Tucson Garden Railway Society's

Time Table

Society web site: http://tgrs.homestead.com

Editor e-mail: dizen@aol.com

January, 2005

No Meeting This Month

As is the usual TGRS practice, there will be no meeting in January as the club is engaged in three different displays on three of the five weekends (and has a member's open house on the 1st). The three displays are the American Home Show on the 7-9th at the Tucson Convention Center, the Toy Train Operator's Swap Meet on the 15th at the Rodeway Inn and the Great American Train Show on the 22-23rd at the Pima County Fairgrounds.

Holiday Open House

I don't know if this reminder will reach you before the 1st but don't forget that Bob and Phyllis Dirksen will once again host their open house on January 1, from noon to 5:00 P.M. All club members are invited. Their home at 8648 N. Auriga Way If you have holiday house guests, bring them with you.

Map to Dirksen's home

To get to Bob and Phyllis' home go to Shannon Road north of Cortaro Farms and Magee Roads (and south of Overton Road. Look for a street to the West labeled Via Principia. Take Via Principia to its end (be careful of the speed bumps) which is a T junction with Auriga Way. The Dirksen home is to the South (left) from the junction.

THE TRAIN ORDER HOOP

By Dottie Fagg

Howard E. Fagg about 1938

From the dawn of the steam locomotive up until World War II, a small stick of bamboo was the communications backbone of the railroad system. This was known as the train order hoop.

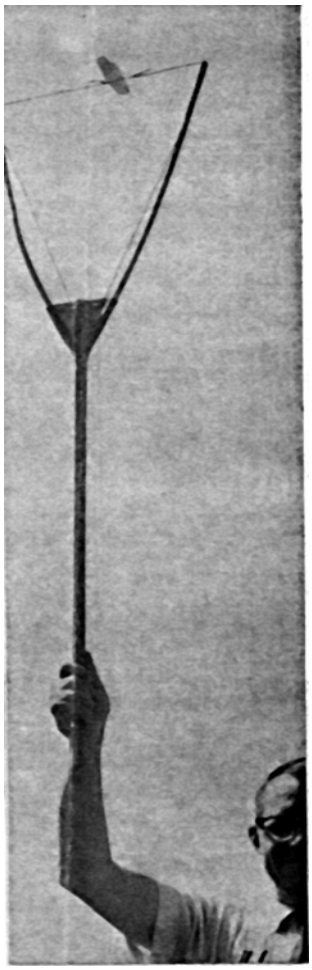
Like grabbing rings on a merry-go-round, engineers, brakeman, and conductors scooped the hoop out of the hand of a station agent standing on the ground. After unclipping their orders, they threw the hoop off the train, where it was retrieved by the station agent, often after a walk of several blocks.

Messages clipped to hoops ordered millions of tons of freight all across the nation. The messages also warned of impending danger on the tracks ahead and coordinated the handling of countless troops and civilian passengers. Messages might also have been of a more personal nature – “Pick up your lunch bucket in Cheyenne”, - “Your wife just had a baby.”

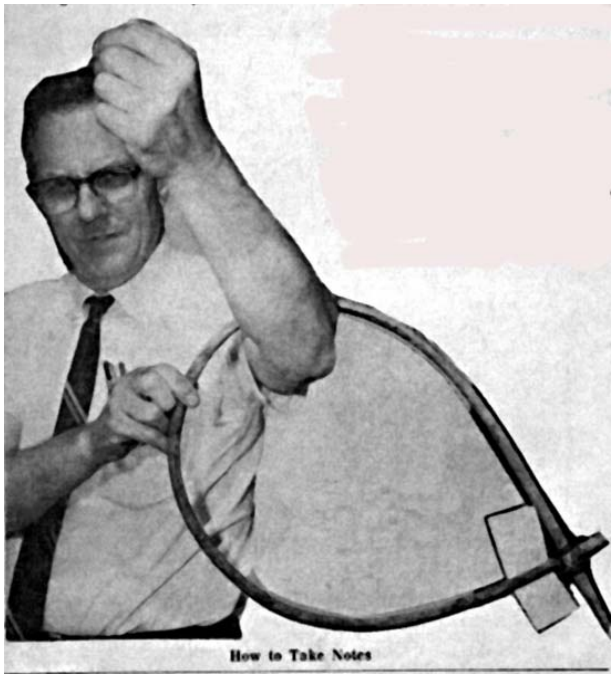
As time went by, steam locomotives were replaced by sleek diesels, but the train order hoop remained. As trains went faster and the hoop was dropped further from the station, it was replaced by a Y-shaped instrument, also made of bamboo. A loop of string was slipped across the top of the Y and clipped to the fork, holding the orders. The trainman plucked the string out of the fork in the Y in the same way he grabbed a hoop. Then he removed the orders, and discarded the string. The station agent no longer had to retrieve the hoop from blocks away.

Willis’ father, Howard, was a station agent in Claremont, and later Upland, California. In 1966, an article appeared in the Ontario-Upland Daily Report about the use of the message hoop. Here are some pictures from that article:

Hoop with message in place



Later “Y” with message in place



This is how the trainman “caught” the hoop and message from the station agent.

Editor's Note

The following article shows how to construct a station from Jigstones. I know most of us won't build this exact building but the article provides excellent methods and examples of things that will be applicable to other modeling projects.

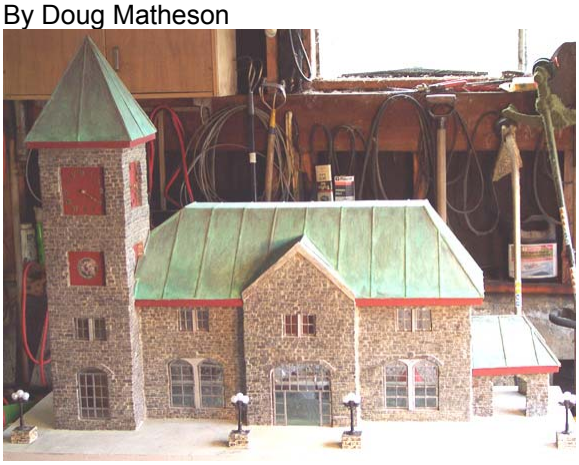
The author took a real building that would be too large to model and shrank it to fit his layout, changing the building material from brick to stone to reduce the brick work. At the same time he kept the major features in order to keep the flavor of the real building.

Beyond that, he covers using a plywood framework to provide rigidity to the finished building, and has good ideas on painting that ought to be applicable to any jigstone or concrete structure. He also has an innovative way of modeling large steel framed windows. The copper roof and patina are unique and could be used on a number of model buildings.

This article is on the Ottawa Valley Garden Railway site and was written by Doug Matheson. It is reproduced here with the kind permission of both the author and the OVGRS.

Building a Train Station Using Jigstones

By Doug Matheson



This is the finished station ready to be installed on the author's layout.

Planning

Normally when I build a structure, I look first at the space it is to occupy; then use a freelance design based on a prototype that appeals to me. The space for the station is elevated, about 24 inches above ground and will sit against a storage shed (for a 1:1 tractors and stuff). It is in a moderately sheltered spot and while protection from the weather will be necessary, it won't be submerged in water. The space is long, up to about 8 feet or more if I need it but from the perspective of maintenance, not very wide.

Assuming at least two tracks in front of the station and a bit of space in front of that, the station cannot occupy more than 20-24 inches in width if my short arms are to reach.

With the space settled, I looked at the prototype. A building I have long admired is the city hall in Charlottetown, Prince Edward Island. The city hall, constructed of brick in the Romanesque Revival style popular in the 1880's, survived a number of civic calamities over the years and is today a national historic site. It was designed by the noted architect Charles Chappell who also designed many well-known Maritime railroad stations including the one in Kensington PEI, home of Anne of Green Gables. Many of Chappell's public buildings have a similar air and I think you can see the resemblance to a railroad station in the picture.

Charlottetown City Hall, the inspiration for Doug's project

For my freelance version, a number of changes are necessary both to make it a railway station and to fit my space - not to mention make it practical for an unskilled modeler like me to actually build.

First, the real building is almost square, a bit over 90 feet on each side, plus has an addition that is roughly 80 by 40. This is really big in 1:20.3 scale. I removed the addition to restore the appearance to its original as Chappell intended. I am reluctant to compress it further as it will lose the character inherent in its proportions. Next, given the narrow space, I decided to model only a portion of the depth. I selected a depth of about 20 scale feet and altered the roofline a bit to make the structure appear rectangular as opposed to square.

While I am not a draftsman, I usually sketch up a freelanced building to check on proportions and views. Some modelers use mockups, I have always used drawings but no matter how it is

done, I think it is essential. My drawings of this structure revealed some possibilities with rooflines but also suggested that anything shorter than the 90 feet of the original would not look good and that the three arched areas were essential to capture the character of the prototype.

Next, all that fancy brickwork, while giving much of the charm of the original building, is likely beyond my capability. Voila! I changed the building to a stone structure. Although vastly simplified, it certainly had its own building challenges. For architectural interest, the arches over the windows and doors are retained as well as the tower. In fact, the tower will sport clocks to embellish its façade.

The rooflines were problematic. My own preference is for a copper roof and in theory that should not be too hard. But the building can easily develop into a huge monolith if the roof is steeply pitched and "solid". Often dormers broke the expanse of a large roof. In this case, however, the Romanesque interpretation was a cornice peak centered over the middle arch with a false front. Chappell used this to impart a certain character and the sketches revealed that it was absolutely essential to retain this feature in some form.

I have given a lot of detail here on the design thinking I went through to illustrate the approach. Like I said, some modelers work best from mockups and others of us prefer to sketch. Some will use a CAD program to design on the computer in a fraction of the time. Likely the design process takes the same time no matter which approach is used. The historian in me finds this to be an essential and enjoyable part of the construction of any building.

Constructing the Basic Building with Jigstones

In terms of construction, I set aside the obvious problems of how to model the ornate cornices, the doors and windows and focused on the basic structure. A discussion with Linda Spencer at Jigstones confirmed my fears that this was a fairly large structure to build without additional support. Although Jigstones are normally built by just gluing the castings together, that high tower (55 feet of brickwork in the prototype - 33 inches of stone in the model) gives pause for reflection on its likely stability. Accordingly, it was decided that a plywood substructure would be built and then sheathed with Jigstones.

The substructure was constructed using quarter inch plywood cut on my table saw. After cutting out the rough openings for the windows and doors, the substructure was assembled on a cedar and plywood base. In the following picture, the beginnings of a few changes I made to the architecture to convert a city hall to a station are noticeable. First, the tower which would house the station agent is more pronounced to give a better view of the tracks. Second, out of sight just behind the tower is the baggage and express handling area. And on the far right of the station, space has been left for a porte-cochere for arriving and departing passengers.

Jigstones are designed to be set up without a framework, but for this structure an underlying frame of plywood was thought to be essential. Having constructed the plywood frame, I think I would use that approach for any size of building with Jigstones except perhaps the very smallest. Having a frame makes for very square corners and straight walls without fussing continuously with a level and square. It also allows the placement of background markings and lines to help keep courses of stone horizontal with moderately even mortar lines. I know it sounds like a minor detail, but once the gluing of the stones starts my concentration on say square corners is not usually too high.

The plywood framing with roughly cut window and door openings.

Some considerable time elapsed before the Jigstones were cast and glued to the plywood frame. At this point, the station appeared as shown in the next picture (below).

The grout application is straightforward. I used Mapei Ker 200 (polymer modified Portland cement sanded) in warm gray. It is a grout intended for tile or terrazzo and is suitable for exterior use.

After mixing it to the normal consistency, it was applied with a sponge working it into all the mortar lines, glue joints and across the face of all the stones as well. Then the stones were

sponged with clean water to thoroughly wash off the excess grout. The sponging was actually done about 3 or 4 times to remove as much of the residue as possible. The stones started to blend in colour and the mortar lines stood out.

Jigstones installed on the plywood frame. Note the porte-cochere driveway entrance added to the end.

Painting the Jigstones

My goal was to produce a limestone façade with a faint buff hue. The red stones so prevalent in the southwest USA are not common at all in this locale. Accordingly, I picked up some tubes of artist's acrylics loading up on buff in a few different hues, a burnt umber, a bit of charcoal (which I suspect goes a long way), a dull pale olive green and mixing white.

The earlier picture of the Jigstones clad station emphasized the differences in colour of the various batches of Jigstones, so I tried a slate gray wash to unify the colours without making everything a solid gray. I used a very thin acrylic wash almost dry brushed across the faces of the stone to keep it out of the mortar lines.

Some of the really dark stones now looked fine to me but many stones were still too light. More importantly, to my eye the stonework lacked "life", as it was too flat and a bit uniform in colour. Some further dry brushing was required. I am not an artist, so even mixing colours to get the right shade is quite difficult for me. On a palette of scrap plywood, a small amount of paint from each tube was squeezed out in parallel "ribbons". I then proceeded to experiment.

The first couple of walls tried were in the back and not too visible. They were most unsatisfactory. I could not seem to get the right shades, had trouble with the dry brush technique, and the acrylic paint tended to run into the mortar lines. It took some time until I finally got control of the brush and was able to get the colours right and the paint on the stone where I wanted it. Ultimately, the third wall was better.

The technique that worked best for me was essentially my adaptation of that described by many other Jigstoners. On the palette were placed a ribbon of each colour: white, charcoal, buff, sienna, and a very small dab of red oxide and dark blue. I mixed the colours on the palette with my brush and then carefully painted individual stones avoiding the mortar lines. I did not paint all the stones, perhaps about 25% of them in all in different colours aiming essentially for a buff-yellow brown colour. Then I went back and dry brushed all the stones in a light cover of slate gray made by mixing buff with charcoal. This dry brushing is not opaque and allows some of the colour underneath to show through. At the same time it unifies the wall and highlights the rough stone texture of the Jigstones.

The following picture of the completed painting clearly shows the stone against the mortar lines. It also tends to emphasize the slate gray colour that matches the limestone in this area.

I guess the most important lesson is ... experience starts when you begin ... so grab the acrylic paint and brush and have at it.

Here are the Jigstones painted by the author.

For a sense of size, the stone walls of the station are 57 inches long overall, and 15 inches high while the clock tower is 34 inches high. The porte-cochere is on the right hand end roughly balancing the clock tower to the left.

Windows

The second floor windows are all the same size, 80 inches by 46 inches. Eighty inches is quite wide without any support in a building built from stone and real windows would need to open for ventilation. After a long look at many buildings around Ottawa, I decided to use casement windows, as opposed to double hung windows, as they were more common in public edifices.

The final sketch showed a pair of casements 35 inches wide by 45 inches high flanking a 10-inch wide cast concrete support column.

For the windows in the first floor of the clock tower, I divided the opening, which is 140 inches high by 80 inches wide into three distinct areas. At the top in the arch, I sketched in a fan shaped transom window. Here no additional support is presumed needed as the arch provides the structural strength. Under it I placed a pair of casements, 36 inches wide by 76 inches high with steel frames filling out the opening. On the bottom, a window 80inches wide by 30 inches high, tilts open at the bottom. Of course in the model there will not be any windows left open, as making this weather tight is a prime consideration.

The first step was to cut and file 1/8 of an inch Plexiglas sheet to the shape of each window. The Plexiglas panes were left in their blue plastic protective wrap for this step, giving the station a rather strange appearance.

Plexiglas windows in place with the blue plastic protective wrap temporarily left in place.

Here is the first window. The blue protective wrap has been removed and lead tape applied to represent the metal frames.

The Romanesque Revival style windows were laid out on the Plexiglas using a sharpie and then lead glaziers tape was applied to represent the steel frames.

The first window press fitted into place looking like the picture above.

Building a Copper Roof

I calculated the roof geometry, especially the valley that goes to the corner of the clock tower. Then I framed it in plywood formers. Here is how it looked after the framing.

Plywood rafters in place to support the roof.

The plan had been to glue the thin copper foil to 1/4-inch plywood for the roof, until I saw a picture posted on a large scale, forum of a water damaged model building. Water is evil when it is gets on wood! Instead, I decided to sheath the top of the plywood with styrene before adding the copper foil. I sealed the styrene completely using Bondo auto body filler. Should any water penetrate under the foil (I do not trust a .005 of an inch piece of foil to be completely weather proof under snow) at least it will not cause the plywood to delaminate or fail.

I worked slowly applying the 1/4 of an inch plywood sub-roof. My pace would have been faster, if I did not have to cut every piece twice! But figuring all the bevels and angles was a lot of mental masturbation, and very error prone!

To determine the position of the framing for the roof over the main doors, I used a laser level, tripod mounted. The bevel angles on the hipped roof joints are 90 degrees minus 1/2 the angle of pitch. But even knowing this did not save cutting each piece at least twice!

I completed the soffits and fascia, then commenced installing the copper foil. Here's a view from the porte-cochere end. In this view you can see my copper flashing against the

clock tower. I do not think I would ever be a good roofer!

Basic copper roof installed. It is all one color, but reflections of the camera's flash make some appear to be lighter.

As this was my first time working with foil, I doubt I could teach anyone the correct or best process, but you might learn a few things not to do! One thing I learned right away, copper foil has **VERY** sharp edges.

I laid out each piece to be cut on a large flat steel table using a pen and a square. The copper accepted the pen marks readily and a light touch did not score the material. Cutting is probably best done some other way than with a pair of sharp scissors. They cut through the foil easily, but I had a lot of trouble cutting straight and accurately. More importantly, the foil creases extraordinarily easily if not kept flat all the time.

Lots of trial fitting was required for all the valleys and odd shapes on this roof. Strakes had to be added every 3 inches to simulate the copper "bonding boards" between rolls of 5 foot wide copper sheet. Care had to be taken to ensure that any joints between the foil pieces fell on the multiples of 3 inches so that they would be hidden.

Once cut accurately (?) to fit, the back of the foil was sprayed with 3M Super 77 and glued in place. The glue holds the foil well enough to avoid clamping, which is a good thing as there are very few places on a roof like this for clamps. A big oven mitt helped smooth the foil and removes any air bubbles or small, unseated wrinkles. If the foil wrinkles fully, the crease does not ever come out. So care must be taken. The oven mitt also helps keep greasy fingerprints off the surface of the foil which will be a big help when it comes to applying the finishes to it. As an additional benefit, the mitt saves the fingertips from nasty cuts!

I found a friend who has access to an accurate shear. He cut a copper sheet into 0.2-inch wide strips. These strips were used to simulate the strakes.

In the end, I think the copper foil was worth the trouble, although I said some choice words while working on it! The alternative of using a styrene to represent a copper roof puts the full burden on the painted finish. My artist friends and a quite a few other modelers pointed out that a painted finish in a foreground model would not look like the green patina on real copper.

Finishing Details

I visited Lee valley Tools, their headquarters and main showroom are in Ottawa. It is always fun to look at their very fine antique tool collection, but I digress. Clocks were the intent of my visit and I did pick up the movements, hands and Roman numerals for the four faces in the clock tower.

Clocks installed in the tower and plywood base spackled to represent concrete.

I also started the task of simulating a concrete platform around the station. My plan was to apply two coats of exterior, flat gray paint and then to weather. The concrete lines were to be drawn in with a sharpie. Since the base is made of plywood, the first step was to fill the rather ugly plywood grain as well as any surface cracks, defects or screw holes. A high quality spackling compound is just the ticket for this. Above is a picture after the application of the spackling compound using a drywall trowel. I am only a marginally better at dry walling than roofing.

(Editor's Note: A number of club members have been using concrete board, designed as backing for tile bathrooms, for building bases. This might be a better way to simulate concrete platforms.)

After a break to work on clocks, I recharged my enthusiasm for working with metal! The strakes were cut on a shear to a very precise measurement. Unfortunately a shear is like a giant paper cutter and introduces a curl in the metal. Each strake had to be straightened before being applied, a tedious task. A torch was used to heat the copper slightly and then the twist came out relatively easily. The straightened pieces are then cut to dimension I tried using a Dremel tool but soon resorted to the good old-fashioned hack saw. The strakes were applied with JB Weld.

Clamping for the JB Weld to set up was awkward due to the shape of the roof. My very high tech clamping arrangement consisted mainly of a heavy chain that was draped over the strakes as they were set in place. I used a variety of pieces of plywood and other makeshift "stuff" to hold the strakes in place a few pieces at a time while the JB Weld set up for 24 hours. The picture shows a typical bunch of strakes as they were "welded.

Chain weighting roof strakes as the glue cures. Plywood helps hold them in place.

Here is a picture of the station with the copper roof finished. That copper roof really is dazzling in the sun.

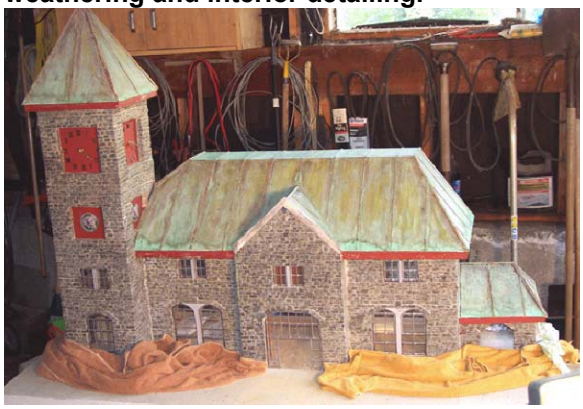
Getting the Green Patina on the Roof

I was nervous, as the application of this very watery substance "Patina Green", from the art firm Innovative Finishes, did not do anything immediately. The instructions said to wait 24 hours, but after just a few minutes it started to tarnish the copper. If it did not work out, there was no going back now.

After the patina green finish was applied to the copper, the result was not good! In fact, it came out very streaked. The picture below makes it look even worse in the dim light, although it is not unlike copper roofs that have started to acquire a patina but have not fully achieved it.

The foil was streaked with greens and black, while the strakes had hardly any colour. My artist friends said to apply another coat!

Completed station and roof before weathering and interior detailing.



Roof after first coat of Patina Green finish.

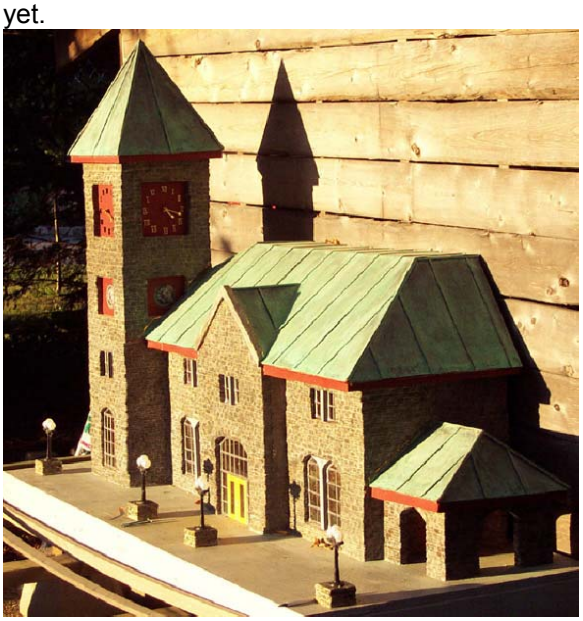
After several coats, the patina green finally came along. It was still not quite as green as I would like, but it was much better. One more coat of patina green was applied and then time was left to do the rest.

I have been observing copper roofed buildings and have noted that any that are uniform are fake! The real old copper roofs all have some streaks, although not as "streaky" as my roof still is. Although the roof is not perfectly even in colour, I am breathing a little easier. For a while I had visions that I wrecked the whole thing with this process.

Finishing the Station

Platform lighting has been installed. These are Victorian street lamps from a Christmas Village with Jigstones bases added to make the height closer to scale. The front doors were made with stained pieces of 1/16 of an inch pine. A rudimentary interior was added. Below is a final

picture of the station installed in its outdoor location, although no tracks have been laid there yet.



The finished station installed against the shed on Doug's layout.

Minutes of the December 18, Christmas Meeting

Respectfully submitted by Ellen Stoesser

The meeting was held at the home of Jim & Madelyn Cook. There were 61 attendees at the meeting.

The minutes of the November meeting were approved.

Treasurer's Report: Willis Fagg reported a:
1. Current account balance of $1,600.58.
2. Revenues to date for fiscal year 2004-2005 are $1,888.50 and expenses $1,816.78 for a net increase to date of $71.72.
3. 78 members to date.
4. We have opened up the bank account for the 2008 Convention.

Venues Report: Norm had sign up sheets for the January and February events.

1. **Veterans Hospital**:
   A. set up is December 28, at 11:00 AM
   B. run December 29 & 30 ---7:30 to noon & noon to 4:30 PM
   C. tear down December 31 at 8:00 A.M.
2. **American Home Show:**
   A. set up---January 5 at 1 P.M. ---January 6 at 9 A.M.
   B. run January 7, 12-700 P.M. ----January 8, 10-700 P.M. ---January 9, 10-5 P.M.
   C. tear down January 9 at 5 P.M.
3. **Toy Train Operators Swap Meet**
   A. we will set up and run on January 15, with set up starting at 6:00 A.M.
4. **Great American Train Show:**
   A. set up is January 21 at 12 P.M. and Saturday 22, at 8:00 A.M. until 11:00 A.M.
   B. run January 22,--11 to 5:00 P.M.
   C. run January 23 till 5:00 P.M.
   D. tear down is January 23 at 5:00 P.M.

In early February we will be hosts for the **ABTO**, Nick would like to have the members that are hosting the Rails in the Garden event to be hosts for this too. The Martins and the Dorgan's have each volunteered to host the luncheon.

Chuck Cook reported there would be plenty of publicity for the **Veterans Hospital** layout from 15 newspaper and interviews from two TV stations. They are looking forward to our coming. We will be able to walk on carpeted floors. We will need to take the two trailers; they are working out where they will be parked, with parking passes being considered.

Bob Dirksen reported on our **Rails in the Garden** event. There is going to be a limited time cell phone used on the event. He would like the cell phone number used for any and all info. dealing with the event. He would like all the tally sheets used and filled out to make the accounting easy for Willis. We are going to use the mailing list and email list from last year. To the people on the email list, they will get directions to Bob's house and the cell phone number. We will try to hook-up with Ace Hardware and BBQ'S Galore to sell the tickets as it gets close to the date of the event. We will sell tickets and advertise at the Home Show and the VA. We will only advertise at the GATS Show. Tickets will be sold on the sites. If after February 1, the hosts needs any more help, Lee will call members and ask for volunteers.

Nominating Committee: Lew Sleeper will head the committee; he is looking for people to help him. The election will be held in April and the new officers will take office on July 1st.

The next meeting will be held on February 19, at 1:00 PM at the home of Neal & Winnie Mosely.

New Members

The Tucson Garden Railway Society extends a welcome to new members John & Fran Ourso.

LGB 2005 Tours

LGB Tours has announced their 2005 list of tours. They begin in May with "Rails along the Rhine" which includes a visit to Bremen, a Rhine cruise, rides on the Schwebebahhn (monorail) in Wuppertall and a 4 day International LGB convention in Much.

In the summer there will be three completely different train tours celebrating the 75th anniversary of the Glacier Express.

In July there will be a "California Here We Come" tour covering San Francisco, Los Angeles San Diego, Sacramento and Santa Cruz. Featured rides will include the Skunk Train, the Roaring Camp and Big Trees and the Yosemite Sugar Pine Railroad as well as a visit to America'' oldest railway club, the Golden Gate Live Steamers.

The last tour will be "Autum in the Alps" covering every corner of Switzerland. This tour will begin in Nurnberg with a guided tour ofd the LGB factory and a special dinner with the Rhicter family. The tour will include rides on more than 20 of Switzerland's best trains.

For more information contact Frances Kehlbeck Civello at Buffington Publishing, P.O.Box 332, Hershey, PA 17033, telephone 717-312-0617 or e-mail Fcivello@mac.com.

The Tucson Garden Railway Society is a non-profit corporation incorporated in Pima County, Arizona. Society members are interested in all areas of garden and modular large scale railroading. We welcome new members and hope you will consider joining. Members help each other build layouts and learn about railroading and modeling.

The TGRS dues are $30.00 per year and are due on June 30th of each year. For new members dues are pro-rated at $2.50 per month remaining in the year until June 30th plus a $ 15.00 initiation fee, the first year. Additional name badges cost $1.00 for each badge after the first.

If you are interested in the TGRS please contact one of the officers at the phone number listed below. If you wish to join immediately, send a check and your name, address and telephone number and the names for any additional badges to:

Ibby Ulmer
4935 N. Craycroft Road
Tucson, AZ 85718

Calendar of Events

Jan 7-9	**Home Show at Tucson Convention Center**
Jan 15	**Toy Train Operators Swap Meet- Rodeway Center (I-10 & Grant)**
Jan 22-23	**GAT Show at Pima County Fairgrounds (Set up on January 21)**
Feb 19	**Meeting at Winnie and Neil Mosley's home 1:00 PM**
Mar 5-6	**Rails in the Garden public open house – 10:00 AM to 4:00 PM both days**
Mar 19	**Meeting at Gina and Barry Blackwell's home 1:00 PM**
April 14-24	**Pima County Fair at fair grounds – Set up prior week, time TBD**
May & June	**Meetings Open**

TGRS Officers and Board of Directors

President:……Nick Buchholz…. 520-744-4932	**At Large Board Members**
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