

tip to tip) over the sea, plunging every now and then into the water for a fish. There were birds, too: a diver (*Perperornis*), five and one-half feet high, and some, strange to say, with spinal vertebrae like a fish, and armed with pointed teeth in both jaws. Enormous tortoises and turtles were the boatmen of the age. One discovered by Cope, in Kansas, was fifteen feet across the end of one flapper to the end of the other. Huge clams also lay scattered over those ancient shores twenty-six inches in diameter. Our saurian did not fall short of the biggest of these monsters; he could not have been less than sixty to seventy feet long, and probably either a mosasaurus or lizard allied to the clamosaurus.

The ocean in which these creatures lived was gradually enclosed by the upheaval of the sea bottom on the west, and soon became almost an inland sea. As the elevation continued and its area was contracted, ridges would rise, isolating portions of the sea into salt lakes and imprisoning the life in them. The stronger soon destroyed the weaker, till the water by evaporation becoming shallower, all life finally died, became skeletons, and, in course of ages, fossils in sandstone.—*Colorado Springs Gazette*.

### IMPORTANT TO INVENTORS.

We notice that a PATENTEE EXCHANGE has been opened by Mr. Henry Shackell, at 162 St. James street, in this city, intended to afford facilities, at a reasonable charge, for the favorable display and exhibition of CANADIAN PATENTS. We have seen the premises, which are commodious and admirably adapted for the purpose, particularly as it is so centrally situated. We should think inventors will be glad to avail themselves of the use of this Exchange, and parties wishing to purchase the right to inventions will find on the shelves the PATENT RECORDS OF BOTH CANADA AND THE UNITED STATES for the purpose of reference.

In Mr. Shackell the public will find a gentleman well suited to carry out the wishes of Inventors.

### HOW AMERICA CROWDS ENGLAND.

There may be a good deal of truth in these remarks, but loyalty to the British crown has been no doubt greater in the hearts of English manufacturers than that of making money by manufacturing arms for either of these combatants.—Ed. C. M. M.

In giving his impressions of America in a leading English periodical, a recent English visitor remarks that the Russo-Turkish war ought to have shown the American manufacturers that they have little reason to fear the English. So far as he had been able to learn, not a single cartridge had been made in Birmingham for either Russia or Turkey; but when he was in Bridgeport, the cartridge factories had been running day and night for months, and he saw a Russian and a Turkish commissioner in the same works. The fact was the Americans had made the rifles as well as the cartridges for both combatants. As further evidence of the threatened supremacy of American manufacturers, he noted the fact that Lowell was sending cotton cloths to Manchester, and that in our retail stores cotton goods were marked at a lower price than at which goods of the same quality could be sold at Liverpool or London. "It is the same," he said, "with the other manufacturing industries of America. The manufacturers of hardware are beating us in market after market from Hamburg to Melbourne. In Birmingham itself the merchants are importing from the United States such articles as axes, hay forks, and agricultural implements of nearly every description, sash pulleys, and small castings of very many kinds, although it is estimated that freight and other expenses add 17 or 18 per cent to the cost of the goods."—*Scientific American*.

**CASTOR OIL AS A HAIR DRESSING.**—I use a preparation which contains castor oil for my hair, and I like it very much. It is said to be exactly the same preparation as "Rowland's Macassar Oil." I have often compared them together, and cannot detect any difference. The recipe is as follows:—Heat 4 oz. castor oil, add a little alkanet root (to colour it red) and 3 or 4 drops of attar of roses, then thin it down with 5 oz. of oil of roses.

### EVOLUTION AND MATERIALISM.

We of to-day hear so much about evolution and materialism that it is well for us to fully understand their meanings. To many they are one and the same thing. But Prof. Le Conte, of the University of California, in the current number of the *Popular Science Monthly*, very clearly shows the distinction between the two. He says: "First of all I wish frankly to acknowledge that I am myself an evolutionist. I may not agree with most that evolution advances always *cum æquo pede*. On the contrary, I believe that there have been periods of slow and periods of rapid, almost paroxysmal evolution. I may not agree with most that we already have in *Darwinism* the final form and *survival of the fittest*, the prime factor of evolution. On the contrary, I believe that the most important factors of evolution are still unknown—that there are more and greater factors in evolution than are dreamed of in the Darwinian philosophy. Nevertheless, evolution is a grand fact, involving alike every department of nature; and more especially evolution of the organic kingdom, and the origin of species by derivation, must be regarded as an established truth of science." This paragraph on evolution was quoted in our notice of Prof. Le Conte. We wish now to publish it in connection with his definition of materialism, that the contrast may clearly appear: He says: "But, remember, evolution is *one* thing, and materialism *another* and quite a different thing. The one is a sure *result of science*; the other a doubtful *inference of philosophy*. Let no one who is led step by step through the paths of evolution, from the mineral to the organic, from the organic to the animate, and from the animate to the rational, until he lands logically, as he supposes, into blank and universal materialism—let no such one, I say, imagine for a moment that he has been walking all the way in the domain of science. He has stepped across the boundary of science into the domain of philosophy. Yet the step seems so easy, so natural, so inevitable, that most do not distinguish between the teachings of science and the inference of philosophy, and thus the whole is unjustly accredited to science."

### USE AND MISUSE OF CARBOLIC ACID.

In San Buenaventura there was recently a case of the misuse of carbolic acid by the injection of it into a wound. This fact has led a correspondent of the *Signal* to lay down the authorities on the use and misuse of this substance, and to call attention to a fact, which every good physician knows, that carbolic acid is a dangerous medicine, and must be used with the greatest care and by skilful hands. Dr. H. C. Wood, Professor of Materia Medica and Therapeutics in the Pennsylvania University, says: "The free *external* use of carbolic acid is by no means devoid of danger. Indeed, in more than one case, it has caused death. Two young men suffering from scabies [itch] applied externally each about one-half an ounce of carbolic acid in a watery solution, one of whom was soon found dead." Dr. Wood recommends as an external antiseptic 100 parts of water to 1 part of carbolic acid. The county physician, judging from the effects and from the statement given, must have used carbolic acid 50 parts, and water or olive oil 50 parts. Dr. John I. Reese, in his *Manual of Toxicology*, page 342, says a man was nearly killed by having an ointment applied to his body consisting of one part of carbolic acid and four of lard. Dr. D. Gross, the best authority on surgery in the United States, says: "In the performance of operations in opening abscesses, and during the removal of dressings, carbolic acid may be used as a *spray*, one part of the acid to 100 of water, the necessary manipulations being conducted in carbolic acid atmosphere, which does away with injections as formerly practiced." From the above authorities it will be seen when used externally, carbolic acid, in comparatively mild solutions, is dangerous to human life. When injected, as it was in a strong solution, so that it was taken up in the circulation, as in the case of Mr. Maddox, we can only wonder that the man was not instantly killed. The effect of carbolic acid is to arrest circulation, and to destroy the life principle in the blood. Indeed, there is no greater and more effective agent to animalcule. One drop of carbolic acid to 599 of water makes a solution strong enough to instantly kill plant lice.

STEAM boiler owners, meeting in St. Louis, have not arrived at a conclusion in regard to the hydraulic and the hammer test.

THE Board of Health of New York City is having made a careful investigation of the sanitary condition of the public school buildings.