Time Notation.

In the decimal system of time proposed by Professor Loudon, the present day of twenty-four hours is divided into ten periods, so that each of the new hours would correspond to two hours and twenty-four minutes of our present divisions. The ten periods would be again divided into a hundred subdivisions, called minutes, if necessary, and each equivalent to about one and a half of our present minutes. The minutes, again, would be subdivided into 100 seconds, which will thus be seen to be almost the same as the existing second. The advantages of such a system, as given by those in favor of it, are the aboltion of the A.M. and P.M., as has already been accomplished by the system of continuous notation for the whole 24 hours, and the convenience arising from the adoption of a system based on the decimal scale, by which vulgar fractions are gotten rid of, and the use of symbols for the hour, minute, and second avoided. In addition—and this is the consideration particularly urged—the time in hours and minutes would be indicated immediately by the clock, whereas, by the present system, one must consult two hands, and calculate the number of minutes besides.

If the affairs of the world were just beginning, we should say that Prof. Loudon's system was a very good system; but under the weight of the traditions of several centuries, our conception of time is so hopelessly wrapped up in the old-fashioned divisions that we confess ourselves willing to still consult two hands, and even consent to multiply the reading of one of them by five.

PALMERS' STEAM CARRIAGE.

The small steam carriage which we figure herewith, and which was shown at the Antwerp Exposition, is intermediate between Messrs. Dion, Bouton & Trepardoux's steam phaeton and Mr. Peraux's steam tricycle. It is a sort of a road locomotive, that hauls a thirty-three pound carriage, mounted upon steel wheels, and having a seating capacity for two persons. The two side wheels of the tricycle are 4½ feet in diameter, and the front or steering one, 23½ inches.

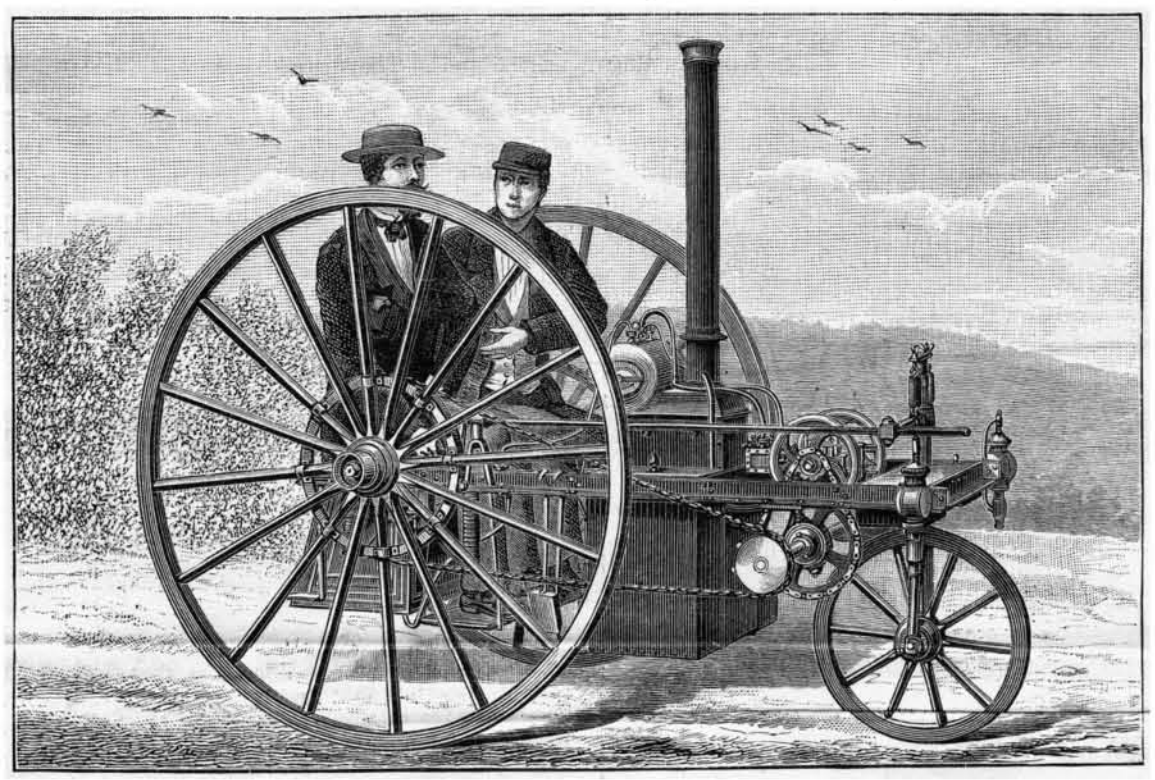
The boiler, which is heated with coke, is of the Temple variety, weighs but 175 pounds, and is of two-thirds horse power. It holds but a few pints of water, and is quickly put under pressure, and, seeing the small quantity of water submitted each instant to the action of heat, constitutes an inexplosive generator of nearly absolute safety. The steam produced actuates a small two-cylinder motor, 16 inches in length by 8 in width, the cylinders of which are 1½ inch in diameter. The stroke of the piston is 3 inches. In order to effect a saving in space and weight, transmission of motion to the shaft of the little engine is performed without connecting rods. To this effect, the piston rods are provided with vertical slots, in which the crank pins slide, as in the Rikkers motor. As the velocity of the motor is very great in proportion to that of the driving wheels, the initial speed is reduced to the proper ratio by an intermediate shaft. The motor is connected with this latter through a pitch chain, and the motion of the intermediate chain is transmitted to the driving wheels by two ordinary chains placed on each side, and at each extremity of the intermediate shaft. In consequence of their flexibility, these chains allow of very yielding springs being used.

The driver has within his reach all the apparatus necessary to keep up the fire, to set the engine running and to stop it, and to steer the vehicle.

The boiler is continuously fed by a pump situated to the left. On the right there is a minute injector, to be used in case of accident.

The fore wheel, which is the steering one, is actuated by a hand wheel and a screw that permits of giving it any direction. An ingenious device renders the vehicle proof against any shock that the steering wheel may receive, and thus insures of the directing of the vehicle, and renders the running of it more easy.

The speed of this carriage is from six to seven miles per hour.—*La Nature.*



PALMERS' STEAM CARRIAGE.

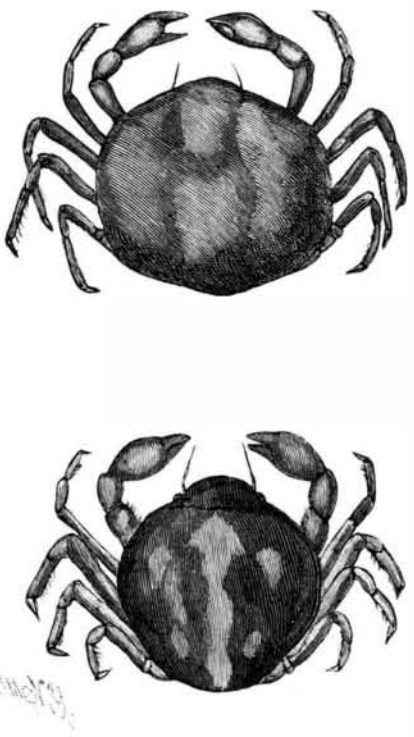
A COMPANY has been formed at Oil City for conveying natural gas from the wells to the cities and large towns in this and other States.

THE OYSTER CRAB.

BY C. FEW SEISS.

I find that the great majority of our people consider the little pink-tinted crab which is found within the shells of our oyster as merely the common crab of the markets in its immature or infant stage. This is an error, for the diminutive crustacean found within the oyster is not only a distinct species belonging to a different genus, but also a mature animal, fully grown. It is the oyster crab, or *Pinnotheres ostreum* of naturalists, and was first described by Thomas Say, in the *Journal* of the Academy of Natural Sciences, of Philadelphia, in 1817.

The oyster crab does not feed upon its host, the oyster, under whose roof it has seen fit to dwell, but upon such nutriment as it can get in the sea water that flows into the open shell of the oyster.



THE OYSTER CRAB.

The mollusk does not seem to be incommoded or to suffer in any way by having a lodger, for such are generally as fat and well-flavored as oysters that live alone. The oyster crab does not work its way into or injure the oyster, but lives only in the gill cavity or between the gills.

It is a rather singular fact that it is only the female crab that has been observed in oysters. Possibly the male may at times be found in a similar situation, but I have as yet failed to find an authenticated instance. The male is comparatively rare, and when seen is generally swimming near the surface of the water.

Various curious opinions have been expressed by writers as to whether these parasitic crabs are injurious or beneficial to their host. Referring to one inhabiting a large mollusk of the Mediterranean, an old writer says: The crab waits until a number of small animals upon which it feeds enter the shell, when he gives the mollusk a pinch, and it instantly closes the valves of its shell, and thus captures the animals, so that the crab can easily catch and devour them. Another one says, as the oyster is blind, and the crab has the power of vision, when the latter observes an enemy approaching he gives warning with his nippers, and the oyster, drawing its shells together, shields both itself and the crab from danger. These opinions, of course, must be taken as guesswork, and not as scientific facts. As I have said, the oyster of our coasts apparently does not suffer in harboring the lodger it has not the power to eject; but, nevertheless, the crab is certainly of no great benefit, and is an intruder and an uninvited guest all the same.

The female oyster crab is covered with a thin, semi-transparent, whitish shell, tinged in parts with pink. The pink color becomes orange after boiling. It measures across the shell or carapax seven-sixteenths of an inch to one-half of an inch.

The male is smaller, being only five-sixteenths of an inch in breadth. The upper surface of his shell is dark brown, with an irregular whitish band across the back, extending backward from above and between the eyes, and a white spot on each side of this band; sometimes, two additional small white spots posteriorly. The legs and under surface of the body are also of a whitish color. The shell of the male is more compact and hard than that of the female. The female of this species has been found inhabiting the oyster from the New England coast to South Carolina. The other species common on our coast is the spotted mussel crab (*Pinnotheres maculatus*), which lives in the shells of the common mussel (*Mytilus edulis*), but, so far as I can learn, has never been found in the oyster.

NATURAL HISTORY NOTES.

Uses of Spines in Cactuses.—Mr. Thomas Meehan considers that one of the uses of spines with which cactuses are covered is to break the full force of the sun on the plant. Plant lovers set out their treasures in summer under arbors of fish netting or galvanized wire, and those who have had experience would be surprised to find how the moving shadows of the twine or wire lower the temperature. A mass of spines on a cactus must certainly have the same effect. A cactus does not need much light on its epidermis to keep it healthy, and Mr. Meehan believes that one use of the spines is to furnish the required partial shade.

Longevity of Ants.—In the November number of the *Contemporary Review*, Sir John Lubbock says the general opinion used to be that ants lived for a single season, like wasps. "Aristotle long ago stated that queen bees live for six, and some even seven years. Bevan, however, observes that 'the notions of both ancients and moderns upon the subject have been purely conjectural. Indeed, it appears to be somewhat doubtful whether the length of life which the former seem to have attributed to individual bees was not meant to apply to the existence of each bee community.'

"The nests, however, which I have devised enable me to throw considerable light on this question. The queen ants are so easily distinguished from the workers that they can be at once identified, while, if a nest be taken in which there is no queen, we can satisfy ourselves as to the workers, because, though it is true that workers do sometimes lay eggs, those eggs invariably produce male ants. Hence, in such a case, the duration of the nest gives us the age of the workers; at least they cannot be younger, though of course they may be older. In this way I have kept workers of *Lasius niger* and *Formica fusca* for more than seven years. But, what is more remarkable still, I have now two queens of the latter species which I have kept ever since 1874, and which, as they were then full grown, must now be nearly twelve years old. They laid fertile eggs again this year—a fact the interest of which physiologists will recognize. Although a little stiff in the joints, and less active than they once were, they are still strong and well, and I hope I may still keep them in health for some time to come."

Red Snow.—At a recent meeting of the Biological Society of Washington, Mr. Romyn Hitchcock, of the National Museum, read a paper on red snow, and exhibited through the microscope specimens of the brilliant, minute crimson globules which give color to the snow, and about the character of which there has been considerable difference of opinion among naturalists. Mr. Hitchcock remarked that the red snow that at