

# NMRA BULLETIN

Official Publication of the  
NATIONAL MODEL  
RAILROAD ASSOCIATION

USPS 370-260  
ISSN 0027-9722

## Dave Cichy

Publication Department  
Chairman

## Mike Carlson

Editor &  
Advertising Sales Manager

**SUBMISSIONS:** The NMRA BULLETIN welcomes articles, photographs, art, cartoons, and other model railroad- or railroad-related material as contributions to the mutual enjoyment of the hobby by the membership. Material should have wide appeal. Unsolicited material will be returned after editorial review or upon publication. The BULLETIN assumes no responsibility for unsolicited contributions.

Contributions to the BULLETIN and correspondence to the BULLETIN staff should be sent to:

NMRA BULLETIN  
N6633 Waukesha Avenue  
Sussex, WI 53089

**ADVERTISING:** All advertising inquiries should be directed to the BULLETIN Advertising Department at N6633 Waukesha Ave., Sussex, WI 53089, (414) 246-4577. Office hours are 9 a.m. to 6 p.m. (CT), Monday through Friday. The NMRA BULLETIN reserves the right to refuse or drop advertising for any reason. Advertising in the NMRA BULLETIN in no way constitutes an endorsement by the National Model Railroad Association.

**MEMBERSHIP:** NMRA membership dues are \$24 (U.S. currency) per year, of which \$13 covers subscription to the official publication, the NMRA BULLETIN. Single copies are available from the Business Manager for \$1.50 each. Address all membership applications, renewals, notices of non-receipt (issues that have been lost or delayed in the mail), orders for back issues, or other business matters to:

National Model Railroad Assn., Inc  
Headquarters Office  
4121 Cromwell Road  
Chattanooga, TN 37421  
(615) 892-2846

The NMRA BULLETIN (ISSN 0027-9722) is published monthly by the National Model Railroad Association, Inc., 4121 Cromwell Road, Chattanooga, TN 37421. Second-class postage paid at Chattanooga, Tenn., and at additional mailing office.

**POSTMASTER:** Send address changes to:  
National Model Railroad Assn., Inc  
Headquarters Office  
4121 Cromwell Road  
Chattanooga, TN 37421

© 1992 National Model Railroad Association

# CONSIST

OCTOBER 1992  
VOLUME 59 NUMBER 2 ISSUE 622

14 Introducing the O&P GP20/Joseph J. Bryan

20 Big Bridges in a Hurry/Bob Gallegos

22 Nice 'N' Easy/Andy Hamilton

24 Build A Unique N Scale Track Cleaner/Mark Hanslip

26 Queensland Cane Railways/A. C. Lynn Zelmer

29 Master Model Railroader No. 181/ Rick Shoup

29 Why I Am An MMR/Fred Gell, MMR

31 Passenger Service Comes to East Central Indiana Railroad/  
Roger P. Hensley

32 Idea File /Ken Chamberlain

33 Region Wayfreight/Bob Warren

35 Open Loads/Gary Loiselle

37 Wet Paint Prototypes/Bob Gallegos

39 Train Symbols/Bill Gruber

41 Norfolk & Western Standard Motor Car House Plans

## DEPARTMENTS

4 NMRA Staff

5 Long and Two Shorts/  
Eric Lundberg

5 Bulletin Board

13 90 on the High Arm/  
Mike Carlson

43 Club Car

46 Extra

47 Blowing Off Steam

48 Modeler's Aid

48 Swap Shop

50 Index of Advertisers

**Contributing Editors:** Andy Ataras, Ken Chamberlain, Mike Collins, Bill Everett, Bob Gallegos, David Halpern, Andy Hamilton, Mark Hanslip, Bruce Metcalf, Pete Moffett, Tom Person, Paul Schneider, Bob Warren, Wayne Wesolowski

**On the Cover:** A westbound PR-1 is seen passing PX at Phoenixville. This train forwards traffic to connecting trains at Reading. Power in the foreground is a local freight, the "Phoenixville turn". This scene is on Bill Gruber's model railroad in Mickleton, New Jersey, and was photographed by Bill. You can learn more about how Bill uses train symbols on his railroad by reading his article on "Train Symbols" on page 39.



# Queensland Cane Railways

The main line wanders off from this cane bin collection point to another field 'over the hill.' Note the buried ties and the rough trackage. Taken near Mackay in Central Queensland, this is typical of trackage where traffic doesn't justify construction or maintenance to a higher standard.

by A.C. Lynn Zelmer  
photos by the author

Doing the research for a model project doesn't always involve a trip to the library or the railway archives. It might be as simple as remembering to take a camera along on a business or personal trip to an area where you'll have a chance to see some trains.

The illustrations and notes which follow started with a business trip to a community about four hours away from home. My wife had traveled there previously and reported that there were signs on the highway saying "tram crossing," and very narrow gauge tracks at the road crossings. I took my camera and got my first cane railway pictures. I was entranced enough that when I returned home I started acquiring other information about these two-foot narrow gauge trains.

I'll probably never be either a true railway historian or a 'real' photographer. Aside from not being able to tolerate the stifling bureaucracy that railway history societies seem to love, I seldom

record the proper notes and measurements when I take photographs of railway subjects. I've taken many photos over the years that can help me with detailing and setting a mood, but most of my photos wouldn't be suitable for the rivet counter and measurement freak.

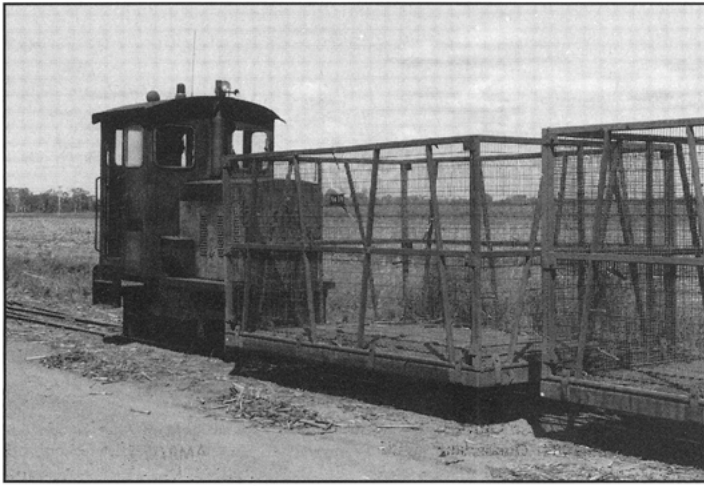
I've recently built a couple of circus truck models, but I hadn't yet decided the theme for the layout that I would like to build. Having always been interested in branchline and narrow gauge railways I am attracted to the idea of modeling a pre-WWII cane railroad. Because of the seeming lack of available information on cane railways in Australia, I've begun to make better notes—and have even included a measuring stick in some of my photos—but the rivet counters will probably still be disappointed. While I haven't yet translated the photos and ideas into an actual layout, the material seems to be too good not to share.

## Cane Growing Over the Years

The Australian sugar cane industry, and its railways, have changed

over the last 90 years in some significant ways. Prior to the turn of the century, the cane was cut by hand and loaded onto carts and punts for transport to the mills. The mills were relatively small, and juice extractors might even be hauled into the cane field as they still are today in parts of India. As the transportation system improved, and the acreage in cane increased, the mills got larger and steam locomotives replaced horses as motive power.

Mechanical harvesters now cut and deliver the cane in billet form. Portable lines, constructed from short sections of pre-fab track that could be carried by two men, are no longer used for horse-drawn (and human-propelled) cane cars to be loaded directly in the fields, and the cane car resembles an open bin rather than a flatcar. The tracks are still narrow, typically 2-foot (610mm) gauge, with correspondingly tiny locomotives and rolling stock. While diesel or gasoline engines are now the norm, variations on the ring-and-hook coupler are still sometimes seen, and the cane continues to be hauled in four-wheel cars that look as though they



Diesel-powered ComCog (Commonwealth Engineering) locomotive operating near the Fairymead Mill in Central Queensland late in 1990. This four-ton locomotive can pull roughly 76 tons of empties with some trouble when heading into the wind and is used mostly for yard shunting.



A Clyde-built diesel hydraulic locomotive crossing the government line at Racecourse Mill near Mackay in 1990. There were eight such locomotives working up to 40 kilometers from the mill. Each had a two-man crew, radio contact with the dispatcher, and had to set derails whenever they crossed the main QR line.

were built in a local farmer's workshop.

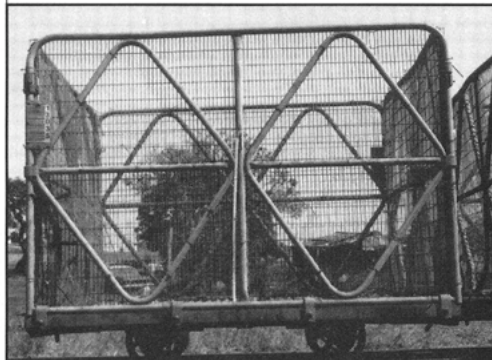
Cane growing in Australia was and is a seasonal activity with only one crop per year. Cane cutters, often recruited overseas (Europe and the Pacific islands), were strong men who could cut and load enormous quantities of towering cane. Mechanical cane harvesters and loaders are now the norm in Australia and many other countries, however, manual cutting is still common in parts of the world.

The Australian countryside has become modernized (modern houses, vehicles, etc.), however, the biggest visual difference between 1920 and 1991 results from mechanical harvesting and the resulting chopped cane stalk. Traditional cane harvesting was a hand job; laborers used a machete-like knife to cut the cane stalk off close to the ground. The cane stalks then were normally laid on the ground in bunches and later lifted to the shoulder for stacking on the cane car.

Prior to 1920 these laborers might have been slaves or indentured laborers, depending upon the area of the world. Later, at least in Australia, they were poorly paid, but unionized, and primarily whites. A manually cut whole cane stalk was normally transported cross-wise on a flatcar equipped with corner posts or bulkheads similar to a modern pulp car. On a typical narrow gauge line the cane ends would droop over the carsides and might even drag along the ground as the car moved. Derailments were frequent.

Australian cane farmers experimented with harvesting machines

prior to WWI, however, it wasn't until 1975 that manual cutting ended in Australia. A piece of chopped cane stalk is normally about 10 inches (25mm) long and the cane car is an open-top bin that may be emptied on a rotary dump.



Open-top cut-cane bin constructed from welded-tube body on a standard welded angle and corrugated sheet underframe. Note the meter stick propped against the middle post and the machine-readable car number.

Railway cane cars are now filled in the field directly from the harvester and transported, sometimes in pairs, on tractor-pulled wagons or on the back of a flatdeck-type motor truck to the nearest railway siding (collection points are not necessarily connected to the rail line, but they do have track for easily shifting empty and loaded cars). Some cane is transported the whole distance to the mill in large bins on flatbed semi-trailers hauled by standard transport trucks.

Modern cane farmers use a system of crop rotation to make up to six

months of harvesting per year possible. Many of the cane fields resemble North American strip farming with alternating new and mature crops.

Most cane growers burn the undergrowth and dry leaf matter (trash) before harvesting, others use rotary rakes to collect the trash and burn it in windows after the harvest is complete. A reasonably new cane field will have short (18") plants with a flat, grass-like, floppy leaf planted 2-4 feet (60-120 cm) apart in slightly hilled rows. Much of the cane is watered by spray and flood irrigation methods especially in areas of lower rainfall.

The cane grows to be well over 6 feet tall with a slightly pink, feathery frond. Most varieties of fully mature cane have a single 2- to 3-foot-long spike (called an arrow) on top with no frond. The color varies from the bright green of the new plant to the dry brown base and stalk of a mature plant with a rich leaf-green top. The cut cane billets vary from a golden yellow to a silvery or dusty brown.

Cane grows right up to the roads and the railway right-of-way, generally only 16 feet (5 meters) wide, threads through the fields and towns. A modern farmhouse or village street might have cane growing within a few feet of the houses with only a narrow lane through the cane field to the nearby equipment sheds. As animals are seldom raised in cane-growing areas, fences are almost non-existent. Cane-growing areas range from the flat coastal plains to the slopes of the nearby hills with rough areas and

wooded fields nearby, especially in the hilly regions. The skies are bright blue with some clouds and the area may be quite dusty in dry weather.

### Cane Modeling

Modeling possibilities are almost endless. The scratchbuilders might work in 2-foot gauge and build a steam or diesel-pulled fleet of cane cars. The less adventurous can stick to scratch-building the cane cars using commercial wheelsets in 3-foot or 9mm gauge and use a modified commercial locomotive. Both can adapt commercial tractors, wagons and other vehicles to cane use. Buildings for both could be kit- or scratchbuilt and appropriate to the era and the tropics.

Since cane harvesting is seasonal, a cane railway wouldn't even have to be operational. Obsolete cars seem to get abandoned 'in situ' in some areas and end up with grass growing through their bodies. An eye-catching scene might include a trailer with empty


bins parked at a loading ramp beside a field of young cane. Since in some areas collecting yards aren't even connected to the rail system, it would even be possible to have an isolated yard as a mini scene in a corner of the layout. Except for the cane field nearby, the rest of the cane railway, mill, etc., could be implied rather than modeled.

The cane fields themselves could be modeled with tufts of long 'grass' or sisal cut and dyed. Cut a piece of sisal rope into 8- and 10-foot lengths, dye one end green and separate. Prepare the plaster field by 'raking' it into furrows with a comb and color it dark brown/black or volcanic red/brown. Plant clumps of sisal rolled between the fingers to make flat rows and dipped in glue. Follow the furrows and arrange in rows with lots of ground foam or other material around the base to represent the undergrowth. I have some Sweetwater Scenery Company Field Grass that looks like it would work well. The feathery frond (flower) could be rep-

resented with a similar material fastened with a light spray of glue or fixative.

### Selected Resources for Further Information

In just 18 months I have found almost two dozen publications of value to the cane railway modeler, many with excellent illustrations. The selection listed here are Australian except where indicated. I suspect that railway historical societies in the UK and North America will carry some of the titles on their publication lists. Other materials may be available from local publishers' representatives, and older out-of-print materials may be available on inter-library loan.

In addition to the items listed below, the state libraries and railway historical societies (independent organizations, but somewhat similar to the NMRA SIGs in the way some of them operate) have plans, books, photographic and manuscript materials of interest to the serious modeler. 



Two empty standard chopped cane cars on one type of tractor-pulled trailer. The cars are 'railed' onto the trailer with a winch and can easily be rerailed back onto the track for collection.

Burrows, Geoff and Clive Morton. *The Canecutters*. Melbourne University Press: Melbourne, 1986. A lively account of the people, the strikes, and the machines that cut cane in Queensland and NSW from the mid-1800s to the 1980s. This oral history traces the lives of Kanaka (indentured islander), aborigine and European (white) cane cutters and machinery inventors along with brief histories of the major corporate players.

Cato, Nancy. *Brown Sugar*. Hodder and Stoughton, New English Library: Sevenoaks, Kent, 1982. A novel set in Queensland of the 1860s that examines 'blackbirding' and other practices that built the sugar empires of Australia.

Crellin, I.R. *Australian Sugar Tramways: The Challenge of the 1980s*. The Light Railway Research Society of Australia, Light Railways, No. 66, October 1979. This amply illustrated issue of the Society's quarterly research bulletin (still in print at \$4.50 from LRRSA Sales, 21 Temple Rd., Belgrave South, VIC 3160, Australia) provides a comprehensive look at the history, current state, and future of cane railways in Australia in the late 1970s.

Dyer, Peter and Peter Hodge. *Cane Train: The Sugar-cane Railways of Fiji*. NZRLS: Wellington, NZ, 1988. Developed at the same time, and often by the same companies, the cane railways of Fiji and Queensland share a common heritage. This excellent book is a totally new rewrite of the author's 1961 *Balloon Stacks and Sugar Cane* and includes locomotive and equipment drawings, rosters, etc. A 'must have' for serious cane modelers. (New Zealand Railway and Locomotive Society)

Elliott, John (photographer). *Cattle Creek Memories*. Glenlyon Press: Ashgrove, QLD,

1991. Commissioned by the Mackay Sugar Co-operative Association Limited, this photo essay pays tribute to the people of the Finch Hatton area of Queensland and their sugar mill, now closed.

Garratt, Colin. *Steam Trains of the World*. Exeter Books: New York, 1987. This general collection of steam photos from around the world has some fascinating cane train photos including several in the cane fields of North India, the Philippines and South America. One of the photos shows cane lengths piled high in a 'haystack'-style car and another cane bundles stacked vertically in gondola-type cars. He has another book with Peter Lorie, *Iron Horse: Steam Trains of the World* (Doubleday: New York, 1987) which has several more useful photos from South India and Indonesia.

Hall, James and Jill Denning. *Beautiful Sugar Country*. Robert Brown: Bathurst, NSW, 1988. Produced for the tourist trade, this book has two pages of color photos of modern sugar industry.

James, R.A., G.A. Kent and W. McWhinney. *Canefield Locomotives—Past and Future* in the proceedings of the *Australian Society of Cane Technologists*, 1991, pp. 237-251. A report by the Sugar Research Institute on recent and potential developments in canefield locomotives in Queensland, especially the economics of the conversion of mainline locomotives to narrow gauge use.

James, R.A. and C.R. Murry. *Improvements in Cane Railway Track in Australia* in the proceedings of the *Third International Rail Sleeper Conference*, Brisbane, 1979. Technical reports such as this provide useful details for the model builder; for example, timber sleepers (ties) were nominally 1,500 x 200 x 100 millimeters (4' x 8' x 5') with conventional 17 millimeter dog spikes in 1979.

Joyce, John and Allan Tilley. *Steam Up: Indonesia and Thailand*. J&A Publications: Wembley, WA, 1972. A collection of photographs taken during the authors' railfan visit in the mid-70s. 100% steam, it includes shots of some delightful plantation locomotives.

Kerr, John. *Southern Sugar Saga*. Bundaberg Sugar Company Ltd.: Bundaberg, QLD, 1983. Written to commemorate 110 years since the establishment of the first sugar juice mill crushed the first sugar crop in the Bundaberg area, the book provides a wealth of detail for the serious modeler.

Kerr, John. *Top Mill in the Valley*. Mackay Sugar Co-operative Association Limited, 1991. The illustrated history of the Cattle Creek Sugar Mill, Finch Hatton, Queensland, 1906-1990. During its 85-year history this mill was an anomaly in that it survived as a conservatively managed co-operative and didn't receive the normal (for Queensland) government funding. Includes enough photographs to give a flavor of its rail operations.

Rowling, Brian (photographer). *Steam, Rails and Sugarcane*. Rollingstock Productions: Parramatta, NSW, 1988. 45 minutes of mostly color views of Queensland railways from 1957 to 1968. Includes several minutes of steam cane trains, cane train bins and flats. VHS (PAL).

Thanks to Robert James of the Sugar Research Institute, Mackay, for his assistance in correcting technical details for this article.