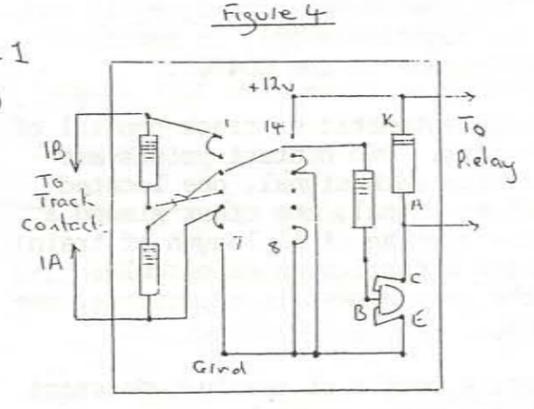
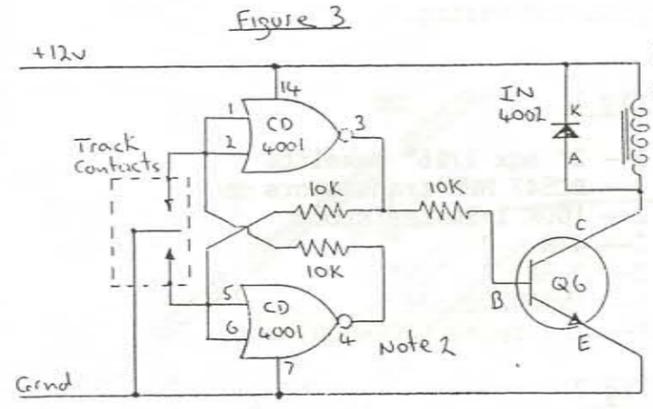
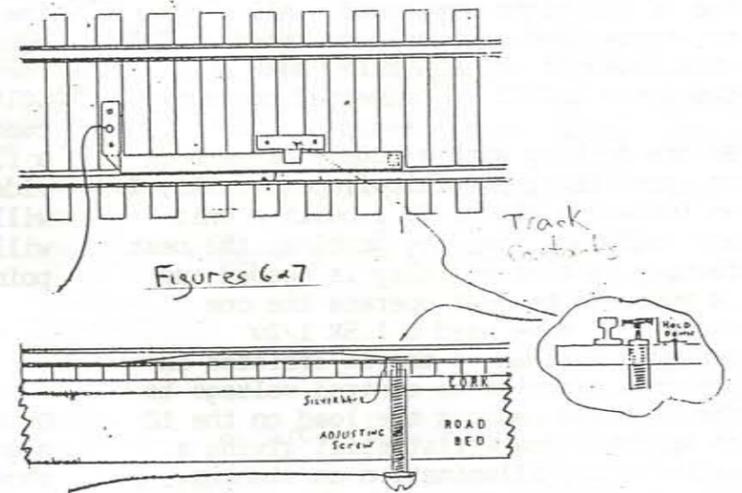
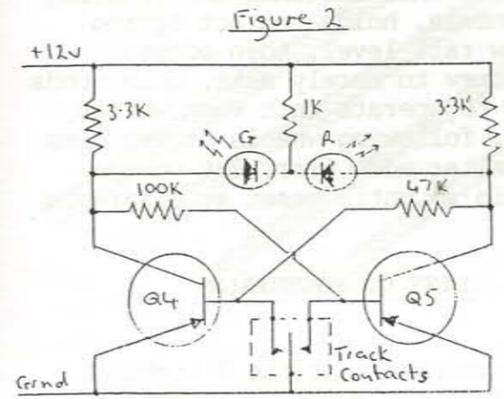
The alternate circuit in figure 2 is best suited to operate the LEDs (light emitting diodes) of the already described 2 light signal, it makes use of BC557(PNP) transistors to match the polarity of the signal, note the opposite arrangement of the polarity of trip contacts, the main advantage in this case is a relay is not required.

Figures 3 and 4 show another version, making use of an IC (intergrated circuit) only half of this CD4001 unit is made use of to feed the transistor and operate the relay. Fig. 4 suggests the layout of components, the large spots are protruding pins, the fine lines are bridging wire, strands from flex are large enough, soldered between pin heads and the pins of a 14 pin IC socket on the rear of board. To drill board for an IC socket use a scrap of 2.54mm spaced Veroboard using a 1.0mm drill as a template.

A precaution with the use of transistors, LEDs and ICs is to avoid excessive soldering iron heat on the pins and leads of these, by using some form of heat sink e.g. long nose pliers or tweezers, also care is necessary when



Q1,2,3 & 6 = BC547
Q4 & 5 = BC557



handling the ICs (CD4001) they are susceptible to damage by static electricity, so when purchased they are generally pressed into an aluminium foil covered pad of polystyrene foam, by using a suitable 14pin IC socket and using a small paper clip to bridge all IC pins when transferring from pad to socket after unit is built will reduce this risk. Finally be sure to insert the IC the right way round. All resistors used need only be rated at 1/2 watt, also if using a relay make sure the diode 1N4002 is connected correctly.

Before dealing with a couple of methods of controlling the flip-flop circuits, I am including figure 5. I built a unit and could not find any problem, the best feature is that no relay is needed and is adequate to just operate the one signal. I have used a 1.5K 1/2w resistor instead of the 1K resistor in previous circuits to control voltage to the LEDs and reduces the load on the IC to approx. 12ma whilst still giving a satisfactory illumination on signals. I should also mention the precaution of connecting the unused pins 8, 9, 12 and 13 to the negative supply to avoid internal damage to the CD4001.

Now to the automatic or track control of signal units. Two contact points are required for each signal, one located adjacent to signal, the other placed a section + overlap (full length of train) beyond for a continuous or circular route the arrangement is repetitive, see figure 6.

There are a couple of easily understood methods for these contacts:

1. the use of small glass enclosed reed switches located between rails and lengthwise in road bed at each point as above and a small bar magnet fixed under loco for first vehicle, although I have seen the switches operate from the loco motor field. Because of costs I have featured method 2.

2. A contact made to shape (figures 7 and 8) from .003 shim brass, a small piece of thin silver soldered on under side at point of contact with a piece of silver wire soldered centrally in a saw cut in end of adjusting screw, the brass spring or treadle bar needs to be pinned or glued to sleeper base with its edge just clear of inner edge of railhead and lightly tensioned to above rail level, the small hold down bracket is made and bent so that when fastened and clearing rear of wheels, holds contact spring .010 below rail level, then adjust contact screw to barely make, only needs a flicker to operate unit when wheels ride over, following wheels or vehicles will not alter mode first set up and will remain so until reset at clearance point.

LIST OF MATERIALS

On the assumption that the 2 light signals have been built, I am not showing these parts. I have omitted also the miscellaneous items eyelets pins and wiring.

Fig 1

1— 2" sqx 1/16" Bakelite
3— BC547 NPN transistors
2— 100K 1/2w resistors
1— 47K " "
2— 3.3K " "
1— 1N4002 diode
1— 12v relay (200-500) ohm

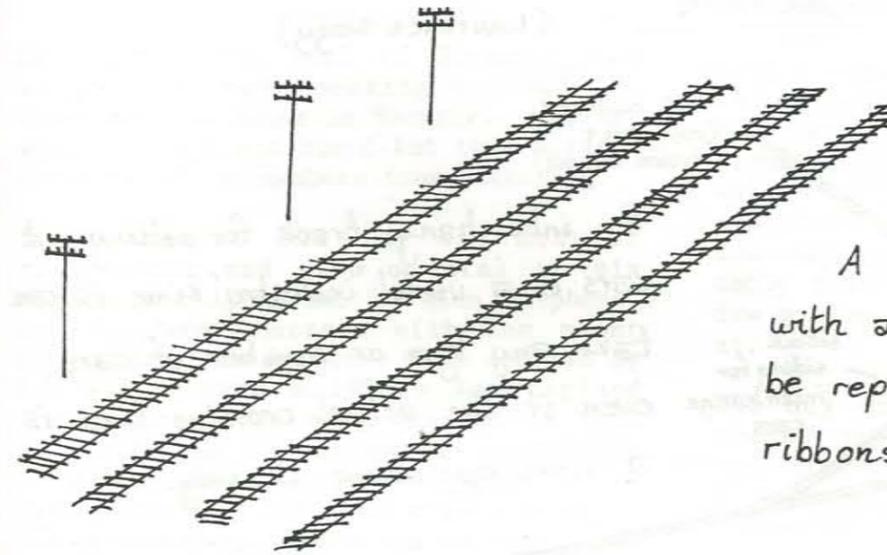
Fig 2

1— 2" sqx 1/16" Bakelite
2— BC557 PNP transistors
1— 100K 1/2w resistors
2— 3.3K " "
1— 47K " "

Fig 3 & 4

1— 2" X 1/16" Bakelite
1— CD4001 I.C.
1— BC547 NPN transistors
1— 14 pin IC socket
3— 10K 1/2w resistors
1— 1N4002 diode
1— 12v relay (200 - 500ohm)

WHERE'S THE MAINLINE?..... (Laurence Nagy)

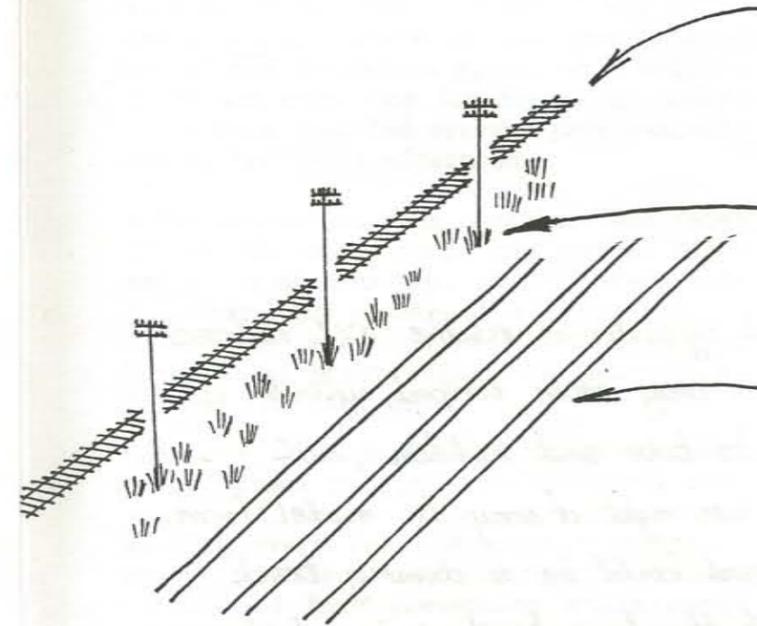


A single track mainline with a three track yard can be represented by 8 even ribbons of steel or

..... a well ballasted mainline elevated on cork roadbed with rail sides painted dirty brown (Floquil roof red or Humbrol track colour).

Telegraph poles & vegetation separate mainline from yard.

Yard tracks have sleepers sunken into cinder ballast. Rail sides painted a rusty colour (Humbrol rust isn't as garish as Floquil).



NATIONAL MODEL RAILWAY EXHIBITION GROUP

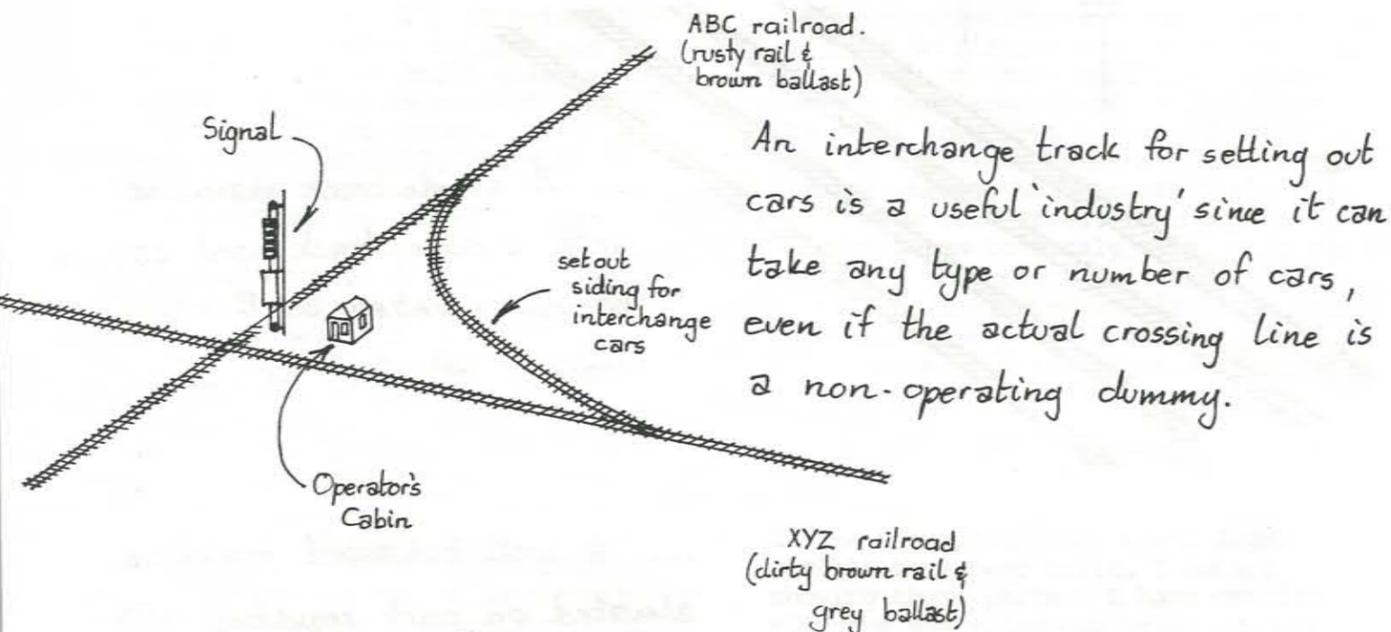
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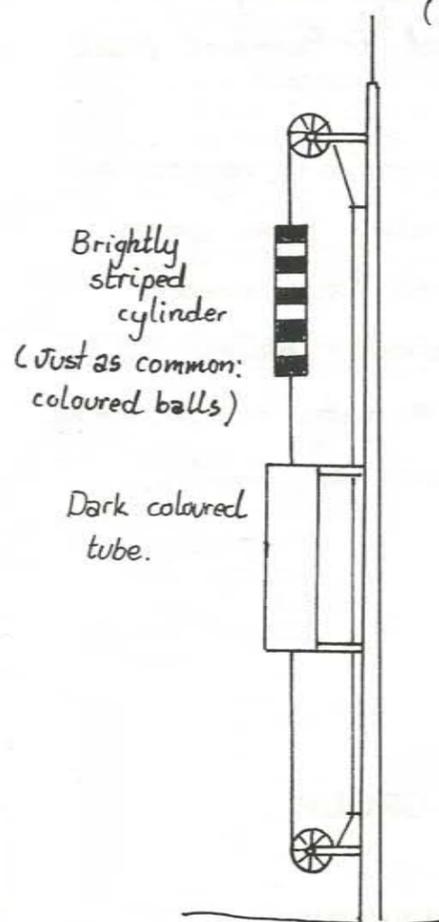
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SAT 18 - 10AM TO 6PM , SUN 19 - 1PM TO 6PM , MON 20 - 10AM TO 5PM

THE JUNCTION (Laurence Nagy)



THE SIGNAL



When striped cylinder is visible XYZ railroad has right of way. When striped cylinder is lowered into tube and hidden, ABC railroad has right of way. In model form ABC railroad could be a dummy track ending at the layout edge, in which case the signal could be a non-operating dummy permanently set for the XYZ. At night oil lamps replaced cylinder. Many installations lasted into the '70s.

THE CHRISTMAS MEETING

On Saturday the 10th of December the annual Christmas meeting was held at Peter Burrows house in Hornsby. The day was sunny hot and humid but this did not deter 51 of our members from attending.

The theme of the day was modular railroading and with a total of six modules including two by Glen Stephens, one by Peter Burrows with the paint hardly dry, one by Peter Webb and two by Ray Walter with a 1950's New England look. Great fun that was had as legs were clamped on to modules, tracks aligned, bridging pieces shortened. Peter Webb even did a motor swap on an SP 0-6-0 switcher. There was an incredible diversity of baseboard construction techniques, all meeting the local standards. The wiring and plugs all seemed to fit in the correct places and very soon after starting we had trains running on the main lines. I say we as everybody got stuck in and lent a hand and thanks to Peter's super large balcony there was even room for the large number of members that had arrived progressively during the early afternoon.

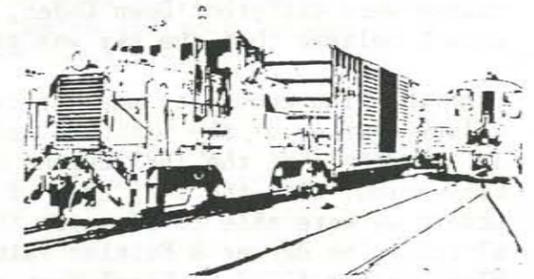
A bar-be-que had been organised and Peter donned his chefs apron and cooked piles and piles of sausages. Dale, Peter's wife had prepared masses of rolls, nibbles and cakes etc. Nobody left feeling hungry! A great effort and our thanks for all the hard work.

Half way through the afternoon the very brief formal part of the afternoon took place. A short speech of welcome and wishing every one the seasons greetings by our president Peter Burrows. Followed by Richard Roth presenting achievement certificates to the following people. Gerry Hopkins, Jack MacMicking, Keith McCarron, George Paxon, Hal Saxon, John Saxon, Don Turnbull and Ian Venables. Well done to all of them. The matter of the US increasing fees to overseas members was raised by John Saxon who is the associations Trustee for the region. A petition was raised at the meeting requesting no increase for overseas members and John will present this personally at the next meeting of the trustees to be held in the USA in February. All present at the meeting signed.

After the 10 minutes of formal business was over we all returned to train watching or talking. Gordon Farnsworth held a scenery clinic, showing us all how he achieves his great looking scenery. For the members whose energy level was flagging there were railroad movies on a wall size projection TV that Peter has installed in his rumpus room. Also downstairs was the usual bring and buy table plus Warren Mclean had brought a few goodies from Newcastle for us to ogle at.

The day was a great success and our thanks to Peter and Dale for their hardwork and hospitality and to everyone that helped to make it a great afternoon thank you!

Sowerby Smith



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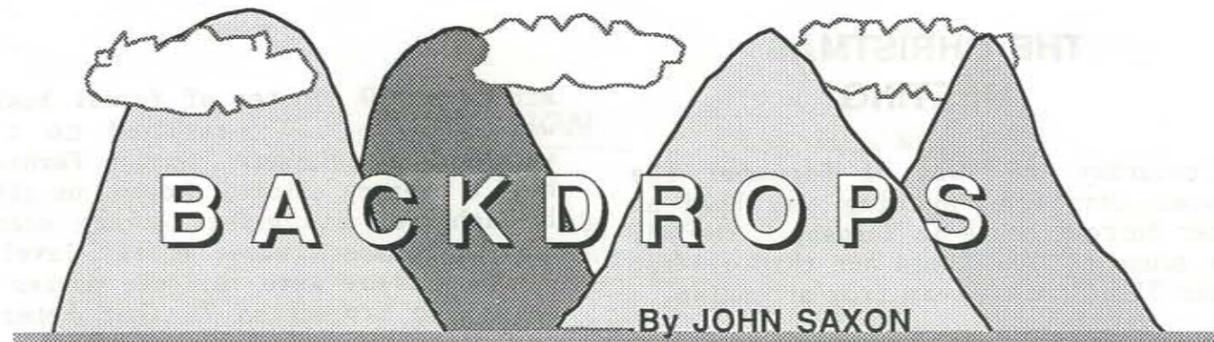
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(PART 2)

Having had twelve months since the first part of this article to put up the backdrop, I'm sure you are now ready for the real fun part of this project.

John Lowrance, whom you will recall was one of the original authors of the article in Railroad Model Craftsman of March 1986, was kind enough to view a sample of what I thought was the correct blue colour. He wrote back and pointed out that the "blue" I had chosen was not really suitable as although he knew things were different Down Under, he didn't believe that the sky was green!

John was kind enough to mail me two colour samples of the paint he had used in his clinic at the 1987 Eugene NMRA Convention. With the help then of Bruce Lovett we were able to identify the local colour as Berger & British Paints Blue Pacific #2227 Nu Vinyl Matt and so, armed with 4 litres, I was ready to commence at last!

Applying the Blue.

Apply two coats of the Nu Vinyl Matt to the Fibreglass with a good quality soft paint roller, just as if you are painting a wall at home.....BUT make sure that the first coat is thoroughly dry before you apply the second coat.

Although the Fibreglass is very shiny, the paint seems to adhere very well and provided you don't actually attempt to scratch it, the finished product is very durable indeed.

Stencils.

You can prepare your stencils for applying the clouds in a number of ways. I was fortunate as I had purchased a set of stencils at the Clinic in Eugene and I was able to get right into the easy part as soon as the blue was really dry.

If you are a reasonable artist, you can simply draw three or four cloud outlines [In pencil until they look right] on

to folded out manilla file folders [or any suitable thin but firm cardboard]

Or, alternatively, project a colour slide of suitable clouds onto the file folder [at a suitable distance] and ink in the outline onto the card.

DON'T rely on your memory of what a cloud looks like.....you wouldn't think of building a simple flat car from memory would you?[Unless you are related to the famous Thumbs of NMRA fame]

Cut out the outline with a SHARP blade or small scissors and discard the actual cloud portion. I have found that it is easier if you separate the top and bottom of the cloud stencil when using them as the upper or lower part of the stencil has a habit of smudging the freshly painted clouds just as they are starting to look good.

Also, leave plenty of card above and below the cloud outline when you are making the stencils to provide maximum masking when spraying the paint. [It's true, there are NO straight lines in nature, even in the sky, although the bottom of clouds usually look as if they are flatter than the tops.]

The Clouds.

You can spend a lot of money on spray cans of paint but I found the flat white undercoat available in Sydney at Franklins for around \$3 quite OK for the job. Note that it must be flat paint as I don't believe there are any shiny clouds in the sky, just as there are no straight lines.

If you can find one, buy a spraycan handle from a hardware or specialist paint store, as it will save a lot of wear on your finger [Or wear a Band-aid on your index finger before you start.

Safety.

Apart from the blade you used to cut out the stencil, you can be injured very badly over time by the solvent used in some paints. So, make sure you use a suitable mask over your nose and mouth whilst you are painting and ensure the train room is suitably ventilated by means of a strong fan whilst there are still paint fumes in the air. Whilst not as important, it's also a good idea to use a disposable plastic glove on the hand that will hold the stencil as the solvents are also not good for the skin.

And whilst not a safety matter, don't forget to cover the layout, etc. with light drop cloths or you might have some permanent evidence of your spray painting efforts where you don't wish them.

Creating the Clouds.

Starting at the top of a suitable cloud, spray about 100 to 150 mm with the stencil held against the backdrop. Don't try to spray too much of the cloud in one pass of the spraycan.....it will be more realistic if you spray in small bursts as the overspray actually adds depth to the clouds.

Then with the stencil held about 25mm or so from the backdrop, spray the lower extremity of the particular cloud you are creating. Stand back, have a careful look at it and if it looks reasonably OK, fill the inside of the cloud in with a few short sprays, using various parts of your stencil to create that transparent and yet dense effect that you are seeking.

Remember, clouds are usually whiter at the top than the bottom from the Sun's rays so put more of the white spray at the top of your clouds to get the best effect.

And watch that overspray! Remember, no straight lines please!

After you have sprayed a few clouds [don't forget to layer some over others as happens in nature] step back, have another look and if they don't look OK to you, paint out with blue and start again! But they most probably will look great and you will be well satisfied.

Finally.

Providing you take precautions on safety and covering up your models, etc., this part of railroad modelling really is fun. Sure there will always be a nitpicker or two who will say that your clouds are not prototypical, etc. but that's when you produce those photographs or even that magazine illustration to show, just as we have always been told, there is always a prototype for everything.....

Other Applications.

In Eugene, John Lowrance also used stencils of mountain ranges and city skylines to produce very believable backgrounds.

If you graduate to such esoteric effects, start at the furthest range and overlay one range over another but misting a little of the white undercoat generally over the area to provide that haze that creates distance between each layer of mountains.

And try it with a cityscape too. Here the stencils are easier to make as there are plenty of straight lines in buildings, church steeples, etc. Again however, don't forget the mist of white to add distance and tie it all together.

GIVE IT A GO, I'M SURE YOU'LL LIKE IT.

Reference

John Lowrance and Miles Hale article in RMC for March, 1986.

Thanks to

Gary Norwood for his Fibreglass idea.

.....John Saxon.



1990 AGM

The 1990 Annual General Meeting of the Region is to be held in New Zealand in conjunction with the Waitemata 150 Convention at the Auckland College of Education. The dates will be over Easter, 13 to 16 April, 1990.

New Zealand modelling is first class and attending the Convention and our AGM with associated model competition offers us a great opportunity to see a delightful country and experience some of the hospitality Kiwi's in their own Country are renowned for.

The air fare to New Zealand is not expensive when compared to Australia's internal air fare structure. And we should be able to arrange discount fares when we are closer to knowing how many will be able to make the trip.

So start thinking about that overseas trip.....there should be time to save the necessary dollars and we Australians need to have a reasonable contingent on hand in 1990 in Auckland.

For more details, ring John Saxon on [02]949.4767 or drop a line to NZ Convention, PO box 529, Epping, 2121.

.....

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THE WIRKKALA SLACK LINE SYSTEM

By Oscar Wirkkala

MY FIRST experience as a logger was obtained while logging a rough and steep mountain side. The available machinery being unsuited to local conditions I designed a gravity system, and later a slack skyline system. A special donkey is used, which has three drums in line, the main line drum driven at either of two speeds, and all of the drums driven by either or both of the two engines, as desired.

This machine operates all the cables except the skyline, which is handled by an old style donkey. With this outfit continuous logging is done without the usual interference of moving days.

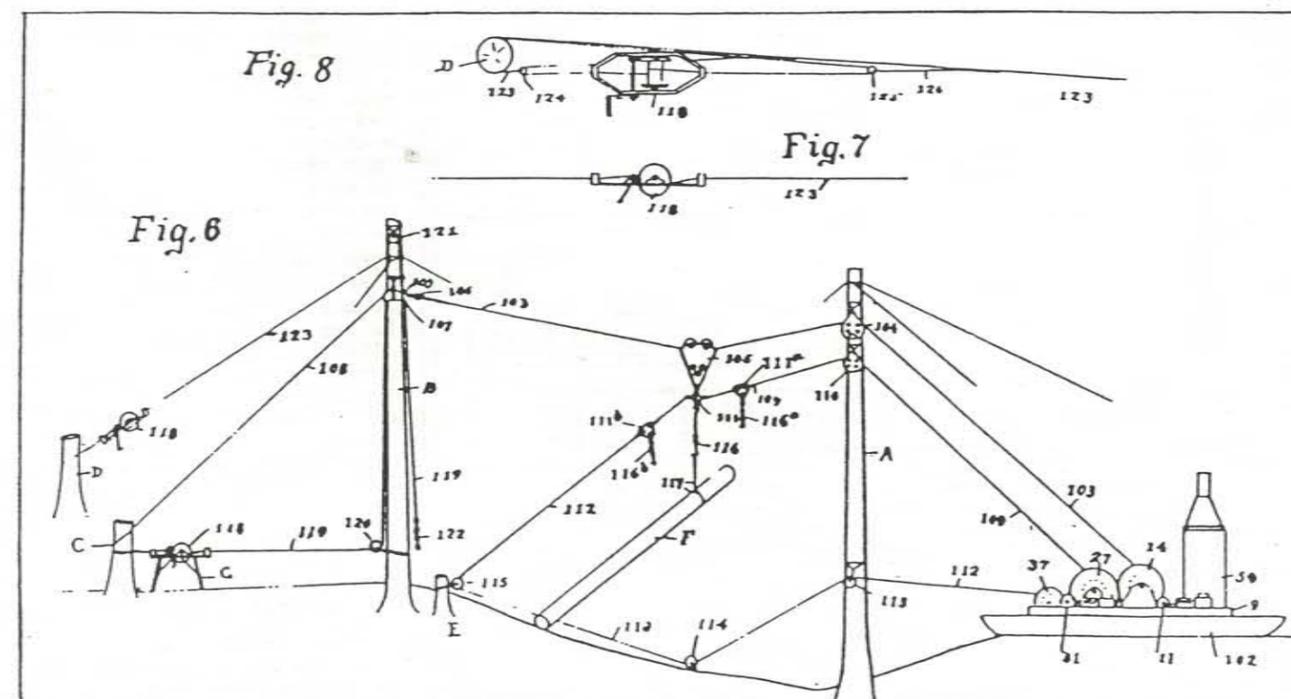


DIAGRAM OF WIRKKALA SLACK LINE LOGGING SYSTEM

Logs, except those in short corners, are taken out while operating as a slack skyline system. In this case the skyline is made fast and used as a high lead, and the remaining logs are brought out with one donkey working alone. Meanwhile another donkey is installed at the new setting and logging begun, operating the system as a high lead. When the old setting is cleared, one donkey is moved to the new setting and joined with second donkey in operating the slack skyline system. Thus logging proceeds continuously.

With this equipment operators are logging settings twice as wide as can be done with the high lead system. For the skyline 3,500 feet of 1 1/2 inch cable, for the main line 3,500 feet of 1 1/4 inch cable and for the haulback 8,000 feet of 7/8 inch cable are employed.

Attention has been given to some minor details which had not heretofore been worked out entirely satisfactorily. High speed requires better lubrication of block bearings than has been provided for by double lubrication heretofore, whereby grease is supplied from a hollow sheave pin and also from a hollow sheave or sheave-hub grease cup simultaneously providing all needed lubricant. To insure more copious feeding of the grease, the ducts leading from the hollow pin are oppositely inclined. A harder grease may be used with this arrangement.

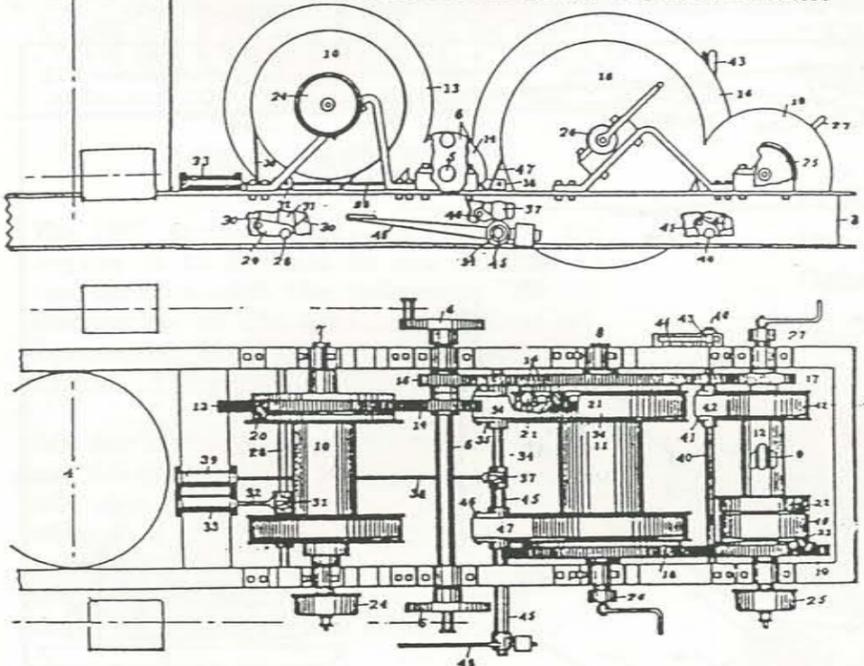
GRAVITY CARRIAGE. In operating the slack skyline system on steep ground, the grades which the carriage must often follow are so steep that it is frequently up-tilted by the passing of the load line beyond the wheel base. In the new carriage this difficulty is overcome by placing the shackle pin close under the cable.

The hand windlass is a two-speed sun-and-planet-gear drum, mounted on a frame, having two carrying handles at each end. Each handle is provided with an anchoring pick for making fast to a log. To set up, one end of the frame is placed on a convenient log and the other end is lashed to two stakes driven in the ground for that purpose. Then the picks are driven into the log, fastening down the handles, and the windlass is ready for raising and lowering overhead gear. This machine was more especially designed for changing gear from the old to the new spar tree. The change is accomplished as follows:

Windlass No.1 is set up near the new spar tree and its pass rope is driven through a block made

WIRKKALA'S NEW YARDING DONKEY

THIS engine is known as a slack sky-line, gravity yarder, and a high-lead yarder. It has three drums. The main drum has a capacity of 3500 feet of 1½" line and speeds of 400 feet per minute in low gear and 1500 feet per minute in high gear. The haulback drum has a capacity of 8000 feet of 7/8-inch line and a speed of 1400 feet per minute. The strawline drum holds 7000 feet of 3/8-inch line and operates at a speed of 1400 feet per minute. The main drum is equipped with double friction blocks and has two 12-inch wide brakes.



Referring to the illustration: The haulback drum is shown at 10, the main-line drum at 11, and the straw-line drum at 12. One of the two brakes on the main-line drum is operated by steam and the other by a foot lever. The friction for this drum is operated by hand. The brake for the straw-line drum is operated by hand lever and ratchet. Shaft 9 is used as a drum shaft when hand friction is loose and steam friction 25 is set.

When used for gravity logging both steam and foot brakes on the main-line drum are used, while for other purposes the foot brake alone is used.

Write for particulars

OSCAR WIRKKALA

INVENTOR AND PATENTEE

Route 3, Box 20

BELLINGHAM, WASH. U.S.A.

Modified from an ad in THE TIMBERMAN, November, 1921

engines has its drums in line and therefore requires but a single spar tree at each end of the setting. These two engines working together, one as a roader and the other as a yarder, with the slack-line system, will log settings 4,000 feet square, while the high lead system can only log settings 1,400 by 2,100 feet, or three million square feet. In this way 75 per cent of the expense of railroad building and 50 per cent of the expense of moving machinery will be reduced when these ideas are put into practice. By using the slack skyline system in downhill logging, by reason of both the haulback and main line being fastened to the carriage, it cannot run ahead, and a straight lift on the turn can always be had, and the logs lifted till one end is free from the ground. Then in case of an overload, an excessive strain on the skyline is impossible, because the engine turns backward automatically against the air. When the skyline is sufficiently lowered, the steam throttle is closed and the air throttle is opened.

★ ★ ★

..... from the N.C.R. Hot Box

fast to the top of a tree. The skyline and carriage are lowered to the ground by the donkey and a chain is hitched to the skyline near its extension, and the pass ropes of both windlasses are hooked to this chain. This windlass is used to raise the skyline till its shackle pin is loose. The shackle pin is then drawn and windlass No. 2 is used to carry the skyline end over to the new spar tree, as windlass No. 1 is slacked off. The skyline is fastened to the shackle of a second skyline extension mounted in a jack fastened to the new spar tree. The pass ropes and chain are freed and the exchange is completed. In this manner two men can quickly change the heavy overhead gear from the old to the new spar tree.

HIGH-LEAD BLOCK. A high-lead block equipped with the double lubricating system, is especially designed to eliminate injury to the spar tree. Provision is also made for fastening to a strap engaged with a safety guy for carrying the overhead gear to the ground in the event of breaking the top of the spar tree, without danger to the men beneath.

PROPOSED SYSTEM

One of the two engines is a single-speed slack skyline roader and yarder. It handles the skyline at 400 feet per minute, the mainline at 450 feet per minute and the haulback and drawlines at 1200 feet per minute. It has 12-inch brakes and double friction blocks on the skyline drum.

The other donkey is a single and double two-speed skyline yarder. This donkey handles the skyline at 400 feet per minute, and the main line at either 400 or 1500 feet per minute, and the haulback at 1400 feet per minute. It is mounted either on a sled or a car as preferred. Each of these

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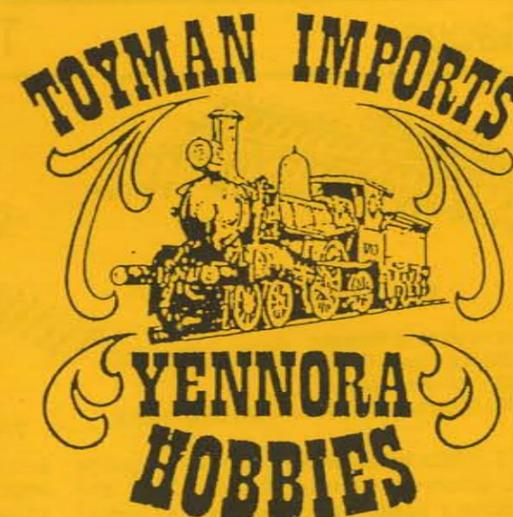
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