

Science and Art.

Coral Reefs.

At a recent meeting of the Boston Natural History Society, as reported in the *Traveler*, Professor Agassiz, gave an account of his recent visit to the reefs of Florida, and explanations of coralline growths. He estimates the rate of coral growth to be only a few inches

in a century, a tenth or a twelfth part less than has been hitherto supposed; and, supposing the reef rises from a depth of twelve fathoms, he would calculate its age upon its arrival at the surface of the water to be about twenty-five thousand years, and the total age of the four distinct concentric reefs of the southern extremity of the peninsula to be one hundred thousand years. Professor William B. Rogers said that the physical conditions could not have differed much in that region a hundred thousand years ago from what they

now are, and consequently that such a calculation could reasonably be made upon the data accumulated by Professor Agassiz. Dr. D. F. Weinland annihilated such speculations by stating that, while in Hayti, he had noticed branches of some kinds of corals from three to five inches above the water, which must have grown that much during the short winter of three months, when the water was high. His observations went to prove that some kinds of corals were more rapid in their growth than is generally believed to be the case.

very important purpose, which is this: when but one person is riding in the buggy, it matters not how much weight may be thrown on either side, the hind axle cannot be thrown into an angling position.

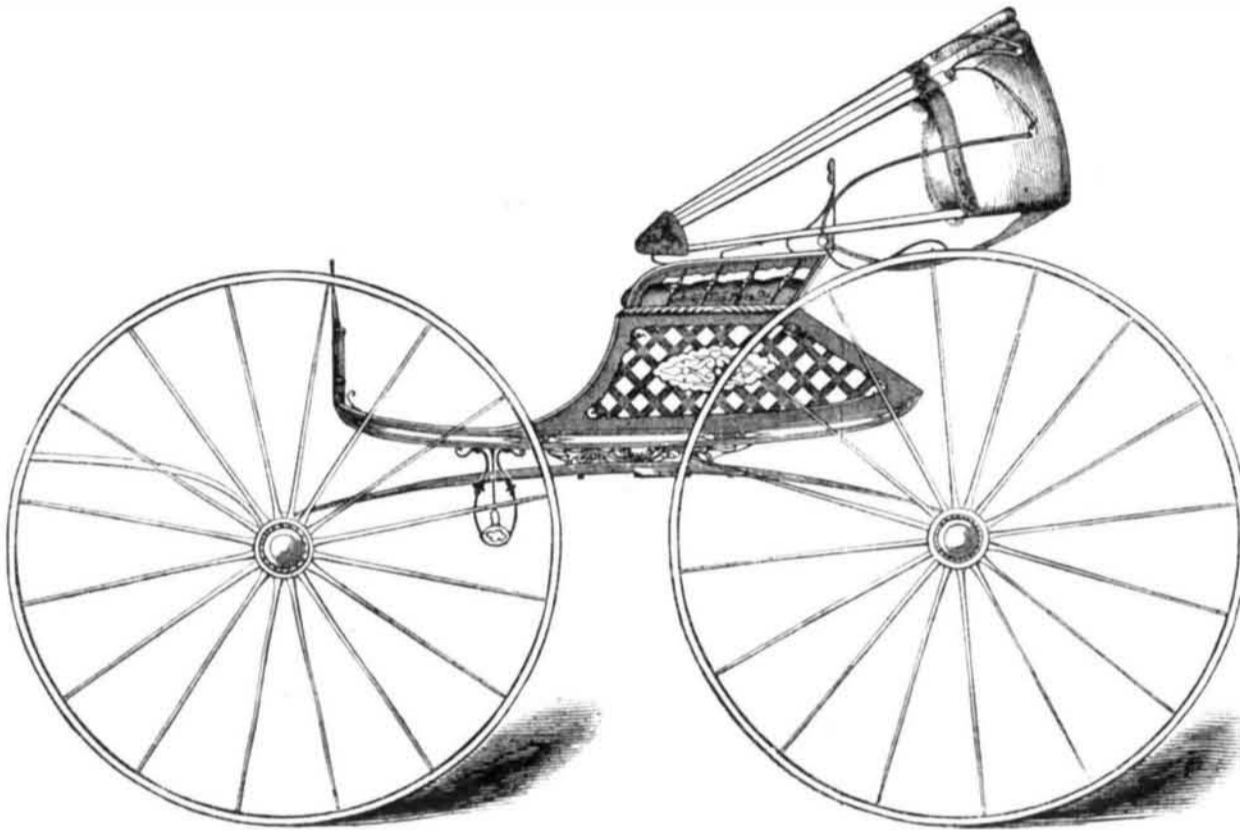
Figs. 3, 4 and 5 will convey a more correct idea of the construction of the parts than can be had from Fig. 2. Fig. 3 is a side view of the spring, showing the eye of the front extremity R, and at the back, S, a view of the axle clip. Fig. 4 is a front view of the bar, D, (in Fig. 2,) showing the shape of the ends with nuts applied, L L, where they play in the eye of the springs B, and also a view of the front axle supporting the iron bar. Fig. 5 is a sectional view of the front axle showing how the shafts are screwed thereto.

It will be noticed that in the whole of this gearing there is but one piece of wood, and that is the bed on the front axle, and even that can be dispensed with, if desirable, and thus make it without a particle of wood about it, except the shafts.

For further information address the inventor as above.

FOREIGN PATENTS.—We pay particular attention to securing patents in all European countries. Our inventors do not, as a general thing, take proper advantage of the large fields open in other countries for the introduction of their useful inventions. It will not, it is true, pay to patent everything abroad, but there is a large class of very useful improvements that might, under proper management, be made very remunerative. Circulars of advice sent free.

SALADEE'S IMPROVED HALF-ELLIPTIC SIDE-SPRING WAGON.

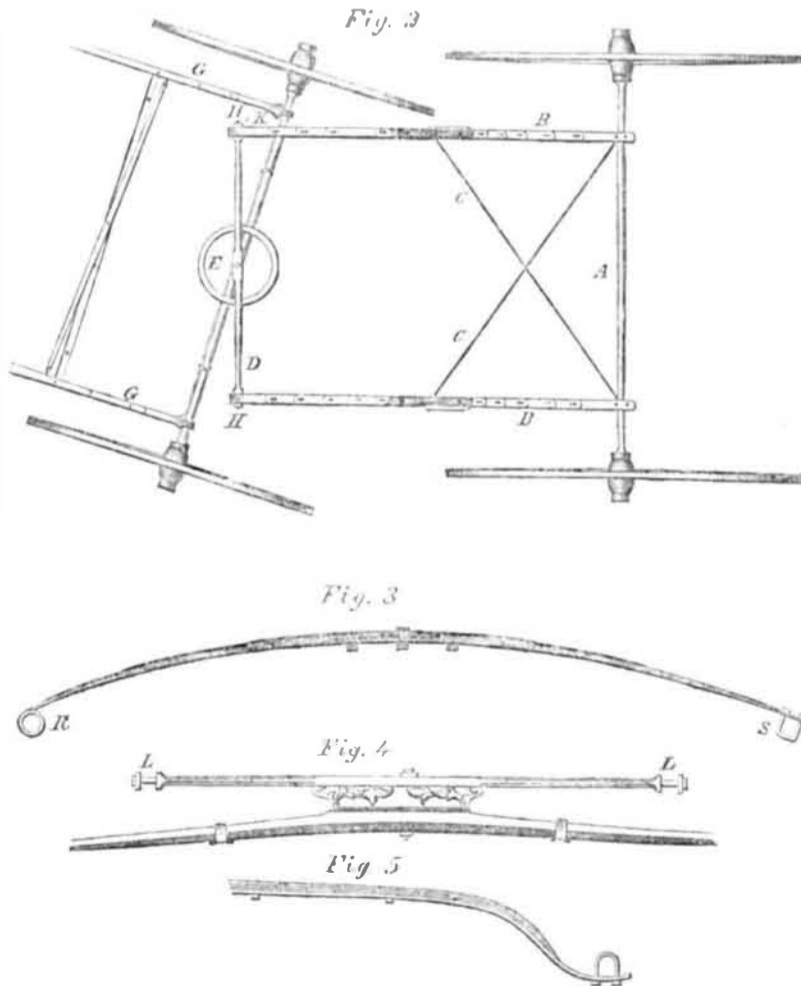


The accompanying engravings represent a very important improvement in light pleasure vehicles, patented by C. W. Saladee, of Columbus, Ohio, Dec. 1, 1857. To devise some plan by which to construct the ordinary buggy with more simplicity, render it lighter, and at the same time impart to its springs a greater degree of elasticity, has been a study to which the inventor of this carriage has devoted much time and attention within the past two years. The cost of material for an ordinary light buggy, and the amount of work lavished upon an ordinary "running part" in its perch stays, bedwood on the hind axle, spring bars, and body loops, is not less than from \$20 to \$30. If the use of this work can be avoided, without any detriment to the appearance and durability of the vehicle, it is certainly a desirable point to be attained. Again, the connection between the shafts and the front axle has, for a number of years, been a great annoyance on account of its becoming loose and rattling, and to overcome this difficulty, a number of improvements have been proposed and patented. But in this case the inventor has preferred discarding the use of a joint in that connection altogether, and thereby rendering the shafts less liable to rattle or get out of repair than could be expected from any other mode of attaching them.

Our engravings represent the improved buggy, Fig. 1 being a side elevation, and Fig. 2 represents a top view of the carriage part, with the body detached, from which the reader will understand how it is arranged and constructed. The springs, B B, are attached to the hind axle, A, by means of a clip passing up from the under side and through the end of of the spring which rests on top of the axle; this axle requires no bedwood upon it. The front ends of the springs are made with an eye five-eighths in diameter, into which the ends of the crossbar, D, passes, and is there secured by means of the nuts, H H, but in such manner as to allow this bar, D, to rotate

in the said eyes of the springs by the up and down movement of the shafts. The bar is made very light, being iron. It will be observed that by introducing the joint described,

at H H, the shafts may be attached without a joint at K, as is usual, and still retain the same freedom in this up and down motion. It is only transferring the joints usually made



between the shafts and axle at K to H H, where, from the constant pressure of the springs, they can never rattle. The cross-braces, C C, are applied in the

manner shown, and for the purpose of retaining the hind axle in its position when either of the hind wheels strike an obstacle in the road. Those braces are also indispensable for another,



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