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*OUR IRON INDUSTRIES. GEOGRAPHICALLY CONSIDERED, BY J. G. CHAMBERLAIN.*

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"Watchman, tell us of the night," is the anxious inquiry of all those who are engaged in the iron business. The sun of its prosperity has gone down and left a sombre cloud hanging over it; the dark veil stretches from Lake Champlain to California, from the Lakes to the Gulf, from the Mississippi Valley to the Atlantic. All are looking for the "rosy-fingered goddess of the morning" to lift the gloomy curtain and let the light of returning prosperity shine over our broad domain. Many in the North and West are wondering if the theory of the "survival of the fittest" will not be the requiem theme of their iron interests, and the Sunny South become the great iron district of the country. The general revival of the industries I leave to Time and Benner to settle. It is the location of the center of the iron business that I wish to consider, whether it will move southward or remain as it is. The iron manufacturers of the North cannot alone answer the question. The coke, coal and ore producers, the rail and water transportation companies, will have to give the matter serious consideration. Together these can answer the question and answer it favorably to the present location. The treatment must be heroic. It will not do to wait until enough furnaces are built in the South to supply all the pig iron the market requires. It will then be too late to recover what should never have been lost.

The royalty, where mines are leased, should be brought to a minimum. The ore producer should be satisfied with a reasonable

profit. Furnace companies should enlarge their stock houses, so that ore, coke, and limestone could be dumped from the cars into them. The cost of unloading material, per ton, of pig iron made, is not far from twenty cents, when shoveled. If all this material could be dumped, it would not cost more than five cents per ton of iron made, a saving of fifteen cents per ton. With large stock-houses, a great saving would be made in always having dry material to put into the furnace. The average cost of ore, to pig iron producers using lake ore, has been during the past year not far from \$5.80 per ton, delivered at their furnaces.

By a proper reduction in royalties, mining profits on the ore, water and railroad freights, the ore could be delivered to the furnaces at a dollar per ton less than it was last year. Estimating the average ore to contain sixty per cent. metallic iron, this reduction alone would lessen the cost of pig iron \$1.66 per ton. Another important item presents itself, and that is the freight on coke. This could and should be reduced a dollar per ton; then the railroad companies would have no freight that would pay them better. This reduction would cheapen the cost of iron \$1.50 per ton.

Thus it will be seen, we could, in the three items of cost—ore, coke, and unloading material—make a saving of \$3.31 per ton.

Perhaps the ore producers and transportation companies will say that these reductions cannot be made. But, when our furnaces go out of blast, and the wrecking process commences, no fears need be entertained in regard to the matter. It may then be too late; now is the time to act. Let these reductions be made, and we will regain all the northern markets.

The labor question is an important factor in iron production, but I do not intend in this paper to discuss the subject to any length. It is, however, apparent to every thoughtful man that the low labor rates in the South must advance, or that in the North the rates must recede. The leveling process, up or down or both, will go forward until northern and southern labor will practically reach a common base. "Free trade" is an autocrat in regard to labor. It is inexorable in its demands for uniformity in price, when the labor is performed in producing the same products. We are a nation of free traders between ourselves, and this will bring about uniformity as to price and hours of labor. It is claimed by some parties that

labor in the South is higher than in the North. This may appear to be so, in some instances, but I think it can not be proven to be the rule.

Each section, north and south, has the raw material to manufacture all the iron its own natural market will require. Southern furnaces are now largely supplying an unnatural market. Shipping pig iron from Alabama to Cleveland, Ohio, is like "carrying coals to Newcastle." The northern furnace proprietor now finds that he has to compete with southern iron right at his own door.

Will the ore producers, the transportation companies, and the coke manufacturers remain unconcerned while our furnaces are going out of blast? Must the ore mines remain idle while vessels lie for months at the docks and railroad companies fill their side tracks with empty cars? These are the chief questions we need to consider, all other questions will take care of themselves.

In the foregoing I have indicated the course to pursue in order to keep the center of the iron industry practically where it has been for at least the last twenty years. Had the ore, coke, and transportation companies met this question three years ago in the manner I have suggested, the northern furnaces would have held all the east, west, and northwestern markets, leaving the South to supply its own wants, and the balance sheets of all these companies would have been more pleasant reading to their stockholders. The increased amount of trade would have more than made up the loss they would have sustained by their reduced rates. Every furnace in the North whose fires are extinguished to light the fires of a Southern furnace would lessen the amount of freight to be carried, estimating the daily capacity of a furnace at eighty tons, four hundred tons daily. The iron produced at such a furnace, valued at \$15.00 per ton, would amount to \$1,200.00 per day. It would be fair to say that eighty per cent. of this would represent labor, thus, we would have in this item \$960.00. Now, with labor at a dollar and a half per day, we see that a single furnace employs six hundred and forty men to supply it with material and to keep it in blast.

Let fifty of the ninety-one idle furnaces in Ohio and Pennsylvania go into blast, and they could do it, if they could supply their natural market against Southern and foreign iron, and they would

employ not less than thirty-two thousand men in preparing the raw material and manufacturing it into pig iron. They would give the transportation companies twenty thousand tons of freight to carry daily, or seven million three hundred thousand tons per year. If an average of a dollar a ton is paid on this freight, which I believe to be a moderate estimate, it would make the gross receipts for transportation \$7,300,000.00. If the operating expenses cost fifty per cent. of gross earnings it would make the net earnings for these companies \$3,650,000.00, which would pay six per cent. interest on an investment of \$60,833,333.00, or the interest at six per cent. on twelve hundred and sixteen miles of railroad, at an average cost of \$15,000.00 per mile. This would be sufficient business to pay six per cent. interest on the cost of all the Lake Superior roads that carry iron ore, the five railroads that run from the Erie ports to Pittsburgh, and the three roads from Pittsburgh into the coke fields.

It would be impossible to estimate the good results to the country at large of starting up this amount of additional business around the present center of the great iron industry. It would give renewed life to all agricultural, commercial, mining and manufacturing interests.

I would emphasize the question: *Can we afford to let this industry slip away from us?*

If we cannot, it will be exceedingly unwise to wait until the South has built furnaces enough to supply a large part of the iron used at the North. There are now furnaces enough to supply all the demands of the country, and they will be able to do so for the next ten years. Let our efforts be, to control our natural markets, to start up our idle furnaces and mills, not to sit down, fold our hands and quietly wait to see if some disaster will overtake the iron manufactories of the South.

Let the suggestions I have made crystallize in action, and Pittsburgh will continue to be the center of this great industry. A step in the right direction has been taken by the railroad companies that have recently made some reductions in freight charges on coke, and the Lake ore companies that have made some concessions in the price of ore. It is said, however, that the Coke Syndicate will counteract this reduction by increasing the price of coke, but it is hardly possible that the clear-headed business men con-

nected with the Syndicate will do so unwise a thing. They certainly see that pig iron must be made cheaper, in order to hold our markets and keep our furnaces in blast. The coke producers are important factors in this problem, and, doubtless, they are willing and ready to meet the issue, in a liberal spirit, when they fully see its importance.

I have no desire that the South should not develop her ore and coal mines, build furnaces and rolling mills to supply her own necessities, and supply the demands of her natural markets. Further, if after we have done all we can to cheapen the cost of iron, we find that we cannot compete with Southern iron in our natural markets, we should be willing to succumb to the inevitable, to the "survival of the fittest."