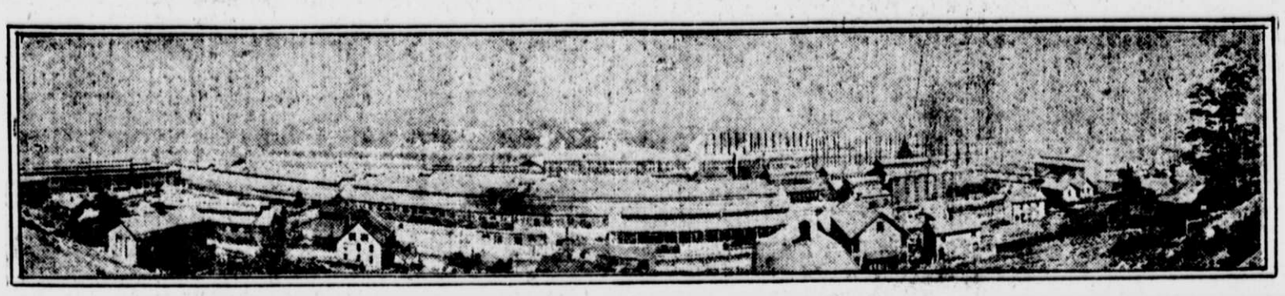
The Pittsburg Steel Company's Gigantic Mills and the Products They Make.

FROM THE ORE TO THE FINISHED PRODUCT



The Pittsburgh District has long been famed as the greatest iron and steel producer in America, if not in the whole world. From the time the first furnace shot its red tongue skyward—turning night into day—Pittsburgh's destiny was cast, and the industry has steadily increased in magnitude until to-day it virtually supplies this country and other parts of the world with its iron and steel products, fashioned from the ore to the finished material.

Of all the iron and steel mills in this great district, the Pittsburgh Steel Company's mills are the largest independent mills in the world manufacturing fencing, nails and wire. With from four to five thousand men working daily they turn out a tonnage almost beyond comprehension. In their furnaces now under construction they will convert the raw iron ore into pig iron, the pig iron into basic Open Hearth steel, the Open Hearth steel ingots into blooms, billets, rods and wire, finishing the material and products in their own gigantic mills—"beginning with the raw material, controlling the products through every stage."

The Pittsburgh Steel Company manufacture under their "Pittsburgh Perfect" Trade Mark the following products: Blooms, Billets, Steel Hoops, Steel Bands, Cotton Ties; Wire Rods, Bright Wire, Annealed Wire, Galvanized Wire, Barbed Wire (on Regular, Pony or 80 Rod Spools); Galvanized or Annealed Two-Strand Twisted Cable; Hard Spring Coil Wire; Wire Fence Staples, Poultry Netting Staples; Standard Steel Wire Nails; Galvanized Steel Wire Nails; Large Head Roofing Nails, Electrically Welded Wire Fencing, etc., all of which are made from basic Open Hearth Steel exclusively.

Eternal Progress Secret of Success

The history of any great enterprise proves that progress is constantly being made. The article of ten years ago is a relic compared with the improved article of to-day.

The "Pittsburgh Perfect" Fence of to-day is no more like the "Pittsburgh Perfect" Fence of ten years ago than is a present day scientifically constructed plow like the crude makeshift of a hundred years ago.

As each year has passed "Pittsburgh Perfect" Fence has been in every respect the equal of any other fence made at the same period. But the spirit of everlasting progressiveness that pervades the whole organization of the Pittsburgh Steel Company has brought about improvements that have raised "Pittsburgh Perfect" Fencing and other brand products to the highest possible plane of perfection, and they stand alone on the market to-day.

With the completion of their blast furnaces the Pittsburgh Steel Company take one of the final steps in fortifying their long-standing position as the leading and largest manufacturers of nails, wire and fencing in the world. They have no connection of any nature with any other concern.

Electric Welding

Electrically welding all stay and strand wires in "Pittsburgh Perfect" Fencing is the greatest step forward ever made in fence manufacture, and eliminates at one stroke all the old forms of cumbersome wraps, clamps, twists, ties, knots, etc., of wire, which add weight, diminish strength, hold moisture and cause rust and quick decay. The Electric Weld placed these old forms of construction in the waste-wire class.

"Pittsburgh Perfect" Fence is the only fence made by the Electric Weld construction. The Weld makes a perfect union of the two wires at every joint. To make this perfectly clear we illustrate a weld cut through the middle. Note the perfect amalgamation. There is no seam, no displacement of galvanizing. The Weld is twice as strong as the wire itself, because at each joint there are two wires merged into one. A "Pittsburgh Perfect" Fence is practically one solid piece of perforated metal.

This exclusive method of construction forms the strongest fence fabric on the market, for any great shock or strain is received and resisted by the entire fabric instead of by one or two wires. Another point is that though the wires in another make of fence may be of the same gauge the "Pittsburgh Perfect" Fence is lighter in weight (and freight) because it carries no surplus wire in forms of wraps, knots, twists, etc.

How Long Life Is Given to Wire

Annealing wire has the same effect upon it as kneading dough; it produces a material of even texture. The more thoroughly the wire is annealed the greater its toughness. The wire for early "Pittsburgh Perfect" Fencing was annealed by the old "furnace" process, the coils of wire being placed in the furnaces and baked, much as a loaf of bread.

Leading wire mills of the world were then using this method, had been doing so for years, and are still using it, but the wire for all "Pittsburgh Perfect" Fence is now submitted to the lead process of annealing. By the lead process the wires are continuously passed through pans of hot lead, and every inch is subjected to the same amount of heat. The wire that is produced, therefore, is of an even grade throughout. As the wire is originally worked from unusually large ingots it is necessarily rolled a considerable number of times, which also adds greatly to strength.

There is only one galvanizing metal that is proof against moisture and rust—pure spelter (zinc). Tin, lead and other metals have been largely substituted for spelter by many in an effort to reduce the great expense of zinc galvanizing, but with poor results.

Among the more recent improvements in "Pittsburgh Perfect" Fencing is the method of galvanizing. This improvement is bringing forth a fence that will withstand the atmosphere, gases and other destroying influences to a greater degree. This feature alone is of great value, since the durability of the fence is much increased.

The Pittsburgh Steel Company's method of pure] zinc galvanizing is the "hot-dipped" process, which smoothly and evenly coats the wire. Cooling is accomplished gradually and without immersing in water, thereby positively preventing all brittleness, while the wire retains its full strength.

The Fence of Greatest Durability

And now a word of advice to the fence user—buy fences made of large wires. They are not only stronger, but are also most economical because of their greater durability. A fence is no better than the smallest wire in it, for when the life of the smallest wire is ended the service the remainder of the fence will give is at once greatly diminished. Every stay wire in "Pittsburgh Perfect" Fencing is the same size as the intermediate line wires.

The judgment of the Pittsburgh Steel Company has been confirmed by that eminent scientist, Dr. Allerton S. Cushman, of the U. S. Department of Agriculture, who is in charge of physical and chemical investigations, and who has been investigating among other things for the past six or eight years the wire fencing made in the United States. He appeared before the Agriculture Appropriation Bill Committee of the Department and in answer to the question of the chairman as to what Dr. Cushman fiund to be wrong with wire fence and what remedy he devised, he replied that the first thing wrong with fence wire was that it was being made out of carelessly-made wire, and also that the amount and character of zinc covering that was put on top left much to be desired. "In nearly every type with which I am familiar, the stay wires are entirely too light to last long, and my advice is to never have a stay wire lighter than a line wire on any fence. Do not practice the false economy of cutting down the weight of the wires. I do not believe that a wire fence should be put on a farm that has a wire in it lighter than No. 9 gauge, and yet the great majority of fences are made of wire that run as low as No. 12 and No. 14 gauge, especially in the up and down wires, which are called the stay wires. In many cases these rust within a year and a half. This is because it is impossible to put as much zinc on a light gauge wire as on a heavy gauge wire. This is a technical fact."

Bearing on the character of material entering into fence, Dr. Cushman suggested:

"The modifications are, first and foremost, to use a more homogeneous metal in the wire to control the amount of impurities that steel contains, so that one batch of metal that comes out of a furnace will be as nearly as possible like the next one."

He also stated that the metals of different chemical constitution, such as Bessemer and Open Hearth, should not be assembled in a structure, as the assembling and connecting of metals of different constitution is one of the controlling influences which hasten or stimulate the corrosion (rust) of the material. "Some of the manufacturers now use only Open Hearth stock, which I believe to be superior."

Fence users all agree there is no question but that large wires in a fence will last longer and in the end are the cheapest, because the cost per rod of fence made of the larger wires does not increase in the same proportion as the size of the wire, nor nearly in proportion with the additional service that large wires (No. 9 gauge) will give.

The Value of a Patent

The Pittsburgh Steel Company's Electrically Welded Wire Fencing is an exclusive product. There is no other fence that can possibly be made like it, since they own the patent rights. Welding fence by electricity cannot be imitated.

In the comparatively few years it has been on the market it has probably given more real service to hundreds of thousands of fence users than all other makes of fence combined. The simple fact that the sales of "Pittsburgh Perfect" Fence have practically doubled year after year conclusively proves this.

The fence machines in the plants of the Pittsburgh Steel Company produce hundreds of miles of fencing per day, one hundred cars of which can be loaded under one roof without re-switching. Under the warehouse system, clean, fresh stock is thus secured.

Nails

Steel wire nails are a great improvement over the old wrought iron nails in use long ago. "Pittsburgh Perfect" Brand Wire Nails are made from the same Open Hearth material as are all other products of the Pittsburgh Steel Company. These nails are of uniform quality, perfectly formed. "Heads do not fly off" when being driven or pulled, eliminating not only annoyance but danger to the eyesight.

It is an obvious fact that most of the nails used throughout America are made by the Pittsburgh Steel Company.

Barbed Wire

The "Pittsburgh Perfect" Brand of Open Hearth steel barbed wire is unequaled for strength and durability, for the same skill, care and watchfulness are exercised in the manufacture of this as in the making of the other products of the Pittsburgh Steel Company. The barbed wire is either galvanized or painted, with two or four point barbs, spaced to meet different requirements.

Staples

Another product of the Pittsburgh Steel Company's great mills are staples. They are noted for their sharp points of uniform length, can be easily driven without tearing or splitting, hold tight, and are used all over the country the same as their wire, nails and fencing. The fence staples are furnished either bright or galvanized, while their poultry netting staples are always galvanized.

To go through these mills of the Pittsburgh Steel Company is to drive home most strongly the enormity of the output of our industries. A visit to them portrays most vividly the wonderful achievements of man and bares the secret of our unassailable industrial supremacy.