



The Semaphore

Newsletter of the Rochester NY Chapter, NRHS
P.O. Box 23326, Rochester, NY 14692-3326; Published Monthly

December 2004
Volume 47, No. 4

Program for Dec. 16:

"24 Hours ..."

by Duncan Richards

Duncan will be presenting another of his professional two-projector slide shows BUT with a twist — NO TALKING — instead with *MUSIC!*

He will be using images from over some thirty years that are put together to follow a theoretical sunrise to sunrise, all set to music. He states: "I won't be saying a thing (that's an incentive to show up, isn't it?)"

So take a break from the Holiday preparations. Maybe even your spouse

Future Programs

January 20: *NRHS Convention, 1973* by Bob Mader

February 17: *Maintenance of Way* by Richard Wagner

March 17: Members' slide night

April 21: *Chinese Steam #3* by Duncan Richards

May 10: *Lehigh Valley 16 mm movies* by Ken Kramer.

(These Programs are subject to change.)

2005

- is just a few weeks away!

Please remember to renew your Chapter and National memberships for 2005. Early renewals assist Janet in processing — after all, she has over 200 to handle and forward to the National.

Chapter Library

11 May Street, Webster (by OMID Tracks)

Hours: 2 to 5 PM

Sunday, December 19

Library Phone: 872-4641

Season Refreshments Served!

Year-End Party: Jan. 8, 2005

The Chapter's annual Year End Party will be the afternoon and evening of Saturday, January 8, 2005 at the Rochester & Genesee Valley Railroad Museum.

Cost is \$5 per person.

We'll provide pizza and beverages.

We ask that everyone bring a snack to share.

We plan to operate a locomotive and one or more cabooses.

This is primarily an adult party. While there may be some who will bring infants or toddlers, you will need to keep them very close to you. We will be operating equipment in the dark and cannot afford to have a mishap.

For reservations, or questions, contact Dale Hartnett at 585/243-0139 or <dhartnet@foxrochester.com>.

Christmas Tree Train

Volunteers needed, particularly on Dec. 12

The Christmas Tree Train rides will be held on the first two weekends in December: Dec. 4, 5, 11 and 12. Yes, the 4th and 5th are history—but the 11th and 12th are upcoming and a few volunteers are needed between 9:00 AM to about 4:00 PM especially the 12th.

If you can help with either as an engineer or a caboose host, please call Steve Huse at 586-5802; <steve5917@blueforg.com>.

The EK6 and the Erie caboose will travel from Remelt's tree farm to Siding #6 and return. The PC caboose will be parked at the farm as a "warming shack".

"Book of Rules" Class

January 1 & 8

The first class was held on December 4th. Other classes will be held on January 1 & 8. ~~Classes will be held in NYMT City.~~

These classes are for **all new and current** operating personnel. The class will take no more than two hours. You **must** attend either class as part of your qualification to become a brakeman and be able to help us operated our railroad equipment at the R&GV Railroad Museum.

All you need to bring is yourself and to help, a pen as there will be a test at the end of each class. A clipboard or equivalent to write on might also be useful for the test.

If you have not picked up a new "R&GVRM Rulebook #5" at the depot, the new rulebooks will be issued at the start of the class.

You must qualify as a brakeman before progressing to conductor or engineer status.

For questions, contact Chris Hauf at <crhauf@frontiernet.net>.

[Based on input from Chris Hauf.]

Young Railfans Dates:

Sat. Dec. 18
10 AM-3 PM
Sat. Jan. 8 3 PM (Year-End Party)

It's That Time of Year!!

— when one starts (or should start) thinking about preparing their tax return.

It is also when members are considering the many solicitations of contributions to their favorite organizations. Please consider your Chapter, which is a Section 501(c)(3) educational organization, thusly contributions may be considered deductible.

The Chapter's achievements is largely dependent upon 1) the Excursion Train revenues and 2) contributions. The renewal form lists several categories you may specify. Or you may wish to send in an additional donation to Janet Dittmer/Dave Luca.

The Third installment on the Telegraph, by Chris Hausler, appears on Page 7.

Contributors to this issue

Janet Dittmer, Dale Hartnett, Chris Hauf, Chris Hausler, Lynn Heintz, Jesse Marks, Dave Luca, John Redden, Harold Russell, John Stewart, Rand Warner.

Rochester Chapter email list

by Chris Hauf

Did you know the Rochester Chapter has an email distribution list that you as a Rochester Chapter member can participate in if you like? Well, the Chapter does and it is called the 'Volunteers List'. The list is used for exclusively Chapter members for any business related to the Rochester Chapter or the R&GV Railroad Museum from announcements to calls for help to other interesting discussions. The benefit is that all you need to know is one email address and you can reach all of the subscribed Chapter members which totals over fifty right now!

If you are not already subscribed to the volunteers list, please drop Chris Hauf an email (crhauf@frontiernet.net), and he can subscribe you. You will be able to unsubscribe yourself at a later date if you wish. Only subscribed Chapter members can email to the list so email SPAM should not be an issue as the list will reject email from the outside. The total number of emails each week is usually less than five so we will not be clogging your inbox with lots of messages.

This is a great way for Rochester Chapter members to communicate so please consider joining us!

Wanted:

1. Photos, articles, clippings or other material on the Bath & Hammondsport Railroad and the Prattsburgh Railway. Materials accepted for donation to the Chapter, or duplication Please contact John Stewart at 704-8885 or <rgvrr@rochester.rr.com>.

The Library has an inquiry for the B&H and our file has only one item, although the B&H is often mentioned in articles mostly about their motive power.

2. Charles Woolever is looking for photos of the New York Central station in LeRoy, NY. Contact: 585-594-4721 or <charles@existingstations.com>. For info on existing NY state RR stations, see <<http://ny.existingstations.com>>.

Chapter's WebSite

This site contains Chapter news, images of *The Semaphore* since 2001, a sampling of historical photographs in our collection, among other interesting items.

The URL: www.rochnrhs.org

WAG plow has NEW website

Link: <http://www.wagplow.org>

NOTE: the change in the URL. Jesse changed the URL and also is revamping the WAG site.

Membership Report

Janet Dittmer, Chair

Welcome to these new members:

Bill Bigler

12018 Churchill Pl.
Big Flats, NY 14814
607-562-3353 <wbigler@stny.rr.com>

Interests: Trips; Preservation; Steam rail-roading

Alan Wedman

1057 Whalen Rd.
Penfield, NY 14526
377-6018

Interests: Trips; Museum tour guide; Museum operation; Track car driving

Note these address changes:

Glenn Richard

11 Sand Pebble Dr.
Rochester, NY 14624
594-3221

Robert Hughes address should read:

2403 State Route 65

Robert Votry

773 Stowell Dr., Apt 4 (change in Apt. #)
Rochester, NY 14616-1835

Howard Fine

22 Burncoat Way
Pittsford, NY 14524-2276

Bob Fitch

212 Stoutenburgh Lane
Pittsford, NY 14534

Franklin Suhr

100 Lake Meadow Dr.
Rochester, NY 14612

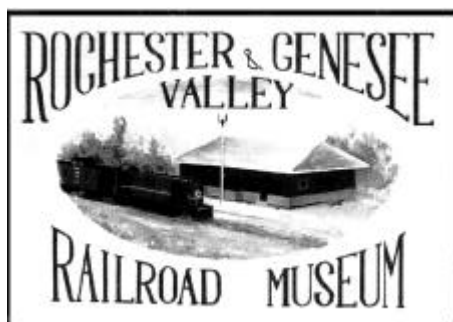
Have you renewed your
Chapter Membership —
Yet?

Membership Contact:

Janet Dittmer, Membership Chair
983 N. Winton Rd.
Rochester, NY 14609-6824
<daveluca@frontiernet.net>

Membership Rates:

National + Chapter membership: . \$40
Above as Family membership \$50
Local* \$20
Local as Family*..... \$27
(* Holds National membership elsewhere)
National only \$20
National as Family only \$23
Subscriptions only: \$10*
* Effective January 1, 2005.



MUSEUM MUSINGS

by Dale Hartnett

I have a friend who has done a fair amount of public relations work for volunteer fire departments. She tells me that the number one reason people join the fire department is to drive the big trucks.

I don't know what kind of research she did on that question, but she is a pro and she does good work. Therefore, I believe her.

I suspect that one of the main reasons people volunteer at the Rochester & Genesee Valley Railroad Museum is to learn to operate equipment. For some, that may be a chance to drive a dump truck. Or it may mean operating a track car. Or a loader. Or even a locomotive.

The challenge for our museum's management is to make sure that people who want to learn to run equipment can have the chance to do that - safely.

From time to time volunteers ask how they can become a locomotive engineer.

A 120-ton locomotive is very unforgiving. A 50-plus year old 120-ton locomotive provides even more challenges.

At the same time we know that our motive power crew needs more help with locomotive repair and maintenance.

For those reasons, we're in the beginning stages of putting together a training and qualification program that will create more qualified engineers.

While we haven't completed the criteria yet, we are pretty sure that the program will, at a minimum, have the following elements:

1. Experience as a track car operator
2. Training, qualification and experience as a conductor/brakeman
3. A service component with a given amount of maintenance time on our locomotive fleet
4. Various stages of training and experience at the throttle
5. Periodic testing of knowledge and skills

Managers

Railroad: (Motive, Rolling stock, MOW, ROW)

Chris Hauf: 381-8583; crhauf@frontiernet.net

Infrastructure: (Buildings, grounds, shops, construction, communications, signals & power, heavy equipment)

Dave Luca: 288-0318; daveluca@frontiernet.net

Visitor Experience: (Visitor, Train & Track Car operations, 4-Q Vision, Special events)

Dale Hartnett: 243-0139; dhartnet@foxrochester.com

6. A record of positive, safe service to the museum.

The first steps a person can take would be to take the *Book of Rules* class being offered this winter, the hands-on brakeman training coming this spring and the track car training this spring.

It would also be helpful to lend a hand in locomotive maintenance.

There's no guarantee that everyone who starts down the training road will ultimately qualify as an engineer. In fact, there are probably some who won't qualify.

For those who'd like to learn more, my advice is to take the classes that are offered, help out in maintenance and contribute to the museum's operations.

We'll let you know more as we develop the specific criteria and programs.

Motive Power Update

by John Redden

Steam Locomotives

Daniel and Matthew Tuke, and Nick Wilson continued to strip the paint on the cab of the Vulcan 0-4-0T, number 12. The engineer's side of the engine is taking on a nice shiny appearance lately.

A couple of years ago, we removed the flues from engine number 12. These had been piled next to the engine since that time. At the suggestion of Dale Hartnett, we constructed a new crib for these flues in an unused spot, to the west of the Restoration Building. Jim O'Keefe, John Redden, and Kevin Klees moved the flues over to the new crib area, where they are now neatly stacked. This improves the general appearance of the Shop area, and gives us much better access to the East side of the Heisler locomotive.

We continued working on the Heisler Fireless, disassembling, repairing and cleaning various parts. Daniel and Matthew Tuke worked on the front coupler and coupler pocket of this engine, cleaning old paint and rust from them.

The blowdown valve on the Heisler locomotive has been removed by Randy Bogucki. This is an original Okadee valve,

once a prominent supplier of valves for steam locomotives. It will be cleaned and have the seats lapped over the winter. Rand Warner and Randy Bogucki also worked on the similar charging valve, located at the rear of the locomotive.

The Steam Team members set a goal for themselves, to have the valves, pistons, and their respective heads re-installed, and sealed up prior to the onset of Winter weather. We achieved this goal in mid-November. Both sides have had their respective parts removed, inspected, cleaned, lubricated, and re-installed with new gaskets.

Plymouth Gasoline Locomotive

Kevin Klees and his assistants continue to make progress on the Plymouth. Using the large metal lathe, the cross shaft from the transmission is being cleaned up. After considerable effort, the original shaft keys have been removed and new full length (30") keys are being fabricated. Rand Warner and John Redden removed the clutch actuating arms, cleaned them up, and primed them.

New seats for the inner race of the new roller bearings for the cross shaft will be machined next. After that the shaft and friction wheel can be reassembled with the new bearings in the pillow blocks.

TrackMobiles

Our Trackmobiles have been a valued part of the motive power fleet for several years, and they are especially handy in the winter time, when many of our diesels are shut-down and winterized. Norm Shaddick installed a trickle charger for the Trackmobile #1, and diagnosed a fuel system problem with #2 - he drained water from the fuel tank, both of its sediment bowls, the fuel pump, and the carburetor, in order to get this unit back in service. Thanks, Norm.

Diesel Locomotives

Chris Hauf has set up the EK-9 charging circuit at its "remote" location on Track 6, to protect its batteries over the winter months.

Norm Shaddick has done a variety of preventative maintenance tasks on our diesel fleet this month. He serviced the batteries on the 1654 and the 1941, and drained water

(Continued on Page 4)

Motive Power *(From Page 3)*

and sediment from the fuel sump on EK-6. He tarped the number one hood on the 1941, and diagnosed a problem with the feed valve on EK-6 and made repairs to that unit. He also added lube oil and antifreeze to this unit.

By the time you read this, we will have run the Christmas Tree trips in conjunction with Remelt's tree farm. Steve Huse has spearheaded this effort for the past several years, that generates some needed December income, and adds a bit to the Museum's exposure to the public. This operation typically uses one of our centercab diesels and two cabooses, giving our patrons a nice winter-time ride when they purchase a tree at Remelts.

Thanks to Norm Shaddick and Kevin Klees for input to this article.

Special Operational Events Potential

by Rand Warner

With the combined assets of R&GVRM and NYMT, we really have a wonderful smorgasbord of operational options:

.. For motive power, we have track motor cars, TrackMobiles, gas-mechanical locomotives and assorted diesels.

.. We have already ran trolleys on several occasions, and we'll soon have our permanent substation.

.. We are currently working on two of our three steam locomotives.

.. We have a good assortment of freight, passenger, head-end and non-revenue rolling stock, and a variety of M-O-W equipment.

.. Our track plan affords all kinds of movement possibilities.

For our visiting public and railfans, we can demonstrate day and night operations, switching moves, regular and extras, sections, meets, hand-offs, freight, passenger and mixed trains, M-O-W specials, helpers, etc.

The Christmas Tree Trains are just the

Desire to oversee a publishing endeavor?

Contact Jeremy Tuke at 585-359-8944, or <jnmk2k@frontiernet.net> for details.

Thanks to ...

Luther Keyes, and **Hickory Hill Construction**, for donation of half the expense of digging trench for conduit at trolley substation at NYMT.

Nurture

By Rand Warner

Nurture is the glue that makes an organization strong. In a strong organization, nurture goes in all possible directions—from top to bottom, bottom to top, and sideways across all boundaries.

It's about people helping people: hands-on, with useful information, with new contacts, new resources, new ideas, etc. Encouragement, inspiration, and acknowledgement. Pointing out potential opportunities and openings.

Our Museum Managers need nurture. So do our Superintendents, Foremen and Volunteers. It works all ways and it goes all ways. The organization benefits and everybody in it benefits.

We all participate in nurture at its best.

Traction action

by Rand Warner

The trench to connect the trolley power substation to the trolley track and overhead was dug, all conduits were installed and the trough was then backfilled on Saturday, Nov. 20. Thanks to Jim Johnson, Dick Holbert, Scott Gleason, Dan Waterstraat, Bill Chapin, Rand Warner, Dale Hartnett, Ted Strang, and Luther Keyes on the backhoe. Now we are really ready to start pulling wires!

Bernie Cubitt is arranging to complete the truck bolsters fabrication for RL&B interurban #206.

Larry Van Allen torched all the rivets off the bottom components on our line car #C-143 so we can now remove all items hanging down. That will give us the options of either:

- a) putting the car body on a flat car to get it into use, or
- b) relocating the bolsters outward to relocate the truck centers so we can couple to the car, or
- c) add powered trucks so we can pull other cars.

We now have over \$6000 in the kitty for new replacement sheet metal and structural repairs to Subway Car #60.

Winter Wariness

by Rand Warner

A lot of recent work has gone in to preparing all our equipment for winter.

Anti-freeze has been checked in track motor cars and TrackMobiles and all-weather locomotives.

Alco and EMD engine blocks have been drained and locos relocated for convenience of battery chargers.

Restroom and pipe heaters in the Depot have been turned on for the season to protect plumbing.

Anti-freeze levels in our many pieces of active construction equipment have been checked and topped off.

Anti-freeze levels in our several pieces of maintenance-of-way equipment have been checked.

For these very important efforts we thank Norm Shaddick, John Redden, Dick Holbert, Chris Hauf, Rick Israelson, Dave Luca, Jim Johnson, Scott Gleason, Dan Waterstraat, Joe Scanlon, Art Mummery, Dick Bean and others.

Here's another Mystery Photo



This photo was submitted by John Stewart. It is a small station located within the confines of Monroe County.

The answer is on Page 6.

Library Report

Charles Robinson, Chairman

The library will be open for general use **Sunday December 19 between 2 and 5 PM.** The large selection of railfan books and tapes is for the most part available for circulation to members with the exceptions being the new books from the Richard Barrett collection that have not been stamped, and a few rare books.

Thanks to George Bauerschmit and Bob Miner we have running water!! No need to bring water filled gallon milk containers.

Gale Smith has thoughtfully donated a new combination VHS tape, CD and DVD player to the library. Now you can come to the library with all the comforts of home! Heat, a toilet that flushes, and railfan entertainment center next to none in this area. **Do not miss our improved library!**

Thanks to the efforts of Gale Smith and Jerry Gillette, the inventorying of the Richard Barrett books is coming to an end. We are still finding some additional miscellaneous items to catalog but that should soon be completed.

Bill Limburg and Dave Luca have drawn up plans for new shelves to harbor the George Barrett collection in a special section in the library. Bill has ordered the materials for these new bookcases and sometime soon we will have a place for this very wonderful gift to the Chapter library.

Roof leaks are still a problem in the library. Fortunately, so far they have occurred in locations that are non-threatening to our collection. However some are showing up where they were not before. The library chairman as well as Bob Miner have been combating this nuisance. The former has made three trips to the roof armed with polyurethane foam, roofing cement, and roofing tape to combat the first bunch of these leaks but complete success has alluded those efforts. However most of the library is unaffected.

Hope to see you at the library.

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The new, out of the box, Panasonic combination VHS/CD/DVD playback unit replaces two VHS units (one for playback, the other to rewind the tapes!). It also has a remote control. Thanks to Bob Miner for its installation and check out.

The library has over 100 VHS tapes, and more will probably will be donated. Why? Because recent train programs are being released in the DVD formats. We don't have any yet, but we are READY!

WAG Plow 2004 Update

by Jesse Marks

Another season of work has been completed on the WAG plow. Although the weather was not very cooperative during the 2004 summer/fall, compared to past seasons, we were still able to get some good work in. This year's restoration included:

Replacing wood behind both wings (wood behind east wing totally replaced), Minor grinding and sanding on the west wing, "Spot" priming parts of the west wing (to avoid future rusting), Some priming on the wood behind both wings, 1/3 of main portion of west side primed, Sealing and more weather proofing around most exposed areas

We are keeping our fingers crossed that the weather will be more favorable next season so we can continue the restoration. Other work planned is priming all wood behind both wings and back main portion, priming both wings and other metal accessories, putting the first coat of red on the wood, and first coat of black/white on the wings and other metal. If there is time left in the season, external work on the plow's cupola may begin (planning still in progress).

On other news, the WAG plow site has been moved to a new web address. The new site is <http://www.wagplow.org>. The site has the same layout as the old but with a more distinct address. Updates will be added to the "Restoration Progress" link during the 2005 spring/summer working months. I am planning to have more past pictures of the old WAG 3710 on the "Historical Pictures" link within the next few weeks as well. Check back often for continued updates.

Although tax time is not until April, it is never too late to donate to the WAG Fund. Your contributions are always welcomed and tax deductible! Once again, thanks to all that

Tid Bits

Former PM #1225 (a 2-8-4 operating Berkshire) was well documented for its use in the digitized movie "Polar Express", now showing in local theaters.

In Sept. in CA, a UP freight train hit an autocarrier that was loaded with vintage Porsche cars. The trailer "bottomed out" on the crossing; a call to stop the train was too late. Estimated damage to cars was over a million; but no injuries.

WANTED

(Contact Rand Warner at 585-425-8586)

- Flat bed boom truck in good condition, 25 year old, 18,000 lbs GVW.
- Skid steer loader, Bobcat type, gas or diesel, at least near operational.
- Good relay ties and switch timbers
- Ballast #3A, delivered to our site.
- Road millings delivered to our site.
- 105 lb./yd minimum, switch, complete, prefer right hand turnout.

Upcoming Anniversaries

by Rand Warner

75th Anniversaries of Abandonment of Rochester area Interurban Lines:

? Rochester & Eastern: July 30, **2005**

? Rochester Lockport & Buffalo: April 30, 2006

? Rochester & Syracuse: June 28, 2006

50th Anniversary of Closing of Rochester Subway for Passenger Service: June 30, 2006.

2007: 70th Anniversary of the Rochester Chapter, National Railway Historical Society!

We have some time here to plan some significant and appropriate recognition events & Celebrations!!

Heavy Equipment

Supt. Art Mummery

by Rand Warner

We have several additional pieces of heavy equipment now operational or nearing operational status in 2004.

– Case Terraloader diesel crawler loader (*Dick Bean*)

– FWD all-wheel drive truck with cargo body (*Rick Israelson*)

– Towmotor forklift (*Dick Bean*)

– Gradall ditcher (*Art Mummery*)

– Hydraulic excavator (*Joe Scanlon*)

– Gasoline powered air compressor on rubber (*Art Mummery*)

– Caterpillar D-4 bulldozer (*Dave Luca & Co.*)

– Gasoline powered welder on skid (*Art Mummery & Co.*)

This equipment will provide us with great flexibility.

Thanks guys!!

Construction & Equipment

by Joe Scanlon

Operation Clean Sweep The last few weeks have seen some dramatic changes in our heavy equipment collection at the museum. Although it was a difficult decision, a number of trucks and a crane have been scrapped with the approval of the Museum Board of Trustees. All of the items were deemed to be beyond the ability of the museum to repair or restore.

This represents the second time that we have performed a major housecleaning by scrapping heavy equipment, and we have come a long way towards getting rid of unsightly trucks etc. that we'll never be able to make productive machines out of. Along with this, our scrap steel pile was removed, and the restoration building was cleaned out of a good quantity of recyclable items also. A huge number of batteries were also recycled.

Another positive result of our 'scrap drive' is that we have generated some badly needed storage space, and things don't look so cluttered any more!

Not the least consideration is the fact that we generated some significant revenue for the museum with this effort.

Big Dig The 'big dig' has continued on Tuesday nights and Saturdays not only on the dry days, but on days when the equipment was able to slog through the mud! Because of this we have been able to excavate a major portion of our cut area North of the restoration building, and the fill area South of the building is getting ever closer to the final sub-grade elevation. The Army dump trucks are impressive to watch on their appointed rounds! There IS light at the end of the tunnel, it IS getting brighter, and no, it's not a train!

The scrap contractor, Mr. Larry Van Allen, repeatedly commented on what a pleasure it was to work with so many kind and friendly people. We all know this, but we do take it for granted sometimes. This time of year especially, let's be thankful for a wonderful group of kind, friendly, and helpful volunteers.



MEET 'THE BEAST'

by Joe Scanlon

For just about as long as we've been moving dirt out at the museum, various members have expressed the wish that we acquire a hydraulic excavator so that more members could learn heavy equipment skills. The antique "cable" backhoes and shovels at the museum are just too complicated for most of our members to master. So for just as long we've kept our eyes open for a hydraulic excavator in good condition. By selling surplus construction equipment from our collection we have managed to build up a reserve fund for future acquisitions that fit in with our mission.

Unfortunately, any machine in decent condition also earns a high selling price, and nothing has been available through the Federal Surplus Property Program. One of my favorite sayings is a quote from Calvin Coolidge: "Nothing can take the place of persistence..." So we 'persevered' and finally found the ideal hydraulic excavator - a Bucyrus-Erie 20H at a price that we felt we could afford. When the owner learned of our intended use of his machine he significantly lowered his asking price. Art Mummery and his wife Zola kindly agreed to travel to the Kingston area and inspect the condition of the machine. Upon his return, Art's inspection report was summed up in two words: "Buy It!"

With approval by the Board of Trustees, a purchase agreement was made and the machine was delivered by Jim Shriner of Jim's Enterprises from a private owner near Kingston, NY just before Thanksgiving. The

Our "new" Bucyrus-Erie 20H hydraulic excavator being tested. [Chris Hauf digital photo]

former owner, Mr. Garry Ostrander, had affectionately named the excavator 'The Beast' and it seems to fit just right!

Locating something in our price range naturally meant that the machine needs some mechanical work, although it is in surprisingly good condition for an excavator built in 1968. Because the 20H is a first generation hydraulic machine and a Bucyrus-Erie it fits right in with our collection. It doesn't even need to be painted! Scott Gleason and Dan Waterstraat went right to work cleaning up and lubricating the machine. Art Mummery has made a list of the necessary repairs and has gone right to work on 'The Beast.' Our museum has developed dump truck drivers, grader, loader, bulldozer and roller operators, and even a couple of cable shovel operators. It won't be long before the beginner excavator operators start lining up! But don't wait too long next spring if you want to get an opportunity to get in the seat. "The Beast" will make quick work of our excavation project North of the restoration building! A special thanks to Art and Zola Mummery for going all the way to Kingston to check out 'The Beast' for us, and to Jim Shriner of Jim's Enterprises for getting her safely to her

On Safety — Railroads, industries, utilities and construction companies working with modern equipment and trained professionals require employees to wear safety equipment (safety glasses, safety shoes and gloves, hard hats and harnesses). Is it any different when we work with antique equipment as non-professionals? [DH]

Answer to Mystery Photo on Page 4

This Depot was located on Otis Street at Lyell Ave. on the New York Central Branch that went to Charlotte.

Installation # 3 on the Telegraph

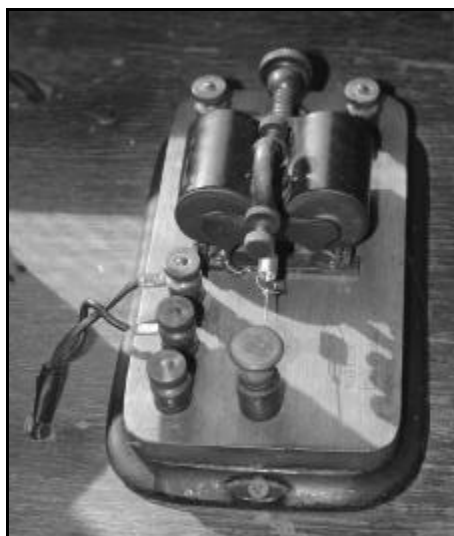
The Morse Relay

by Chris Hauf

The Morse "main line" relay is probably the most important instrument in the Morse telegraph system. A basic relay is simply a mechanism for allowing the switching on and off of one electric current to control the switching on and off of another. Although there were arguments even at that time as to whether he was entitled to it, Morse held the patent on the electromagnetic relay. Joseph Henry for whom the unit of inductive reactance is named (the henry) had demonstrated the idea of a relay long before but had not well documented nor commercially developed the concept. In any case, this patent severely restricted potential competitors of Morse's system. The "Morse interests" were continuously defending against patent infringement by other telegraph interests, due mostly to the relay. One competitor resorted to a pneumatic relay which used an electric current to switch air flow instead of a second electric current, to avoid infringement.

The Morse relay was much more than a simple switch however. Its basic purpose was to act as an electromechanical amplifier, taking the weak main line current and "amplifying" it by using it to switch a separate local current strong enough to operate the Morse register and later the simpler Morse sounder. The contact armature of the "modern" Morse relay is mounted vertically to minimize the impact of weight on its operation. The armature is held retracted by a very light weight spring and the spring tension is easily and finely adjustable. These features make the relay very sensitive to small changes in main line current. Further, unlike relays used for electric power and signal switching, the distance between the armature and the pole pieces of the electromagnet is also easily and finely adjustable. This adjustment permitted a skilled telegraph operator to match the instrument's sensitivity to varying main line conditions and to "track" these conditions as they changed.

The ability to adjust the sensitivity of the main line relays was frequently the difference between success and failure of working a line particularly in wet weather. Each telegraph pole along a line provided a potential path to ground for the main line current. Wet weather would reduce the quality of insulation provided by the glass insulators supporting the wire on the poles. This would allow some of the main line current to "escape" due to the faulty insulation thus bypassing



The Morse Relay [photo by Chris Hauf]

instruments further down the line. A fair amount of effort was put into insulator design to try and reduce this effect because although glass itself is an excellent insulator, in use the glass insulators would become coated with dust and grime and this dust and grime would become conductive when wet. The resulting "escape current" if severe enough, would make the line unusable. Before it got to that point however, it was possible by judicious adjustment of the relays to compensate for the escape current and keep the line productive. It was sometimes necessary to readjust the relays to receive from every different station on a line and in particularly marginal cases, to have to adjust during the reception of a single message from a single station. As a result of this flexibility, the Morse system could be made to work when other early systems could not.

The design of the main line relay went through rapid evolution as the developers became more knowledgeable about electrical properties. Early relays were physically very large but quickly evolved into the small units seen today. A problem with early telegraph systems was that there were no standards for instruments. The Western Union company seeing this chaos in instrument design, in 1868 brought the British telegraph engineer Cromwell Fleetwood Varley to the States to examine the problem. He found much lacking and established new standards as well as a number of procedures for testing and maintaining the equipment which survive to this day. He is credited with the standard of 150 ohms for main line relays. Although main line relays can be had with a resistance of as low as 25 or 30 ohms, most "modern" instruments are in the range of 100 to 150.

Early on, a special form of main line relay was developed which could be used for both a relay and a sounder if no local battery was available. This style was called a "Box Relay" and differs from a normal main line relay in that the electromagnets are enclosed in a wooden box and the contact stops are also mounted on this box. The box acts like the body of a guitar and makes the sound of the relay contacts louder so they can be more easily heard directly without the need for a separate sounder. Usually the armature on a box relay is a little heavier than a standard relay as well to improve the sound even more without being too heavy and thus overly reducing the sensitivity of the Box Relay. Eventually these fell out of favor as lines got better and were replaced by the later and more compact "Main Line Sounder" which is also adjustable but looks more like a large local sounder and does not have the relay's contacts. As a result, although not nearly as rare as Morse Registers, Box Relays are a relatively rare

Rail Trails

by Lynn Heintz

Last spring the Genesee Transportation Council conducted a Rail Trails Initiative plan for the Rochester region. Existing and under construction trails were the focus of this study as well as potential trails, of which quite a few railroad r-o-ws were included. A copy of this study is on its way for our library. You can access the study at these links: (disregard hyphens)

http://www.gtcmpr.org/regional_trails_initiative.htm (Phase 1) OR
http://www.gtcmpr.org/Reg%20Trails%20Panor/RTL_Phase_2.htm (Phase2)



Editor's Corner

My apologies for not wishing readers a "Happy Thanksgiving" in the November issue. There were, and are, lots of things for which I am thankful for.

First is good health. Second is a **Hearty Thank You** for those Chapter members (and that's a lot of you) who forward input to *The Semaphore* each month. It certainly makes my "job" easier.

Chris Hauf has "spliced" several photos into a panorama of the "Big Dig". Hope to include it next month.

Have a wonderful Holiday(s) with your loved ones. **See you Next Year!**

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Happy Holidays

Chapter Meeting & Program:

"24 Hours..."

by Duncan Richards

7:30 PM

Thursday, December 16,
2004

40 & 8 Club

933 University Ave.

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Contributions to *The Semaphore* are welcomed and encouraged from all readers. They should be mailed to: Gale E. Smith, 299 Seneca Park Avenue, Rochester, NY 14617-2433. Phone: (585) 544-6221. Contributors using a computer are asked to send their submissions on any MS-DOS diskette in ASCII or *.txt format, as well as a printed copy. Also can send by e-mail to: gale299@frontiernet.net. **Deadline: First Day of Each Month.**

Pouring the Restoration Facility Floor!

The Restoration Building is up and running! Now we need to provide it with a concrete floor. We raised the dust to finish the space. Now we've faced with dust all over the place. One hundred dollars will buy a batch of concrete. The estimate for the floor is \$25,000; we'll need 250 batches (!). Help "cement" together a great project. Maybe we'll even let you write your name and date in a slab! [Don Shilling] (Each block indicates \$1,000)

InterNet (World Wide Web) address:
<http://www.rochnrhs.org/>
