Notes of a Trip to Florida.

Palatka, Fla., January, 1884.

My friend B. and I left Washington the other day by the so-called "Fast Mail Train" for Jacksonville, Fla. In reality, however, the train could not even be called an "accommodation train," since it was delayed first by hot boxes on the cars, and then by those on the engine, while the growling passengers whiled away the time by gathering palmetto leaves or looking into the negro cabins. At Charleston the first change of time—from the Eastern to the Central Standard, one hour earlier—was made, and in consequence we had an unusually long day. South of Charleston, wood took the place of coal as fuel for the locomotives. The firemen were generally negroes, but the engineers universally white men.

At St. Augustine we visited the Coquina quarries, situated on a sandy beach, exposed to the swell of the Atlantic. This curious stone is a conglomerate of shells and sand, and though soft when first cut into blocks, hardens on exposure to the air. It is of the material that the seawall, built by the United States government, to protect St. Augustine from the inroads of the sea, is constructed, as well as many of the older buildings of the city.

One morning we embarked for the Ocklawaha River on the funny little steamer "Marion," a stern-wheeler, housed all over to protect things from contact with the branches of trees, against which the boat brushes as it pushes its way up the sinuous and narrow stream. The motive power was of the most primitive description, being simply two direct-acting, high-pressure engines. As in all this region, wood is the fuel used. A double rudder situated behind the wheel gave control to this strange craft, which, though she drew but two feet of water, would occasionally bump into a cypress snag and as quickly glide off again. The river banks were a maze of palm and cypress trees, the latter draped with the long, gray Spanish moss. Strange birds and butterflies, frightened by the noise of the steamer, flew across her path, while the muddy stream harbored, presumably, multitudes of water-snakes, fishes, turtles, and alligators, though we only saw the head of one of the latter as he leisurely swam across our bow. When night came the scene was illumined by a bonfire of pitch-pine sticks placed in a cage on top of the pilot-house, producing a very weird effect.

We returned to Palatka by rail, our experience being that the trains, though slow, were not so bad as generally represented.

Railroad building is being actively pushed in Florida, and there are now nearly fifteen hundred miles finished in the State, where a few years ago there was not one. Many of the completed roads are narrow-gauge.

A. L. R.

The Determination of Sulphur in Pyrites.

The Zeitschrift für Analytische Chemie gives a method of the opening up of pyrites as follows: About 0.5 grm. of the sample is introduced into a small stoppered flask, to which is added 30 c. c. of water, and then about four c. c. of bromine. The flask should be immediately stoppered and shaken for five minutes. The bromine should be added all at one time, for if introduced gradually sulphuretted hydrogen escapes. Scarcely any heat is evolved. The oxidation is complete when all the bromine has passed into solution, and when no pulverulent sulphur creeps up the sides of the flask. The liquid is rinsed into a flat porcelain dish, and the greater part of the bromine is allowed to evaporate in the cold; the solution is neutralized in a beaker with ammonia, but not so as to form a permanent precipitate, it is then poured into an excess of hot ammonia in a platinum capsule and digested for from ten to fifteen minutes over a small flame; then it is filtered, the filtrate acidified slightly with HCl; the hot diluted solution is precipitated with BaCl₂, and the BaSO₄ is purified and weighed in the ordinary manner. Iron cannot be determined in the same portion, as it is volatilized in the cold along with the vapors of bromine.

A. L. R.

Of the forty-nine professors and instructors of the School of Industrial Science, twenty-four are graduates of the Institute.