



C&TS DISPATCH

VOLUME 33 NO. 1
SPRING 2020

NOTE: All summer schedules for the Friends and the Railroad are subject to change due to Covid-19. Receive updated information from the Friends at cumbrestoltec.org and from the Railroad at cumbrestoltec.com. See p. 3.



AT

50

1970-2020

Rotary Snow Plows:

Their History

Their Operation

Restoration of Rotary OY

OY Goes to Cumbres!

Restoration of No. 168

Plans for D&RG/C&TS K-36

A First-Time Volunteer's Story

...and more!





C&TS DISPATCH

Friends of the Cumbres & Toltec
Scenic Railroad, Inc.

William Lock, Founder-1988

Vol. 33, No. 1  Spring, 2020

President and CEO — Tim Tennant
Chairman of the Board — Don Stewart
Vice Chairman — Caroline Tower
Secretary — Warren Smalley
Interim Treasurer — Bill Lock
Chairman Emeritus — Bob Ross
Email—timtennant@cumbrestoltec.org

Directors:

Terms ending 2020

Ed Beaudette, Russ Hanscom, Scott Hardy,
Warren Smalley, Don Stewart

Terms ending 2021

John Engs, James Herron, Bill Lock,
Dan Pyzel, Caroline Tower, Ian Kelly,
Wayne Huddleston, John Ferrell, Greg Coit

C&TS DISPATCH

Editor — Christopher James

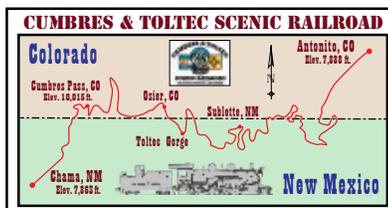
Assistant Editor — Jan Wright

Forum & Yard Cam Administrator — Jason Rose

Editor Emeritus — Rich Murray

Email—cjames@silverrailsleadville.com

The *C&TS Dispatch* is published four times each year by *The Friends of the Cumbres & Toltec Scenic Railroad Inc.*, a New Mexico nonprofit corporation. The Friends is the official museum arm for the Cumbres & Toltec Scenic Railroad, a 64 mile-long railroad and museum of railroad history and technology, operating between Antonito, Colorado, and Chama, New Mexico. The railroad is owned jointly by the States of Colorado and New Mexico. As the museum arm, the *Friends* is dedicated to the preservation and interpretation of the railroad. The Friends is an Affiliate Member of the *Heritage Rail Alliance (HRA)*. Family membership in the Friends is \$35.00 per year; outside the USA membership is \$50.00. All contributions are fully tax deductible and will be gratefully accepted. For information, please write us in Albuquerque at the *Friends of the Cumbres & Toltec Scenic Railroad, Inc.*, 4421 McLeod Rd. NE, Suite F, Albuquerque, NM, 87109, or call us at (505) 880-1311.



Denver & Rio Grande Railway: 1880–1886
Denver & Rio Grande Railroad: 1886–1921
Denver & Rio Grande Western Railroad: 1921–1970
Cumbres & Toltec Scenic Railroad: 1970–today

**The Cumbres & Toltec Scenic Railroad is both a
National Historic Landmark and a
State Registered Historic Site.**

©2020 Friends of the Cumbres & Toltec Scenic Railroad, Inc.

A Message from CEO & General Manager



“64 Miles of Rust,” Fifty Years Later

In 1970 Colorado and New Mexico signed legislation that authorized the purchase of 64 miles of the recently abandoned D&RGW Railroad between Antonito, Colorado and Chama, New Mexico. Along with the track the purchase included all the structures along the route, the shop buildings in Chama, a small amount of shop machinery, nine steam locomotives, two rotary snow plows, one cabooses, and 130 freight cars. The purchase price was set at \$547,120.00 divided equally between the two states. What was not included in the purchase were any passenger cars, or any facilities of any sort in Antonito. The Railroad was also impassable due to construction of the new highway between Chama and the state line near Cresco.

It is clear to me from reading the enabling legislation passed by the two states that no one really expected the Railroad to survive for even five years, let alone fifty years.

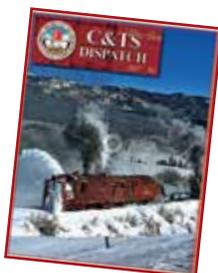
After the purchase, volunteers pitched in to clear the tracks making it possible to get the first train from Antonito to Chama. The commitment to the project demonstrated by those early volunteers has been a defining characteristic of the C&TS

for the fifty years since 1970 and continues today as embodied by the Friends of the Cumbres & Toltec Scenic Railroad.

My own involvement began in the fall of 1970 when I came to Chama and managed to ride the first east-bound trip from the second road crossing to Cumbres. The track was so slippery from rust and tent caterpillars that #483 was struggling to take two drop bottom gondolas to the summit. I helped sweep caterpillars off the track and hand-sand the rail. I just wanted to be part of it.

This year we are celebrating fifty years since the Railroad was saved from abandonment. Many events are planned which could have only been seen as pipe dreams fifty years ago. We have grown from having one operable steam locomotive to a fleet of six operable steam engines as well as providing a home for the restored #315.

- We have restored Locomotive #168, built in 1893 and last run in 1938.
- We are restoring a historic four-car passenger car fleet including a Railway Post Office car, a pay car, and two coaches.
- We have built twenty new passenger cars and are currently building two new premium-service cars.
- We have rebuilt four high-side gondola cars to be used as open-air cars on passenger trains.
- We have built two “passenger” cabooses.
- Wooden water tanks have been built at Chama and Osier to replace the original tanks.
- We have built a depot and repair shops in Antonito.
- We have built a locomotive shop in Chama.



On the Cover:

Rotary OY works its way up the grade during the special Rotary demonstration event, February 29th and March 1st, 2020. Built in 1923 and last used on the C&TS in 1997, OY was restored by the Friends and the Railroad in 2019. This issue of the *C&TS Dispatch* focuses on Rotary Snow Plows, their history, restoration and its operation. This special issue also highlights the 50th Anniversary of the Cumbres and Toltec Scenic Railroad.

Photo by Don Atkinson

Manager, John Bush

What else have we accomplished? The list goes on and on. These are remarkable accomplishments for a Railroad that was abandoned and not expected to survive.

This year we have operated the Rotary snow plow for the first time in 23 years. We will begin running "historic" passenger trains with restored original equipment that was built to run on this rail line more than 130 years ago.

We will have a ceremony at Osier on July 1st commemorating the 50th anniversary signing of the purchase legislation.

We will host a gathering of "Galloping Geese" and a "Roundup of Victorian Iron Horses" that will bring together four operating locomotives that were built before the beginning of the 20th century.

Over the years, the Railroad has had three for-profit operators, two non-

profit operators and two management contract operators in its first 41 years.

In 2013 the commission organized a non-profit LLC made up of the C&TS RR Commission and hired a President/General Manager and commenced to run the Railroad without an outside contractor, a model has been successful.

A vigorous capital improvement plan has been funded by the two states. Following our plan without unforeseen business interruptions we will become self-sustaining for the first time since our inception at the end of FY 2023.

The Commission has been successful in securing capital funding from the state legislatures to bring the physical condition of the track, cars, and locomotives up to a condition where the Railroad can be self-sustaining. Being a self-sustaining

LLC still requires that ridership and revenue-per-rider grows to the levels laid out in our ten-year plan.

I am always impressed that for fifty years we have dealt with every challenge that we have had to face. Together we have taken 64 miles of rust that was on its last legs and have turned it into a safe, reliable, and authentic example of railroading at the beginning of the 20th century. All the time I hear "it's just like it was, but somehow better."

I encourage everyone to come this year, experience, and enjoy what we have all accomplished by working together and I look forward to our next fifty years. Thank you.

*John Bush, President and CEO
Cumbres & Toltec Scenic Railroad*



President's FORUM



A Year of Challenges

As I begin pounding the keys for this column, it's hard to fathom what has transpired globally over the last week as it relates to the COVID-19 pandemic. As an organization, we've cancelled our spring banquet and Board Meeting plus a special session at the end of March. Furthermore, we have some additional special sessions scheduled for mid-April and then Work Session B scheduled for the week of May 24th.

The Cumbres & Toltec is supposed to open this 50th Anniversary season

on May 23rd. Right now, we're not sure where that stands. Will "social distancing" help the nation flatten the curve? Can we have some sense of normalcy by the summer? All valid questions.

Due to the cancelled spring banquet, we'll attempt to have a member gathering on Friday July 10th here in Albuquerque at the Courtyard Marriott-Journal Center to give area members a chance to get together. Obviously, we will be monitoring the ongoing state of the country leading up to that date.

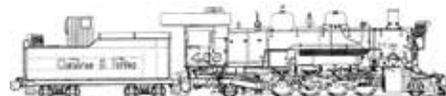
In addition to work sessions, there are two other Friends' events occurring this summer which we will need to monitor and decide whether to hold them or not. On June 27th & 28th there is our Locomotive 168 photo charter and a month later, on Friday July 31st, the Annual Moonlight & Wine Tasting Train. We hope the overall situation throughout the nation and the world will have improved to the point where these two special trains can operate on schedule. After a long and difficult spring, I believe people will be ready for these opportunities.

We will keep the membership informed as best we can through our web site, www.cumbrestoltec.org and e-mail blasts directly to your computer screen as the year unfolds.

Be safe and thank you for your continued support.



Tim Tennant



On a lighter note...



Have you noticed the Friends' colorful, updated, colorful logo?

Cumbres & Toltec Scenic Railroad: A (very) Brief Photographic History

Looking back over the last fifty years, there were many times people wondered if the Railroad would survive. Bad track, low ridership, fires, closures, management problems and derailments all threatened to bring an end to the 64 miles of historic narrow gauge railroading between Chama and Antonito.

But with dedication, perseverance, sweat, creativity and foresight along with thousands of hours of dedication by Railroad employees and Friends volunteers, the Railroad lives on.

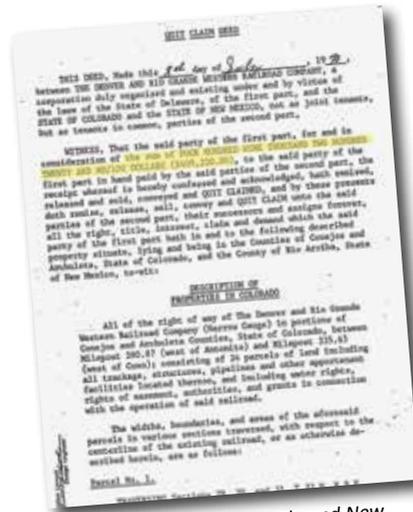
With your help, donations and hard work, the Railroad will continue to bring "living history" for years to come.



One of the last D&RG trains over the line, July 18, 1968.



National Park Service considers acquiring the Railroad, November, 1969. They decided they weren't interested.



July 8, 1970: Colorado and New Mexico buy a railroad, the cost split equally between the two states.



1970: The volunteer track crews worked hard to get it ready.



Some parts of the right-of-way needed more work than others.



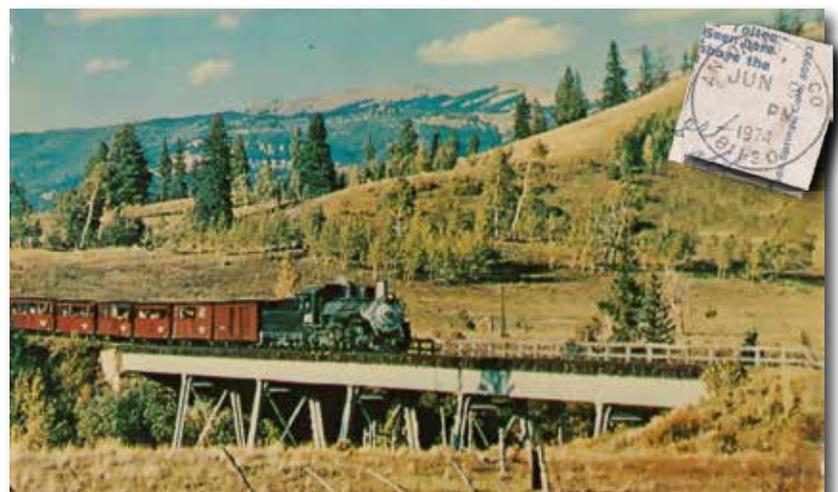
The first Antonito to Chama equipment transfer, September 9, 1970



Day 1: Ernie Robart paints the C&T herald on #483.



Boxcars quickly are converted into passenger cars.



By early 1974, the Railroad was carrying passengers from around the world.



Late 1974: **The oil embargo** is keeping the tourists home and the steam locomotives in the shop. A Diesel at Cumbres? Horrors!



1978: Oil embargo is a thing of the past and ridership of the **C&TS is growing** again.



1988: A bunch of "Friends" show up to help with restoration and preservation of the C&TS. They are still there.



1992: **UTLX Tank Cars** return to the San Juans from the White Pass & Yukon.



Change of Operators
Commission Selects Cape Cod Railroad

On December 1, operation of the Cumbres & Toltec Scenic Railroad passed from Kyle Railways, Inc., to George Bartholomew, operator of the Cape Cod Railroad.



Opening the line in 1993, one of many **Rotary plow excursions** between 1973 and 1997



1994: **484 ends up off the rails**, just east of Cumbres. George Bartholomew's operation is also headed for the ditch.



Two disasters that nearly ended the Cumbres & Toltec: **2002**, the US Forest Service **curtains operation of the C&TS** for five weeks due to high fire danger. **2010: Fire seriously damages Lobato Trestle**, forcing the Railroad to only operate between Cumbres and Antonito for the following year.



Built in 1903, "Mudhen" Class K-27 463 saw service on the C&TS from 1994-2002. Taken out of service, it was restored by the Friends and returned to the Railroad in 2013.



Restoration of Class T-12 #168, built in 1884 and on display since 1938, was completed in 2019. (See page 18)



Newly restored **Rotary Snow Plow OY** heads for the summit of Cumbres Pass during the two-day rotary event in the spring of 2020. (See page 16)

With no work sessions to report, the Spring issue of the Dispatch is generally designated “The History Issue,” and Spring 2020 is no exception. In honor of the restoration and operation of Rotary Snow Plow OY, the main stories in this issue focus on the history and operation of Rotary OY and its brethren since the plow’s invention in 1883, along with its use on the D&RG and the C&TS over the last fifty-plus years.

~ Chris James, Editor, C&TS Dispatch

“An Improvement on a Machine for Removing Snow from Railway Tracks”

by Chris James



Lucius Beebe and Charles Clegg Collection, Courtesy Ann Clegg Holloway

“Snow doesn’t give a soft white damn whom it touches.” ~ e. e. cummings

It’s unlikely that American poet e. e. cummings ever visited Cumbres Pass but a version of his sentiment may well have been on the minds of generations of trainmasters, engineers, brakemen and snowbird snow-shovelers who battled the snowy pass in the late 19th through the mid-20th centuries. If there is one constant theme on the right-of-way between Antonito and Chama, it is that much of the winter would be a continuous struggle between snow and the men who need to keep the trains running.

While it was only a 64-mile segment of the 245-mile San Juan Extension, for nearly a century it was the most frequent bottleneck between the San Luis Valley and the San Juan Mountains to the west. Clogged with snow, Cumbres Pass and vicinity effectively stopped the westbound flow of supplies, the eastbound flow of minerals and the flow of mail and passengers in either direction. It was clear to the residents from Antonito to Durango that heavy snow along the right-of-way east of Chama could bring the activities of their towns, villages, mines, farms, homes and ranches to a standstill, something it did frequently each winter.

Was snow on the mind of General William Jackson Palmer when he decided, in 1879, that a route over “Cumbres Mountain” would be the fastest, if not the shortest, route to the San Juan mines? (See *C&TS Dispatch*, Spring 2017.) Perhaps to Palmer, battling deep snow would just be another part of operating a railroad, something you took in stride.

He wanted his Denver & Rio Grande Railway to access every source of wealth in the Rockies and snow wasn’t going to get in his way any more than the Santa Fe did in his battle for a route through the Royal Gorge. It was said that “If a man...had a wagon load of pumpkins for sale, General Palmer would build a railroad across the mountains to meet him.”

Palmer knew the San Juan’s ore could be quite a load of pumpkins and by 1882, his San Juan Extension stretched from Alamosa to Antonito, over Cumbres Pass to Chama, west to Durango and north to Silverton.

It didn’t take long for the locals to notice some difficulties with Palmer’s decision. The Cumbres blockades often lasted weeks, sometimes even longer. The railroad men struggled through storm after storm, opening the railroad for a day or so, only to have the next storm close the line again.



D&RG Wedge Plow, Ed and Nancy Bathke Collection

Early on, the only means to clearing snow, on Cumbres and elsewhere, was brute force. Locomotives with wedge plows, sometimes as tall as the locomotive itself, would attempt to ram their way through the drifts, a method that took a heavy toll on equipment. But perhaps the men in the locomotives were the lucky ones. Other men, known as “snowbirds,” worked along the track, digging out the drifts by hand that were too deep for the wedge plows to conquer. Often working on steps of packed snow, a track-level crew would shovel snow up to the first step. A second crew would shovel that snow up to the next step where another group of snowbirds would shovel the snow out the top of the cut. It was slow, expensive and back-breaking labor, with success that only lasted until the next storm, whereupon the whole process—wedge plow, snowbird and shovel—would start all over again. When the snowfall reached depths beyond the reach of the plows and snowbirds thirty to forty feet or more on places like Cumbres Pass, all traffic would grind to a stop.

The idea of a “rotary” snow plow was first conceived by a Toronto dentist, J. W. Elliott. History doesn’t appear to document how Dr. Elliott became interested in clearing snow on railroads, but his device, “*An Improvement on a Machine for Removing Snow from Railway Tracks*” was issued a Canadian patent in 1869. It existed, however, nowhere but on paper. Dr. Elliott wanted to build the device but found no support so he returned to inventing new dental tools instead.

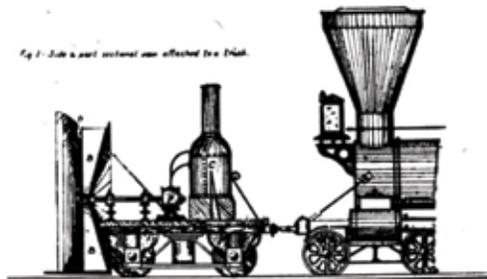
But the “why push it away when you can blow it away” idea started to catch on and a number of strange, and ultimately unsuccessful, attempts at dynamic snow removal emerged as means to help the railroads clear the tracks during the 1870s and early ‘80s.

The Hawley Machine Snow Plow was exhibited at the 1876 Philadelphia Centennial Exposition. The machine consisted of a “vertical snow conveyor,” a screw that cut into the snow and carried it upward to be flung to the side of the right-of-way. It was declared an “absolute failure” because the whirling screw didn’t actually throw any snow away from the tracks.

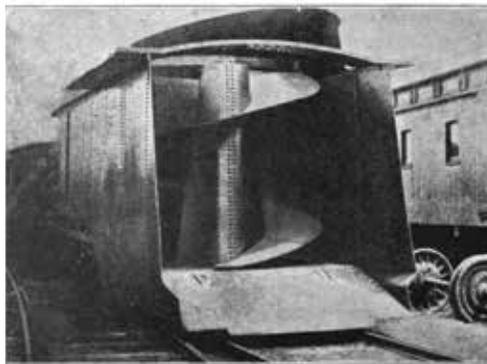
Illustrations of the Marshall Plow, developed later in the 1870s, show a forward-facing wedge plow that pushed snow into the blades of a set

of wooden wheels at right-angles to the center-line of the track, blowing the snow to the sides of the right-of-way. It too was a failure.

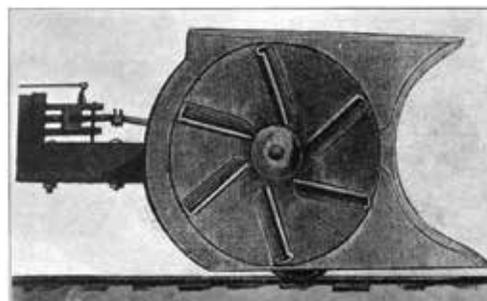
Other inventors returned to looking at forward rotary blades, similar to Dr. Elliott’s design. The Blake Machine Snow Plow used a rotary principle but in the photograph of its design, it appears it may have done little more than toss snow in the air. A number of other designs were tried with a variety of snow capturing devices ranging from rotary blades, horizontal paddles, such as the Cox Snow Plow, and bucket scoops, each with limited success.



Dr. J. W. Elliott's 1869 Rotary Plow, *Library of Congress*



Hawley Machine Snow Plow, 1876, *Library of Congress*



Marshall Snow Plow, late 1870s, *Library of Congress*



Blake Snow Plow, early 1880s, *Library of Congress*



Cox Snow Plow, early 1890s, *Library of Congress*



Original 1885 Design, Leslie Rotary Steam Shovel, *Library of Congress*

The whole picture changed in 1883. Mr. Orange Jull, a flour mill owner in Orangeville, Ontario, modified Dr. Elliott’s idea and, during the winter of 1883-84, designed the first true “rotary” snowplow and patented his idea. He sold the design to machinists John and Edward Leslie in Paterson, New Jersey, who built a working model and formed the Rotary Steam Shovel Manufacturing Company. Leslie Brothers contracted with nearby Cooke Locomotive & Machine Works to do the actual construction.

The Canadian Pacific Railway tested the prototype and deemed it successful when it threw snow 300 feet from the right-of-way. Seeing success in their design, the Leslie Brothers turned to the Cooke Locomotive and Machine Company to construct a second prototype and tested it in March 1885.

During the subsequent testing, numerous issues were discovered in the design of the cutting blades but the Leslie Brothers quickly made modifications to increase efficiency.

In 1887, the Oregon Short Line Railway, controlled by the Union Pacific, ordered trials of the Leslie’s Cooke Rotary #1. That February, the

UP pushed their Leslie plow nearly 3,000 miles around the northwest. It cleared snow as deep as fifteen feet along 69 miles of Idaho's Wood River Branch of the OSL, a stretch of track that had been blocked by snow for ten days. The UP was so impressed by the trial they bought the Leslie machine outright and took delivery on several more, Cooke #2 and #3 in late 1887.

Other western lines, saddled with their own snow problems, followed suit. Built on the Leslie Brothers design, Cooke #4 arrived on the Oregon Railway and Navigation Company in November 1887. The following month the Southern Pacific took delivery of Cooke #5. That same year the Northern Pacific received four Leslies, Cooke #6, 7, 8 and 9. And in the central Rockies? The nascent Colorado Midland received the first central Rockies plow, Cooke #10, in December 1887 when the railroad was barely a year old.

Between then and 1903, Leslie Brothers Manufacturing turned out another 54 Rotary plows for railroads around the country as well as machines shipped to Romania, Argentina and Newfoundland.

Beginning in 1905, Leslie Brothers turned the manufacturing over to the American Locomotive Company, who built another 75 machines, either directly or through licensing agreements.

Snowfighting worldwide had changed forever. But while it might have been more efficient, it was never any easier. Pushing a rotary plow through the drifts of Colorado's winters was still a difficult task for any railroad. In deep snow, pushing a 60-ton Rotary generally required multiple locomotives, all working in sync, tons of coal and thousands of gallons of water. But amortized against the losses incurred by a railroad immobilized for days or weeks by snow, the damage inflicted on locomotives, rolling stock and right of way from smashing equipment into heavy drifts, plus the hundreds of man-hours spent by laborers with snow shovels made the rotary plow a bargain to operate. The way was clear, even if the tracks weren't; the rotary plow made railroading in the Rockies more efficient and affordable. It was still hard, expensive work with expensive equipment but the tracks were generally opened faster than wedge plows, and snowbirds and the railroads embraced the new snowplow technology. Still, the wedge plows never went away. Locomotives of the D&RG, the Rio Grande Southern and other mountain roads still relied on wedge plows when the snow was manageable or when a rotary wasn't available. Even today, locomotives on the Cumbres & Toltec Scenic Railroad still occasionally carry small wedge plows on their pilots. In the Rockies, May through October, you never know when it's going to snow.



For more information on the history of the Rotary plow, see: Paul Swanson, "The Leslie Brothers and Their Giant Snowblower," *Trains Magazine*, January, 1987, pp 26-39.

[Left] D&RG Rotary OM at work at Cumbres. Built by Leslie Brothers in 1899, Rotary OM, can be seen today in the Chama yard of the Cumbres & Toltec Scenic Railroad. Photo by Charles R. Lively, circa 1930

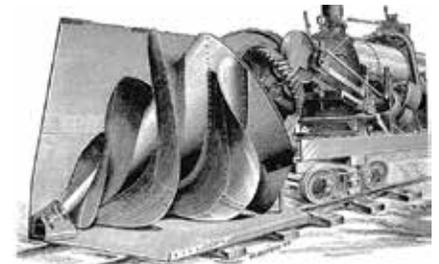
FCTS Richard M. Dorman Collection RD068-072

The Jull Centrifugal Snow Excavator

Angry that his name wasn't on any of the patents and annoyed that his royalties were inadequate, Orange Jull regretted his decision to sell his idea to the Leslie Brothers. He went back to the drawing board and developed the Jull Centrifugal Snow Excavator, a machine with a monstrous, diagonal six-ton corkscrew on the front that was designed to cut into the snowdrifts and deposit the snow trackside like a Leslie plow.

A battle of words (and advertisements) ensued between the Jull and Leslie manu-

facturers, culminating with a snowy shoot-out on the Denver, Leadville & Gunnison (former Denver South Park & Pacific) line route climbing toward the Alpine Tunnel, part of the Union Pacific. The UP would pit their Jull against one of Denver & Rio Grande's two narrow gauge Leslie Rotaries.



Mallory Hope Ferrell Collection

In April 1890, the competitors went head-to-head for three days. The results were inconclusive as the Jull was ill-suited for the poor quality of the DL&G track and derailed a number of times (as did the Leslie). Plus, reports of the grand success of the Leslie plow were supplied to the media directly from Leslie Brothers Manufacturing.

It was clear, however, that the Jull was out of its element, at least on the low-quality narrow gauge track found in the Rockies. Following the Alpine Tunnel trials, only eight more Jull plows were built and delivered in 1891 and 1892, and the unique plow faded from view, with the last Jull Centrifugal Snow Excavator scrapped in Denver by the CB&Q in 1949.



www.archive.org



www.archive.org



Rotary OM at Cumbres, ca. 1920 FCTS Richard Dorman Collection, RD068-051

Rotary Snow Plows on the Denver & Rio Grande and the Cumbres & Toltec

by Chris James

When the States of New Mexico and Colorado purchased the 64 miles of right-of-way from the Denver & Rio Grande Western in 1970, a piece of history that would soon become the Cumbres & Toltec Scenic Railroad, the inventory included nine well-worn D&RGW locomotives, rolling stock and assorted Maintenance-of-Way equipment. Among that specialty equipment were two Rotary Snow Plows, numbered OM and OY and their attendant water service tank cars, O471 and O472. Over the years, the Rio Grande owned two additional narrow gauge Rotary plows, ON and OO, both had been sold or scrapped many years prior to the sale.*

The D&RG's first two Rotaries, OM and ON, were delivered as Rio Grande #1 and No. 2, respectively, in 1889. They were #25 and 26 to roll out of the Leslie Bros.



Rotary OM, FCTS Richard Dorman Collection, RD068-057

Rotary Steam Shovel Manufacturing Company's affiliate, Cooke Locomotive & Machine Works. They were delivered without tenders, those being supplied from older, retired D&RG locomotives. Rio Grande Rotary OO—Leslie number 60—was originally built in 1900 for the Colorado Fuel & Iron's Crystal River Railroad in Redstone, Colorado. It was acquired by the D&RG in 1920 for use on the Marshall Pass line. The fourth Rotary, OY, built by American Locomotive company (ALCO), was delivered in 1923.

In 1942, Rotary ON was sold to the War Department and shipped to the White Pass & Yukon Railroad in Alaska. It was scrapped in Skagway in 1968. OO was scrapped in 1955 when the Marshall Pass line was abandoned. The survivors, OM and OY, are preserved on the C&TS. Both have been rebuilt and restored over the years, the latest being the complete mechanical and exterior restoration of OY by the Railroad and the Friends of the C&TS during 2019-2020.

OY, the larger and more modern of the plows, was generally stored in Alamosa; OM was usually kept in Chama. As the 20th century progressed and heavier K-36 and K-37 locomotives were assigned to the San Juan Extension, the Rotaries were called out less frequently. Equipped with pilot plows, the new 90-ton locomotives could usually buck snow

up to six feet deep. Still, when heavy snow fell on Cumbres Pass, OM and OY were called into service.

Rotary OM was last used by the Rio Grande in January 1957, OY in March 1962. By then declining railroad traffic meant that the line over Cumbres did not need to be kept open all winter. If needed, bulldozers could be carried on flat cars to do the job once done by the Rotaries.

When the Railroad was acquired by the States, the two Rotary plows remained static and cold as the new C&TS didn't operate during the winter.

In the fall of 1973, the Arab oil embargo nearly spelled the end of the young tourist line. High gas prices and limited fuel crippled the ridership. That winter, Scenic Railways, the



Rotary OY, FCTS Richard Dorman Collection, RD068-038

operator of the C&TS at the time, decided to host a Rotary demonstration event. Should the Railroad's

three-year-old venture fail, this would be the last chance to see a Rotary plow in action on the Railroad.

Cold for the last fifteen years, Rotary OM was chosen as it was already in Chama and needed only minor repairs to be put back into operation. Even though it was not advertised, news of the upcoming event spread through the railfan community. On January 10, 1974, OM cleared several miles of track east of Chama. The event was a success and additional winter runs were made in 1975, 1976 and 1977. Later, Rotary OY was brought from Antonito to replace the nearly 90-year-old OM. These Rotary excursions generally went no farther east than Cresco at MP 335. But in April 1978, Rotary OY worked the entire route from Chama to Antonito, all 64 miles, the first time a plow had crossed the pass since 1962. The operation took three days to complete and the run was repeated in 1980.

When Kyle Railways succeeded Scenic as the operator, winter excursions stopped for several years but resumed in late May 1983, with OY opening the line for the tourist season.

Back in 1974, it was hoped that the plow would run annually each spring, but since 1978, the Rotary only ran occasionally, working only 1983, 1993, 1994 and 1997. This year's Rotary run, the first since 1997, featured the newly-restored Rotary OY operating for the first time in twenty-three years.

*The "O" designation indicated they were not in revenue service.

AMERICAN LOCOMOTIVE CO. ROTARY SNOW PLOW

Around 1904, John Leslie, transferred the manufacturing rights of the Leslie Bros. Rotary Steam Shovel Manufacturing Company to American Locomotive Company (ALCO). Cooke still built most of the Rotaries, eventually being absorbed by its ALCO parents. The following text is taken directly from a 1907 advertising brochure issued by ALCO. It presents a glowing description—as most advertisements do—but it also gives a good look into a seldom-seen piece of 19th century technology. ~ Chris James

The design of the Rotary is the result of twenty years of practical experience combined with the best mechanical skill. Each weak point that has developed under all conditions of service has been eliminated and the design perfected in every detail.

The machinery is simple and well adapted for the work which it is to perform. The engine consists of two horizontal cylinders with slide valves actuated by Walschaert Valve Gear. The boiler is of the locomotive type with Belpaire firebox and has ample heating surface to give a good margin of steam capacity to meet all requirements. The wheel is driven by means of bevel gears on the main shaft and on the engine shafts.

In the design of the wheel, particular attention has been given to reducing the friction of the snow, while passing through, to the lowest possible minimum; and to completely overcome all possibility of the snow choking or blocking the wheel.

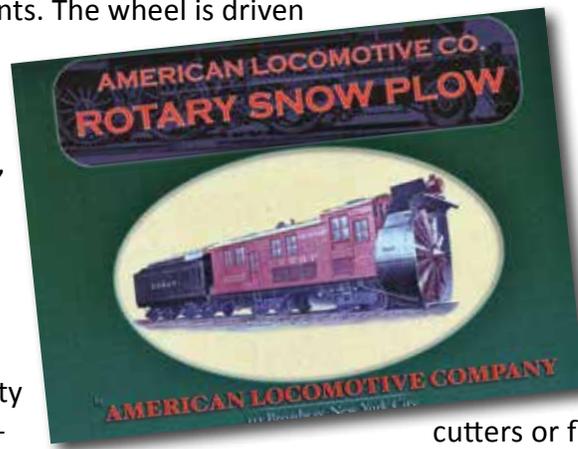
The wheel is composed of ten hollow cone-shaped scoops, the surfaces of which are perfectly smooth, so that it is impossible for the snow to stick in any way. Each scoop is open its entire length on the front side through which the snow is taken in. Knives are hinged one on each side of the opening, arranged so as to adjust themselves automatically into cutting position. The severest tests have given the Rotary wheel and it has been found impossible to block it.

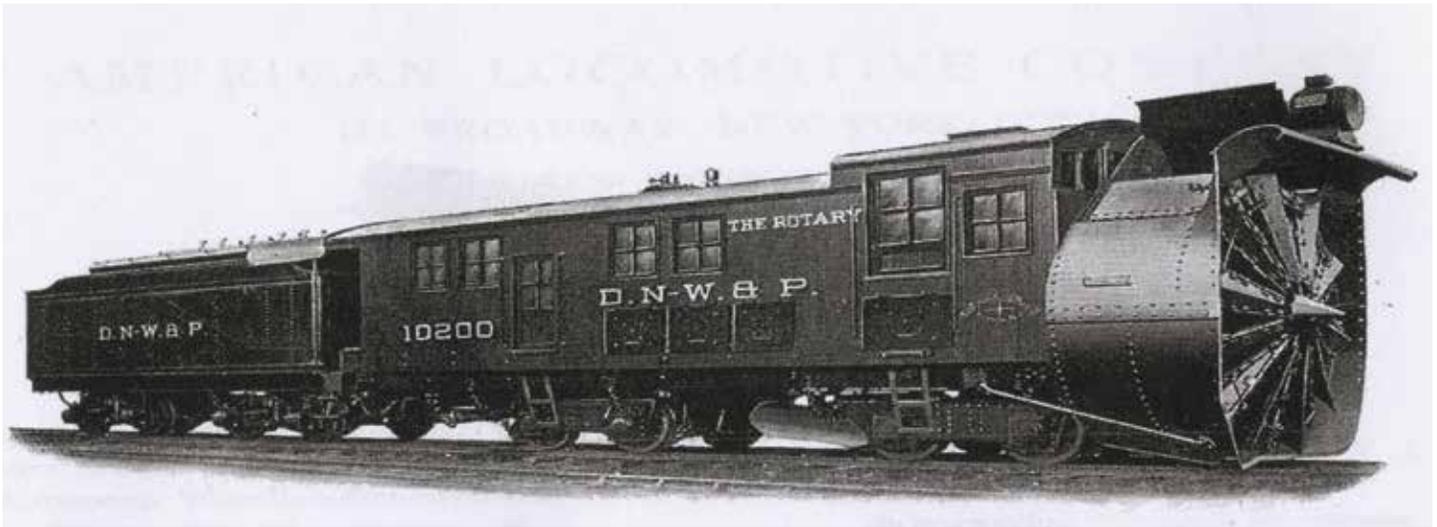
The wheel is encased in a drum with a square front or hood, which is so designed as to present no dead surface to be forced into the snow. At the bottom, the hood projects only a few inches in advance of the cutting blades at the circumference of the wheel; while the centre of the wheel, the knives are the first to encounter the snow. As a result, the

whole front of the Rotary is a sharp cutting edge; and the power required to push the plow is very much decreased. The chute in the top of the drum is provided with an adjustable cover which can be turned to suit the direction in which the wheel is throwing the snow.

Another excellent feature of the Rotary is the design of the flangers and ice-cutters. It has been proven that, with the ice-cutters and flangers in perfect working orders, it is absolutely impossible for the Rotary to be derailed by snow or ice. The ice-cutters and flangers are connected by iron rods to cranks on the balance shaft and may be raised or lowered simultaneously by means of an air cylinder. An auxiliary steam connection from the boiler supplies steam to the flanger cylinder in case the air pump is disabled while the Rotary is in service.

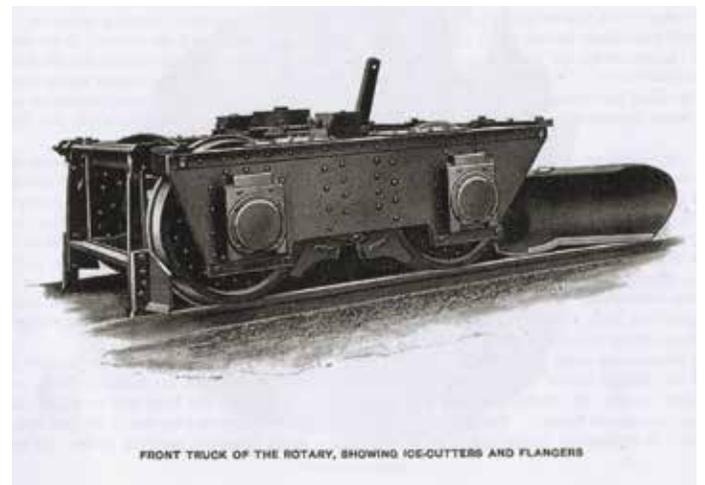
As the wrecking of the ice-cutters or flangers causes serious delays to the Rotary while in service especial [sic] attention has been given in their design to reduce this possibility to a minimum. The ice-cutters are in front of the forward trucks and secured to the lower end of two arms of wrought iron frame by two bolts in each arm. They are composed of two parts, the wing and the cutter. The wing projects over the rail and the cutter, when in working position, projects down inside the rail in front of the forward wheels of the truck. The lower bolt by which the cutter is attached to the frame is so designed that, in the event of the cutter striking an obstruction sufficient to wreck it, this bolt is sheared off, permitting the cutter to turn back and pass over the obstruction. Extra shearing bolts are carried in the tool box of the Rotary, and it is only necessary to replace the bolt which have been sheared off to put the ice-cutters in perfect working order. By this device, serious delays result-





ing from the wrecking of the ice cutters are prevented.

well braced to withstand all strains and has been greatly strengthened and increased in weight to overcome all weak points that have developed in the original plows. The blow is mounted on two four-wheel truck strongly built with a large margin of strength above the requirements.



The flangers are hung on the rear end of the frame of the front truck and are made up of two parts, the wings and the flanger points. The flanger points, which go below the rails, are bolted to the bottom of the wings so that, in case they strike an obstruction other than snow or ice, the bolts will be broken off and no other injury done to the flanger. Extra flanger points with suitable bolts are carried in the tool box, and it is only necessary to replace flanger points to put the flanger again in perfect working order. By this insuring against delays due to the wrecking of the flangers or the ice-cutters, a most important advantage is secured, and the efficiency of the Rotary greatly increased.

The Rotary is equipped with [a] Westinghouse Air brake with [a] 9½-inch pump and a large reservoir capable of supplying both air brake cylinder and flanger cylinder.

The cab is large and strongly built, with a view to the comfort and safety of the crew. It is partitioned off in front of the boiler, the front compartment being the pilothouse and the rear, the engineer's cab. The machinery of the Rotary is underneath the floor of the pilot house and is covered with iron plates, thus securing the safety of those operating the machine.

An illustration of a Leslie Rotary's boiler and machinery without the car body housing is shown on page 17.

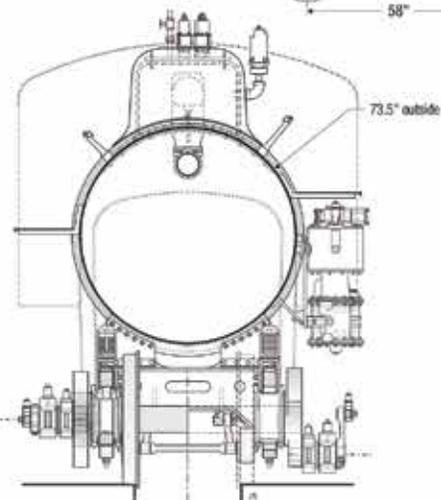
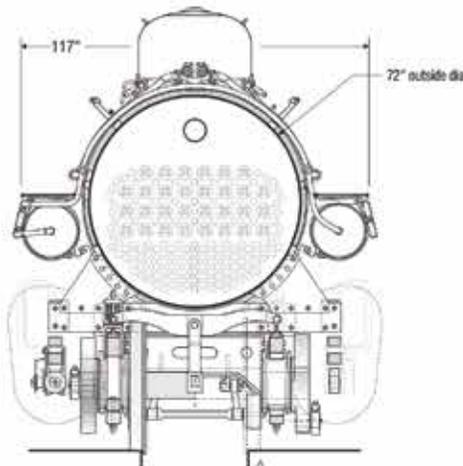
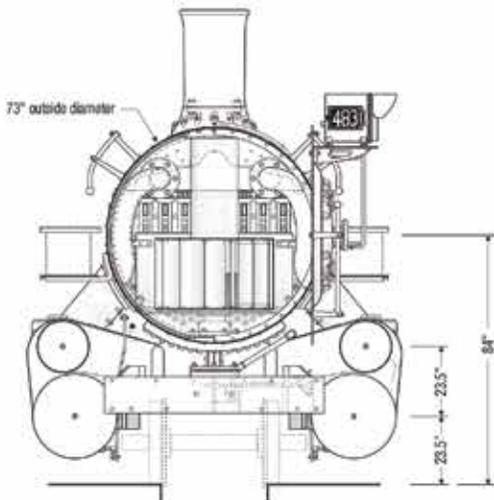
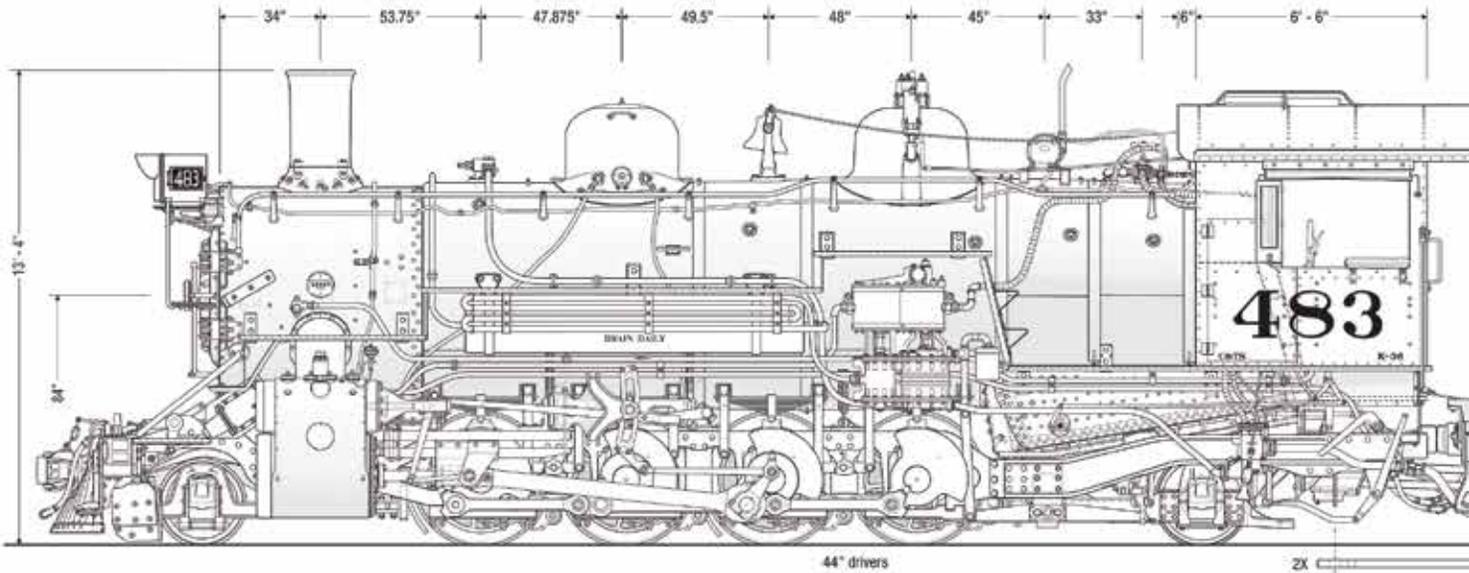
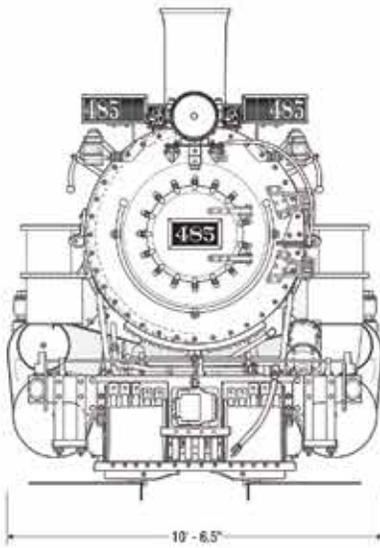
Images and text ©2014 Periscope Films, LLC, reproduced with permission of the publisher.

D&RGW/C&TS K-36

scale: 3/16" = 1'

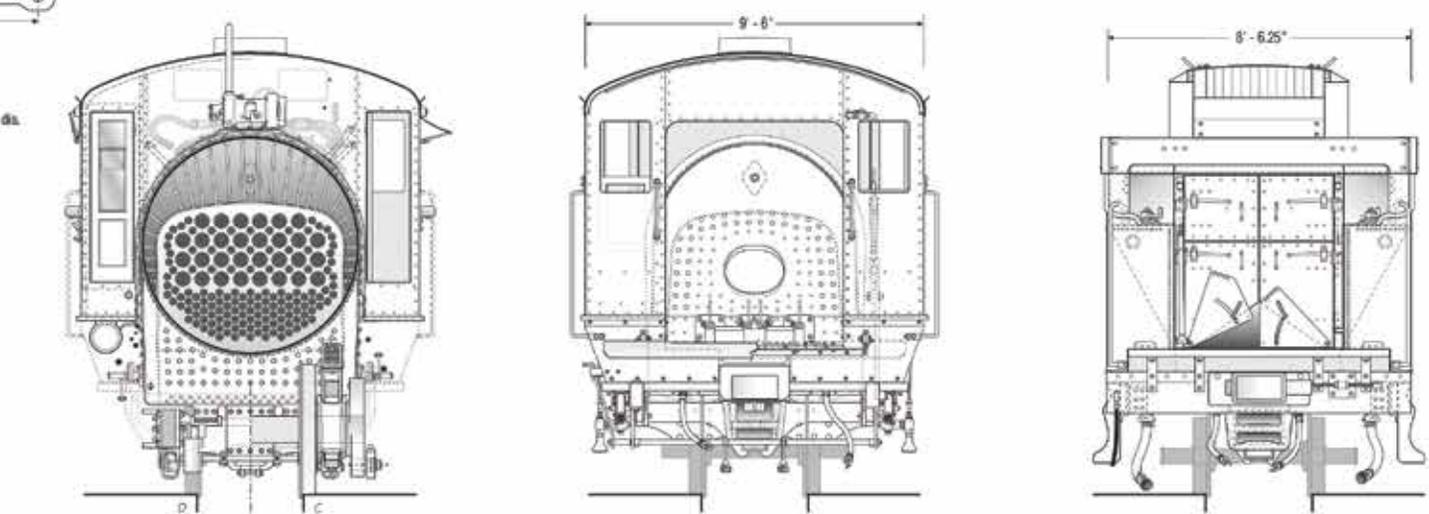
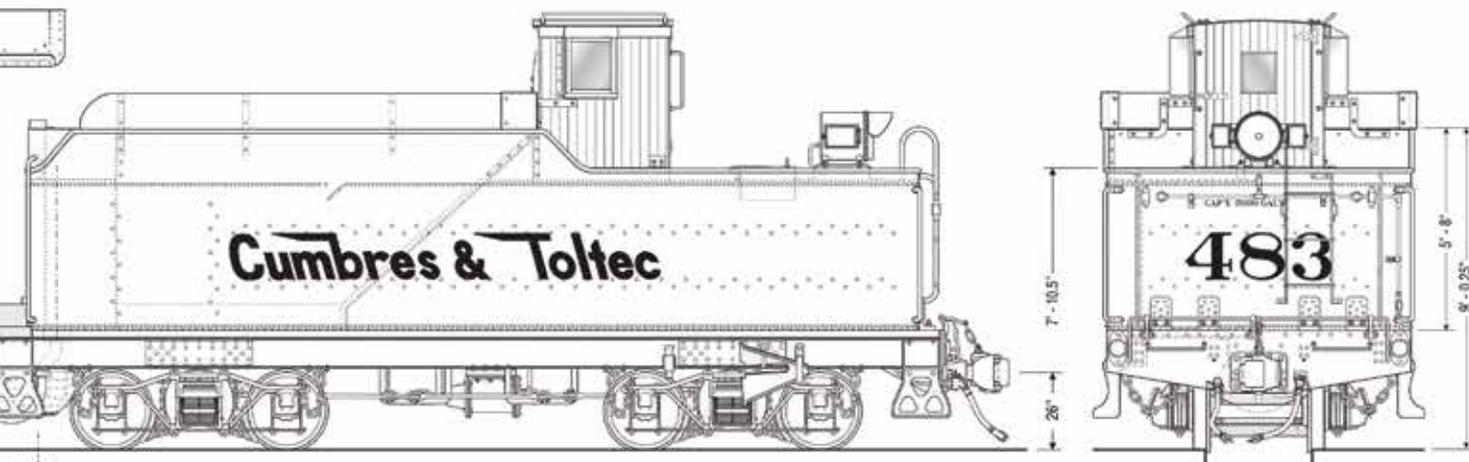
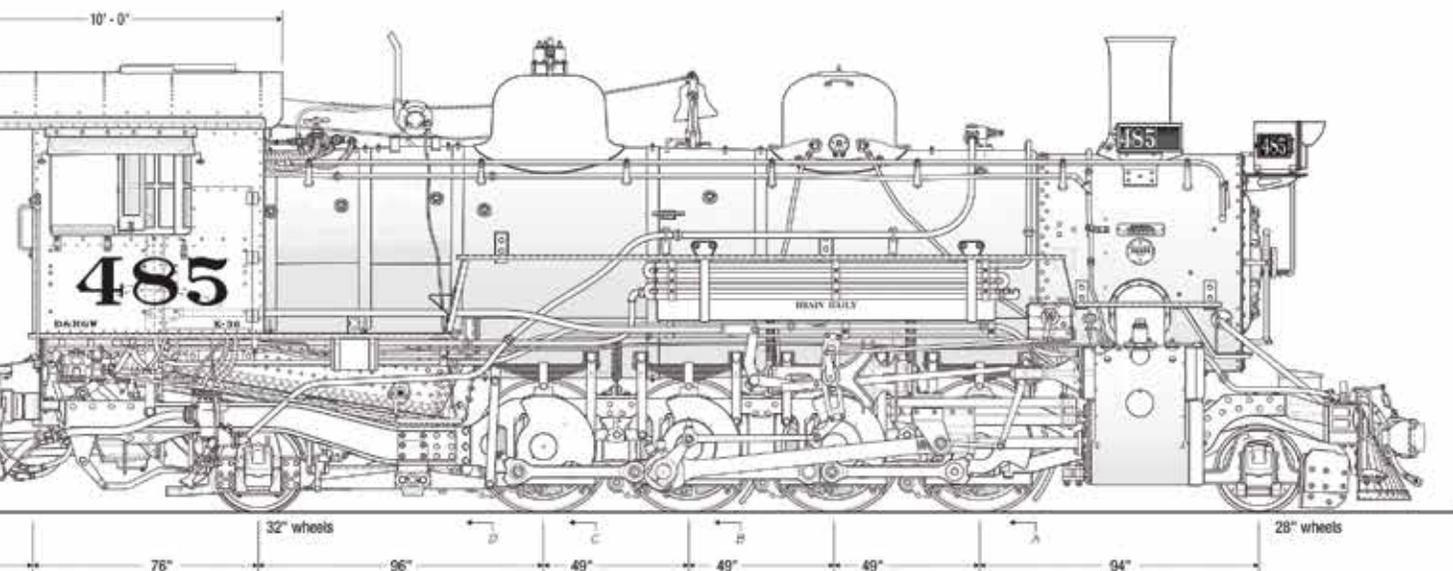
DRAWN BY:
GM McKenzie

DATE:
03/20



These K-36 drawings were created by Friends member Mike McKenzie for Jerry B. Day's new book, *Rio Grande's K-36 Locomotives* (2020, Whit

NOTES: Drawing resources include D&RGW engineering department drawings available from livesteamlocomotives.com, field notes from various sources, personal photo documentation and observation, photos and information from Jerry Day, photos from the Denver Public Library, photos from the Dorman and Payne collections - Friends of the Cumbres & Toltec Scenic Railroad, the K-36 Quick-Pic book from BHI Publications, and the shop photos of Carlos Llamas and Roger Hogan.



© River Productions). They are reproduced here in honor of the Cumbres & Toltec Scenic Railroad's 50th Anniversary. ©2020 G. M. McKenzie

Rotary Snowplow Operation

by Earl G. Knoob

Safety and Compliance Officer/Superintendent of Operations
Cumbres & Toltec Scenic Railroad (1990—1997)

The following story was originally printed in *Rotary Snowplows on the Cumbres & Toltec Scenic Railroad* by Joseph P. Hereford, Jr. (Windy Point Press, 1995, an imprint of the Friends of the C&T.S.) It is reprinted with the permission of the author and the copyright holder, Friends of the Cumbres & Toltec Scenic Railroad. Several grammatical and punctuation errors in the original text have been corrected. ~ *Chris James*

Operating a rotary snowplow is very much a team effort. In addition to the operation of the rotary plow itself, the efforts of the locomotives pushing the plow have to be coordinated for the best results. If one locomotive tries to push harder than the others, the result is usually lots of drive-wheel slips and perhaps even running out of water and coal at a very inopportune moment.



Rotary OM and C&T.S Locomotive 487 enter The Narrows, January 12, 1974.

Photo by Paul Orlow

Guildersleeve Collection, Friends of the Cumbres & Toltec Scenic RR, THG01-001

The rotary plow itself carries a crew of four or five; pilot, wheelman (or rotary engineer), two firemen, and sometimes the roadmaster or track foreman rides in the pilothouse. The pilot rides up in the front of the plow—the pilothouse is right behind the rotary wheel. Because the pilot in theory has the best view, he is in charge of coordinating the entire operation. He communicates with the locomotive engineers by whistle signals: one blast means “Stop,” two means “Ahead,” three means “Back Up” if stopped, or “Slow Down” if moving. The pilot also decides which side of the track the snow is to be thrown, and he controls the hood that directs the snow to one side of the track or the other. The pilot also controls the air brakes on the train.

The rotary wheel clears snow to about four inches from the top of the rail. To remove the remaining snow and ice from above the rail, and to clear the flangeways inside and below the tops of the rails, a small flanger blade is attached to the rotary’s front truck. This blade is raised or lowered by an air-operated cylinder; it is lowered to remove snow or raised so that switches, road crossings, and cattle guards aren’t damaged. The flanger blade is usually operated by the roadmaster track foreman.

The wheelman runs the plow’s wheel. He is stationed alongside the boiler, about two-thirds of the way back. In that position, with very little visibility, he relies on the pilot for instructions. The pilot communicates to the wheelman using a signal bell. One ding means “Stop,” two dings mean “Go,” and three dings means “Slow down.” Many times the pilot and wheelman rely on hand signals because the noise in the rotary can drown out all other sounds—other than screaming into the other guy’s ear!

The wheelman’s controls are similar to those of a steam locomotive. There are a throttle and reverse levers for speed and direction control—although on a rotary the reverse lever is used to throw the snow either to the left or right side of the track. The wheelman also has a steam gauge and, behind him, a gauge glass so he can see how much water is in the boiler.

The duties of the two firemen are the same as those on board a locomotive—to maintain steam pressure and the water level in the boiler. Because the rotary is run so hard when clearing snow, vast amounts of coal and water are consumed. To plow the track from Chama to Cumbres, OY will use about 10,000 gallons of water and six to eight tons of coal. This incredible appetite for coal and water makes it almost impossible for one man to fire the rotary all day long. So, to keep from killing the fireman, two firemen are used.

The firemen are usually seen in the gangway between the rotary’s tender and the boiler backhead, where the firebox door is located. Also on the backhead is a water glass and a steam gauge so that the firemen can monitor the boiler. Injectors that supply water to the boiler are located on each side of the boiler, just inside the carbody, ahead of the gangway. The left injector draws water from the tender and the right injector draws its water from the auxiliary water tank behind the tender.

When approaching a snowdrift, the pilot signals the locomotives to slow down to a walk (three toots on the whistle). About ten feet from the snow, he signals to start the blade (two dings on the communication bell). The wheelman cracks the throttle open and moves the reverse lever up to about one-third of the way from the center notch on the quadrant. As the plow bites into the snow, the pilot again signals the wheelman “Go,” for more power to the wheel.

Usually, as the rotary begins clearing snow, the plows train’s forward progress is halted. Then, the locomotive engineers open their throttles to keep moving ahead. If too much throttle is used, the wheel will stall; if not enough

throttle is used, the rotary will not bite into the snow—it will polish a nice face into the snow that the wheel can't bite into effectively.

Once into the snow, the speed at which the plow blade rotates is controlled either by the throttle or the reverse lever. Usually, if the snow depth is more than four feet, the throttle is opened wide and the speed is controlled by the reverse lever. As plowing proceeds, the locomotive engineers maintain a steady walking pace. If the rotary is pushed into the drift faster than it can chew up the snow, the wheel will begin to bog down. Sometimes when this happens, the increased drag of the snow not being discharged will slow the train. When the excess snow is chewed up and thrown off to the side, train speed will pick up again.



Rotary OM and C&TS Locomotive 487 clearing snow east of Chama
Photo by Thomas Gildersleeve, February 2, 1975

Gildersleeve Collection, Friends of the Cumbres & Toltec Scenic RR, THG01-022

The locomotive engineers must be alert to the speed variations. When the train's speed begins to drop, they must not open their throttles until forward motion stops—as soon as the rotary wheel clears out the extra snow, train speed will pick up. Opening the locomotive throttles as the train speed drops will simply push the plow harder into the snow, probably stalling the wheel. If it stalls, the rotary must be backed out of the snow and the wheel cleared by opening the rotary throttle and spinning the wheel to clear the packed snow. Sometimes the wheel is packed so solidly that it must be spun in reverse to break the snow loose. Once the wheel is clear, plowing can be resumed.

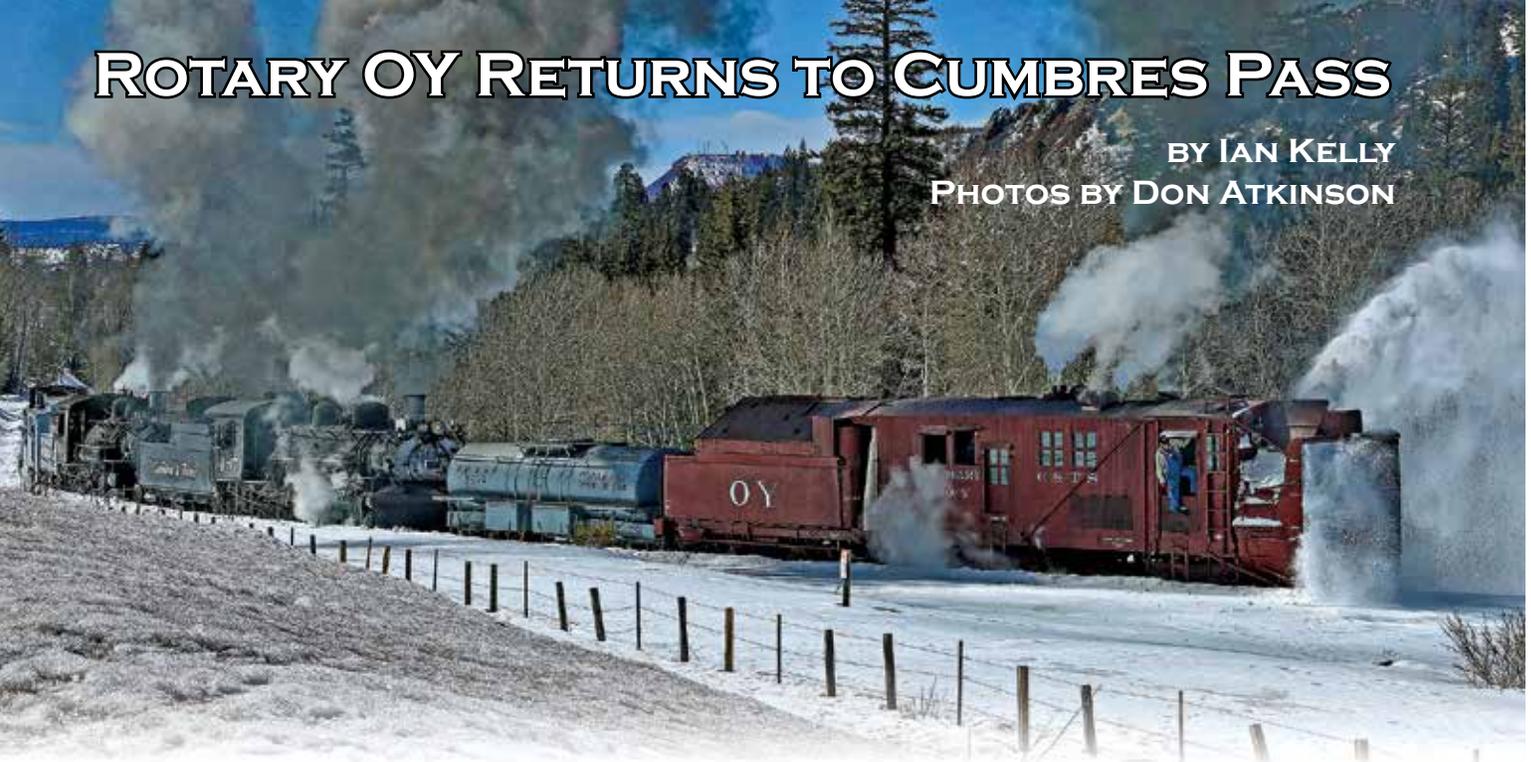
Riding on the rotary is a truly unique experience, and one not for the faint at heart. The whole rotary train takes on an odd forward-and-back motion when plowing. In addition, the plow itself bucks up and down three-to-six inches when plowing—and the cylinders and rods on the rotary are right under the pilot's feet. When the rotary is working hard, every stroke of the pistons can be felt through the floor of the pilothouse. Hanging on for dear life to whatever is bolted down is a must. The notion that the rotary was on the verge of coming apart at the seams has crossed my mind more than a few times. The smokestack on the rotary is located about five feet behind the pilothouse, making the exhaust deafening. Also, the rapid exhaust of the rotary takes on a very irritating whistling sound when working wide open in deep, hard snow. Even with ear plugs, one's ears can be ringing by the end of the day—let alone after four days! Adding all this together make working on the rotary an exciting proposition.



Image ©2014 Periscope Films, LLC, reproduced with permission

ROTARY OY RETURNS TO CUMBRES PASS

BY IAN KELLY
PHOTOS BY DON ATKINSON



OY approaching Lobato, February 29, 2020

Over the weekend of February 29th and March 1st, 2020, D&RGW/C&TS Rotary Snow Plow OY opened the line—well, fourteen miles of it between Chama and Cumbres—for the first time in over twenty years. The operation was the first in a series of events to celebrate the 50th Anniversary of the creation of the Cumbres & Toltec Scenic Railroad, events that will continue throughout the summer of 2020.

Restoration work of the nearly century-old Rotary plow in preparation for the 2020 event began back in 2019. Sitting out in the elements in the Chama yard and unprotected by failing paint, the wooden car body of the plow had seriously decayed. The roof of the plow and its accompanying covered coal tender were in particularly poor shape.



OY moves to Antonito, August 2019

In late August 2019, the plow, pushed by Locomotive 463, was transferred to Antonito to begin the restoration process. The transfer in itself was interesting according to Stathi Pappas, the Assistant General Manager of the Railroad, in that Rotary OY cleared the timbering of Rock Tunnel “by inches.”

Once in Antonito, the Friends took over the restoration of the exterior. The Friends built a complete set of new

doors and windows and replaced the roof woodwork, along with rebuilding the roof over the tender, replacing damaged siding and scraping the loose and peeling paint off the sides. The process took up the rest of the fall work season, but the OY was now ready for Brad Lounsbury to apply primer and final paint. The maroon color that replaced the MoW gray was typical of the paint scheme of the past. With period-accurate lettering applied, the exterior work was complete.

Stathi Pappas’s crew inspected the boiler and inner workings and found that, for something that hadn’t been



Friends restore the exterior and prepare to paint. Photo by Chris James

operated in over twenty years, the mechanical portion of the OY was in remarkably good condition. According to Stathi, because the plow does not propel itself and needs to be pushed, it is considered to be a stationary boiler and is not subject to FRA boiler regulations. The States of Colorado and New Mexico, with only a few recommendations, gave it a clean bill of health. Shortly after the plow was painted, OY was first tested on air, then a fire was lit in the



New windows and doors were built and painted.

boiler and the blades turned for the first time in 23 years. Success!

Ready to go to work, the OY was returned to Chama to await the February-March event.

The two days of plowing involved a major collaboration between the Railroad, the Departments of Transportation of both New Mexico and Colorado, along with the two states' police and highway patrol. The Friends supplied ten volunteers to wrangle the lines of photographers and help with parking duties and organization of the motor coaches.



OY Under steam for the first time since 1997

Saturday's adventure started early and despite a late start due to the need to coal OY, good progress was made out along the right of way with OY being pushed up the four-percent grade by Locomotives 487 and 484. The New Mexico State Troopers ran cars in convoys through the photo zones to keep everyone safe. One of the most spectacular locations was by Lake Lobato with much wheel slip from 487 and 484 due to the locomotives' sanders icing up. Early fears of there not having enough snow for a spectacular Rotary demonstration proved unfounded; the weather cooperated and OY had plenty of work to do.

The Friends' wranglers were concerned that 150 people on the photo lines would be unmanageable but there was enough room for everyone with some well-chosen vantage points. The weather was clear and cold, perfect for great photography. Saturday's plowing ended at the state line and we returned to base for dinner and a night photo session by the coal tower with OY and 487, lit by Pete Lerro.

Sunday saw the coaches heading back to the state line to pick up where we had left off. OY and its helpers had left earlier and made good time. The crossing at Coxo was the first major photo



Crossing at Coxo with plenty of snow

location of the day and it didn't disappoint. A stop was made here to water the locomotives, assisted by the entire Chama Fire Department. The snow was deeper here and the locomotives really had to dig in for the climb up to Cumbres, backing up and taking runs at the deep drifts.

The section house at Cumbres proved to be another spectacular location with snow drifts up to four feet deep. The



Nighttime in the Chama Yard

plan was to plow across the highway as far as possible but the flange ways were so iced up where the tracks crossed Highway 17 that there was a danger of derailing OY. The decision was made to end the excursion there, so we reluctantly headed for the coaches and home.

All-in-all, it was a brilliant start to the Railroad's 50th anniversary celebration and from all accounts, the participants went home well pleased with the event, and loaded with thousands of photos and hours of video of this once-in-twenty-plus-year's event.



Success! OY reaches the summit of Cumbres Pass!



LOCOMOTIVE 168: A LONG JOURNEY HOME

After 82 years, D&RG Locomotive 168 has returned to the rails! After sitting on display in Colorado Springs since 1938, the T-12 4-6-0 was moved to Antonito in early 2016. There, Stathi Pappas and his crew of mechanics disassembled the locomotive and rebuilt it at a cost of about \$500,000 dollars. The Friends of the C&TS provided volunteer labor as well, recreating the wooden cab and pilot.



168 pulling the train carrying President William Howard Taft in Colorado, 1909
FCTS Dorman Collection. RD091-056



In the Antonito shop, 168 was stripped down to essential parts. Stathi says "168 was in remarkably good condition."



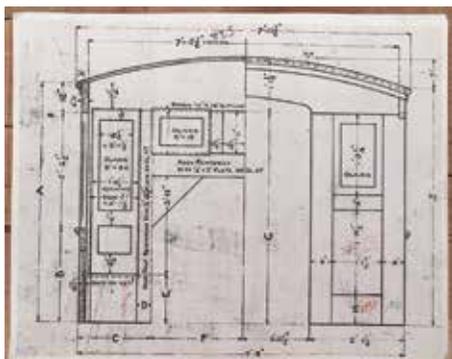
168 was given to the City of Colorado Springs in 1938. It was moved to Antlers Park, across from the D&RGW depot, around 1966. *[Photographer unknown]*



The City of Colorado Springs entered into an agreement with the C&TS for restoration. In April 2016, 168 was moved from the park to the C&TS shop in Antonito.



Weather had damaged the tender and the cab beyond repair so a replica tender was built in Antonito. Stathi Pappas secures one of the new tender's 1,600 rivets.



Working from original D&RG cab drawings, Friends member and master woodworker Craig McMullen and others recreated the cab in his home shop in Colorado Springs.



In April 2019, the cab woodwork was transported to Antonito for final assembly.



Like the cab, the pilot was first assembled in Craig McMullen's home shop.



Little by little, 168 began to look like a real locomotive once again!



The cab's interior and controls are restored and inspected.



Moving under her own power for the first time in over 80 years, 168 emerges from the C&TS shop in Antonito.



Restoration of D&RGW 168 was a tremendous success and would not have been possible without Stathi Pappas and his crew of dedicated mechanics and machinists, the Friends of the Cumbres & Toltec, and the many donors, from large institutions to single individuals who felt that returning No. 168 to operation was important to the Railroad, for history and for the people of the States of Colorado and New Mexico. To all of you, we give a heartfelt **"Thank You!"**

Photos by Don Atkinson, Chris James, Tom Simco and Craig McMullen



OFF THE BUCKET LIST: RECOLLECTIONS OF A ROOKIE RAILCAR RESTORER

BY PETER SANDER

with photos by the author

It's a great feeling to finally cross something off your bucket list. Most bucket list entries are truly one-timers: You do the experience, check it off, and move on to the next one. Sometimes, however, a bucket list challenge can open a whole new world of interest, dedication, loyalty, and commitment.

beautiful Colorado or New Mexico working in the shadow of an operating steam-powered narrow gauge along with others of like mind and interest? I'd like to do that, but could it work for me? It would take some doing; get the time away from work, time away from family along with the financial resources to make something like that happen. It would be at least a nine-day time commitment as well as a financial commitment. Still, when I finally entered semi-retirement with no kids at home and enough of a nest egg to afford a couple of weeks on the road, the die was cast: Yes. I'll do this.

You probably know where I'm headed with this.

Still, I hesitated. What do I know about rebuilding rail cars or laying track? Can I make things out of iron and steel? Hardly. I've only welded twice in my life to make two small centerpieces for my dining room table. Working in 1:87 scale is about as close as I've come to any real railroad work, perhaps qualifying me in some sense to know what to do, but hardly to know how to do it, especially in 1:1 scale. I had a railroad vocabulary, but I didn't have railroad skills. Watching baseball doesn't enable a fan to play the game; why would it be any different for someone who's spent lots of time watching trains?

Since you're reading *C&TS Dispatch*, the magazine of the Friends of the Cumbres & Toltec, you know that the Friends manages some of the most important and in-depth railroad restoration efforts on the planet.

Like many of you, I am a longtime train buff. When I was two, my dad, a commercial artist, brought home a popular Kenner "Girder and Panel Building Set" kit, complete with a section of HO scale track and a train, to build for boxtop photo shoots of the kit. I couldn't take my eyes off the HO gauge cars. One, an orange tank car, came to bed with me repeatedly. Don't ask me how I remember that.

Still, I decided that 2019 was the year. Come hell or high

Fast forwarding through the years, I have watched and ridden a lot of trains. In 1964, at age eight, I was introduced to the Durango & Silverton, a long way from my Cincinnati hometown. I love steam, I love the narrow gauge, and I love Colorado. So naturally when the Cumbres & Toltec came to life, I was elated. But it took a move to California, a job, paid vacation, and time to finally ride the C&TS—which I have now done some eight or nine times since the mid-1980s.



At the beginning of Session G, Rotary OY awaits an eager group of volunteers.

altitude, I was going to join a C&TS volunteer session. Perhaps I couldn't do much more than plant petunias around the Antonito depot, but by golly, I was going to do something.

Along the way I became aware of the Friends. I signed up and started faithfully sending dues each year as a gesture of support for the organization. With that came the *C&TS Dispatch*, filled with enticing pictures of the Work Sessions.

WHO, ME? REBUILD RAILROAD CARS?

My anxiety on the subject of skills, and "would I fit in" rose substantially when I read the *Form R-5 Skill Checklist* on the signup site. On the list: "mechanical maintenance skills" including Railroad Car Trucks, Bearings, Journal Boxes, Air Lines, Wheels and Axles and Brake Systems. Metal work

skills, including Drawing, Fabrication, Sheet Metal, Arc Welding, MIG Welding, Gas Welding, Milling, Lathe, and Casting. Sigh. I didn't have experience with any of these. I don't know how to rebuild air brake systems and have no metal work skills. Fortunately, I do possess moderate woodworking skills from years of restoring my house—table saws, jointers, planers, bandsaws and cabinetry are familiar territory—and wood is abundant in most rail cars of this era. And like most folks, I can paint and garden. I

But wait. Work on a real railroad? Spending a week in

can even mow lawns.

But there was another complication. Four years ago, I was diagnosed with Parkinson's Disease. Now, it isn't too bad, and is mostly controllable by medication, but it's a bit unpredictable and can severely cut into my stamina, especially if standing for long periods of time. I felt it necessary to disclose this and so wrote a cover letter with my application materials.

I took my anxieties right into the project selection process. The "FIDO" database (Friends Integrated Data Online, a system no doubt conceived by a dog owner) does a beautiful job of laying out all the projects and describing the steps and skills required. As a first choice I picked a flatcar rebuild project: flat cars are pretty simple, right? As a second choice I picked a stock car where my woodworking skills might come in handy; and third, an archiving project. As a professional writer; I thought my skills might work there.

But all things considered, I was perfectly prepared to plant petunias; I just wanted to be there for the experience regardless of the work I did.

And to my surprise, I received an e-mail from John Engs, Project Committee Chair and Session Leader, stating that I was assigned to the Rotary Snowplow OY restoration. Now, I didn't even think to bid for that sexy-but-complex piece of equipment. I thought all the other experienced, skilled guys would jump all over that one!

GETTING STARTED

Fast forward to September 22, 2019, the Sunday afternoon before Work Session G in Antonito, Colorado. I arrived on time and on schedule, none the worse for the wear, and ready to go. That afternoon I walked into the Car Shop. I was greeted by Mary Jane Smith and Patty Hanscom, two of the ladies who would be taking care of sign-in, meals, snacks and logistics. They were a hoot! Immediately Mary Jane set out to sell me a C&TS wall calendar for the special volunteer price of \$15. I don't usually buy wall calendars; what little need I have is usually met by the freebie I get every year from my insurance agent. However, with the eyes of dozens of seasoned railroaders upon me, not to mention the hopeful gaze of Mary Jane, how could I say no? So, I got \$15 out of my pocket, took the calendar, signed in, got my name badge, shook a few hands, learned a few names—promptly forgetting them all—and started to look around the shop a little. The Antonito Car Repair Facility is pretty amazing for those of you who haven't seen it. And it's pretty amazing for those of you who have.

I soon shook hands with John Engs whom I corresponded with prior to arrival. He personally welcomed me to the team. He pulled me aside to ask me about my

Parkinson's and assured me that if I needed to take breaks, that would not be a problem. We chatted for a bit about my work experiences and some of the Session G projects. I also spoke with a few more folks, then walked up to the nearby Narrow Gauge Inn motel that, for good reason, is known to locals as the Cinder Block Palace.

That night I went to dinner at the Dos Hermanas Mexican and American Steakhouse, one of the two dinner houses in Antonito. Now, when a group of thirty volunteers converges in a small town like Antonito, and there are only

two restaurants, your odds of meeting others on your team are pretty high. Immediately, Dan Pyzel and Ken Halterman saw my familiar face and asked me to sit down at their table. Ironically, Dan was the project leader on the stock car project I had originally signed up for.

It was obvious they had done many work sessions together and were talking shop in some detail that I couldn't really follow. They were very friendly, but I didn't know quite where to start a conversation. I wanted to ask Dan how he knew in advance what to do on these

projects and plan time and material resources, a challenging task as there is no Home Depot in Antonito. If there was, it wouldn't sell much in the way of railroad-car sized materials. I didn't feel like making them backtrack on their conversation to accommodate the newbie, so I just listened politely and contentedly.

Next morning at 7:30 sharp I reported to the Car Shop.

Almost immediately, John Engs took me under his wing and showed me around the shop and some of the projects, including an exquisitely-milled and machined reproduction of a passenger car truck and wheelset, complete with vintage square-head black iron bolts. He explained that restoration standards mandated the use of these special bolts "anywhere where you can see them." He then showed me the tool room where the square-head black iron bolts, and everything else, was stored.

He introduced me to Marshall Smith, Mary Jane's husband and the king of the tool room, who explained how to check out tools and equipment. Throughout the session I came to enjoy and benefit from Marshall's suggestions, common sense and sense of humor; he always helped me find the right tool, screw or "what not," with plenty of good advice on solving tricky problems. It's hard to imagine how these volunteer sessions would work without the kind help and humor of Marshall and Mary Jane. Husband-and-wife teams like Marshall and Mary Jane are encouraged and work well in the sessions. There are a number of family teams—husband and wife, father and son, mother and daughter, granddad and grandkids—throughout each season of Friends' Work Sessions.



Keith Anderson taps roof boards into place.

As we spoke, most of the other volunteers were in conversation with each other, mainly about past projects. Everyone knew everyone else and had plenty to talk about.

At about 8:30, John called the session to order and promptly introduced me as the only newbie in the session! Wow, all of these folks had done this before? The pressure was on! I was sure I would make a fool of myself for not having real railroad experience.

After a short safety pitch by John Eng, the Site Leader and Safety Coordinator of the Antonito crews and an ex-fire chief, we divvied up into teams and got to work.

OY, WHAT A MACHINE!

Sitting just outside the Antonito Car Shop was the rather larger-than-life Rotary Snowplow OY. Now I had seen pictures of the OY, but I was struck by just how big this 95-year-old machine really was. The tarp covering the roof would have covered a passenger liner, so big that it took several people to get it off.

Don Atkinson, the OY project lead, gave us a little history of the restoration to date and described some of the tasks to be performed during the coming week. The carbody and tender needed to be sanded and prepped for paint, as well as the rotary plow mechanism itself, which had to be stripped of its gray paint with a needle gun. And the carbody roof had to be replaced. Three of us, Keith Anderson, Bryce Templeton and I were assigned to the roof. Minnesota, Texas, and California: a nice geographic mix.

In previous sessions, a team had removed the old roof and replaced some of the gently-curved supporting joists. Our job was to take new 1x6 tongue-and-groove material, specially milled for this project at a facility up in La Jara, Colorado, cut it to length, fit it together and nail it down,



Bryce Templeton, Don Atkinson, and Keith Anderson work on the roof from the scissor lift.

Bryce on the ground cutting pieces to order. Strapped in with a safety line, Keith spent most of his time up top, while I worked a little lower standing on the boiler, sometimes in fairly awkward positions, measuring boards and tapping them into place for Keith to drive home with a three-inch framing nailer.

“Parkinson’s?” What Parkinson’s? I climbed like a kid on that boiler. It was hard work, but it was fun. It might even be a good therapy.



View from the roof: The complexity of framing and building around the steam dome and air pump is evident.

just like installing a floor.

Easy, right? Well, not so fast. Unlike installing your living room floor, there is a steam boiler inside that carbody, and any roof structure over a steam boiler is going to have plenty of openings for a smokestack, steam dome, dynamo, air pump, safety valves, ventilation hatches, and OY was no exception. Each of these openings required building a frame to support board ends, and to cut the boards to fit, often for rounded openings.

We got to work with Keith and me up on the roof and Bryce on the ground cutting pieces to order. Strapped in with a safety line, Keith spent most of his time up top, while I worked a little lower standing on the boiler, sometimes in fairly awkward positions, measuring boards and tapping them into place for Keith to drive home with a three-inch framing nailer.

A DAILY ROUTINE

Every day of the Work Session we gathered at 7:30, started at 8:00, took a break at 10:00, first to rubberneck the departure of westbound Chama train—the roof of the OY afforded an excellent view—then to a regular break. The break snacks, chips, fruit, drinks and coffee were all provided by Patty and Mary Jane. Well-supplied with snacks and sustenance, the breaks were a good way to get out of the ever-persistent high desert sun on the plow’s roof. Of course, we could get out of the sun anytime we wanted to. “Management” was very accommodating to that sort of thing. But we were also anxious to “get ‘er done!”

Lunch was at noon, and again Mary Jane and Patty had put out quite a spread. Every day included a hot lunch of enchiladas or similar concoctions, many of which were prepared all morning in a crock pot, sandwiches,

snacks, cookies, desserts and a vast assortment of beverages.

Back on the rotary after lunch, the framing, cutting, laying 1x6 tongue-and-groove continued; no problem for my woodworking skillset. Others who had never used a table saw or a nail gun soon learned how. Heck, all I really had to know was how to use a tape measure! If there was anything I or anyone else was uncomfortable doing, or if anyone needed a short course on using a tool, finding the right screw or some such, Marshall or Don or anyone else working in the session was glad to help.



Session G Rotary Crew (L to R): Keith Anderson, Peter Sander, Bryce Templeton, Greg Coit, Bill James, Craig McMullen and Don Atkinson

Each of the five days of the Work Session was pretty much of a carbon copy of the previous: start at 8:00, work 'til break, watch the 10:00 train depart and get some snacks and rehydration, lunch at noon, break at 2:00, done at 5:00, motel, shower, dinner in town, early to bed. There really was nothing to do after dinner; most everyone was too pooped to socialize and the TV at the Narrow Gauge Inn had only 15 channels. I had brought a good book, plus it was always nice to walk around the yard at night or early in the morning, watching tomorrow's locomotive switch and simmer.

FINISHING UP

By Friday, the roof was taking shape, and we were all nearly done with our respective Antonito projects. We knocked off at about four that afternoon, rested, and said our farewells to our teammates. We were all tired, sun-baked, and oxygen-deprived by Antonito's 7,900-foot elevation, but like a successful summiting of a mountain, it was a contented tired, joined by a sense of accomplishment and a job well done. I was scheduled to ride the Chama train Sunday, and because there wasn't much else to do so on Saturday, a handful of us stayed to help with "must do" wrap-up projects, such as helping Mary Jane and Patty clean out the refrigerators for the winter and putting a primer coat on the new roof. Don Atkinson gave me moral support as he checked off a long list of little things to get OY ready to move and paint.

I was no longer the newbie. I was part of a bigger thing, a large, well-organized and hard-working group of nice folks with varied skills and common interests. Great projects, great planning, great place, great food, great people, great leadership. And a great week that got a lot done!

Like a proud papa, I look forward to seeing the reborn OY clear Cumbres on February 29th and March 1st, 2020. And I look forward to soon joining another Friends project.

When I do, I'll probably buy another calendar.



Peter Sander is a semi-retired author, researcher, and consultant in the fields of business, location reference and personal finance. He has written over fifty books, including Value Investing for Dummies, 100 Best Stocks to Buy series and 101 Things Everyone Should Know About Economics. He lives in Granite Bay, California.

Original 483 Builder's Plate Donated to the Friends!

The original Baldwin Locomotive Works Builder's Plate for D&RGW Locomotive 483 was donated to the Friends of the Cumbres & Toltec by Ruth Timberlake, widow of the late John "Jack" E. Timberlake III.

Jack's love for trains led to his railroad career working for the Pennsylvania, New York Central and the Denver and Rio Grande. Beginning as a switchman, moving on to trainmaster, consultant, and various management positions, Jack ended his successful career as the Director of Unit Train Operations.

Upon his passing in November, Ruth Timberlake approached Dave Lippincott, President of the Pikes Peak Trolley Museum, the location of the Friends' Colorado Springs shop, to see if they were interested in receiving the plate as one of Jack's many items that he was donating to the Museum. Knowing that the Friends were restoring Locomotive 483 in Chama and recognizing the importance and value of the builder's plate, Lippincott referred Ruth to Craig McMullen



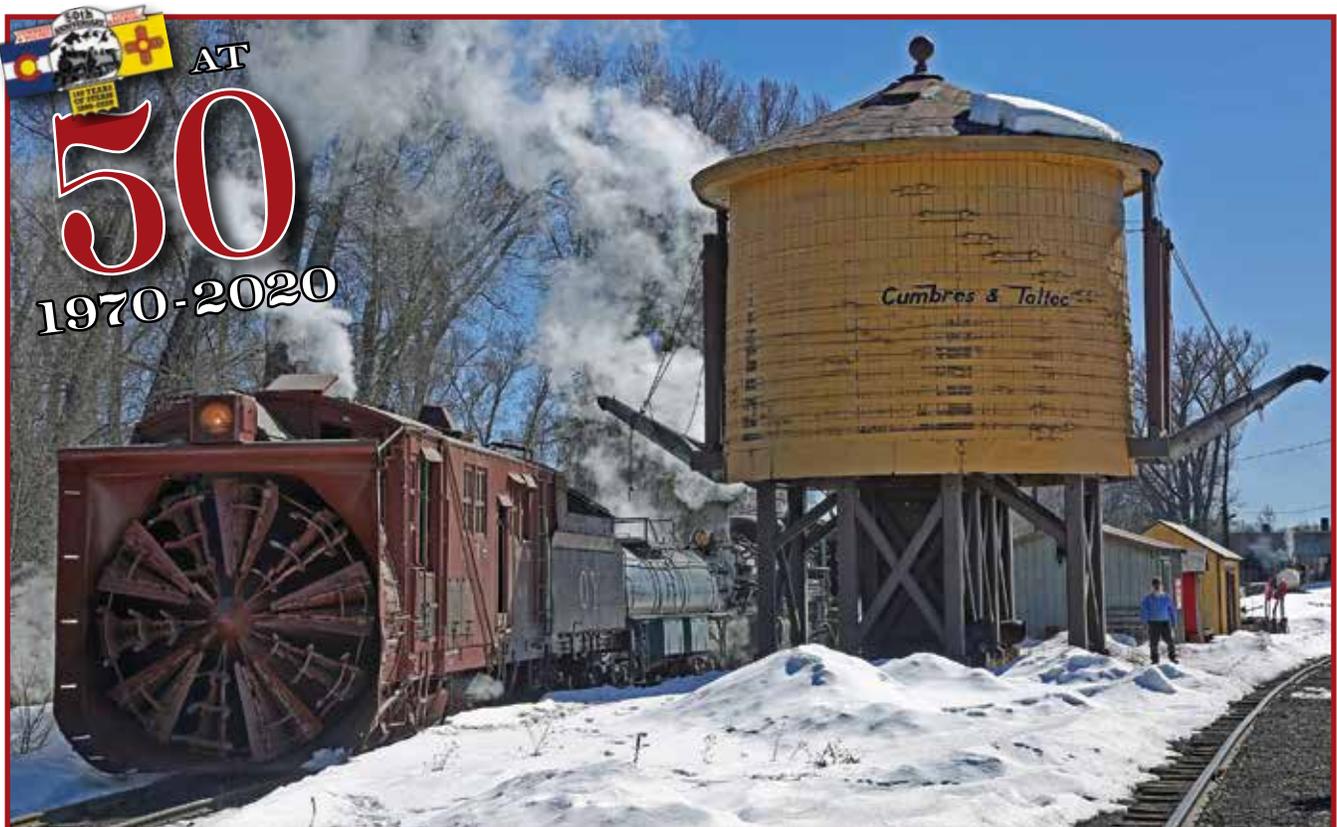
and John Eng. In an informal ceremony at the Trolley Museum, Craig McMullen officially received the donation from Ruth Timberlake.

The Friends of the Cumbres & Toltec thank Ruth for her generosity.



Friends of the Cumbres & Toltec Scenic Railroad, Inc.
4421 McLeod Rd. NE, Suite F
Albuquerque, NM 87109
Return Service Requested

Non-Profit
Organization
U.S. Postage
Paid
Albuquerque, NM
Permit No. 1710



Rotary Snow Plow OY, newly restored to operating condition, prepares to tackle snow on the 4% climb up Cumbres Pass
February 27, 2020. Photo by Don Atkinson

"I know of nowhere else where you can see a railroad running in the same manner, over the same track, with the same equipment and with the same scenery and infrastructure as it was run 100 years ago."

—Bill Lock, Founder, Friends of the Cumbres & Toltec Scenic Railroad