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Glossary of Steel Mill Terms

The following is a listing of steel mill terms taken from Dean Freytag's publication *The Cardinal System*.

Bag House

A building that acts like a vacuum cleaner, collecting dust, dirt, pollutants, etc., and emptying them into a railcar or road vehicle of some type for transporting away from site.

Barney

Small narrow gauge loco or device that operates between rails to move loaded cars. Refer to February, 1952 *Railroad Model Craftsman*.

Battery

Common term for group of coke ovens.

Bells

Pair of cones at the top of each blast furnace that allow charging and prevent escape of gases.

B.O.F.

Basic Oxygen Furnace, also referred to as a B. O. P. (Basic Oxygen Process). One process by which molten iron is converted to steel.

Bottle Car

A torpedo or bottle-shaped rail car specifically designed for the movement of molten metal. Generally between 60 to 200 tons capacity, has from 8 to 20 wheels and capable of rotating its bottle to dump contents into ladle. One type of Hot Metal Car. Also called a Pugh car.

Car Dumper

A device that either lifts or rotates to dump open-top cars (usually hoppers).

Charge

A load of material to go into a furnace to make either iron or steel.

Charging

The act of loading the furnace.

Coil Car

Gondola equipped with racks to carry coils of steel up to 80" in diameter.

Coke

Coal that has been fired in an oven to remove all uneven burning characteristics. Once the coal becomes "coke" it burns evenly.

Coke Guide

Four-wheel car with a device that guides burning coke into the Quench Car.

Coke Loco

Electric, battery, or diesel powered car used only to push the Quench Car.

Coke Wharf

Where coke is dumped from Quench Car to cool before being sized and stored in Coke Tipple.

Crop

Ragged end of an ingot that is "cropped off" at the rolling mill.

Crop Car

Heavy-duty gondola with slatted sides, used to haul cropped ends of ingots (crops) from rolling mill back to steel-making plant (Electric Melt Shop, Open Hearth or B.O.F.) where they will be placed in scrap piles and later remelted into molten steel.

Door Car

Four-wheel car that removes oven doors from discharge side of coke ovens.

Downcomer

Large pipe that runs from top of blast furnace to 'dust collector.

Electric Furnace

A steel or iron-making facility originally thought of as only for making specialty steels. It is now used in all applications, making the iron or steel by 'melting scrap.

Electrodes

Carbon rods, 12" to 24" in diameter that provide the arc in Electric Furnaces.

Gantry Crane

Heavy-duty overhead crane used in the mills for just about any purpose.

High Line

Elevated tracks where are, coke, and limestone are brought to the blast furnace and skip hoist.

Hot Metal Car

Car containing a fire-brick lined ladle or vessel, used to transport molten iron from the blast furnace to the steel-making furnaces. The Kling type cars are four axle, the vessel resembles a flower pot or a cup with a heat-retaining ring at the top giving it a narrower opening. It has no self-contained dumping mechanism. Some are equipped with wings to assist pouring.

Hulett

Enormous are unloaders indigenous to the lower Lakes. Fascinating to watch and almost obsolete.

Ingot Molds

Cast iron molds into which the molten steel is poured (or "teemed") to form the ingots. Removed once the molten steel has solidified.

Junction House

Elevated building that allows conveyors to change direction.

Kress Hauler

Rubber-tired vehicle resembling an earth mover, that is used to haul slag pots.

Ladle

Used for vertical movement of hot metal. Charging Ladles are tilted and pour from a spout. Teeming Ladles pour from the bottom into the Ingot Molds.

Ladle Repair

Area set aside within the furnace building, or a separate building; used for cleaning out, repairing, or relining ladles with fire brick.

Lorry Car

Self-propelled car used on the High Line to distribute are, limestone and/or coke. Also used to charge coke ovens and is the part of the Hulett that dumps the are.

Ore Bridge

Bridge-style gantry that spans the are pits, transferring are, limestone and coke.

Ore Docks

Multi-tracked docks (4) that house storage pockets and load are boats by gravity.

Ore Jennies

24' cars with or without pellet extensions. 24' length has remained constant to match the dock openings which have, in turn, remained constant to match are boat hatch spacing.

Pig Machine

Where molten iron is made into 40 lb "pigs" in a merchant iron mill.

Pusher

Machine that pushes coke from ovens into Quench Car.

Quench Car

Car that receives coke from oven and takes it to Quench Tower.

Quench Tower

Where coke is drenched with water to keep it from burning up.

Safety Car

Gon or short flat or special car used to separate locomotive from the heat of the hot metal car or ingots.

Sinter Plant

Where scale, flue dust, fines and coke breeze, all waste from the blast furnace area, is processed through a pug mill to make a mass that can be recharged in a B.O.F.

Skip Hoist

Inclined plane that feeds are, coke, and limestone into the top of the blast furnace.

Slag Dump

Area where slag is dumped, cooled, and then processed.

Slab Cars

Heavy duty flat with or without bulkheads, used to move slabs. The deck is usually covered by a layer of rails and slag to keep the heat of the slab off the deck surface and to promote cooling. In the Pittsburgh area, unit slab trains are found.

Slag Cars

Tulip-shaped pot, suspended between trunnions, for carrying slag to dump area. Also called Cinder cars.

Stoves

Brick-honeycombed silos that heat the air that provides the "blast" in a blast furnace. Usually three or four per furnace.

Stripper Crane

Crane used to strip ingot molds from ingots. Outer arms attach themselves to the "ears" of the mold and pull up while a center piece forces the ingot out of the bottom of the mold.

Teeming

The pouring of the molten steel into the ingot mold.

Teeming Crane

Crane used to transport the Teeming Ladle. Generally, this is a four-girder, so that there is both a main hoist and an auxiliary that can pass directly under the main trolley.

Steel Mill Model Vendors

The following is a listing of steel mill model vendors. The NMRA and the SMMSIG do not endorse these vendors. Steel mill model products are often manufactured by small boutique companies and are thus hard to find. With this in mind, we offer the following listing to assist our members in their search.

Park Lane Hobbies is a full service discount hobby shop located in Dyer, IN. Gary Lance, co-owner, is a master modeler and he offers a large selection of custom steel industry cars
www.parklanehobbiesonline.com

The Industrial Model Shop, Adamsburg, PA, owned by Scott Schaller, offers a large selection of steel mill model products from many small specialty manufactures.
www.industrialmodelshop.com

Peach Creek Shops, Silver Spring, MD is a full service on-line hobby shop that offers a wide variety of steel mill model products.
www.peachcreekshops.com

Steel Mill Modelers Special Interest Group (SMMSIG)

Membership Application / Renewal

Membership Dues are \$30.00 per year.

The "Steel Mill Modeler's Journal" is available electronically. You will receive a hard copy of the fall edition (Annual Report). A PDF download will be sent to your address of record for all editions.

Circle one: **NEW** or **RENEWAL**

Currently we only accept membership dues on an annual basis.

Name: _____ Phone: _____ E-mail: _____

Address: _____

City: _____ State: _____ Zip code: _____

Country if outside the USA: _____

May we include your address in a list for SMMSIG members? Yes No

Did you or do you work in a steel mill? Yes No If yes, company name: _____

Do you have a home layout? Yes No If yes, Layout's name: _____

Type of Steel mill plant modeled: _____

Are visitors welcome? Yes No Your preferred means of contact: _____

May we include your layout in the member's directory? Yes No

Do you belong to a club? Yes No If yes, club name and location: _____

Does it have steel mill models? Yes No

If yes, would the club be available for future SMMSIG tours? Yes No

What are your areas of interest in steel mill modeling? _____

Would you be willing to write an article or provide photo's of your models for the "Steel Mill Modeler's Journal"?
 Yes No With or without (circle one) help?

If you are a new member – How did you hear about the SMMSIG? _____

Please mail this membership application along with your check payable to "Steel Mill Modelers SIG". (US Funds only), to:

Steel Mill Modelers SIG
PO Box 3678
Reading, PA 19606
Email: smmsig@gmail.com

If you prefer pay via PayPal at: <http://www.paypal.com/>. Send your membership application via mail, or e-mail.