they had 7,203—increase 560. At the close of the latter year the number on English and Welsh railways was 5,708, Scotch railways 1,072, and Irish railways 423.

Copper.

Chili furnishes England with most of her copper. Out of 66,916 tons of ore imported into England in 1864, 20,664 were from Chili; and of pure copper, Chili also furnished 304,380 cwt. out of an aggregate of 498,780.

Railroad Returns.

The Railroad Traffic Returns show that the various lines continue to do an enormous business. The statement for November is as under:

میں	Nov. 1865.	Nov. 1864.
Great Western Railway	\$320,006	\$228,815
Grand Trunk Railway	584,426	472,805
Welland Bailway	16.528	4,846
Northern Railway	46.684	21.429
P Hone Lindsay & Beav. Ry.	9.478	6,850
Port Hone & Peterboro' Ry.	5.857	
Brockville & Ottawa Ry	8,881	5.852
Prescott & Ottawa Railway	8,770	8,470
Total	\$1,000,180	\$738,567

There were 1,960 miles open in 1864, and 2,050 in 1865.

The various classes of traffic which made up the monthly aggregate of 1865 were :- Passenger, 373,047; Mails, &c., 33,105; Freight, 593,980.-*Globe.*

Miscellaneous.

The Poison of the Rattlesnake.

Dr. J. W. Burnett recently related before the "Boston Natural History Society" some experiments and investigations made with the rattlesnake, which will be found interesting to those inclined to pet the venomous beast. We give an extract below:

"The virulence of the poison of these animals is too well known for special description. I will only add, there is good reason for the belief that its action is the same upon all living things, vegetables as well as animals. It is even just as fatal to the snake itself as to other animals; for Dr. Dearing informed me that one of his specimens, after being irritated and annoyed in his cage, in moving suddenly, accidentally struck one of its fangs into its own body; it soon rolled over and died as any other animal would have done. Here then we have the remarkable, and perhaps unique physiological fact, of a liquid secreted directly from the blood, which proves deadly when introduced into, the very source (the blood) from which it was derived! With the view of ascertaining the power and amount of this poison, Dr. Dearing performed the following experiment :--- The snake

was a very large and vicious one, and very active at the time. He took eight half-grown chickens, and allowed the snake to strike at each under the wing as fast as they could be presented to him. The first died immediately; the second after a few minutes; the third after ten minutes; the fourth after more than an hour; the fifth after twelve hours; the sixth was sick and drooping for several days, but recovered; the seventh was only slightly affected, and the eighth not at all. With my second remaining specimen I was desirous of performing several experiments as to the action of this poison on the blood. The following is one :-The snake was a very large and vicious one, and as any one approached the cage, began to rattle violently; but twenty five or thirty drops of chlo-roform being allowed to fall on his head, one slowly after the other, the sound of his rattles gradually died away, and in a few minutes he was wholly under the effects of this agent. He was then adroitly seized behind the jaws with the thumb and forefinger, and dragged from the cage and allowed to partially resuscitate; in this state, a second person held his tail to prevent his coiling around the arm of the first, while a third opened his mouth, and with a pair of forceps pressed the fang upward, causing a flow of the poison, which was received on the end of a scalpel. The snake was then returned into the cage. Blood was then extracted from a finger for microscopic examination. The smallest quantity of the poison being presented to the blood between the glasses, a change was immediately perceived—the corpuscles ceased to run and pile together, and remained stagnant without any special alteration of structure; the whole appearance was as though the vitality of the blood had been suddenly destroyed, This agrees, exactly as in death from lightning. also, with another experiment performed on a fowl, where the whole mass of the blood appeared quite liquid, and having very little coagulable power. The physiological action of this poison in animals is probably that of a most powerful sedative acting through the blood on the nervous centers. This is shown by the remarkable fact that its full and complete antidotes are the most active stimulants: of these, alcohol, in some shape, is the best."

The Forces in Nature.

"The concussion of 1 pound of hydrogen with 8 pounds of oxygen is equal, in mechanical value, to the raising of 47,000,000 pounds one foot high. I think I did not overrate matters when I said that the force of gravity, as exerted near the earth, was almost a vanishing quantity in comparison with these molecular forces; and bear in mind the distances which separate the atoms before combination -distances so small as to be utterly immeasurable; still, it is in passing over these distances that the atoms require a velocity sufficient to cause them to clash with the tremendous energy indicated by the above numbers. After combination the substance is in a state of vapor, which sinks to 212°, and after-. wards condenses to water. In the first instance the atoms fall together to form the compound; in the next instance the molecules of the compound fall together to form a liquid. The mechanical value of this act can be also calculated; 9 pounds of steam, in falling to water, generate an amount of heat suf-