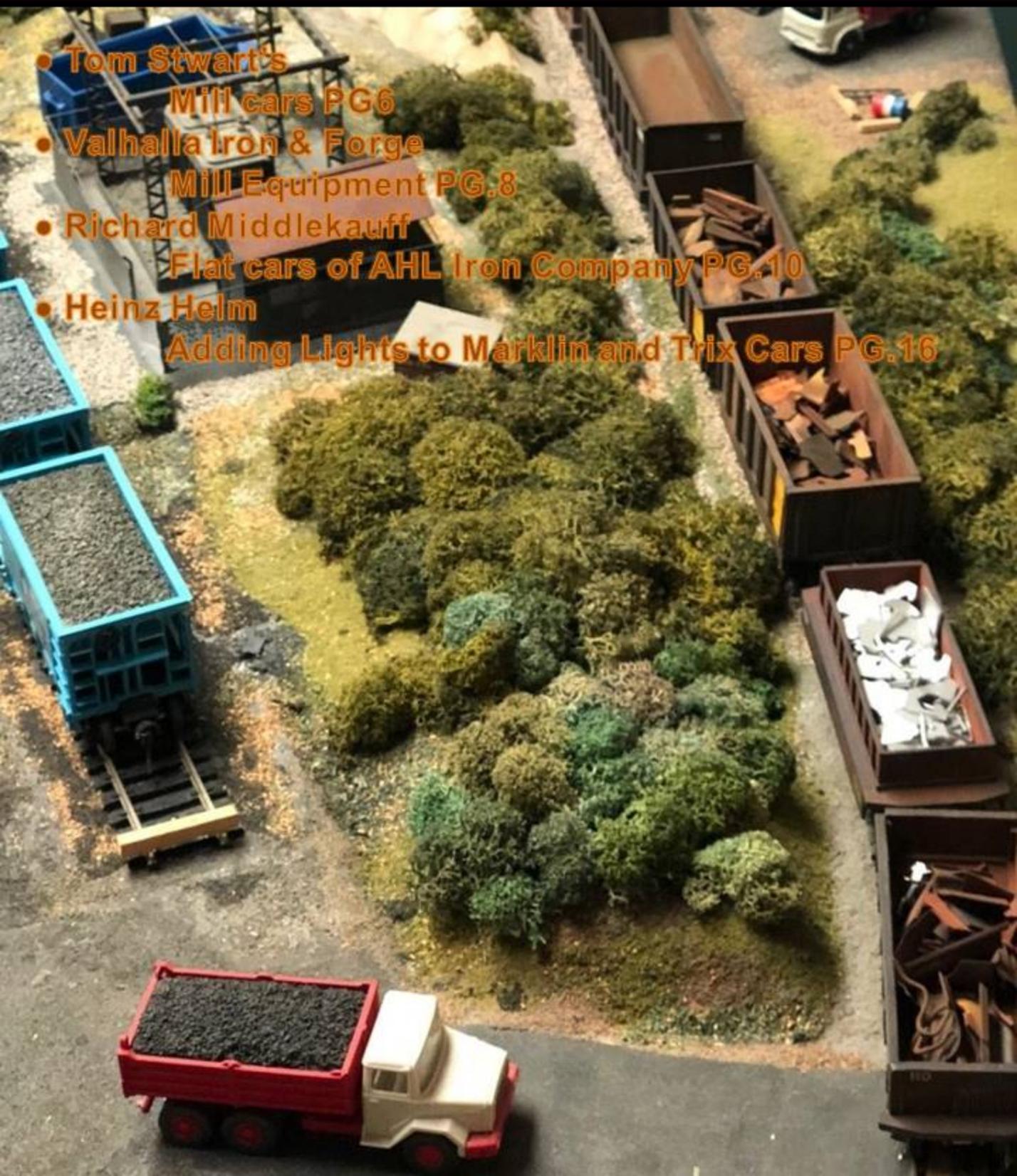


THE MILL

July 2019
Vol 3 Num 3

- Tom Stewart's
Mill cars PG.6
- Valhalla Iron & Forge
Mill Equipment PG.8
- Richard Middlekauff
Flat cars of AHL Iron Company PG.10
- Heinz Helm
Adding Lights to Marklin and Trix Cars PG.16



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The Mill

The Mill is a publication of the Steel Mill Modeling and Steel Mill Pictorial groups and is sent out to the readers quarterly. The Mill is only available in PDF format and is free to subscribe.

History

The Steel Mill Modeling group was founded on October 21, 2014,
July 1st, 2019: 1,648 members
<https://www.facebook.com/groups/708840849171343/>

The Steel Mill Pictorial group was founded July 14, 2017,
July 1st, 2019: 639 members
<https://www.facebook.com/groups/1561038727264008/>

To Sign Up

To sign up to receive the newsletter, send an email to Don Dunn at don_csx@hotmail.com.

The Purpose

This newsletter is to recognize the members of the steel mill community that would like to share their modeling ideas, on how-to builds of steel mills and equipment and the members who like to share their knowledge of the steel industry in general. This also includes industries that support the steel industry including coal, lime store, slag, coke, etc.

Thank You

I like to thank the members of the Steel Mill Modeling Group, Steel Mill Pictorial Group and the Yahoo Steel Mill Group for what you all have done to make this newsletter possible. Thank you all who have contributed to passed and future issues of The Mill Newsletter.

As Always Take Care, Stay Safe, Happy Modeling and God Bless you all.

Don Dunn
Editor

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Cover

String of Tom Stewart's scrap cars on his dad's HO scale layout.

In this issue

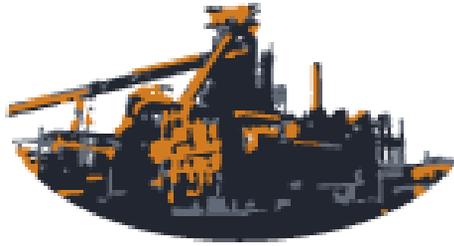
- PG 6 Mill equipment by Tom Stewart
- PG 8 Equipment of Valhalla Iron & Forge
- PG 10 Flat cars of Ahl Iron Company By Rich Middlekauff.
- PG 16 Adding Lights to Marklin and Trix Slag Cars By Heinz Helm
- PG 30 Resource pages

Submission information

Any one who would like to submit pictures, articles, club news, upcoming shows or evens to be placed in future issues of The Mill, please send an email to don_csx@hotmail.com. Pictures used have be of your own collection or used with permission. When submitting pictures the bigger the better for detail purposes.

All pictures in The Mill are used with permission. If there are any questions concerning pictures used please send them to don_csx@hotmail.com and the question will be forwarded to the contributor of the photo.

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STEEL MILL MODELERS

A SPECIAL INTEREST GROUP (SIG) OF THE NATIONAL MODEL RAILROAD ASSOCIATION

MEMBER BENEFITS

- Priority registration for events.
- Annual Steel Mill Modelers Meet – The annual meet is held some time from mid-August through Labor Day weekend from Thursday evening through Sunday morning and features steel mill modeling clinics, layout tours and where possible prototype tours.
- Quarterly “Steel Mill Modelers Journal” – The journal serves as the official newsletter to members and contains articles and data that pertains’ to steel mill design, operations and modeling. Also featured are product releases and how to find information.
- Clinic Slides and Presentation Material – Presentations from the annual meet are available.
- Plant Directory – Have your layout listed in the steel mill plant directory. Use this directory to contact other modelers who have steel mill operations on their layout.
- Reference Exchange – Share blue prints, photos, reference materials, member designed and constructed unique steel mill features and details.
- Dean Freytag award – Be judged by your peers and earn this prestigious award at the annual meet for excellence in steel mill modeling.

DUES

- \$60.00 per year for US members
- \$75.00 per year for International members (the additional dues for international members barely covers the cost of postage to send out the Journal).

For more information on dues, member benefits, membership, and the annual meet please contact the SMMSIG

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Another shot of the Weirton bottle train passing scrap and stone cars



Details of some different scrap loads.



Details of some different scrap loads.



Details of some different scrap loads.



Kitbashed Athearn Hustler A & B units with ingot buggies. a



Kitbashed Athearn Hustler A & B units with ingot buggies. a



Republic S2 shove an EAF scrap bucket back to the furnace



RSC Alco hauls scrap cars past busy yard



Some loaded scrap cars in STD gons b



The cow-calf set passes SBRR S4 moving a bottle car.



These are some resin press parts I found on eBay. SBRR hauls the finished parts from the machine shop to the assembly shop where they will be test fit before shipping out on PRR HD flats. a



These are some resin press parts I found on eBay. SBRR hauls the finished parts from the machine shop to the assembly shop where they will be test fit before shipping out on PRR HD flats. c

Equipment of Valhalla Iron & Forge



Walthers Terex kit bashing of their Quarry truck into super three hundred ton lowboy for ingots & forgings.



Bilt Right 6500 material handler with added details.



Imagineered Kress scrap box carrier using HO Norscot 627G front end, the rest is scratch built.



Four quarry trucks (3 Boley & 1 Kibri) scratch/bashed into high volume dump bodies for scrap yard to EAF service.



Kress Corp SC-300T Slab Carrier. This model took about two months to build. Again using HO Norscot 627G as a starting point. Can be found working in steel mills around the world.



Kress Corp LE-320C scrap box carrier. Again using the HO Norscot 627G front end as a base model. The real machine can be found at Arizona Slag in Phoenix, Arizona USA.



Second attempt at replicating a Liebherr R974B wheeled material handler. It and the other material handlers started life as HO KDW die cast material handlers.



Three KDW material handlers bashed into new beast of burden. The one on the left is my version of a Caterpillar Pierce Pacific 350M, in the middle the first try at a Liebherr R974B, the one on the right is my version of an elevated cab/crawler material handler.



All three in different angle.



Dinky size safety car. Built using an old Roundhouse Ore Car as a base model.



Scratch built six axle heavy duty in plant service scrap bucket car.



Putman Locomotive Works & Proto 2000 Alco T6 Unit 420. Got a soft spot for anything Alco powered. This build took three months of work.

What's on the bench!

Flat cars of AHL Iron Company By Rich Middlekauff

When Mr. Dunn asked me to do an article for the The Mill Newsletter I had to think about what I wanted to talk about. I have been a model railroader for nearly 50 years and a steel mill modeler for the last 35. I am an average builder with average skills with a wide variety of kit bash and scratch built cars on my layout. The one car I feel is the most versatile, adaptable and useful car for a steel mill modeler is the 4 truck heavy duty flat car. Most of us have versions of it made by Athearn, either as the Blue Box kit or the newer ready to run version but the model itself has been offered by AHM, BACHMANN, Crown and Hotco to name a few. And they are offered in the four 2 axle truck or two 3 axle truck versions. I have at any given time at least ten of these on my layout in different forms for different uses. Anytime I go to a show, flea market or hobby shop I am always on the lookout for these little beauties. Here are some examples of my attempts for around the mill.....

Basic Car

The basic car with no modification looks good as an empty flat in a train. You can plop a heavy load on top of it such as incoming equipment or machinery or outgoing finished product. I have added covers on some of my basic cars so it looks like it is doing just that without having to build the equipment. Weathering on these models is usually minimal.



Large Ingot Car

Before I built my version of the Iron Hill Flat Car I used the heavy duty flats for transporting monster ingots to the forge. I used big plastruct I beams as cradles and later used some cradles that I casted for the Iron Hill Flat Car. I typically paint out with flat black the original owner of the car if I am leaving it in its original paint, a couple of coats of thinned grime paint over the entire car, some weathering powders on the trucks and sides and the heaps of crap on the deck of the car. Mill cars seem to end up with a debris field on them so I use actual used sand with slag from a local forge company a friend gave me years ago. I add some rust colored powder, rust scale from abandoned cars I dug off and maybe a railroad tie or two, seal it with dull coat, paint some numbers on it and put it to work!! On cars that I do paint I usually shoot them with Testors Chalkboard Flat Black. It dries quickly, covers well and since it has a surface texture all weathering powders stick to it very well.





Well Center Car

Years ago while at a train show I came across a brass model of a well car. It was big, beautiful and expensive. I took a couple of photos, went home and promptly cut a heavy duty flat in half. I used Evergreen strip stock and sheet plastic to build the well area and sides. I recently made a cover for it so I can depict it hauling out finished forgings.



Slab Car

Using Evergreen I beam stock strips, any size you think is enough to get the slabs off the deck is correct, I measured the width of the deck, cut to fit and glued them on by rule of thumb, if it looks ragged and poorly cut then it is thumbs up. Add paint, grime, rust, cover the deck in a layer of sand, slag and/or debris and hand paint a number on the ends and sides and you have an in-plant slab car.





High Riser Slab Car

After coming across some high riser slab cars that were built on old heavy duty steam tender frames I figure the flat car would make a good stand in. I made the risers out of .060 sheet plastic. Each riser set is 30mm long and each of the five pieces is 10mm wide. I rounded the ends on three of the pieces and glued them together as a unit. I then glued the four units to the deck using eyeball measurements (cause hey it's a mill car!), painted everything chalkboard black. I dry brushed texture paint in mud and rust colors, liberally applied rust power, smeared glues on all flat surfaces of the deck and heaped on a bunch of slag. This was a one evening project and I have since put on metal wheels and couplers. Runs great, looks like crap and is a perfect addition the mill.





In closing the sky is the limit with these cars in a mill setting. They are so adaptable and typically have a herd of wheels under them that just fit so well in the mill. Now get to building, grubbing out yer cars and bangin' them around! We got steel to make!

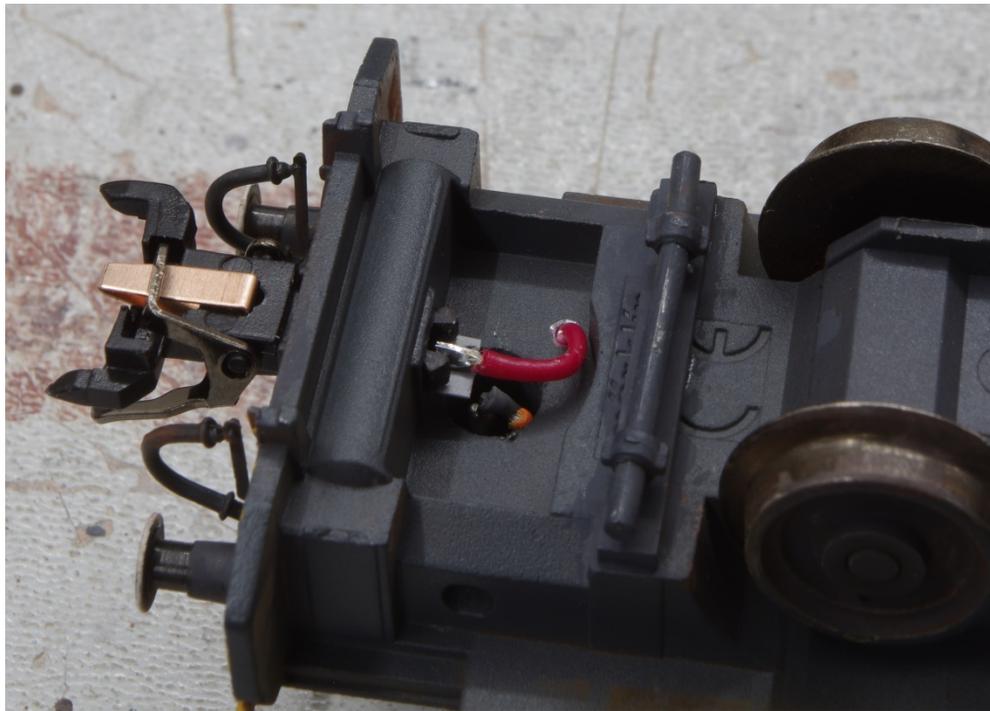
Rich Middlekauff

CEO, Owner and Head Glue Sniffer for the Ahl Iron Company

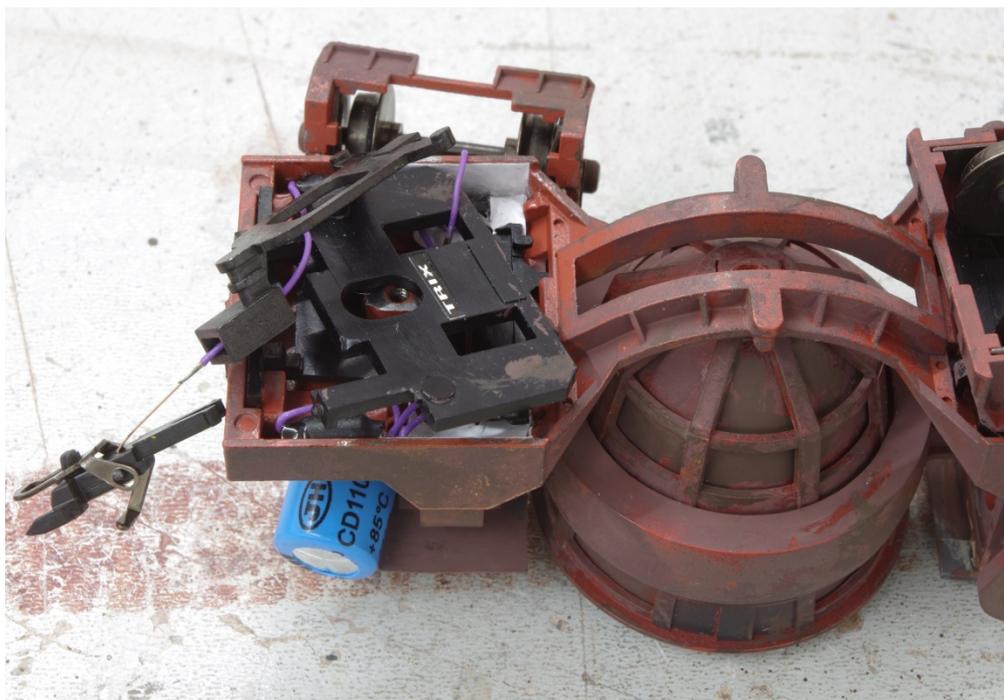
What's on the bench!

Adding Lights to Märklin and Trix Slag Cars By Heinz Helm

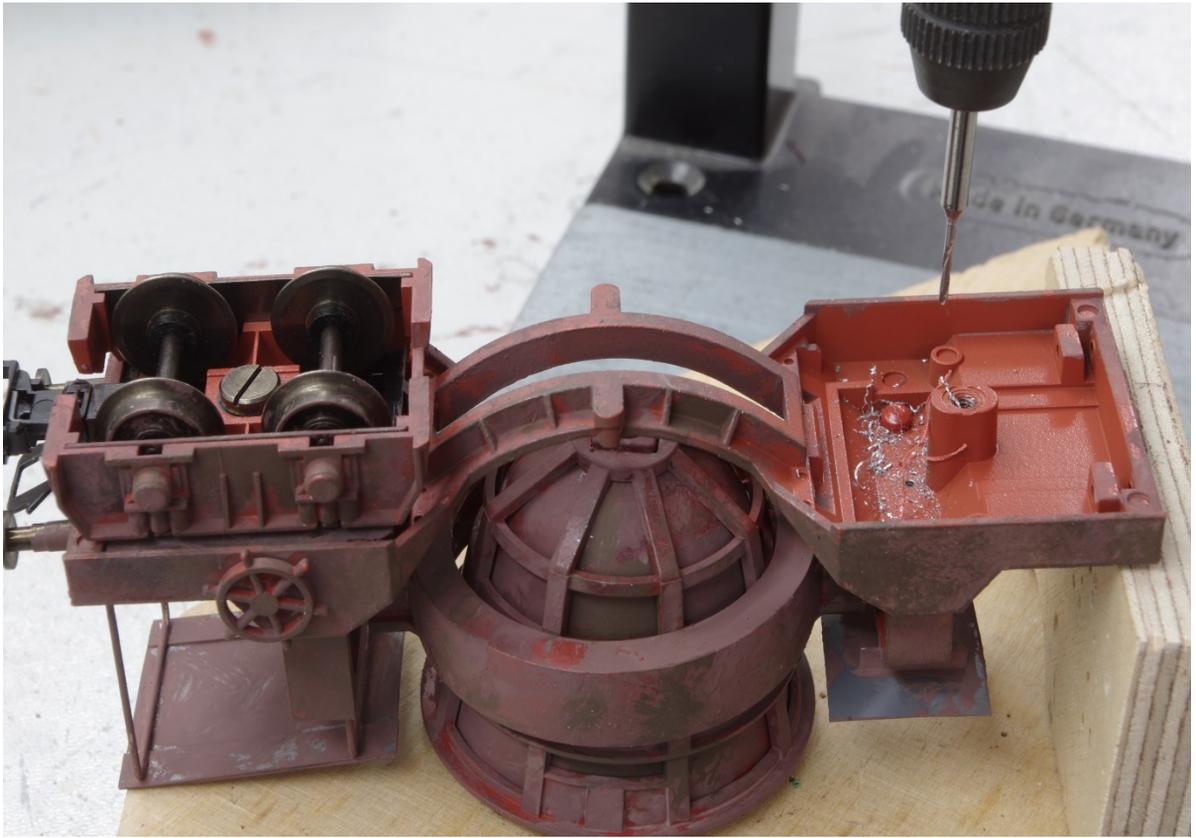
As I'm using the Märklin system on my layout, lightening cars requires a pick-up shoe beneath the axles. But the slag cars don't offer any space for a pickup, so I mounted current-conducting couplers to the loco and a car



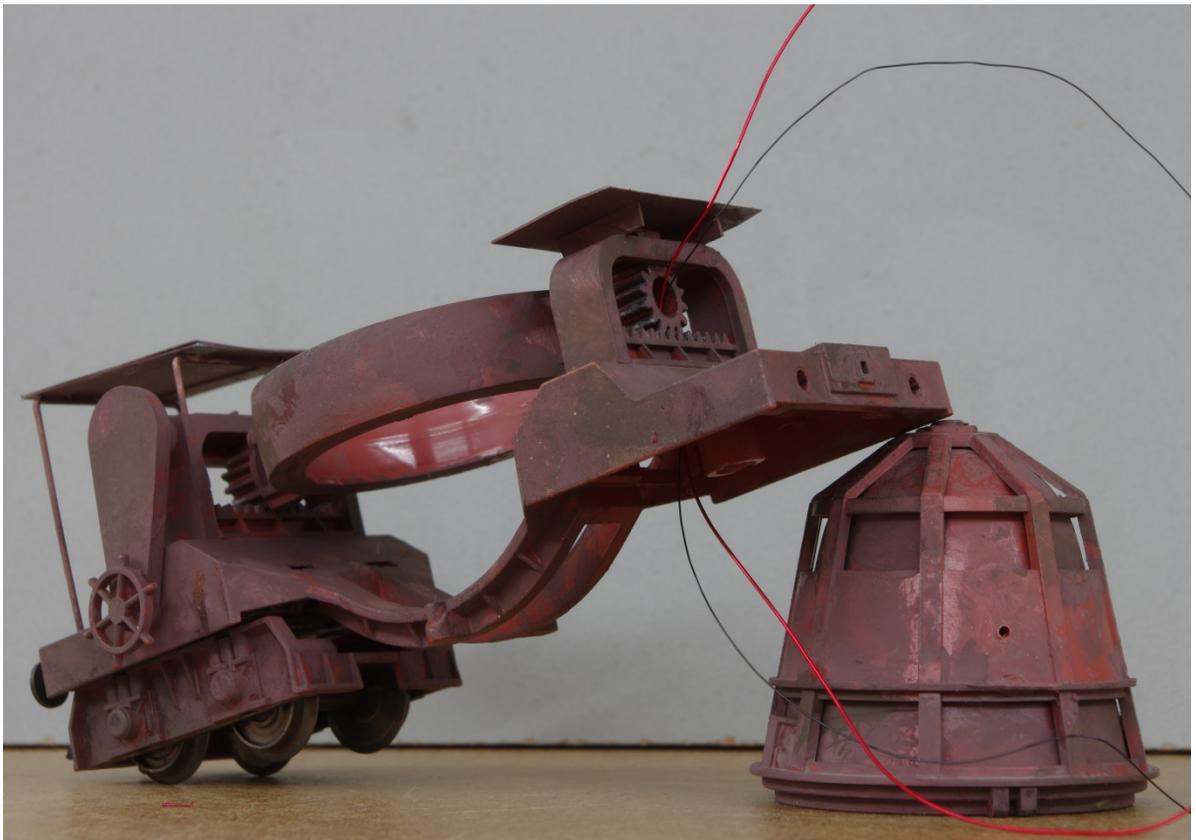
Getting a wire through that close coupling mechanism was a little tricky. Those two cars have been standing around for years, so I didn't remember any more that one is from Märklin and the other one comes from Trix. The Märklin one has no close couplers and in my infinite wisdom I choose the difficult Trix one to pull a cable through.....



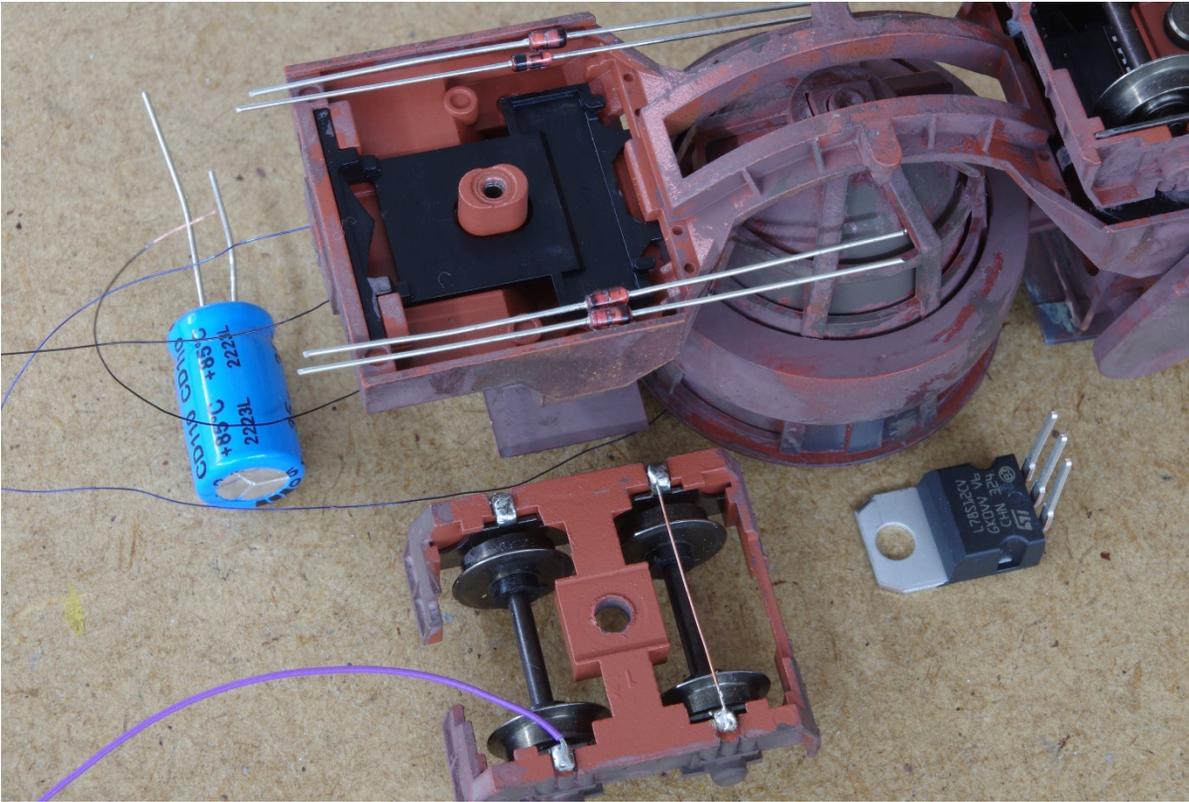
Small hole for wires drilled through the metal chassis



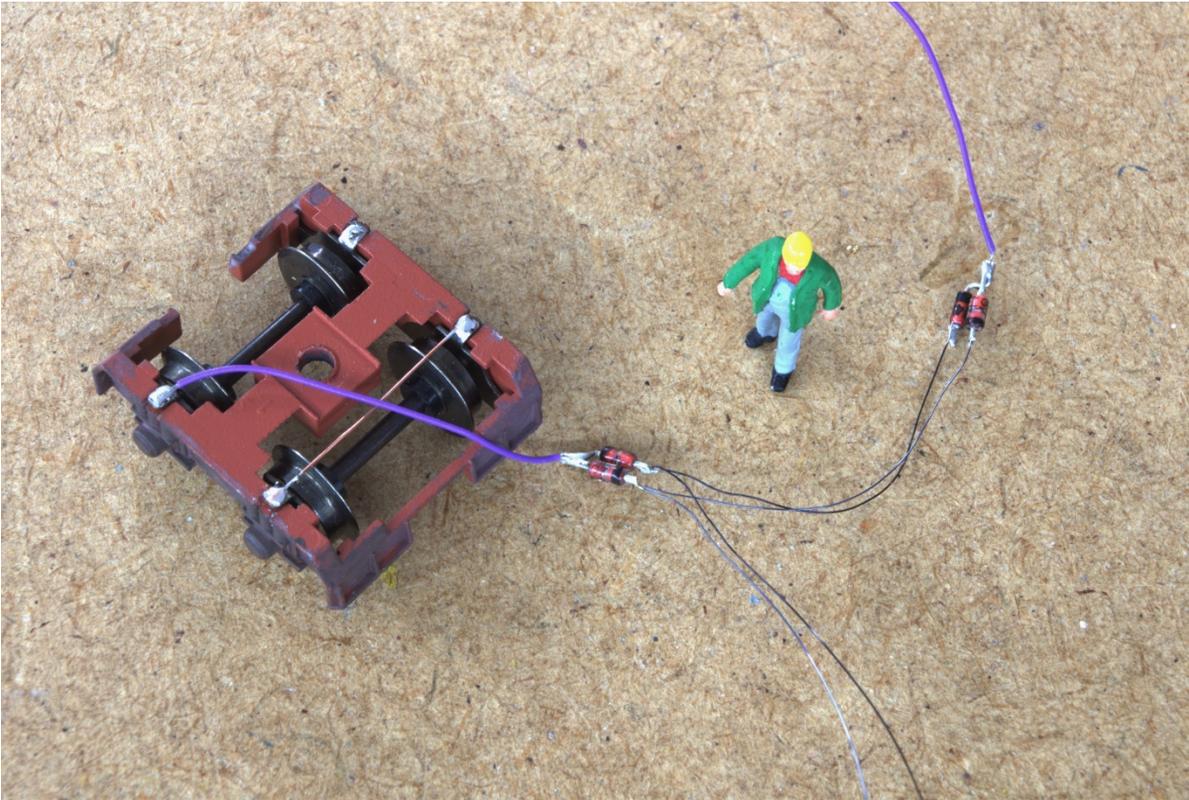
I locked the moveable axle of the ladles and drilled a hole right through the gears to get wiring invisible



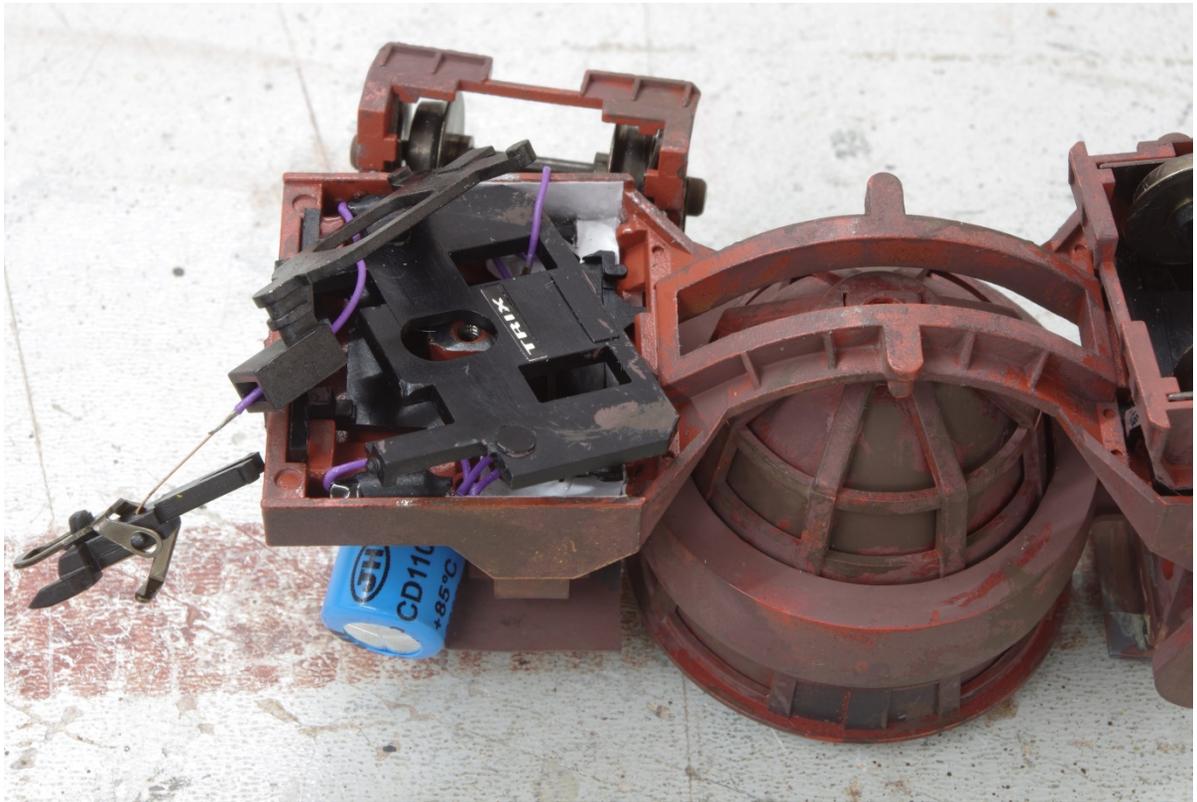
As the layout runs on Märklin 3-rail AC digital system, I cautiously use some electronic components to make power useable for LEDs. It's four diodes connected as a bridge rectifier, a condenser and a voltage regulator.



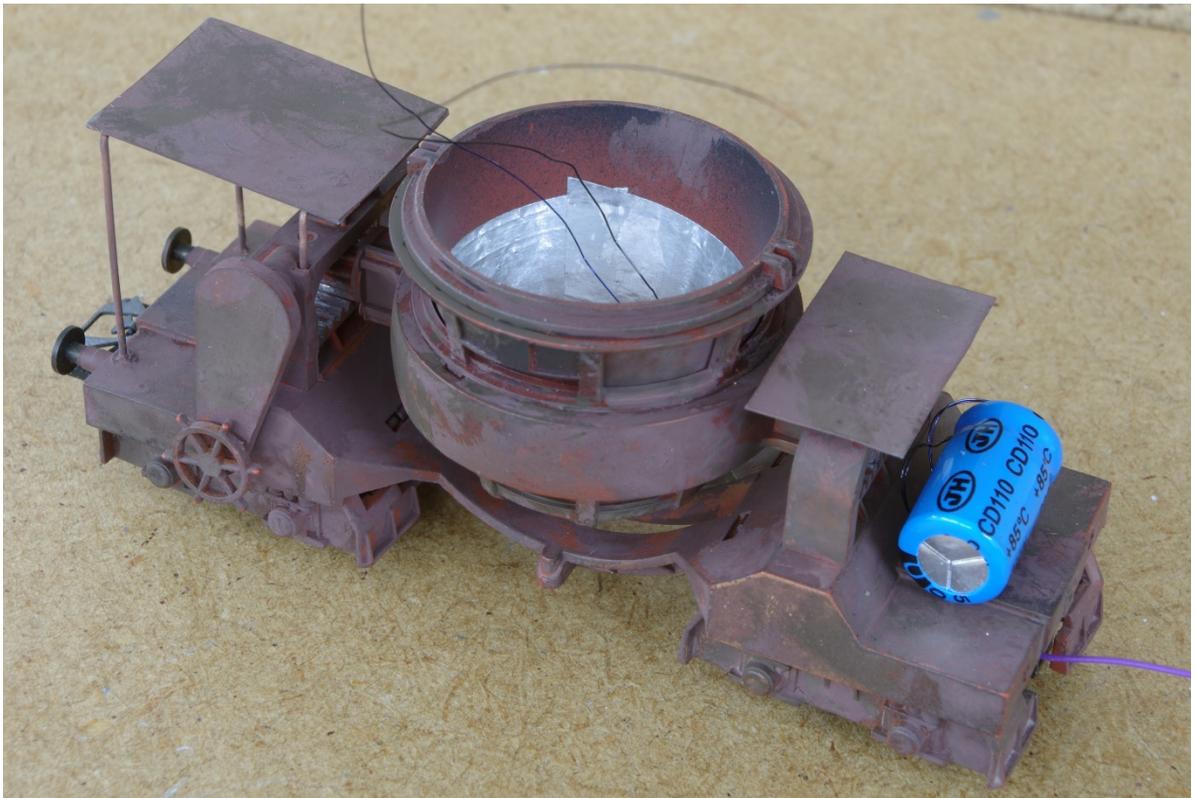
Rectifier is connected to wheels respectively to the current conducting coupler.



It's a little arduous to pack diodes and wiring under the short coupling mechanism...



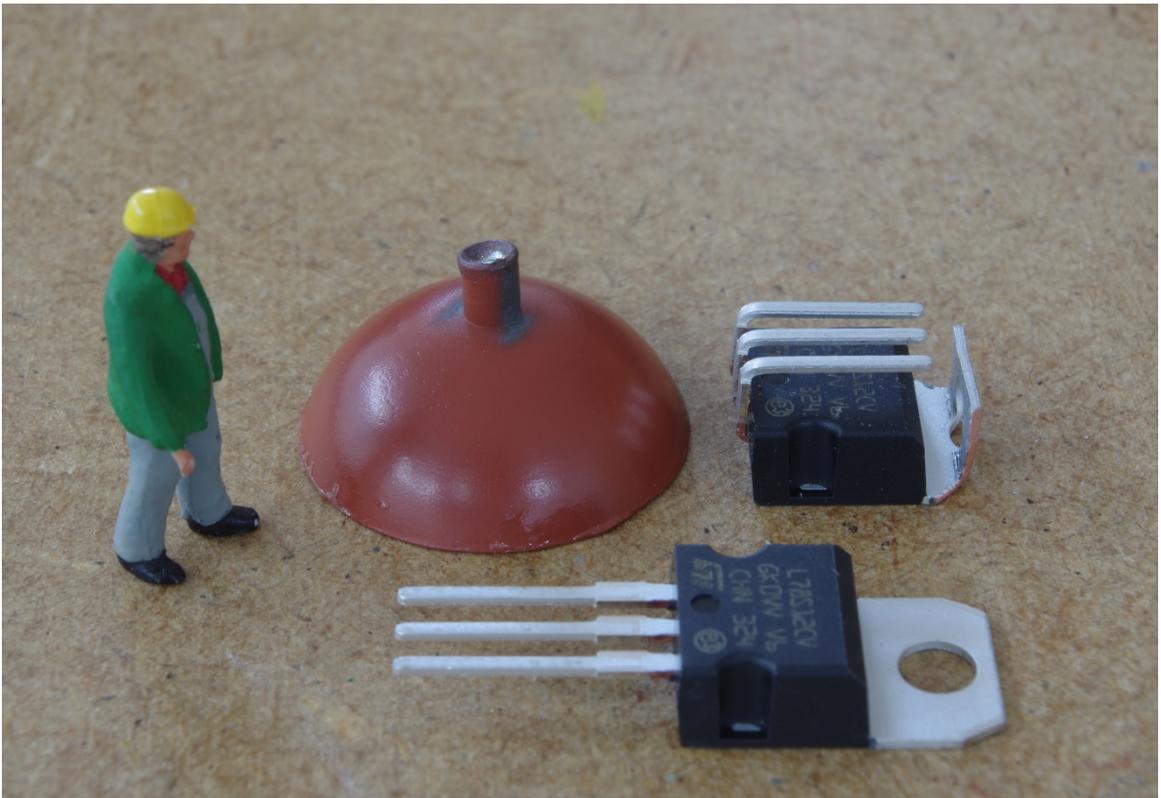
Some aluminum sheet is glued around the ladle's wall for better light reflection. There is no space left for the condenser, so it must be placed on the carriage.



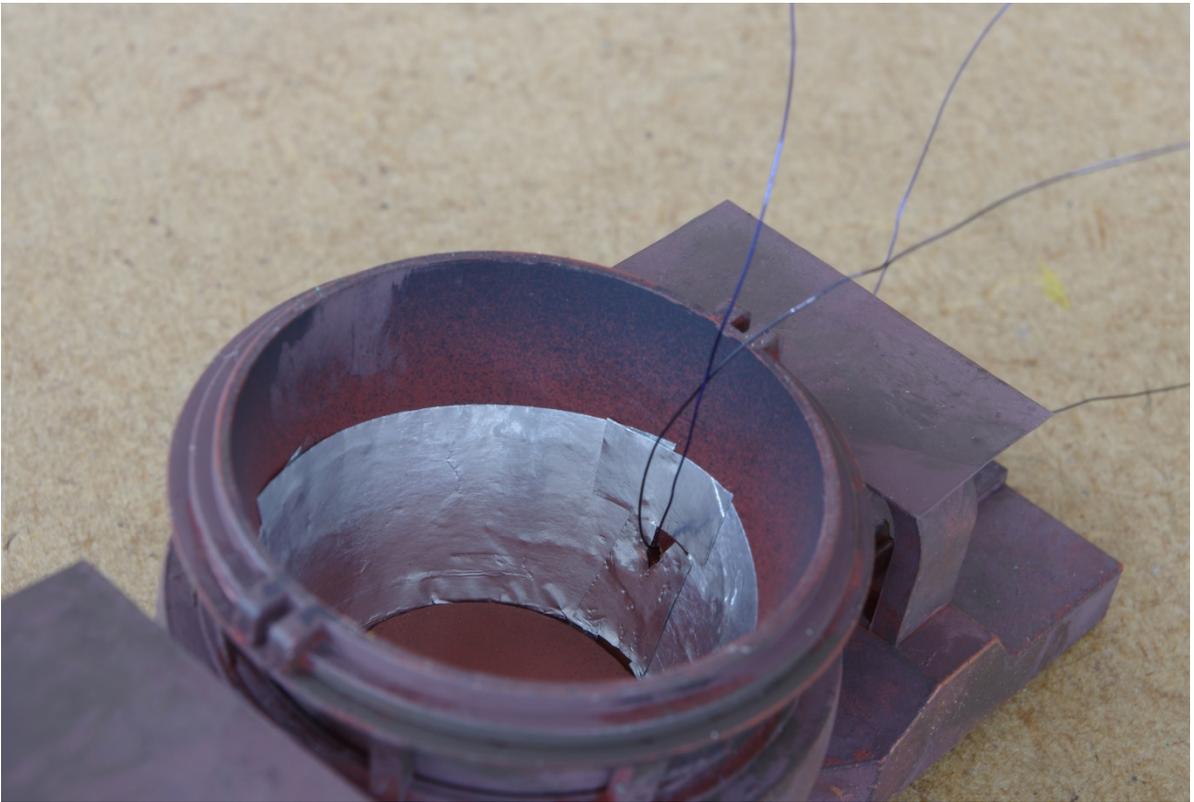
A little scratched box will hide the condenser



There is a weight riveted in the bottom of the ladle. I drilled it out and folded the voltage regulator, so it would fit in the weight's space.



Two thin insulated wires bring power into the ladle.



A cardboard slice is equipped with three yellow and three orange-colored LEDs.



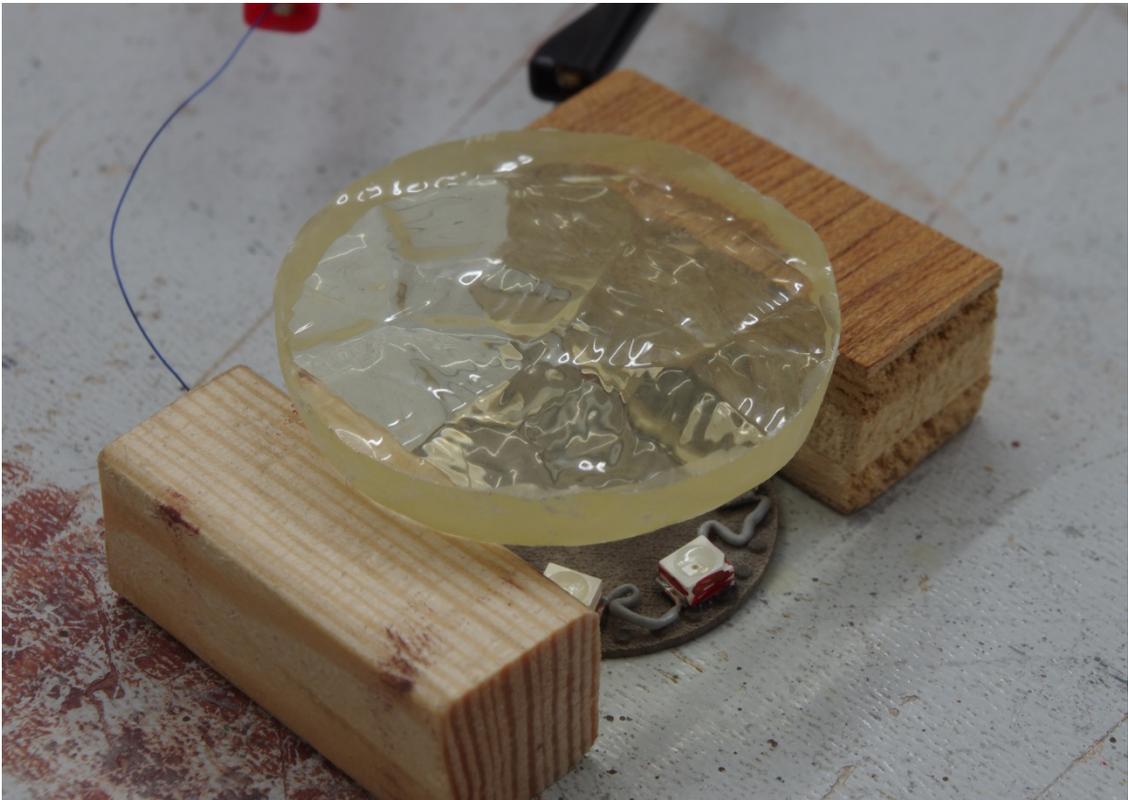
All connections are made



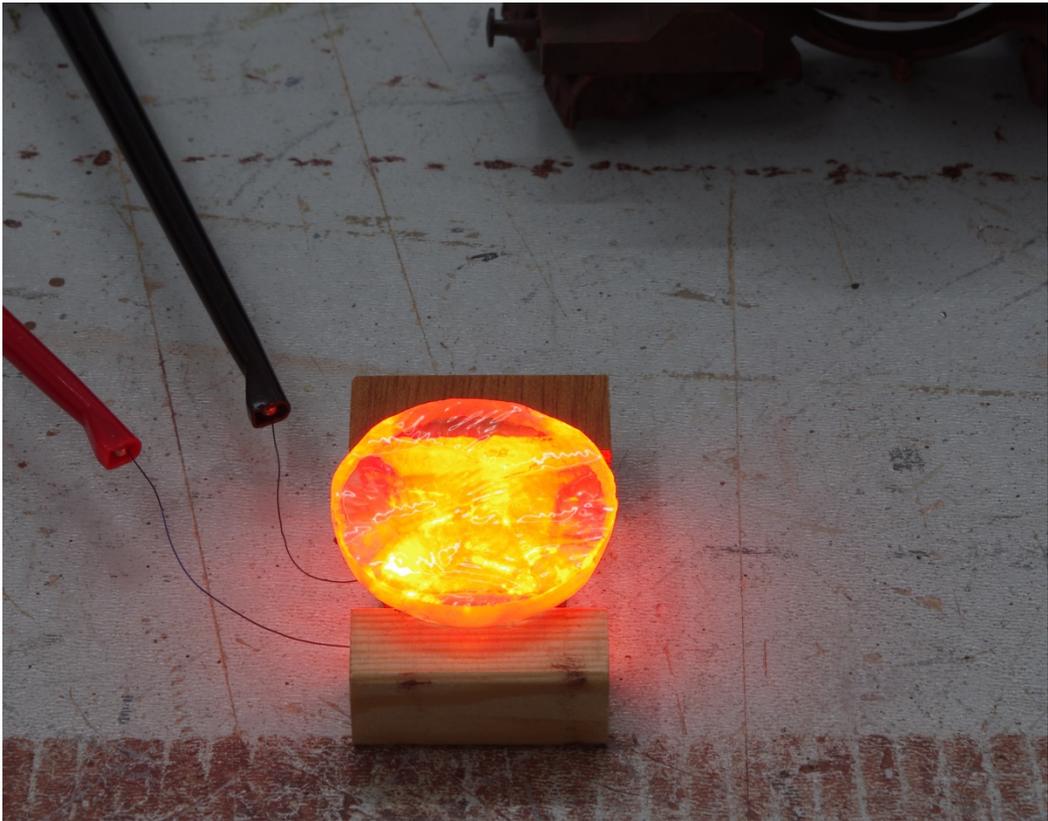
After all wires are hidden, the LED carrier can be glued on top of the regulator. Small punched holes shall give a little better air circulation for the regulator.



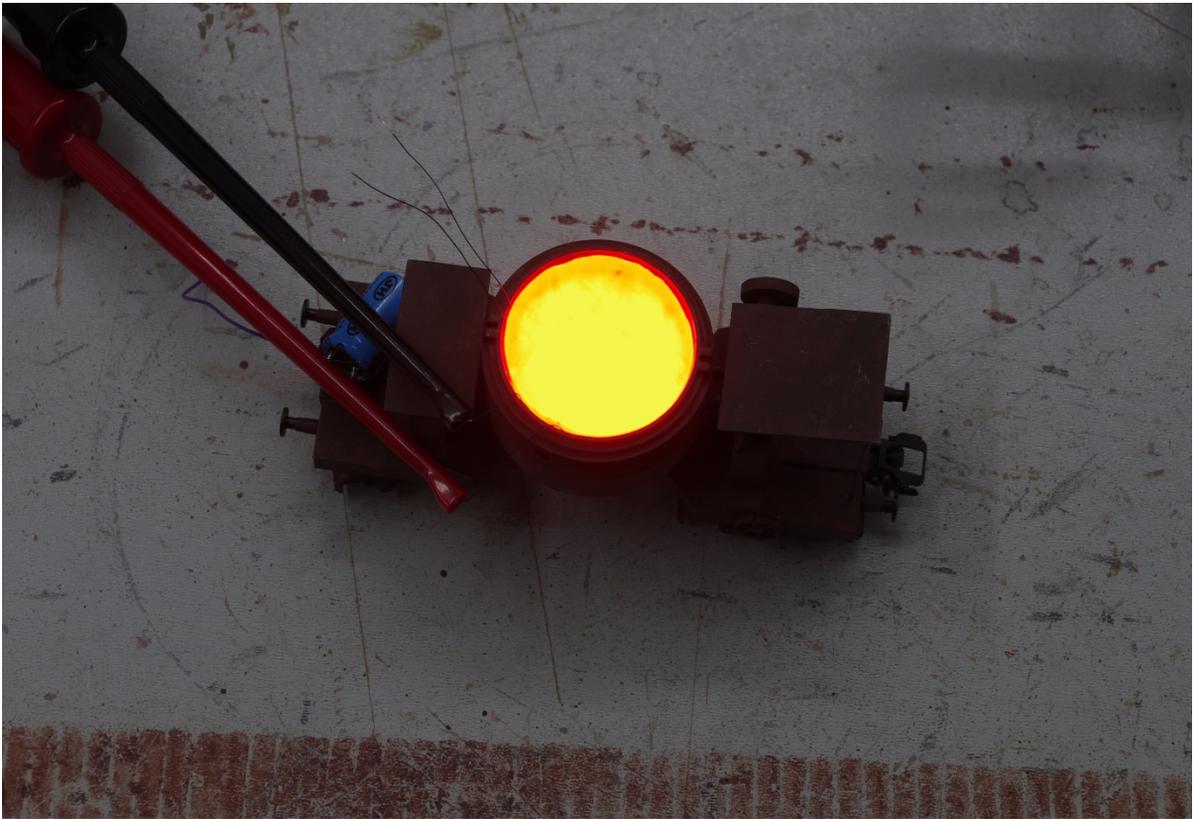
'Slag' is a round cutout of an old plastic plate that had been used as a windscreen. I like its unsteady surface for imitating slag.



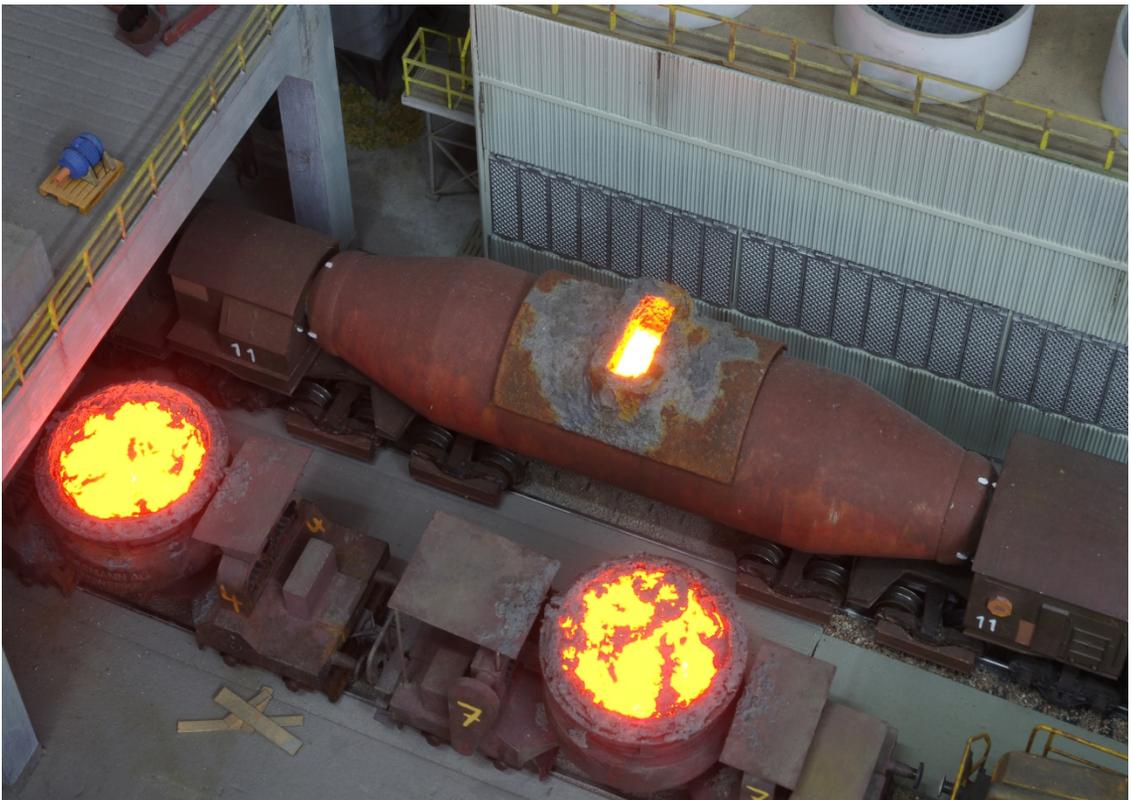
Some different arrangements of LEDs have been tested on the workbench



Test winner is the circle of alternating yellow and orange color.

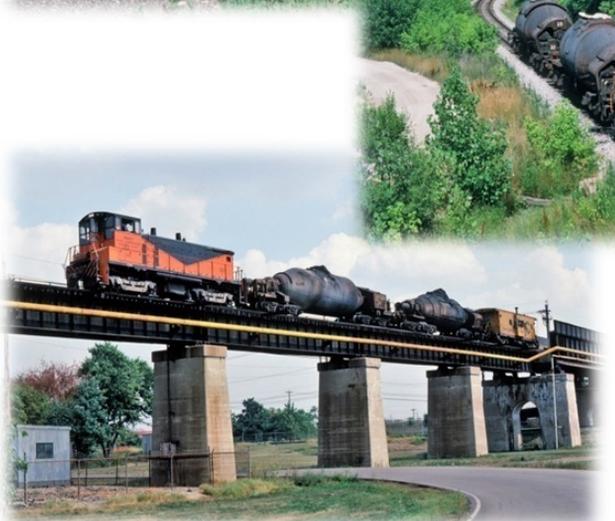


That's the result. As slag solidifies pretty quickly, I put some solid 'slag' around the surface using acrylic putty.





Frank Sabo is currently writing a book on Armco Steel -AK Steel. He is looking for images of Armco locomotives both roster and action, rolling stock, and also photos of any of Armco's structures. These photos can be from any year or any plant. If you would like to make a photo contribution, please contact Frank by email. The book will be published by Morning Sun Books with a release date sometime in 2020. Frank Sabo can be contacted through his email SP_Lives@rocketmail.com or Facebook page. <https://www.facebook.com/frankie.sabo>





Above: 1986 Don Lakin rare view of Republic Steel "cold" blast furnace complex from the old Center Street bridge. The Mahoning River gently reflects the past.
Below: 1950 view of Republic Steel Youngstown open hearth. Right: Blast Furnace #2, 1960. Republic Steel, BCIM collection



GHOST RAILS XVI
REPUBLIC STEEL YOUNGSTOWN
CENTER STREET, POLAND AVENUE
CRAB CREEK BASIN RAILROAD COMPLEX
 Wayne A. Cole

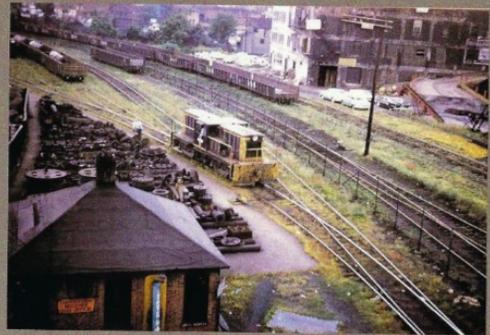
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A Bill Nixon view west from the old Cadiz Street bridge, August 8, 1958. Good Days for RSC Haselton. The river building the Republic Steel Bessemer Works Yard Office. Whitcomb Submarine 351 works standard gauge tracks to the left of the fence, Republic Steel territory, but shared by the B&O, Erie, and PRR. Gons hold coils in the yard bound for the Electro Weld and pipes. To the left of the tower, RSC dual gauge Hot Metal Track. To the right of the fence Erie and B&O Canal Branch. THIS IS THE RSC CRAB CREEK BASIN. LAKIN COLLECTION

Volume 16, hard bound, 170 glossy pages, 24 color is a detailed history of Republic Steel Youngstown 1850 to its demise in the 1980s and the aftermath. The book progresses from the old Bessemer Converter complex nearer Youngstown and follows the Republic steel dual gauge railroad several miles down the Mahoning River to the blast furnaces and open hearths on Center Street. All major mill departments are covered (not as in detail as some former books); however, the pipe mills for which Republic are known are covered in depth. Exceptional material is found in the Bessemer Converter and the RSC dual gauge railroad. Volume 16 is a first time history no doubt.

The railroad complexes that surrounded the plant are covered in depth: Center Street, the B&O Haselton Yard, the Safety Stop, the little known Crab Creek basin, PRR, the Republic tunnel, a touch of the P&O Canal, the Erie Canal Branch, and railroad conglomeration to West Federal Street. Of importance, the little recognized railroads and history of Poland Avenue and Republic Steel: Y&S, Ohio Central, PRR, LE&E, Y&SE. Two significant timelines (railroad and mill) are developed within the book. A strong start is made on Ghost Rails XVII USS Ohio Works, Youngstown and Northern, B&O, its New Main Line in 1905, the P&Y Railroad, Girard Branch—all depends on health and the Lord!

Volume 16 can be ordered by sending a \$65 check and completed flyer to: **Colebooks, 1402 Seminole Circle, Beaver Falls, Pa. 15010** email wacole@hotmail.com pay via PayPal Family Friends

Ghost Rails XVI Republic Steel NEW	\$65 includes shipping Add \$5 priority shipping
Ghost Rails XVI J&L Pittsburgh and Mon Con 1 year old, 374 pages	Both books \$105 includes shipping

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The Steel Photo Library Project

by Brendan Brosnan

As we all age we begin to think about what will happen to our collections, be they models, prototype artifacts or historic documents, maps, photos etc. In most cases our families have a vague idea that there is "some value to someone" in our personal collections, after all they saw the time and effort we spent on acquiring much of it. I know my wife cringes at the thought of disposing of my stuff, even though I have some written instructions. Which item goes with which description or list? Regardless of what the collection consists of we don't want our families burdened with the disposition of the items, but we also don't want these items donated to some organization that doesn't know their value, just leaves them in boxes or worse yet, eventually throws them away.

For the photographers, preserving the collection can be a real challenge. How do you put a value on a historic photograph? I have over 6,000 slides of which probably half are steel related. The majority of these are of mill facilities that no longer exist or are from tours that are unavailable due to newfound security concerns. These are important historic links to our history as an industrial society. It would be a disservice to the men and women who spent their lives building America if they were not preserved.

After considerable brainstorming on various solutions, I arrived at a concept that I am calling "The Steel Photo Project". I ran the idea by Steel Mill Modelers SIG Board Member John Muntean and he passed it on to the Board. While they have not yet agreed to "sponsor" this, I did receive a green light to continue developing the framework of the project. My limited research so far has led me to numerous libraries, historical societies etc. willing to accept the donation but they don't have the man power to digitize the images much less assign an accurate description.

Hopefully WE can produce a product that you can be proud of. To do that I need everyones expertise and contribution because I don't have the computer skills to pull this off by myself. There are a lot of photo database software applications out there. The main problem seems to be what I call the front-end software that can provide the robust search functions I have in mind. So if you have ever used or been associated with an organization that uses: *ACDSee Photo Studio*, *Content DM*, *Past Perfect* or *Adobe Bridge* please contact me.

The Parameters of the Project

I envision a product similar to railpictures.net and railcarphotos.com but steel themed and not limited to railroad locomotives or rolling stock.

I think the database should be hosted on a SMMSIG website location but may use other sources software to provide the code of the database. Which software is the real challenge.

Contributors would be approved by the site "moderator".

Anyone, SMMSIG member, or the public can view the contents.

The data base should be searchable by categories such as: steel company name, geographic location, type of facility, equipment, etc.

The database must be able to accommodate captions.

Ability to download and or print any image is a desirable feature (possibly for a nominal fee to offset hosting expense, (not a profit). This can be addressed later.

A section of the database can be dedicated to photos of steel themed models.

The goal of this project is to preserve the photographic history of the steel industry for anyone interested in studying the subject. One of the museums libraries that I have talked with did express a willingness to take it over in perpetuity, once we get the database established. This can be explored in greater detail later.

So if you have computer knowledge, have used any photo hosting site successfully or would like to help get this project on the right track, please contact me either by email at b.brosnan@epbfi.com or call 423-602-5259.

Your comments on this project are always welcome.

STEEL MILL DRAWINGS

HIGHLY DETAILED PROTOTYPE DRAWINGS OF
EQUIPMENT AND BUILDINGS RELATED TO THE STEEL
AND RAILROAD INDUSTRIES

BASED ON ORIGINAL ENGINEERING DRAWINGS AND
INFORMATION FROM INDUSTRIAL SOURCES

Mike Rabbitt
193 Holstein Rd
King of Prussia PA 19406
610-688-3352

- 1: 1970-1980'S BLAST FURNACE \$48.00**
A typical large late 20th century blast furnace. Four sheets, up to 3' x 4', HO Scale. Plan and elevation of furnace, top works, skip hoist, cast house, stock bins, gas cleaning equipment, stoves and details of valves and equipment. This design is not of a particular furnace but is a composite of the best information from several sources.
- 2: 1940'S BLAST FURNACE \$48.00**
Original furnace built in 1943 in the Pittsburgh district and still in blast. Drawings show the original design with only a few modifications. Smaller than #1 above. Three sheets, 3' x 4' HO Scale. Plans and elevations of the furnace, skip hoist, stoves, gas cleaning equipment, piping, stock bins, cast house and ore bridge.
- 3: BESSEMER CONVERTER PLANT \$38.00**
Based on a facility built in South Chicago in the late 1890's, and in operation at least through the 30's and is similar to plants in use through the 40's. Five sheets, 2' x 3', HO Scale. Detailed plans, elevations, sections, including elevations of the building.
- 4: 120 TON HIGH LIFT CAR DUMPER \$44.00**
Located at Sandusky, Ohio. Built in 1939 and still loading Lake Boats. Four sheets, 2'6" x 3'6", HO Scale. Elevations, plans and sections.
- 5: HULETT ORE UNLOADERS \$38.00**
Plans, elevations, sections, details and several design variations of a "classic" Hulett Unloader of the early 20th century. Includes elevations of ore bridges and a section through a lake front blast furnace plant. Five sheets, 2' x 3', HO Scale.
- 6: LAKEFRONT STEEL MILL PLAN \$38.00**
A medium size integrated steel plant in the Chicago District as it existed in the 1960's, now demolished. 3'4" x 7' with side extension, 1"=50'. Includes coke plant, three blast furnaces, open hearth, BOF, stripper crane, soaking pits, rolling mills and complete standard and marrow gauge track layout.
- 7: BLAST FURNACE PLANT PLAN \$22.00**
Plan of the Carrie Furnaces in the Pittsburgh District as of the mid 1940's, now demolished. One sheet, 2'6" x 5'3", 1"=50'. Railroad supplied six furnace plant showing all trackage, blower and powerhouses, piping, ore bridges, pig caster and various maintenance buildings in addition to the six furnaces.
- 8: OPEN HEARTH PLANTS \$52.00**
A 20th century open hearth plant. Three sheets, 2'6" x 3'6", mostly HO scale. Plans, elevations and sections showing scrap yard, charging floor, furnace, teeming aisle, mold preparation yard, overhead cranes and building structure. The fourth sheet shows a six furnace plant, material yard, mold preparation yard, mixer building, stripper building, and narrow and standard gauge trackage, 1/32"=1'0".
- 9: 1915 BLAST FURNACE \$48.00**
Plans, elevations and sections of a typical 1915 period furnace as built at Bethlehem Steel on the site of an open top furnace. Five three pass stoves, cast house and gas cleaning equipment plus many details. Three sheets, 3' x 4', HO Scale. Similar to many built in the early 20th C at other plants.
- 10: 1890'S OPEN TOP FURNACE \$67.00**
Plan and elevations of a typical charcoal or anthracite-manually charged open top furnace based on the furnace at Johnson City, Tenn. Furnaces of this type could still be found in use through the 1920's with one in use as late as WWII. Six highly detailed sheets, HO Scale. Includes stock house, furnace, charging elevator, dust catcher, stoves, boilers, blowing engines and much more.

The sources include original engineering drawings, books, periodicals, photos and site visits. Almost all of the drawings are of actual equipment with some in use at present. A number of the sets are composites combining information from several facilities. All of the sets are done to full scale and are as close to the original as the information at hand allows. This enables the modeler to modify or selectively compress as needed.

- 11: 1940'S BESSEMER PLANT \$34.00**
Two vessel Bessemer converter plant including building structure, charging and teeming cranes, stripper crane, mixer and converters. These drawings are not of a particular plant, but a composite showing the dimensions and details of a typical plant of the period. Two sheets, 3' x 4', HO Scale.
- 12: BASIC OXYGEN PLANT (BOF) \$66.00**
Plans, elevations and sections of a 1960's BOF plant that was to be built using part of a existing open hearth building (shown) as the scrap and teeming aisles. Three sheets, 3' x 6'6", HO Scale.
- 13: BARGE AND SHIP UNLOADER \$10.00**
Wood framed steam powered waterfront unloaded of the late 19th century. Typical of those found in lake ports, seaports and on river fronts. Based on field measurements of the unit located at Norwich, Conn. As of 1962-63. The unloader structure is close to the original with the bins free-lanced. Three sheets + photos, 1'6" x 2', HO Scale.
- 14: ELECTRIC MELT SHOPS \$67.00**
A relatively small 1920's 3 furnace shop (scrap and hot metal charge) and a large modern 4 furnace shop based on a facility built in the mid 50's, subsequently expanded, and still in use. Includes plan views, sections and elevations. Five sheets, 3' x 4'6", HO Scale.
- 15: COKE PLANTS \$63.50**
Plans, sections and elevations taken from several sources showing large and small plants. Includes ovens, coal bins, charging larrys, quench cars and related equipment. One sheet shows, to HO scale, the components of a typical by products plant in schematic form. Two sheets 2'6"x3'6", one sheet 3'x5' and one sheet 3'x10', scales vary.
- 16: 1950'S BLAST FURNACE \$66.00**
A typical 1950's period design showing the rebuilt "A" furnace at Bethlehem Steel. Six sheets: plans, elevations and sections of furnace, stoves, cast house, venturi gas cleaner and precipitators. This is the second "A" furnace but still using the cast house and stoves of the 1915 furnace. Open top furnace #2 built in the 1860's was on the same center line. Sheet sizes: one 2'x3' and five 3'x4', HO scale. Furnace is still in existence.
- 17: BETHLEHEM PLANT 1924 MAP \$42.00**
1"=100'. Track plan and all buildings B Fces. A-G, OH, Bessemer, rolling mills, no coke plant, lots of detail, 3'x12'.
- 18: ALAN WOOD STEEL & UMP RAILROAD \$62.00**
Four sheets, 1"=50'. All buildings, NG & std gauge railroad. A medium size steel plant with 2 blast fce's, OH and, later, a BOF.
- 19: BETHLEHEM STEEL, 1950-1960 PERIOD \$250.00**
47 2'x3' sheets, 1"=50". Everything in the plant including coke plant, interchange yards, all the rolling mills, open hearths, BOF, etc. Lots of detail. Price includes shipping 48 states.
- 20: BLAST FURNACE BLOWING ENGINES \$24.00**
One sheet, 3' x 4', HO Scale. Detailed plan, elevation and section of a smaller blowing house with Allis Chalmers blast furnace gas powered horizontal reciprocating engines. Also, an example of a Mesta engine is included. U.S. Steel, Bethlehem and others used such designs. Bethlehem's in use until the 90's.
- 21: PIG CASTER \$20.00**
Two sheets HO scale, sheet size 2' x 3'. A typical mid 20th C caster fed directly from the blast furnace cast house by tilting transfer ladles. The same basic caster design was used for rail delivered ladle cars.

22: SOAKING PITS \$38.00

One sheet 3' x 4' HO scale, two sheets 2' x 2' 6" perspective detailed views of a pit installation. The plans include the layout of a typical mid 20th C soaking pit building with detailed sections and elevations.

**HABS-HAER DRAWINGS Steel Mills and Coke Ovens
Library of Congress**

Note: all drawing sets can be accessed at the Library of Congress web site. Many excellent photos accompany the drawings and can be downloaded easily. The drawings are very difficult to download in anything over 8-1/2" x 11" unless you have a computer with lots of memory and access to a large format drafting plotter.

H-1 U.S. DUQUESNE WORKS	\$54.00
10 Sheets, 2' x 3' various scales	
H-2 HOMESTEAD 160" PLATE MILL	\$40.00
3 Sheets 2' x 3', scales vary, 3 sheets 22" x 3'8" HO	
H-3 BETHLEHEM STEEL, LACKAWANNA PLANT	\$46.00
8 Sheets 2' X3' scales vary	
H-4 PITTSBURGH STEEL CO. BLAST FURNACES MONESSEN, PA	\$55.00
10 sheets 2' x3', scales vary	
H-5 PITTSBURGH STEEL CO. OPEN HEARTHS MONESSEN, PA	\$46.00
8 sheets 2' x 3' scales vary	
H-6 THOMAS BY PRODUCT COKE WORKS THOMAS, AL	\$78.00
7 sheets 3' x 4' & 1 sheet 2' x 3'	
H-7 CONNELLSVILLE COAL & COKE REGION (BEEHIVE OVENS)	\$55.00
10 sheets 2' x 3' scales vary	
H-8 BETHLEHEM STEEL FORGE SHOP #1	\$24.00
2 sheets 3' x 3'6"	
H-9 BETHLEHEM STEEL HEAT TREATMENT	\$32.00
3 sheets 3' x 3'6"	
H-10 SLOSS-SHEFFIELD STEEL & IRON CO BLAST FURNACES	\$100.00
20 sheets 2' x 3' very detailed dwgs of early 20thC furnaces	
H-11 CAMBRIA IRON CO BLOWING ENGINE HOUSE (BETHLEHEM STEEL JOHNSTOWN WORKS)	\$36.00
6 sheets 2' x 3' reciprocating steam blowers & building in good detail	
H-12 HULETT ORE UNLOADERS, CLEVELAND, OH	\$31.00
5 sheets 2' x 3' general isometric dwgs showing operation	
H-13 CAMBRIA MAPS FROM ORIGIN TO PRESENT	\$46.00
8 sheets 2' x 3' plant layouts various eras to present, buildings identified	
H-14 BETHLEHEM STEEL "HIGH HOUSE" HEAT TREATING BUILDING	\$29.00
3 sheets 2'9" x 3'6" designed for 16" naval rifles	

BETHLEHEM STEEL JOHNSTOWN PLANT DRAWINGS
For the most part these are highly detailed building and track layouts of the various departments. There are some sections as the plant existed in the late 20th C just prior to demolition. The sources include original engineering drawings and material from engineering journals

J-1 MASTER SET \$21.25

Two sheets, small scale, showing all the various plants around Johnstown with most of the buildings and some identifications. One sheet, small scale of the Franklin Works including the coke plant behind the blast furnaces. One sheet Rosedale coke plant 2' x 3' and one sheet Lower Works (original Cambria plant) 2' x 3'

J-2 FRANKLIN BLAST FURNACES	\$24.00
One sheet 2' x 11'4" Plan 1"=20'	
One sheet 1'6" x 2' Section through blast furnace	
J-3 FRANKLIN OPEN HEARTH & ELECTRIC FCES	\$22.00
One sheet 2' x 11'3" OH & Elect furnaces plan 1"=20'	
One sheet 1'6" x 2' Open Hearth section	

J-4 FRANKLIN ROLLING MILLS \$28.00

Two sheets 2' x 8'2" Plan 1"=20'
One sheet 2' x 2' Plan 1"=20'

J-5 LOWER WORKS (CAMBRIA WORKS) \$52.00

Twelve sheets 2' x 3' Plan 1"=20" (1 sheet overall 1"=100")

J-6 FRANKLIN COKE PLANT \$48.00

Two sheets 2' x 12' Plan 1"=20'
One sheet 2' x 10' Plan 1"=20'

J-7 1953 19 PAGE PLANT DESCRIPTION \$7.00

General plant description with tables, photos and some very simplified drawings

**J-8 BOOK: ONE HUNDRED YEARS OF STEEL MAKING IN
JOHNSTOWN 1857-1957 \$14.00**

A 60 page book published by Bethlehem Steel for internal consumption discussing the condition of the plant in 1957 and plans for the future. Many full page photos which look pretty good considering. The reprint is a quality copy of the original which was home printed cheaply by the plant. The original copy is located in the Hagley Library in Wilmington, Delaware.

SHIPPING: SENT ROLLED: up to \$50.00:	\$10.50
	\$51.00-\$100.00: \$13.50
	\$101.00-\$250.00 \$18.00
	\$250.00+ \$22.50

Overseas: please inquire for total.

Prices effective January 2013

Steel Mill Related Videos

Green Frog Productions

*Styrene The Ideals, Tips and Techniques of Dean Freytag.

PCN Tours

*Joy Mining Machinery

*ArcelorMittal Steel

Pentrex

*Eastern Kentucky Coal

Pelts Express

*C&NWs Iron Ore Route

*Duluth, Missabe & Iron Range Vol 1

*Duluth, Missabe & Iron Range Vol 2

*Lake Superior & Ishpeming Vol 1

*Lake Superior & Ishpeming Vol 2

*Bessemer & Lake Erie

*LTV Ore Lines

*Missabe T-Birds

*Missabe Rails

*Missabe Winter Vol 1

*Missabe Winter Vol 2

*NorthShore Mining Railroad

*Ohio Rails and the Wheeling & Lake Erie

*Railroads & Ships of U.S. Steel

*Taconite Trains of Minnesota Vol 1

*Taconite Trains of Minnesota Vol 2

*Birmingham Southern

*Elgin Joliet & Eastern

*Tribute to the Erie Mining Ore Lines

*Twin Ports Trackside Vol 1 Duluth Minnesota

*Twin Ports Trackside Vol 2 Superior Wisconsin

Prairie Works

*Hot Metal

* Union Railroad

* On the Great Lakes

* Lake Superior Iron

* Missabe Retrospective

* Duluth, Missabe & Iron Range Steam Power

* Duluth, Missabe & Iron Range Depots & Structures

* Taconite Haulers

*USS Duluth Works - Photo Video

*Super detailing a Walthers Blast Furnace Part 1

*Super detailing a Walthers Blast Furnace Part 2

Model Railroader's Dream - Plan - Build

* Railroads and Steel

Videotrain.com

*The Union Railroad

Steel Mill Related Books

*Morning Sun Books

By Stephen Timko

Steel Mill Railroads in Color Vol #1

Steel Mill Railroads in Color Vol #2

Steel Mill Railroads in Color Vol #3

Steel Mill Railroads in Color Vol #4

Steel Mill Railroads in Color Vol #5

Steel Mill Railroads in Color Vol #6

Steel Mill Railroads in Color Vol #7

Appalachian Coal Mines and Railroad Vol#1

Appalachian Coal Mines and Railroad Vol#2

Appalachian Coal Mines and Railroad Vol#3

Industrial Railroading Vol#1

Industrial Railroading Vol#1

Union Railroad Power In Color

Steel Mill Railroad Facilities and Equipment (eBook)

By Robert Wilt

Bethlehem Steel Company Vol #1, Obtaining – Transporting Raw Material, and Making Iron

Bethlehem Steel Company Vol #2 Making Steel, Finished Product Handling, and the Final Years

By David C. Schauer

LS&I Vol #1

LS&I Vol #2

By Richard C. Borkowski Jr.

Union Railroad In Color

By Kurt Reisweber & Brad Esposito

Pittsburg & Shawmut

*Model Railroader

By Bernard Kempinski

The Model Railroader's Guild to Steel Mill

*The Railroad Press

By Nevin Sterling Yeakel

Bethlehem Steel

*Plastruct

By Dean Freytag

The Cyclopedia of Industrial Modeling

*Walthers

By Dean Freytag

The History of Making and Modeling of Steel

Steel Mill Related Books continued

*Wayne Cole

Rails of Dream

Y&S New Galilee to Youngstown Lisbon and Ohio River at Smith Ferry, steam, electric, diesel, **Beaver Valley**

RR coil company

5th Street RR in Beaver

Ghost Rails I

10 RR local histories Ellwood City, New Castle, Leetonia, Sharon, Erie Niles Lisbon RR, E&P RR

Ghost Rails II Western Allegheny RR,

Rt 422 Lake Arthur to Bradys Bend popular bk Lots of West Pittsburgh, Cascade Park, Kaylor, Queen Junction, Route 422 to East Brady

Ghost Rails III Electrics

East Liverpool, Calcutta, Beaver, Salem, Rock Springs Park Chester, Steubenville, Leetonia

Ghost Rails IV Industrial Short Lines

5 local rr histories, Wampum, Koppel, Beaver Falls, New Castle, Sandy Lake Note This book has the Beaver Valley RR from steel mill perspective quite different from the other Beaver Valley RR book listed above. Covers early German Koppel Car Company.

Ghost Rails V PRR Butler,

Allegheny River to Butler USS Sintering Plant and steel mill sintering process

Ghost Rails VI Harmony Route

(Beaver Valley Traction included) Tons of very local history, popular bk Lots of Ellwood, New Castle, Koppel, Beaver Falls, Butler, Pittsburgh

Ghost Rails VII Short Line

Pittsburgh to Butler, other half of Harmony line history.

Ghost Rails VIII B&O Northern Sub

Butler, Foxburg, Marienville, Mt Jewett, K&K RR, Kinzua Bridge, a little Tionesta Valley, Kane

Ghost Rails IX State Line Legend

New Castle dynamite. Bessemer, P&LE Gateway yards, Sharon Steel Lowellville plant, critters, Narrow gauge, industrial limestone operations, Mt Jackson, Lowellville,

Ghost Rails X Iron Phantoms

Aliquippa and Southern J&L Very popular steel mill book. Just had a very limited reprint March 2018

Ghost Rails XI Shenango Valley Steel

New Castle to Sharon Sharon— tons of New Castle, history of Sharon Steel, Youngstown, Center Street, NS to Hubbard and Sharon. Good complex history!!

Ghost Rails XII Seamless B&W History

Beaver Falls, Ambridge, Koppel touch of National Electric, Armco, AM Byers, PRR Economy Branch. Good steel mill history Beaver Valley

Ghost Rails XIII Hilliards Branch

Butler County, and North Bessemer, Unity RR, Pa. Turnpike, PRR Plum Creek in Verona

Ghost Rails XIV Hallowed Ground

Conneaut Lake, Linesville, Meadville, Mercer, Cheswick and Harmar RR, B&LE history, Harwick Coal Mine and Pa. greatest coal mining disaster

Ghost Rails XV Monongahela

Connection RR, Pittsburgh J&L, extensive Pittsburgh history, Allegheny and South Side, PRR Whitehall Branch, B&O in Glenwood, sister book of Volume 10

Ghost Rails XVI Republic Steel Youngstown

Detailed history of Republics Steel Youngstown from 1850 to its demise in 1980s and the aftermath.

Keystone Driller history

industry in Beaver Falls, early well drilling, steam, diesel, electric

Youngstown and Southern / Pittsburgh Lisbon and Western

Special Edition to Dick Mumma last Y&S Superintendent, Coil bound, 75 pages / 26 color, new photo collection covers Ohio Central Y&S operation and Y&SE to 2018

Steel Mill Related Websites

Groups

*Steel Mill Modelers Special Interest Group

<http://www.smmsig.org/>

Facebook:

*Bessemer Subdivision

<https://www.facebook.com/groups/787429424621662/?fref=nf>

*Bessemer and Lake Erie Railroad Sightings Page

<https://www.facebook.com/groups/1029716723816394/>

*Birmingham Southern-Fairfield Southern

<https://www.facebook.com/groups/337021349697833/>

*BSRR/FSRR

<https://www.facebook.com/groups/471524686212350/>

*Coal Critter of Kentucky

<https://www.facebook.com/groups/446906699000395/>

*Harrisburg Terminal Railroad

<https://www.facebook.com/Harrisburg-Terminal-Railroad-271356453384157/>

*Chicago Area Steel Mills

<https://www.facebook.com/groups/1679894998965838/>

*Hot Metal Trains

<https://www.facebook.com/groups/1143908999010704/>

*Iron Ore Modeling

<https://www.facebook.com/groups/559496990829520/>

*J&L Narrow Gauge Railroad

<https://www.facebook.com/groups/rolling.ingot/>

*Munhall, Bessemer and Port Perry

<https://www.facebook.com/munhallbessemerandportperry/>

*New Boston Steel Mill and Coke Plant

<https://www.facebook.com/groups/349284928484151/>

*Timber River Railway

<https://www.facebook.com/groups/1591376621172524/>

*The Splitrock Mining Company layout

<https://www.facebook.com/The-Splitrock-Mining-Company-layout-326394957565987/>

*Steel Mill Modelers

<https://www.facebook.com/SteelMillModelers/>

*Steel Mill Modeling

<https://www.facebook.com/groups/708840849171343/>

*Steel Mill Pictorial

<https://www.facebook.com/groups/1561038727264008/>

*U.S. Steel Duluth Works

<https://www.facebook.com/groups/101591233225098/>

*Youngstown Steel Heritage

<https://www.facebook.com/SteelHeritage/>

Photographs

*2007 Steel Mill Modelers meet

http://www.pbase.com/jtunnel/2007_steel_modelers_meet&page=1

*Arthur's Albums and Images

<http://www.rmweb.co.uk/community/index.php?/gallery/member/6861-arthur/>

*Birmingham Rails

<http://www.bhamrails.info/>

*Rick Rowlands

<https://www.flickr.com/photos/33523379@N03/sets/>

*The Rust Jungle

<http://www.therustjungle.com/>

Layouts:

*Acme Steel Riverdale BOF & Chicago BF Modeled in HO scale(1/87)

<http://www.trainweb.org/chicagosteel/index.htm>

*Bethlehem Steel Layout

<http://www.brokenbushandroundtop.com/bethlehemsteel/>

*Columbia River Steel Corporation

<http://www.prairie-works.com/crsc.html>

*Dave Scale Modeling

<http://daveayers.com/Modeling/Steel.htm>

*DK Recycling

<http://www.frankshuette.de/>

*Forsten Online

<http://www.stahlbahn.de/index.php>

*Harrisburg Terminal Railroad

<https://www.facebook.com/Harrisburg-Terminal-Railroad-271356453384157/>

*Pittsburgh and Western Railroad - Paul Lapointe

http://www.coaldivision.org/pittsburgh_and_western.html

*Pittsburgh, Youngstown & Ashtabula RR

<http://www.pyamodelrailroad.com/>

*Stahlbahn

<http://www.stahlbahn.de/index.php>

*Republic of Train World

<http://trainworldcity.webs.com/apps/blog/show/43914314-the-trainworld-city-steel-works-and-duluth-works->

Blogs

*KV&O and D&D Mining & Steel

<http://doncsx.blogspot.com/>

*Musser Steel Mill

<http://mussersteelmill.blogspot.com/>

*The Mill

<https://steelindustray.blogspot.com/>

Hobby Shops

*Industrial Model Shop

<http://industrialmodelshop.com/>

*Joswood

<http://laser-cut-shop.de/Joswood-Ltd>

*KenRay Models

<https://kenraymodels.com/>

*State Tool & Die

<http://www.statetoolanddie.com/>

Yahoo Groups

*Harrisburg Terminal Railroad

<https://groups.yahoo.com/neo/groups/htrrc/info>

*Steel

<https://groups.yahoo.com/neo/groups/steel/info>

Manufactures

*Adair Shops

<http://adairshops.net/index.php>

*FireCat Designs

<http://www.firecatdesigns.com/home.html>

*Plastruct

<https://plastruct.com/>

*State Tool & Die

<http://www.statetoolanddie.com/>

*Steel Mill Modelers Supply

<https://www.facebook.com/steelmodelerssupply/>

*

Museums

*Youngstown Steel Heritage

<http://www.todengine.org/>

Podcast

*A Modelers Life

<https://www.amodelerslife.com/>

*Model Railroad Hobbyist podcast

<http://model-railroad-hobbyist.com/podcast/episodes>

*The Roundhouse

<http://theroundhousepodcast.com/>

Steel Mill Related Picture CDs

Prairie Works

* Minnesota Iron & Steel

* Heavy Industry Postcards

* Coper & Nickel

* Tod Engine Project