

**Materials.—Cement:** The cement used was Portland in bags, the work requiring 20 bags per 100 ft. of combined curb and gutter. The price of the cement, taking out the refund on the bags, was 50 cents per bag.

**Gravel.**—The fine aggregate and coarse aggregate was combined in the form of river gravel, the work requiring about 5.6 cu. yds. per 100 ft. of combined curb and gutter. The gravel cost on the work \$1.25 per yard.

**Broken Stone:** The stone for the foundation and underdrainage was ordinary building stone broken to the proper size. The work required 8.7 cu. yds. per 100 ft. of combined curb and gutter. This stone cost \$1.25 landed on the work.

**Cinders, Forms and Labor:** The cinders used were ordinary hard coal clinkers, costing 50 cents per yard landed on the work; 100 ft. of curbing requiring 1.4 cu. yd.

The forms used were made of spruce planks and, roughly speaking, 3,000 ft. B.M. was used, the forms being used over and over again. This lumber cost \$30 per M.

In this work 11 men were used, there being a foreman at \$3 per day and 10 laborers at \$2, making a total of \$23 per day.

Following is the cost data given in tabulated form. Table I. gives the amounts of the different materials used and the number of feet of curb constructed every 6 days in the 41 days needed to finish the work. Table II. gives the total costs of the different materials and the total wages paid.

The total amount constructed was 4,032 feet, while the total cost was \$2,192.30, making the cost per lineal foot 54 cents.

Table I.—Materials.

Days.	Cement used, bbls.	Gravel used, yds.	Cinders used, yds.	Broken stone used, yds.	Curb con- structed, ft.	Men per day.
1-6	15.6	17.3	4.8	27.8	320	11
7-12	30.2	31.3	8.7	50.5	580	11
13-18	31.7	32.9	9.6	53.1	610	11
19-24	33.8	35.1	9.7	56.6	650	11
25-30	37.4	38.9	10.8	62.6	720	11
31-36	39.0	40.5	11.2	65.3	750	11
37-41	20.9	21.7	8.0	35.0	402	11

Table II.—Costs.

	Amount.	Cost.	Total.
Cement .....	208.6 bbls.	\$ 2.00	\$ 417.20
Gravel .....	217.7 yds.	1.25	272.10
Cinders .....	62.8 yds.	.50	31.40
Broken stone..	350.9 yds.	1.25	438.60
Forms .....	3,000/ B.M.	30.00	90.00
Men .....	11 per day	23.00 per day	943.00

Total cost .....\$2,192.30

The first railway in Shantung was commenced in 1899. It extends from the port of Tsingtau to Tsinanfu, the capital of the province (a distance of 395 kilometers), and has been built by the Shantung Railway Company, which was founded in 1898 for the purpose of taking over the railway concession granted to Germany by the treaty of 1898. The capital of this German-Chinese company is 54 million marks, in 54,000 fully paid-up shares. The company is registered at Berlin, where is also its head office. It is a single line throughout, of a 1,535-metre, or normal gauge; but sufficient land to build a double line is provided for.

## THE IRON AND STEEL SITUATION.

Regarding the iron and steel market in the United States as it stood at the beginning of the month, the "Steel and Metal Digest" observes that it was not in a state of stagnation but of complete prostration. The closing fortnight of October witnessed an absence of buying, of specifying on contracts, and of general interest in the market on the part not only of buyers but even of sellers, that certainly has never before been witnessed in the history of the steel trade, now some quarter century old. In earlier years, when wrought iron was the controlling factor, instead of steel, some parallel to present conditions may have existed for periods in 1878, long remembered as a phenomenally bad year although, naturally enough perhaps, followed the next year by one of the greatest booms, if not the greatest, in all iron and steel market history. Taking up the great industrial depression of the eighteen nineties, picking out the worst of those years, 1896, and the worst period in that year, one does not find a parallel to what has occurred, or rather has failed to occur, in the past fortnight. The reference to 1878 having been a phenomenally bad year, immediately followed by a boom year, furnishes no basis in itself for predicting much better things next year, though the reference contains a suggestion. There was a similar boom in 1899, but while 1879 was preceded by a year in which pig iron production was less than in three much earlier years, 1872, 1873 and 1874, the boom year 1899 was immediately preceded by two years which while dull each broke all previous records for pig iron production. It was a sudden change from 1878 to 1879, but the change from 1896 to 1899 was slow.

The rate of steel production at the beginning of November is approximately 40% of the capacity. Only in very exceptional instances, as when many mills have been closed over Christmas holidays, or when there has been a sudden but largely temporarily closing by reason of a panic, has the percentage rate fallen so low. The steel mills have never run for more than three consecutive months at a lower rate than 50% of capacity.

There is no definitely established price situation. Prices are not a consideration. Usually in dull periods they are an issue, and a very important one, but at present the buyers have nothing like a definite position. They are waiting for a chance to act, not a chance to buy at certain prices. Indeed, with many products it is a question where the market price really stands. There is actually not enough business offered, in some instances, to disclose at what prices mills would be willing to sell. The great majority of producers have nominal asking prices, which they would be only too glad to be tempted to cut in an effort to start business moving.

## COST OF SUPERVISION OF HIGHWAY CONSTRUCTION.

The following statement shows the annual cost of supervision of construction of highways by the State highway department of Ohio in percentage of the amounts expended by the State in such construction:—

	Per cent.
1914 .....	4.03
1912 and 1913 .....	5.71
1911 and 1912 .....	6.18
1910 and 1911 .....	6.40
1909 and 1910 .....	5.39
1908 and 1909 .....	5.43
1907 and 1908 .....	5.28
1906 and 1907 .....	7.55