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HSTABLISHED 1845.
MUNN \& CO., Editors and Proprietors. publiseed weekly at
No. 361 BROADWAY, NEW YORK.
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## TERMS FOR THE SCIENTIFIC AMERICAN

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The Scientifc American Supplement Is a distinct paper from the SCIENTIFIC AMRRICAN. THE SUPPLLEMENT
is isisued weekis. Every number contains 16 octavo pages. uniform in size


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Scientific American Export Edicion.


NEW YORK, SATURDAY, AUGUST 7, 1886.


TABLE OF CONTENTS OF SCIENTIFIC AMERICAN SUPPLEMENT No. $\mathbf{5 B 3}$.
For the Week Ending angust 7,1886 . Price 10 cents. For sale by all newsdealers.



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## the american association for the advance-

 MENT OF SCIENCEThe thirty-fifth meeting of the d.merican Association for the Advancement of Science will be held at Buffalo, New York, from Wednesday morning, August 18, until Tuesday evening, August 24 . This is the third time that the Association has accepted an invitation to hold a meeting in Buffalo, the previous occasions having been at intervals of ten years. The city offers such excellent facilities for a gathering of this kind, both in its spaceous auditoriums and hotels and in its genera accessibility from either the East or the West, that it and a large assemblage has been assured. Special at tention will be given by the section on geology and geography to the problems connected with Niagara Falls and its gorge. The retiring President, Prof. H. A Newton, of New Haven, willdeliver his address on the first evening of the meeting. The President-elect is Prof. E. S. Morse, of Salem, Mass.

## TRANSMISSION OF POWER BY ELECTRICITY.

The carefully conducted experiments of M. Marcel Deprez, on the transmission of electricity over long distances, have finally resulted in success. After many trials and difficulties, the conductors established be tween Creil and La Chapelle Station, Paris, begin to work satisfactorily.
The power transmitted, and rendered available at the receiving station, was found by measure to be 50 horse power, an efficiency of 47 per cent. As the distance be tween Creil and Paris is almost 32 miles, this result is not unsatisfactory. The line consists of a copper cable, the total cross section of which is equal to that of a solid wire having a diameter of three-twentieths of an inch. The cable is aerial, and supported on porcelain insulators. When near frequented spots, it is incased in insulating material, but at other places it is exposed. The success of these experiments suggests the ad vantageous introduction of the practice into this country. In many localities, and particularly where water power is available, it would be possible to produce electricity under such favorable economic conditions that a loss of even fifty per cent in its transmission would still make the arrangement a profitable one when compared with the direct generation of electricity on the spot where it is needed.
It frequently happens, too, that power is available in one place at certain periods of the day, and, from the nature of its origin, must be wasted unless trans mitted to a distance. Its conversion into electric energy and subsequent transmission would then represent a saving in the course of the year of no inconsiderable magnitude. Water power has been utilized in several localities in the United States and Canada for the generation of a current to be used in the electric illumination of towns and works located at a distance of perhaps two or three miles; but the limit has not nearly been reached, and even within these shorter ranges there have been as yet but few attempts to utilize the power at hand. There is room here for considerable ingenuity in securing the services of agent which is at once convenient and economical.
the character of the new cruisers.
It has been said that the best thing after knowing a thing is to know where to find it; and in selecting designs for the cruisers provided for by the act of March, 1885, the Naval Board has, apparently, acted on the suggestion. It could scarcely have been expected that the Board would originate a new system of marine architecture or otherwise revolutionize naval warfare. The most that could reasonably be hoped for was that it would intelligently examine the best models of the Old World naval constructors, who have had large and varied experience of recent years, while we have been standing still, and discover which were best suited to the purpose Congress had in view. Among the cruisers built by Sir William Armstrong for the Japanese, Chi: deoe, and Chilian governments are to be found by far the misest successful models of unarinored and partly fighting ships afloat. They have speed, , and stiffness, work quickly, and are good sea bonts. The Chilian cruiser Esmeralda, of which a picture mod dageription were recently given in these pages, afloat Sthe han ande 18.4 knots speed on the measured mile; and while ohe nen readily run away from such mile; and while the gen moantars as the Devastation Invincible, Itreparieuse, Dandolo, or Duilio, and attack the merchant fleets they art eupponed to protect, she can fightyoo, upok occosion , ohoos her own target got nough. The Japanese cruiser Pyntountin is an other of this class--a staunch, npeedy, at wate oraise and the Chinese Tchao-Yong is Hikead untryer. These are the craft that the Mowi Bopt har wisely it seems, selected as criteria for
cruisers, modified in some respects and the demands of Congress required. tude as to decks, spars, barbette towers, and the tot and it remains to be seen whether Yankee ingenuity
retains its pristine promptitude in selecting the best and improving by combination and innovation.
It seems fortunate, now that Congress and the country are in the hutwor to do something for our long ne. glected navy, that the naval constructor and expert, on whom we must depend for models, have not shown a disposition to fit us out with floating forts, such as the reat powers have been building for many a yearmonsters whose lagging prows will not admit of their approach to hostile ships on the high seas near enough to do them injury, and which, when they make the shore, may be made the prey of a torpedo fleet, whose sum total of cost will scarcely make up that of one of their number, as a school of whales is scattered an beaten off by a few resolute though comparatively insignificant thrashers.
Whoever has read the naval history of our civil war wust remember the effective work of the swift-running, unarmored corsairs Alabama, Georgia, and Florida-at. a time, too, when we had the greatest fighting fleet the world ever saw. Had these Confederate cruisers been slow-going, steel-clad batteries, it is not likely they would have done a tithe of the injury. Their druns would have been beating " to quarters" from sunrise to sunset, and they would assuredly have got more fight than booty.
One of these slips could overhaul a merchantman with celerity, and lie in wait in the tracks of the various trading fleets with the precision of a cat which knows that within a given time a mouse will issue from he crevice near at hand.
Again, the modern marine gun has advanced so much in efficiency that it will pierce the heaviest armor that can be floated, until now, when some of the best authorities believe that heavy armor is a less defense than light armor, because it lets a hostile shot in on one side and will not let it out on the other, as light armor will do, and it is under such conditions that a lucky shot often does its maximum damage.

## OUR BOYS.

In glancing over the possible openings for boys, one is forced to admit that unless a lad have genius, perseverance, and a good, physical consititution, be will find the beginning of a professional life almost insurmountably difficult, if he be obliged from the start to depend upon his profession for a living. So large is the competition, even in our own comparatively new country, and still oo in England and on the Contineat,
that the ind professions are financially very small. The satisfaction of ultimate success, and the intellectual pleasures which such a course makes possible, are regarded by any true student as more than compensations for the early discomforts, and we would never urge considerations of a financial nature against a boy's following his natural bent. That is a fatal policy which advises hifit to choose his calling simply for the money returns it promises, for he will learn sooner or later that money is but a small factor in true success. But we would very strongly urge such considerations in attempting to dissuade those who have no natural qualifications for a professional life from entering upon so unpromising a career. There are many whose scholarly abilities are too meager to permit the hope of successful competition when pitted against their more gifted brotbers. It is certainly unfortunate, if not pitiable, that these young men should, through mistaken notions of what is respectable and what is praiseworthy, rush into a course which can bring them only failure and mortifcation.
Each year, thousands of young men are graduated rom our universities and schools of learning, only a very small proportion of whom are ever heard of after ward in the real contests of life. And it has become a notable fact that an advertisement for a man to fillany but a manual position will bring a numk er of college graduates out of all proportion to the total applicants This proves nothing against our schemes of education for the contrary evidence is too overwhelming. The men of whom as a nation we are most proud, the brightest minds in science, literature, law, medicine theology, and the fine arts, have been for the most part educated in universities and colleges. But the failure of such a large proportion of college-bred men to attain even ordinary usefulness in the events of life does prove that, for them at least, some element was lacking which should have contributed to their preparation for subsequent duties. Had they been bless ed with the three qualifications already enumerated, success would have been possible in almost any direc tion. But unfortunately very few have genius; a swaller proportion than should, have good health; and of the three, perseverance only appears to be a cultivable quality, and even this is largely limited by physical endurance. A very successful man of affairs, quoted by an English contemporary, Industries, when quoted by an English contemporary, Industries, when anked for the secret of his success, replied, "I had the and keep on till eight, nine, or ten at at for twenty years." One would say wras well deserved.
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