## Scientific Ameritan．

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THE ADVOCATE OF INDUSTRY，AND JOURNAL OF SCIBNTLFTC，MLDCEANICAL AND OTHER IMPROVEMTANT8．

Scientific American， CIRCULATION 16，000 poblished weikly at 128 Fulton，atroet，N．Y．，（Sun Building，）and 13 Court Atreot，Bonton，Mast．
BY MUNN \＆COMPANY， T．Tho Prinoipos Offine being at Now York．


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Edwarde d Ringgold，Lobivivillo，Ky，



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Locomotion the Test of Civilization．
Our good friends and allies，the French，are admitted to be more philosophical than prac－ tical，in their views of society，and in the course of the animated discussions which are constantly occurring among their journals， upon theoretical questions，curious reflections and ideas are frequently elicited．The Courrier $d u$ Havre，in a recent article upon the reduc tion of railroad fares，throws out the idea that thecondition of locomotion in any country is a simple and infallible means by which to judge of its advancement in civilization and in doing so，makes some candid admissions，which would scarcely have been expected from a Gallic source．＂He is the most useful citi－ zen，＂says，＂who gives the greatest impulse to the production of wealth，and multiplies exchanges with the greatest zeal．The low est round of the social ladder is occupied by the negre and Indian；living on little or noth－ ing，producing little，reposing listlessly at the foot of the palm or cocoa tree which waved over them at birth；while，at the summit of that ladder，appear the opulent English－ man，the indefatigable American，great con－ sumers，great producers，and expenders；al ways in motion，always on the road，never arriving but to start，never buying but to sell， never gaining money but to invest it again． Between these two extremities，but more closely approaching the latter，are the nation of Latin origin，the Italians，the Spanioh， the French，nations laborious but economical contemplative and sedentary by taste，travel－ lers by occasion or by necessity，considering labor merely as a means of arriving at repose， aspiring to become independent rather than millionsires．＂

Pacific Railroad．
It is well known that Mr．Whitney，of New York，who projected what is known by the name of Whitney＇s Railroad－a railroad to the Pacific－after having met with much op－ position in the Senate，at Washington，went to London the last spring，and brought the subject before the English public．He pro－ posed the erection of his railroad through the British possessions of North America to the Pacifio．His plan has met with the strongest objections on account of its impracticable na ture and the absence of any benefit it might confer on the capitalists of that country．The plan has found no favor with the engineers there．

The New Bedford Mercury publishes a letter telling how a lady of that place，by drawing a rocking chair slong the carpat，received a tremendous electric shock，and at the same tremendous electric shock，and at the same
time her husband saw a blue ball of electrici－ time her husband saw a blue ball of electrici－
ty float through the room．Wonderful，truly．

PALMER＇S PATENT DUMPING CAR．－．－Fig． 1.


The accompanying engravinge represent im－ provements in Dumping Cars for railroads， incented and patented by Mr．Granville Pal mer，of Greenbush，N．Y．，but who has as signed all his right，title，and interest to Mr h．R．Finch，of Peekskill，N．Y．
Figure 1 is a side elevation，and figure 2 is a end elevation．The same letters refar to like parta．The improvement consists in ap plying between the box or receptacle for the earth，\＆ce．，of the car，and the body or car－ iage frame of the same，a turning table or apparatus to permit the free turning of th ox in any direction，so that the earth，gravel， acc．，may be deposited on any desired part of the road．
$a a a a$ is the body or carriage frame of the car，constructed in the usual manner，and having wheels，$b b b b$ ，connecied to it in the ordinary way．ccia a circular railway ar ranged on the top of the body，and having an iron rail，$d d$ ，secured on its upper face by screws，nails，or otherwise；e is a vertical or upright metallic shaft，firmly attached at its lower end to the body of the car，said shaft being held firm，or sustained in its position by the metallic bracing shoulder，$f$ ，figure 2 which is likewise secured to the body of th car．The shaft，e，passes through a suitabl lever in the centre of the spider or axletre frame，$g$ ，（so that said apider or frame may

Figure 2.

which，at their ends，serve as axletrees for the or bar is attached to the under－side of thi friction wheels or rollers，$i$ i $i$ ，which rest and move on the rail，$d$ d．A circular plate， $k$ ，somewhat larger in diameter than the railway，$c c$ ，is arranged ahove the spider or frame，$g$, eo as to tum easily on the ehaft which passes through s suitable hole in the centre of said plato．A circular metallic rail
plate，$L k$ ，so as to reat upon the rollers，and on the top of aaid plate the usual frame－work， $n n$ ，for elevating the box，$m$ ，of the car，is armly attached，said car box
It will readily be perceived that，by the
car box may be turned to any desired position on the body or carriage frame，and the con－ tonts be depositod at any part or point of the road．
The following is the claim of the patent ：－ ＂I claim arranging a turning apparatus be－ tween the body or carriage frame of a railroad dirt car and the bor of the same，substantial－ ly as above set forth，so that said box（or mouth of the aame），may be turned to any par－ ticular part of the road，and the contente de－ posited thereon．＂
Mr．Finch offers to sell rights of Statse，\＆c．， and more information can be obtained about the same by letter．

## Diving for Shells．

The following extract from＂Rovings in the Pacific，a new work，relates the manner of diving for shells at the＂Bow Island，＂so named by Cook：
＂On arriving at the reef or knoll，the boat was secured by its painter to a projecting branoh：and the divers proceeded to dive from it in all directions and，as they brought up the shells，so they threw them into the shallow water on the knoll until the shells became scarce；or they becametired and want－ ed to pull into anotherostation．Shell－fish of various descriptions are attached to and wedg－ od in the coral branches，apparently having grown with their growth．On a still calm day you may see to the bottom at ten or twolve fathoms，and the shell－fioh when feed． ing reflects tinte of the most brilliant and beautiful hue；and fish of every conceivable form and color may be seen sporting in the interstices of the coral branches．
It is a curious sight to watch the divers； with acarcely a movement they will dart to the bottom like an arrow，examine beneath overy protruding rock，and on continuing their investigations，by a simple movement of the arm will propel themselves horizontally through the water，and this at the depth of seven or eight fathoms．I timed several by the watch；and the longest period I knew any of them to keep benath the water was a minute and a quarter，and there were only two who accomplished this feat．One of them from his great akill，was nick－named by his companions the＂Ofat，＂（stone．）Rather less than a minute was the usual duration．In fine weather they can see the shells，when，if the water is deep，they dive at an angle for them；and as the shells adhere firmly to the coral by strong beards，it requires no little force to detach them．I was astonished on one occasion at witnessing a diver，after one or two ineffectual attempts to tear away a large oyster，sink his legs beneath him，and getting a purchase with his feet against the coral，use both his hands andfairly dragit off． When they dive in very deep water，they com－ plain of pains in the ears，and they some－ times come up with their noses bleeding；but it is rarely that you can get them to attempt such diving，let the shells be ever so abundant， they will come up and awear there are none； the exertion，from the great pressure，is too painfully distresseing．It hasfrequently hap－ pened，after a set of worn－out divers have aworn that no more shells could．be obtained， that a fresh set has come and procured from fifty to sixty tons，without diffeulty．＂

Chloroform a Propelling Power．
Experiments with chloroform as a propel－ ling power，in the place of steam，are now making in the port of L＇Orient，and there is eason to hope，from the success which has al－ ready attended them，that they will result in causing a considerable saving to be effected in cost and in space．－［Galignani．
［Mr．Galignani，chloroform is too sleepy a
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