

The Cranberry Iron Region: Developing a Great Iron Country

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Special Correspondent to the *Manufacturers Record*

We left Ashland, Kentucky by rail to escape the impending snow storm, which has since made the mountain roads impassible, and reached Johnson City by a circuitous route which took us through Lexington and Knoxville. This was fully double the distance which the **3C's air line**¹ will traverse between here and its northern terminus on the Ohio River. No close connections are made at those two cities; consequently we were forty hours in making a trip that when the new railroad is built can be accomplished in ten hours.

The day after our return I went over the **East Tennessee and Western North Carolina Railroad** to Cranberry that I might compare the difficulties of that route with those we had seen while journeying among the Virginia and Kentucky mountains. Much as I had heard of this road, I had no conception of the rugged character of the country or of the obstacles the engineers had to surmount. There is no spot in all the two hundred miles north of here that present such tremendous obstructions to railroad building as **Colonel Thomas Matson** encountered while constructing this narrow gauge road. Three separate surveys were made by experienced and skilled engineers, **all of whom declared the undertaking impracticable**. In November 1878, Col. Matson was sent to this field with instructions to find a route for a standard gauge road. After two months' work, he pronounced it impossible, but asserted that a narrow gauge road could be built. He found a course for it up the almost perpendicular side of a narrow mountain gorge (*Doe River Gorge*) through which a strong torrent clashes over jagged rocks. In making the survey he led his party up that stream, although the icy water was in many places breast high. It was a feat none but a brave and ambitious young engineer would have dreamed of attempting.

In 1880, the company decided to make the attempt, and in September the work of construction began. The last spike was driven July 4, 1882, and soon afterwards trains ran regularly between Cranberry and this place. **The cost of construction was \$700,000.** This road is thirty-five

¹ The Three C's was officially the Charleston, Cincinnati & Chicago Railroad under development by General John T. Wilder – development was stopped in 1893 as a result of a national depression. This road was eventually completed as the Carolina Clinchfield & Ohio (Clinchfield Railroad) in 1909.

miles long. The sharpest grade begins within three miles of the North Carolina line, and is 158 feet to the mile. Its construction has made **Johnson City the largest freight station** on the line of the East Tennessee, Virginia & Georgia Railroad. The daily receipts of Bessemer ore average 150 tons. Besides this, large quantities of staves, oak bark, lumber and country produce are brought down from the mountains. The back country tributary to this line has experienced great changes within four years. The people were isolated and knew little of what was going on outside their immediate neighborhoods. They had no home markets and their produce of all kinds was of little value. Col. Matson illustrates this by an incident that occurred at the construction camp. One day a man appeared with a large turkey and two fat chickens for sale. His price for the three was twenty-five cents. When he received it he looked at it and fingered it for a moment and then said: **"It's the first money I've seen in four years."**

As soon as the road was finished general stores were started along the line. The merchants bought the surplus of the farms and whatever the mountaineers brought them from the forests. Villages sprang into life around the stores and schools and churches were built. Before the road was constructed the entire value of school and church property between Elizabethton and Cranberry might have been at a liberal estimate, \$500, now in the same territory the aggregate cost of those is fully \$15,000. One noteworthy effect has been the **steady elimination of idlers**. When every cabin has more produce than its occupants could consume and there was no market for the surplus, all persons too lazy to work lived upon their neighbors. Every house-holder was free-handed, and if an indolent do-nothing came to his house for a meal, or for meal of corn for his family, the hospitable mountaineer cheerfully gave of his abundance. But since the merchants take all that can be spared, "the old order" of things has changed. The thrifty are no less generous than before, but they have learned that it is unwise to help to sustain other men in idleness while they labor for what they possess, so the shiftless and the drones are fast disappearing from the population of workers, retiring to the more remote regions where they can "eat the bread of idleness." When time becomes valuable there are fewer loungers and consequently fewer grogshops and drunkards. It may be that the rapid growth of the prohibition idea in the South is due quite as much to the value of time as to any moral ideas on the subject. However, that may be, it is beyond question that there is a reduced consumption of whiskey and a much higher moral standard now all the line of this road than there was four years ago.

The Bessemer iron ores that led up to the building of this railroad, were first brought to the notice of American manufacturers by **General Robert F. Hoke** of North Carolina, who during the Civil War, was a gallant

officer in the Confederate Army. While in the service he often saw bars of iron at Richmond that had been brought from this place, that the ordinance department then drilled and turned to gun barrels. The toughness of the iron was well proven in the service. After the end came, he hunted up the spot where this iron had been forged, secured a considerable ore tract, and in a small way commenced the manufacture of blooms, which were carted over the rough mountain roads at heavy expense, and sold to distant customers at remunerative prices. When iron fell with everything else, the General bestirred himself to meet the new conditions, and to his intelligent action is due the large development already recorded.



General Robert Hoke, CSA

The Bessemer ore of this district is in demand far beyond the capacity of the mines now in operation. In my letter from Ashland the figures were given for the enormous quantity the Hanging Rock furnaces would take annually as soon as the Three C's Railroad was completed. On my way here I bought on the cars a Chattanooga Times of December 1st, from which I clipped the following statement.

“There seems to be every probability now that Chattanooga’s importance as a port of entry will be greatly increased at an early day. Since the shut down of the Roane Iron Company’s steel mill plant, some four years ago there has been very little importing done in Chattanooga. A Times’ reporter learned yesterday that a cargo of 700 tons of English pig iron had been shipped for this port, to be used at the South Tredegar Steel Mill. It is understood that the South Tredegar people were forced to get their iron from England by reason of the insufficient supply of the Cranberry metal now in the market, there not being enough furnaces now using that ore to supply the demand. It is understood that the company will use many more tons of the same English pig before the furnaces making Cranberry pig either increase their capacity or number.”

It is stated that other large orders for the English pig will be made before long. The metal is ordered and held in bond to be used as needed, the consumer paying the duty as it is taken from the store

house or pen. In Chattanooga it will be placed in a pen, and stored for use by such mills as may need it, the duty being paid as fast as used. Dr. Gillespie thinks that there will be a steady increase in importance for the next two or three years, at least until there is a large increase in Cranberry furnaces."

Upon reading this I at once determined to ascertain what the Cranberry district might reasonably be expected to furnish towards supplying the demands, not only of those two large customers, but of many others in this country. The information that follows has been obtained from practical men, owners of ore banks, or otherwise interested in this region, and thoroughly conversant with its ores.

The magnetic ore belt occupies a territory twenty-eight miles in extent. The mines that supply the 150 tons daily brought to Johnson City are in the valleys of the Elk and Watauga Rivers, on the north and east sides of Yellow Mountain, a spur of the Roan. A little west of these, in the valleys of the Doe River, are the mines opened by Captain Chamberlain, of Chattanooga. Still further west is the property of the Crab Orchard Forge Company, equally rich with the others, but as yet undeveloped. At the latter place the ore tends southwestward, passes through Roan Mountain, and crops out largely on Rock Creek. This mine was opened by **General John T. Wilder**, who worked up considerable quantities of the ore in his forge close by, and later he sold it to Means, Mendenhall & Co., of Cincinnati. The outcrop here is of such an extent as to indicate that the output will equal the aggregate product of all the mines now open on the other side of the mountain. Their ore will be carried to market by the Narrow Gauge road, but that from the Rock Creek mines must await the building of the Charleston, Cincinnati and Chicago Railroad, which will run close by their doors. At the present rate of development, the Elk, Watauga and Doe River mines will soon have an output of 500 tons a day and in three years that will be increased at a daily output of 1,000 tons. The Rock Creek mines will equal this larger figure as soon as transportation is afforded. In the opinion of the best informed experts the total output of Bessemer ore from all mines in the district five years hence will be around 5,000 tons daily, or in round numbers 1,500,000 tons a year. This estimate is made upon the present rate of development, and gives no correct idea of what the output would be should the percentage of working forces and appliances be largely increased. Six cubic feet contain one ton of ore. When it is considered that all the present work covers only a mile and a quarter of the twenty-eight miles which this ore bed occupies, some faint idea may be conceived of the vastness of the output that will follow the ending of preliminary work and the opening up of this vast mass of ore along the entire frontage. The building of the Three C's Railroad is, therefore, the first step towards this full development.

But there is another thing to be considered by the Chattanooga people and by all others who must have this magnetic iron. Before they can be supplied – blast furnaces must be built. As a rule it is cheaper to carry ore in fuel than to transport coke to the mines. Here, however, is an exception to the rule. Wherever the Three C's Railroad shall cross the East Tennessee, Virginia & Georgia track (whether at Johnson City, Bristol or some intermediate place) there blast furnaces will be built, for the same cars that come to Ashland to load with ore for its furnaces will bring coal and coke at low rates rather than to run empty. The intersected road occupies a point of vantage between the coal fields and ore banks, and at the same time will furnish a transportation outlet from both east and west. Such being the case, wherever the two roads cross (and that remains to be determined) there will spring up a furnace town of no insignificant size and importance, from which Bessemer pig will be shipped to all parts of the country. First, however, the railroad must be built – afterwards the laws of demand and supply will settle all things satisfactorily.

So much has been published about the magnetic ores of this district that little or no attention has been paid to the extensive beds of brown hematite that lie on the line of the Three C's Railroad. Yet these fine ores will have much to do with the creation of one or more iron manufacturing centers in this vicinity. The deposits referred to are found in the valley of Indian Creek in quantities practically inexhaustible. It is in all respects the ore iron masters need for admixture with the magnetic. The close proximity of these ores to a center where fuel and limestone can be had at a minimum cost is another reason that leads me to expect that somewhere in this vicinity a great manufacturing town will arise. Johnson City people feel sure that it is bound to be the place, not seeming to realize that their little burgh is but a spot on the map, no better than a score of others where land can be bought at reasonable prices, and capitalists can have a chance to realize the profits created by their investments in various manufacturing enterprises. **From present appearances I fear that they are following the example of that foolish fellow who killed the goose that laid the golden egg, and that some sunny day when too late to remedy it, they will awake to find themselves "passed on the other side."**

B. S. P.