The Standard Mine is only three hundred feet deep, but is very extensive; it is very systematically laid out and is very neat for a coal mine. The total output is immediately made into coke in ovens near the mine. In one of the chambers, fire damp was discovered on the morning of our visit. With the manager for a guide, our party went beyond the danger signal to see the tests for the fearful gas. As the safety lamp was held up and the little blue flame played inside the wire gauze, most of us felt that we were in close quarters, for if there had been a defect in the gauze, the Summer School would have disbanded, "sine die."

Our party naturally caused some comment among the miners who were waiting at the bottom of the pit during the "mule strike"; the following conversation was overheard:—

"What them fellers want down here?" said one miner.

"They're studying mining at some school," answered the second miner.

"They better get up a tree and study the stars; they might get scared down here," said the first.

"Oh, they'd not dare climb a tree; they'd be afraid of getting hurt," said a third miner.

"No, they wouldn't. They'd take good care to have a safe platform built before they climbed up," answered the first. Just then we went up to the surface, and the rest of this complimentary conversation was lost.

While waiting for the train, Professor Richards took a photograph of the party, with a "U. S. Bonded Warehouse" for a background.

At several blast furnaces we were told that we were looking at the "record breaker." On Tuesday morning, June 23d, we went to the Edgar Thomson Steel Works at Braddock and saw the only blast furnace that holds the world's record,—an output of four hundred and fifty tons of pig iron in twenty-four hours. Two "Iron and Steel" policemen escorted us over the plant to show us the sights and to see that we didn't lug off any steel rails. One of them said that he never had such hard work in keeping a party together. From the time that the iron ore goes into the blast furnaces at these works, until it is made into steel rails ready for shipment, it does not cool down.

Wednesday forenoon was spent at the artificial ice factory and storage house, and at the Pennsylvania Glass Factories, where window glass and bottles are made. At the ice factory we saw eggs and poultry that will be put on the market during the holidays. The cakes of ice made there were beautifully clear.

Thursday morning we went to Latrobe to see the Latrobe Steel Works. This plant was designed expressly for the production of steel tires for locomotives and passenger cars. As this requires a special steel, the company makes it, right there, just enough steel for one tire being cast in a peculiarly shaped ingot. The system used for keeping track of the products of this company seems perfect. Each steel ingot, weighing from two hundred to fifteen hundred pounds, is numbered and marked as soon as it is cool. That number, the date of casting, the analysis of the steel, and other information are registered at the office. Then the number is so deeply stamped into the tire that it remains with it throughout its existence. If, in the wear of the tire, it shows any flaw or peculiarity, the cause can be accurately traced.

On our return from Latrobe, a short visit was made to the foundry and machine shops of Mackintosh, Hemphill & Co., makers of blowing engines and other large machinery used in iron and steel works. While we were there, they filled the moulds of some very large steel castings. One of the members of the firm conducted us over the place, and wished us all manner of good fortune and success when we left.

On Friday morning a short excursion was made to the Pittsburg Water Works to see the great pumping engines, the largest of their kind in the world. The four plungers of the