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Cost of Quarrying.—From a paper upon the cost of excavating and handling rock, read recently before the Western Pennsylvania Mining Institute, we excerpt the following:—"The average weight of a cubic yard of sandstone or conglomerate in place is given as 1.8 tons, and of compact granite, gneiss, limestone, or marble two tons, or an average of 1.9 tons, or 4,256 pounds. A cubic yard when broken up ready for removal increases about four-fifths in bulk, and one-fourteenth of a cubic yard, or 177 pounds is a wheelbarrow load. Experience shows that with wages at \$1 per day of ten hours, 25 cents per cubic yard is sufficient allowance for loosening hard rock. Soft shales and allied rocks may be loosened by pick and plow at a cost of 20 cents to 30 cents per cubic yard. The quarrying of ordinary hard rock requires from 1/3 pound to 1/2 pound, and sometimes 2/3 pound, of powder per cubic yard. Drilling with a churn driller costs from 12 to 18 cents per foot of hole bored. Upon these data Mr. Rigly estimates the total cost per cubic yard of rock in place, for loosening and removing by wheelbarrow (labor assumed at \$1 per day of 10 hours), as follows: When distance removed is 25 feet total cost equals \$0.537, when 50 feet \$0.549, when 100 feet \$0.573, when 200 feet \$0.622, when 500 feet \$0.768, when 1,000 feet \$1.011, and when 1,800 feet \$1.401. This is exclusive of contractor's profit.

When labor is \$1.25 per day, add 25 per cent. to the cost prices given; when \$1.50 per day, add 50 per cent., and so on. In hauling by cart, the cost of loading, which will be about 8 cents per cubic yard of rock in place, and the additional expense of maintaining the road, must be added. Allowing, then, \$51 pounds as a cart load, the total cost per cubic yard is estimated, when removed 25 feet, at \$0.596, when 50 feet at \$0.599, when 100 feet \$0.605, when 200 feet \$0.617, when 500 feet \$0.655, when 1,000 feet \$0.717, and when 1,800 feet \$0.940.

A New Calculating Machine.—One of the most ingenious of recent American inventions is a calculating machine called "The Comptometer." It is the work of a resident of Chicago and with its aid the most complicated mathematical computations can be made with great accuracy, ease and swiftness. The instrument is 14 1/2 in. long, 7 1/2 in. wide, 5 in. high, and weighs 8 lbs. It can be placed upon an ordinary table. It differs from all other machines of this character, as it can be worked with type writer keyboard. This machine performs large multiplications in a second of time. It was recently tried by the official experts at the Treasury at Washington. Various examples not previously known to the inventor were given to him for the testing of his apparatus, as well as to experts detailed from the treasury. The machine always surpassed the experts in speed and was invariably correct. The inventor was given an example like the following:—Suppose you bring £234 from England to New York, where the rate of exchange is 4-84 1/2 dols., what is the American value of your money? In one second of time this marvelous calculating machine recorded the correct answer of 1,134-60 1/2 dols.

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