

that region. From time to time northern capitalists were asked to invest in the mines, but they would not believe the stories that were told them.

One man who owned some of the most valuable iron territory of Alabama called upon Abram S. Hewitt, who, you know, has made a fortune out of iron and who has big iron interests today. He showed Hewitt the ore and told him it lay there in Alabama on the top of the ground and could be had for the picking it up. Hewitt replied that he had no money to invest at present and he evidently did not believe the man's story. "Why," said he, "we people here in New York look upon iron as so much gold and you can hardly make me believe that you people have lumps of gold lying around down south and that no one has yet picked them up. If your story is true I advise you to take several New York experts to the south and get them to swear to what they see before you try to place such property in New York." It was some time after this before the Alabama mining boom began. A great deal of this was on paper, but the foundation is there and the iron mines are as valuable today as they were ten years ago. They are now all owned by big corporations and they are being developed after the best business principles. The mine which we entered was worked with compressed air drills. The cars were hauled up and down an inclined railway by steam, and hundreds of sooty laborers, with candles in their hats, were at work. The vein of ore that I saw ranged in width from eight to twenty-four feet. It is a grand sandwich of iron ore between walls of slate and rock. It dips down into the ground at an angle of about thirty-five degrees.

I could hear the boom! boom! boom! of the blasting powder as I went through the mine. At times the air shook and quivered with the concussion, and our candles were blown out. Dynamite is used almost altogether in iron mining, and the danger is very great if it is not carefully handled. Every now and then terrible accidents occur in the mines. Men are torn to pieces, the walls fall in, and there is great loss of life. The miners I saw in Alabama were negroes. They are not as careful as the whites and their wages are less than the men at work in the mines of the Lake Superior region.

Leaving the mine, I next went to one of the great furnaces at the foot of Red mountain, where the ore is turned into pig iron. Iron, you know, never occurs pure in a state of nature. The ore of the red mountain, which is used at the Bessemer furnaces, contains only about 48 per cent of iron, and the superintendent told me that the purest iron stone found anywhere contains only 70 per cent. The rest is made up of rock and other minerals and it is necessary to separate the iron before it can be used for manufactures. This process is known as making pig iron. The iron is mixed with limestone and coke in great furnaces, which are, I judge, as high as a six-story house. The furnaces are filled with alternate layers of coke, limestone and iron. It takes an enormous blast to furnish enough heat for such a furnace, and the blast is created by immense engines, which force the air first through what are perhaps the biggest stoves of the world. They are immense tubes, many feet high, and as big around as the city gas tank. They are lined with

firebrick and are heated by the gas which comes from the furnaces. The air is made to pass through these enormous stoves before it goes to the blast and it produces a heat so intense that the iron and steel machinery of the furnace would not last a minute were not every bit of it enveloped in water. All of the pipes are encased in other pipes which are kept full of cold flowing water, and this water is forced about the outside of the furnace whenever smelting is going on. The heat is so great that the iron is melted in a very short time. It is drawn off from each furnace twice a day.

It flows out at the foot in a little river of gold. The stream looks like molten gold alloyed with copper until it gets a distance of perhaps twenty feet away from the furnace. Here it is divided into two streams. The iron flows one way and the slag or refuse, which has formed a scum and floats on the top, is carried off in another. The iron is now of a yellow gold color. It seems to have lost its reddish tint. It runs off in a golden stream into a bed of sand, in which little holes have been cut or molded, so that it looks for all the world like a garden patch ready for planting. These holes are of just the size and shape of what is known as an iron pig. They are about as big around as the upper arm of a good-sized man and about three feet long. The yellow stream finds its way in through them and soon the garden is full of these bright yellow pigs, which turn to a copper tint as they cool and then change to the gray of cold pig iron. As the metal is cooling the heat waves dance over the garden patch of hot iron, and you have to hold your hat before your face to keep from being scorched. After the pigs are cooled they are piled up ready to be shipped to different parts of the United States for use in manufacturing. The slag goes to waste. It runs off into a great iron pot fastened on car wheels and is wheeled on a railroad track some distance away and emptied out upon the slag heap. There are mountains of such slag near every great furnace, and the invention has yet to be made which will turn it to any other use than that of ballasting railroads.

We lead the world not only in the production of iron, but also in the making of pig iron. We made 10,000,000 tons in 1892, which was an increase of more than 1,000 per cent over the product of 1865. Since that time we have increased our steel product 360 times, and we are now making enough steel every year to give every man, woman and child in the United States 140 pounds, and have some to spare. Some of our pig iron which was lately sent to England, I am told, was sold for less than \$7 a ton. We made pig iron at the time of the revolution, which was worth \$50 a ton, and we are making steel now, it is said, almost as cheaply as a good class of iron.

It is wonderful how iron increases in value after it is turned into machinery or articles of use by the people. You get some idea of what labor is worth when you think of it. It is estimated by Carroll D. Wright of the labor bureau, for instance, that seventy-five cents' worth of common iron ore when turned into bar iron is worth \$5. If you make it into horse shoes it is worth \$10, or, if into table knives, \$180. Seventy-five cents' worth of ore manufactured into needles is worth \$6,800, and when made

into buttons more than \$29,000. If the iron is converted into watch springs its value is almost ten times as great, and when turned into hair springs your seventy-five cents' worth of rock and stone will sell for the enormous sum of \$400,000. The difference between 75 cents and \$400,000 is the value paid for labor alone. So you see that, after all, the real wealth of a country lies in the muscles and brains of its people. If we could turn all of our iron ore into hair springs, and could find customers for them, we would be so rich that we could buy the whole world and take flyers in all the speculative property on the sun, moon and stars and still have money to burn.

Frank G. Carpenter

ELDERS IN PENNSYLVANIA.

LASHLEV, Fulton Co., Pennsylvania.
December 16th, 1896.

Thinking a few lines from us may be of interest to your many readers, we therefore submit the following.

Leaving Utah October 10th, we arrived in Huntingdon county, Pennsylvania October 17th. There we met Elders Cornelius Richardson, William Hill and George W. Parrish. After taking dinner together we were assigned to our fields of labor as follows:

Elders William Hill and Andrew Peterson, were assigned to labor in Lebanon county, Pennsylvania, Geo. W. Parrish and Walter P. Rich, to Montour county, Pennsylvania, and I was to remain with President Richardson. After going to the depot to see the brethren off we went about our canvassing and visited most of the leading men of the borough, subscribed for the paper and then went about tracing and holding meetings wherever an opportunity presented.

A report of our last month's work shows, families visited 290; tracts distributed 811; books sold 26; meetings held 54; references 19; Gospel conversations 124; families re-visited 13.

This being a new field, the Gospel seemed quite strange to some of the people. We are making friends and there are many who are investigating the truth.

It seems that we draw a line wherever we go. Some are seeking after the truth, and when we present the Gospel to them in its true light they seem to endorse the same, while others do not care to hear it. Of course we meet with opposition among the ministers.

The other day, we met Rev. Levi Anderson who invited us to stop with him over night. After conversing upon the principles of the Gospel, he said he was very pleased that we had stopped, and remarked, "I have a church here I want you to speak in." The following day he visited his neighbor, who told him we were Mormons and he would not believe them. It seems that he did not understand us when we told him who we were. When he came home he asked me if we were Mormons, I told him we were. "Well!" says he, "had I known that, you could not have come into my house. But thank God, I never knew it, for you are right and I know you preach the true Gospel." The next Sunday morning there was a meeting in the church at 10 a.m., and we were