sometimes

Mud Ring Monthly

Cinder Sniffers News

April 2016

CSI's Exhibit at Scale Model Expo, EnterTRAINment Junction, March 5 and 6.

The Cinder Sniffers' locomotive was exhibited this year under arrangements worked out by Carl Schwab and with the help of the Ed Habel Transport Services.
Here, Bill Mense sits ready to answer questions. Note Denis' Tri-Fold display at right.

Jim Keith

"This exhibit was a Grand Slam for publicity . Visitors were just stunned by the size of the train and that you could ride in the woods so close to their home." … Bill Mense after manning the exhibit on Sunday.

New Control Box for Club Locomotive #6509

Just out of view in the page 1 photo of the club engine is this new Control Mechanism.

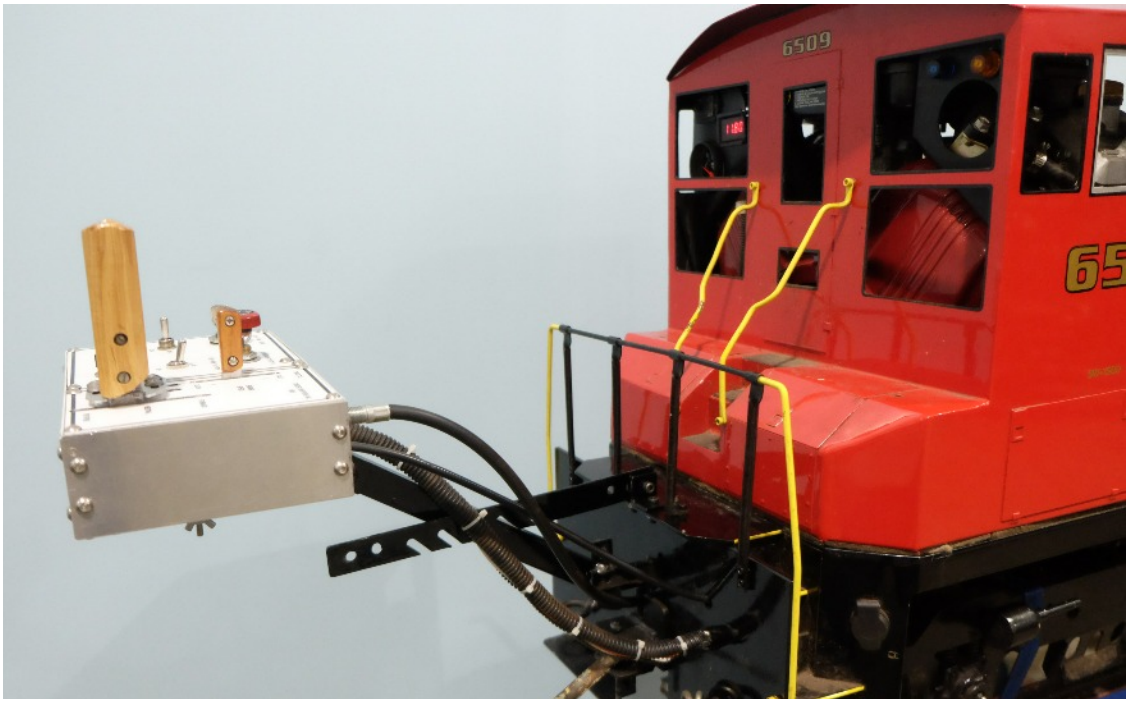
What a beauty . . .

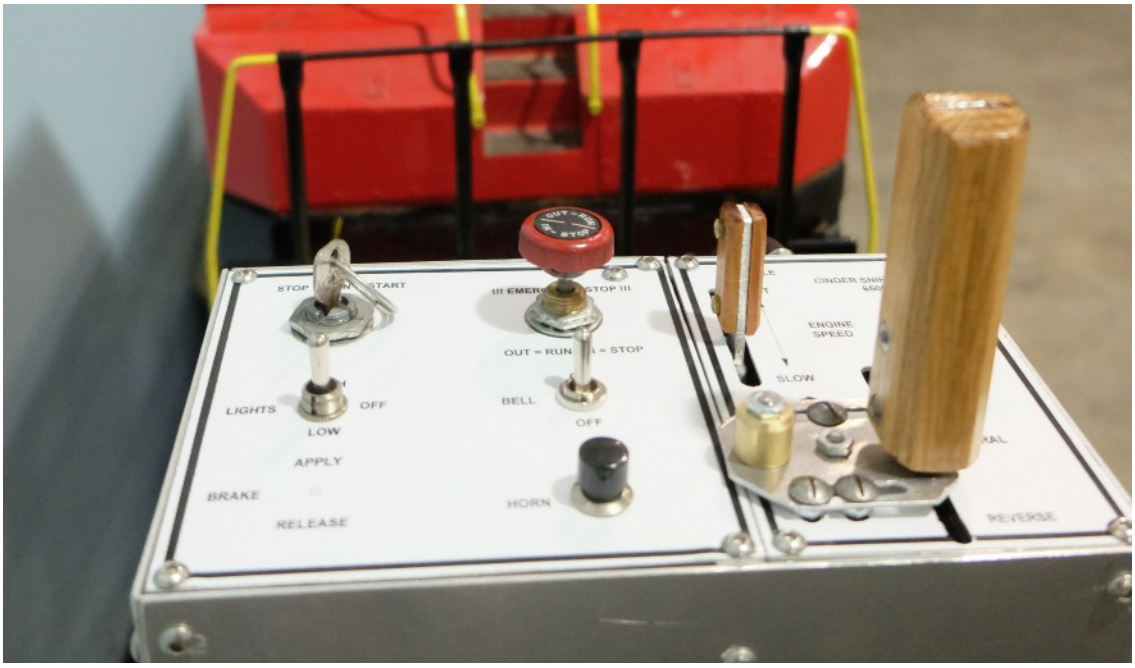
Designed to simulate the control panel of the prototype, all switches and levers are easily at hand … and all are well labeled.

Our thanks for this goes to **Carl Schwab** and to **Chuck Balmer**. Carl noted that a lot of time went into this little box. And I can easily see why; working out the many details can be quite time consuming.

Credit goes to Chuck Balmer for the very neat lettering on the top panel. I gather that it is basically a decal.

It is getting easier and easier to drive #6509. And if you talk to Carl, you'll find that he continues to pursue this goal . . . ***jsk***





Two photos: Jim Keith

Harvey Bond

Harvey Bond has been in the Hospital since Thursday, Mar 24. He continues to fight interstitial lung disease and is requiring suplemental oxygen at increasing rates.

Nancy reports that today, Monday Mar 28, he is doing better and hopes to come home on Wednesday.

Harvey may not be able to take telephone calls but he can read cards and emails. I'm sure he'd be happy to hear from us. His address:

10462 Jesica Lane, #4 , Harrison, OH 45030

Scale Model Expo - A THANK YOU

Club members displaying this year were Car Schwab (his CliShay *Trouble #1*), Stan Hepler and the Balmers. These are large displays and help in setting them up and tearing them down was appreciated. **Chuck Balmer** writes: "I would like to thank Denis Larrick, Bill Mense, Carl Schwab and anyone else that helped us unload, setup and reload our display. It sped up the process and reduced the work load on all of us." . . ***Chuck***

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Trackside Scenery? By Denis Larrick

Here are three pics I pulled off the net of Boneville on the Cedar Point and Lake Erie 36" gage steam railroad in Sandusky. Of course, these are full sized buildings using movie prop skeletons. We could do the same in approximately 2" scale using ones from the Halloween stores. The advantages to this architecture are:

1) NO material cost - use recently cut trees,

2) NO craftsman woodworkers needed,

3) NO maintenance since we sprinkle some termite inhibitor and let nature do its thing.

. . . . ***Denis***

Scale Model Expo

... continued from pgs 1 & 2

Jim Keith

Stan Hepler and **Rich Roesner** win the prize for traveling the farthest .. over 200 miles from Warsaw Indiana .. and bringing Stan's partially constructed D&RGW locomotive #278, tender, boxcar and caboose – all in 1:8 scale, 4-3/4" gauge. This was Stan's 2nd year as an exhibitor.

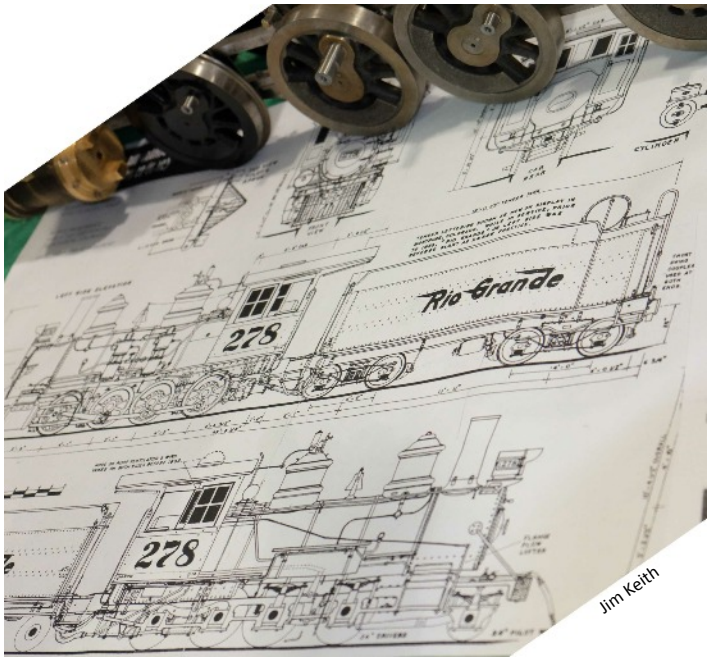
Stan's prototype, built in 1882, is a member of D&RGW's Class C-16, the first of road's Consolidations. It has 37" drivers and 15"x20" cylinders. Interestingly, three C-16s survive, Nos. 223, 268 & 278. About the later, Stan writes:

Thor's Steam World

"#278 was retired in 1953 and donated to Montrose, CO. It has been on display since 1974 in Cimarron, CO on a bridge along with a 3000 series boxcar and a short caboose. **(Photo above-right.)** *It was removed from the bridge in 2011 and has been cosmetically restored for display over the past several years. It was, however, a complete disassembly with a brand new cab and new wood for the tender as well. There are many sources on the Internet and one I am using to help me with my build is* http://www.thorsteamworld.com

"The last I read was that there was some uncertainty about putting it back on the bridge in Cimarron. The boxcar and caboose are also being fully restored. When I saw it on display in Cimarron, it was pretty spectacular sitting on the bridge section over the Cimarron river. We were there in June of 1998 and the snow melt had the river noisily cascading below the train. This was a great place to view it but I guess I would prefer to see it inside where the elements would no longer deteriorate it."

. . . . ***Stan Hepler***



Jim Keith

Scale Model Expo *... continued*

Jim Keith

The **Balmer** trio brought eleven locomotives, a caboose, and who knows how many extras to the exhibit. The C&O Allegheny #1600, **above**, is always a big draw.

On their 5-track stand, **below**, we see three of BLW's latest: The narrow gauge switcher #9301, completed in 2015; the BNSF #9388, completed in 2014 and the Hudson (lowest track) scheduled for completion in 2016. Chuck gave us a run down on the construction/rebuild of the latter in the Jan-Feb-2016 issue of the *Mud Ring* (pp.5-6).

Jim Keith

Jon Payne's Fitchburg Northern

Jon Payne has been busy. Busy completing his Fitchburg Northern*. Jon writes:

"The locomotive is coming along nicely and I am about ready to set the boiler permanently. Then comes plumbing finishing the cab and detail work. I am out in the shop almost every night when I am in town. I have the passion back to get the locomotive finished and I'm sure Dad would be proud!!

"The boiler jacket is stainless and then painted with very high temperature (VHT) flameproof automotive paint that is capable of withstanding temperatures of up to 2000°F.

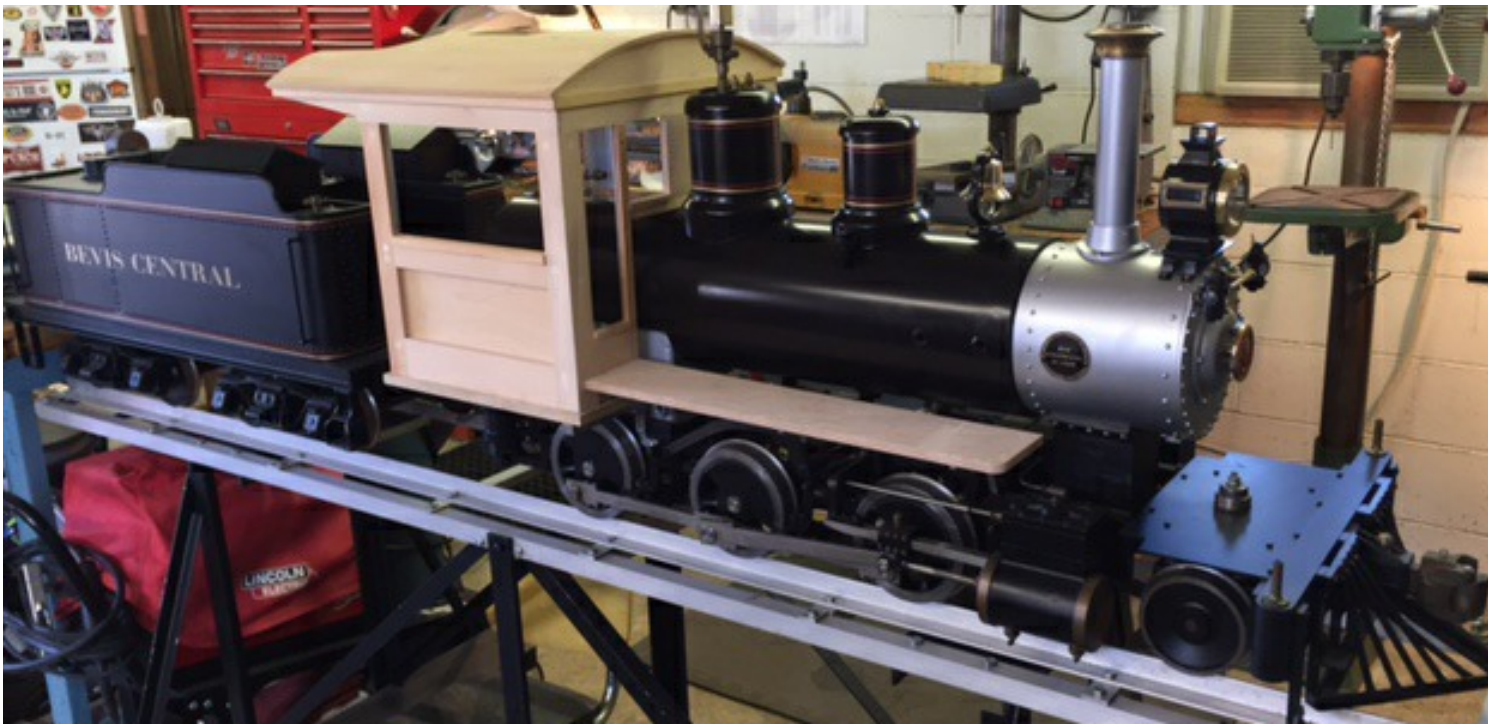
"I have decided to go with the silver firebox and smokebox after my trip to the Colorado Railroad Museum several weeks ago **(See photo of C-18 #318 below)**." . . . . . ***Jon Payne***

Good work Jon. The cab is beautiful. ... we'll expect to see your new loco at the track in the not-to-distant future. ... jsk

——————-

* Described in a series of articles in Live Steam Magazine by Tom Rhodes between Feb 1988 & April 1991

Four photos, Jon Payne



The Extra Board

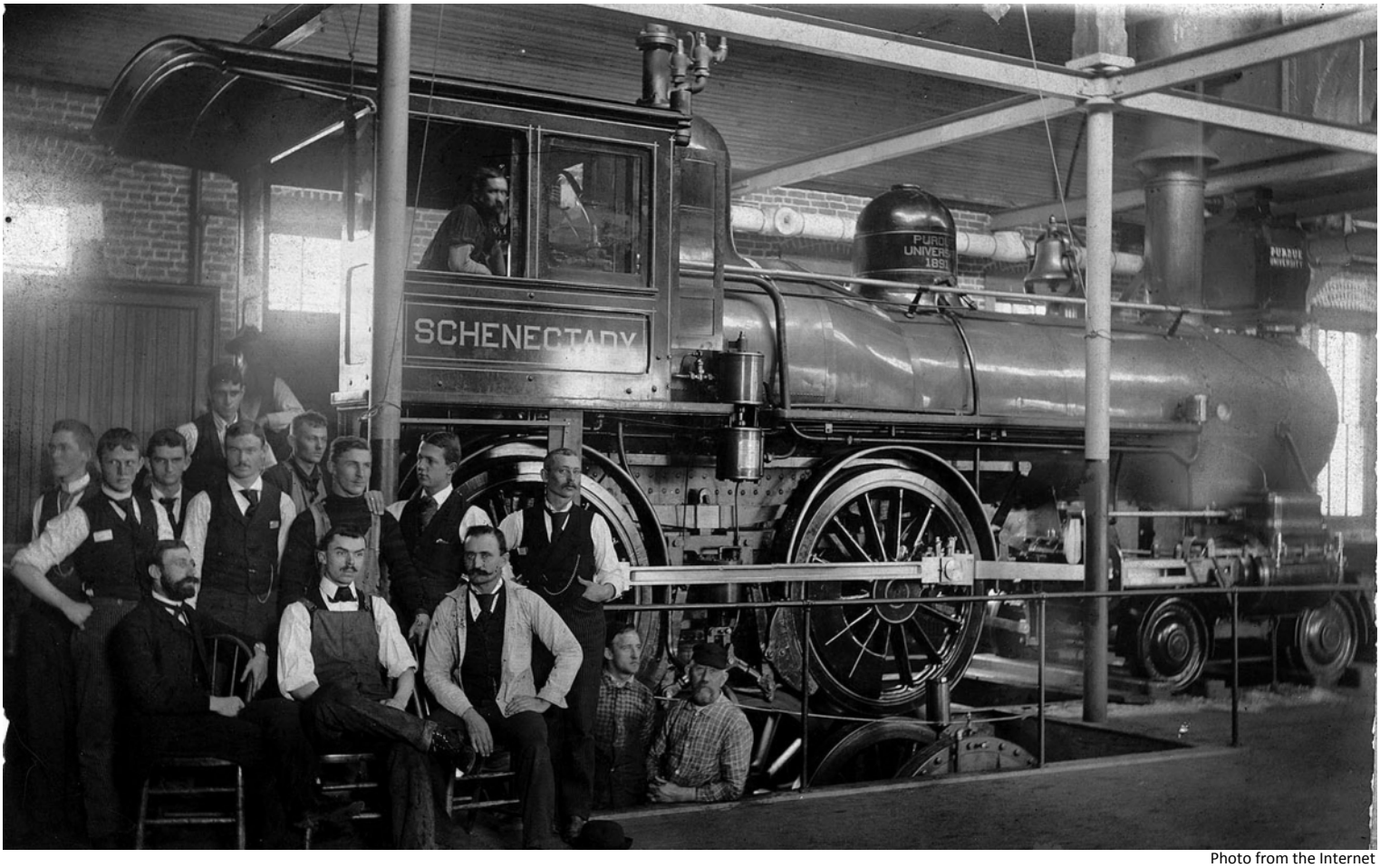


Photo from the Internet

The Steam Engine that Went to College

(Title courtesy Denis Larrick[1])

Yes, to college it did go ... but I'm not sure it was a smooth ride.

In September 1891, as there were no tracks yet to the Purdue University campus, the above locomotive was delivered to a siding about one mile away from the newly constructed locomotive test plant. Delivery of the engine "*aroused great enthusiasm on the part of the students*" writes Professor Goss. "*Out of respect ... a holiday was declared and a call was made for volunteers to assist in receiving the engine and starting it on its overland journey.*" The route to be taken, about a mile and a half, was "*over slightly rolling farm land on which a wheat crop had been taken eight to ten weeks previous.*"

After a day of little progress, three skids were built, each consisting of a pair of 5x12 yellow-pine timbers for skids, 2x12 ties and 56 lb rails. "*Reorganized forces included three pairs of horses with drivers and two or three men to handle blocking. One pair of horses was employed to give forward movement to the engine; a second to draw the skids one after another from rear to front; and the third to pull the heel of the advancing skid into line with the one previously placed. ... On the 8th working day after the start the engine arrived at the laboratory without accident and without having once touched the ground.*"

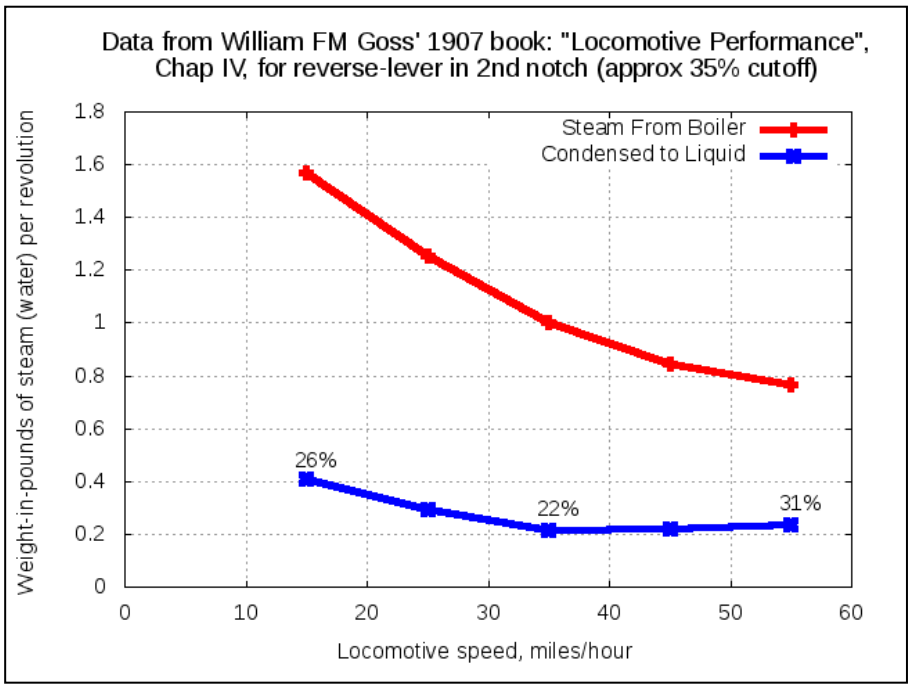
So marked the beginning of the first full scale stationary locomotive test plant. PRR's famous Altoona plant would not appear for another 13 years.

All of this is documented in the book: *Locomotive Performance, The Result of a series of Researches Conducted by the Engineering Laboratory of Purdue University* by William FM Goss. I borrowed a copy form the Cincinnati library. (An original copy listed for $450 on Amazon; but "facsimile" reprints are reasonably priced.)

Continued next page =>

The Extra Board *... continued*

"*Schenectady*" as the locomotive was named, after its builder 'The Schenectady Locomotive Works', was a **single expansion** engine. It was delivered, however, at a time when there was increasing interest in finding a way to reduce or eliminate condensation losses. *And* at a time when Samuel Vauclain of the Baldwin Locomotive Works was busy selling his patented "**Vauclain Compound**" arrangement.



Condensation losses, you say?

When (non-superheated) steam from the boiler enters the cylinders some of it immediately condenses on the cylinder and piston surfaces because they are cooler than the entering steam.

Why are they cooler?

Because, when the steam is expanded, either during the power stroke with early cut-off or during the exhaust stroke, it becomes cooler as its pressure is reduced. **[This is true of any gas .. think of air becoming hotter as it is compressed .. it works both ways.]** The cylinder walls take on a sort of average of the entry and exhaust temperatures. At 100 psi, the evaporation/condensation (boiling) temperature is 338 °F; at ambient pressure, this temperature is 212 °F. Thus, without superheat, the cylinder wall temperature will be somewhere between these two limits. Condensation occurs upon steam's entry to the cylinder at boiler pressure. Then re-evaporation occurs when the pressure in the cylinder drops and the walls are then hotter than the liquid condensate.

Just how significant are these condensation losses? Should railroad officials be concerned about them?

The chart to the right tells the story (at least in part). In the Purdue tests, 22% to 31% of the admitted steam was condensed (in the cylinder) by the time the influx of steam to the cylinder was "cutoff" (valve closed). At this point, the piston had traversed approximately 35% of its stroke.

As an example, if we assume 25% of the volume of steam is lost to condensation, then only 75% remains as vapor and more steam must be admitted to make up for it. 33% more if you work out the math. Or a 1.33 '**ratio'** of actual-steam / steam-required-if-there-were-no-condensation.

That, in part, is what the compounding fuss was about. If the pressure drop was *split* between two *compound* cylinders, i.e., high pressure and low pressure cylinders, this would reduce the temperature excursions in the cylinders and likewise the condensation. Additionally, the losses in stage one could be partially recovered in stage two since the stage one condensate re-evaporates before entry to stage two.

But compounding was not to win the day; experiments with superheaters began in the early 1900s. In 1910 the Superheater Company was formed and they brought standardization to the device that proved much more effective than compounding.

Interestingly, condensation in small locomotives might be even more significant. Experiments carried out by Bill Hall[2] in England yielded "actual to that-required-if-there-were-no-condensation" steam ratios as high as **2.5** for a 1.27" bore x 2" stroke engine with un-superheated steam.

This ratio is enough to make you think a bit. But no matter, many say, "*We'll just add a little more coal to the fire and not worry.*" ... **jsk**

Credits:

1. The December 1994 issue of Modeltec carried the article "*A Smokebox Went to College*" by Denis Larrick. His article was also based on the WFM Goss' book.

2. WB Hall: *Measuring Steam Engine Performance*: Society of Model and Experimental Engineers Journal, Jan 1998