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## THE LATEST BRITISH NAVAL FAILURE.

nent that the superior skill of English ship constructors, en- as dry land. gineers, and seamen is fast leaving them. Not long ago the Orontes, a splendid new troop ship, after a highly satisfactory two hours trial of her engines, was sent to St. Helena. Hardly had she started on her voyage than (to quote the Engineer) "the engines broke down utterly, and the ship is now lying disabled in the harbor."

But the hugest blunder of all, if we may credit Mr. E. J. Reed, the late chief constructor of the navy, has been perpetrated in the designing of the famous Infiexible, supposed to be the most powerful vessel of all the English ironclads. She is built on the citadel principle; that is to say, she has a heavily plated central portion wherein are guns, machinery, and magazines. Before and abaft this strong portion the ends are unarmored, it being considered that even if of the ship will be none the less. But now Mr. Reed says that if these ends do happen to be destroyed in an engagement, the vessel will not have sufficient stability to stand upright, and in short that she will capsize. On visiting the Infiexible from time to time he found that the unarmored ends were so very large in proportion to the citadel that in Infiexible in his own office, made all the calculations, and the result he now affirms shows that the destruction of the nearly four years, and as two similar ships have been begun at a cost of about 6 million dollars, John Bull's consternain the London Times may be imagined. The Admiralty is put upon its defense; but Engineering, after reviewing both sides of the question, admits that the "position of affairs is most serious." This is the second disagreeable truth which Mr. Reed has presented to his countrymen within the last the better.

## GLIMPSES OF ATLANTIS.

The sedimentary rocks of our Atlantic States aggregate a a thickness of nearly 45,000 feet. The manner in which the sand, gravel, mud, and so on, which formed these rocks, was distributed over the bed of the sea which rolled where our continent now lies, proves beyond a doubt that they came from the north and east. They represent the detritus of preexisting lands, the washings of rains, rivers, coast currents, and other agencies of erosion; and since the areas supplying the waste could scarcely have been of less extent than the new strata it formed, it is reasonably inferred that land masses of continental magnitude must have occupied the region now covered by the North Atlantic before America began to be, and onward at least through the palæozoic ages of American history.

It is not to be imagined that the ante-American sea was 45,000 feetdeep. When the earlier palæozoic strata were forming the water was evidently shallow, and in some parts broken by islands. From time to time the sea was deepened by the sinking of its floor; and as the successive strata were laid down the subsidences for the most part more than kept pace with the thickening deposits. Now and again the movement was reversed, as when the Green Mountain range was uplifted; and occasionally deposition exceeded subsidence, or slight elevations brought the sea bed near to the water level. Previous to the carboniferous period evidences of shallow water are common; and after that time successive low-level land areas repeatedly occupied the eastern half of what is now the Mississippi basin.

While the new America was thus forming the ancient Atlantis was no doubt sinking as well as washing away. When search seem to converge in support of the truth of the countries as far as Greece and Egypt. ancient story, long considered mythical, in regard to the

of the equator in the Azore Islands, and further south in St. A strange fatality seems to attend the vessels of the Paul's Rocks, the Islands of Ascension, Tristan d'Acunha, English navy. For more than two years past accidents and etc. On the other side of the ridge the water deepens, the blunders have occurred so repeatedly in the finest and pre- bottom presenting a surface diversified by hills and valleys, sumably best built ships that the conclusion appears immi- such as could be carved out only when the sea bed existed

From the soundings made and collated by the officers of the Challenger expedition, a chart has been prepared, showind by soundings, first, the Atlantic areas having a depth of over 2,000 fathoms, and second, the areas ranging between 1,000 and 2,000 fathoms: the narrower areas having a depth of less than a thousand fathoms, showing white. By far the greater portion of the sea bed south of 50 N. L. exceeds the depth of 2,000 fathoms. The area of medium depth covers the northern sea down to an irregular line between Newfoundland and England. Thence a narrow isthmus (begining about 52° N. L., and 30° W. Long. from Greenwich) connects the northern table land with what has been denominated the Dolphin Ridge-a seal-shaped area with its head to the north and its tail joining (at about 15° N. L. and 45° W. such portions are destroyed in action the fighting capacity L.) another ridge called the Connecting Ridge. The latter puts out from the South American shore just north of the Amazon's mouth, and extends from about 19° N. L. and 50° W. L., southeastward to a point on the equator about Long. 10° W., where it turns abruptly south and forms the Challenger Ridge, which broadens southward, but is not mapped below 40° S. Lat. Just north of Tristan d'Acunha the Chalorder to determine the doubts suggested, he designed an lenger Ridge sends off an arm, which, curving to the northeast, joins the coast of Africa.

Here unquestionably we have the backbone of the ancient cork-lined extremities would determine the foundering of Atlantic continent; and in a recent lecture in London one of the ship. As the Infiexible has been under construction for the Challenger staff has reviewed the evidence of soundings touching the general contour of the "lost Atlantis." Its valleys and hills are not such as could beformed by any natural tion at reading Mr. Reed's damaging assertions spread forth | irregularity in the deposition of sediments, nor by submarine elevations; they have been carved by agencies acting above the water level. Along the ridge there are four points which remain unsubmerged-the Azores, St. Paul's Rocks, Ascension, and Tristan d'Acunha. In the deeper basins, the Bermudas, Fernando de Noronha, Trinidad, and St. Helena rise few weeks. The other was that England did not possess an to the surface, in some instances not far distant from depths ironclad which could not be promptly destroyed by well exceeding 3,000 fathoms. A group of such soundings under managed torpedoes, and that in view thereof the quicker the equator (not far from where the general ridge makes the she stopped building enormously costly iron war vessels, angle separating the Connecting Ridge from the Challenger Ridge) give evidence of an ancient valley line. Supposing

the continent raised until this valley became dry land, the high peaks (now islands) near by would rise to Himalayan heights, and the ridge itself would average about 1,500 feet. Even under the equator such elevations would be capped with snow, if the atmospheric conditions were at all as now. The lower levels along the mountain ridge would present every variety of climate, according to the height; and with such a line of communication many serious problems of plant and animal migrations across the equator during the geologic ages could be easily solved. In the North Atlantic regions the general elevation of the ridge is probably not more than 9,000 feet, unless the original depths are masked considerably by a deposit of globigerina-ooze.

Thus deep sea exploration confirms the report of geology that Atlantis really existed; and palæontology also bears witness to the same great fact. Still more, it testifies that the final disappearance of the buried ridge did not occur until comparatively recent times. The evidence on this point was reviewed some eight years ago by Professor Unger, who had been led to believe that a land connection must have existed between Europe and America, as late as the tertiary period. by a comparison of the recent and fossil floras of the two continents. Other evidence of like nature may be found in Professor Gray's review of the history of the gigantic redwoods (sequoias) of California, reprinted in "Darwiniana."

With such support the traditions of the ancient world, on both sides of the Atlantic, begin to read like something more than empty myths. The Egyptian priests, it is more than likely, were reciting veritable history when they told Solon about the islands of continental magnitude that formerly existed in the outer sea beyond the pillars of Hercules, but had sunk beneath the waters. And it is not impossible that the its final disappearance occurred remains to be determined; mighty kings of Atlantis may have invaded Europe and quite recently, however, two or three lines of scientific re-Africa, as the Egyptian books narrated, and overrun those

The story of the sinking of Atlantis during a time of floods geologically recent occurrence of that remarkable catastro- and earthquakes was preserved with even greater fulness of soldering Silver.-Nature of White Light. Notes: Detering Silver.-Nature of White Light. IV. AGRICULTURE HORTICULTURE, ETC.-Floral and Horticultural Notes: Detering Croise and Lawns. The Dog's tooth Violet. Pyrus Maulei. Rheliodendron Amurense. New Magnolias, House Gardening. Parianem Livy for Bouquet Vases. Burlingtonia Fragrans. Maiden Hair Fern. Fulling of Flower-buds in the Camellia. New Rose, Queen of Bedders. Double White Bedding Lobelia. Cal-ple Northern Spy in the West. Gros Columa Grape. Pot-raised Pears. The Phosphates to Ireland. Forcing Asparagus.-The Livodendren. The Phosphates and Superphosphates: their source and manufac-true.-Extirpation of Injects; by Annew MURRAY, F. N. MEDICINE, PHYSIOLOGY, HYGIENE, ETC.-Ground Air in its Hyters-both princes and people humbling themselves before their divinity and praying that the calamities which had overtaken their ancestors might never be repeated. These great convulsions are specially dwelt upon in the Indian traditions, and one or two minor ones are mentioned, when the land was shaken by frightful earthquakes and the waves of the sea combined with volcanic fires to overwhelm and engulf it. By these convulsions the land was swept away and submerged, but few of the inhabitants escaping in boats or find-To the evidence of tradition de Bourbourg adds that of ing continent. From the variations in the soundings along language. The words Atlas and Atlantic, he says, have no the ridge there is every reason to infer that it is a line of satisfactory etymology in any language of the Old World. broken country, the higher peaks reaching the surface north On the other hand, the radicle at is characteristic of the

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inconsistent with the safe laying of cables were to be found between Newfoundland and Ireland, it has been popularly taught that the Atlantic lies in a vast trough with a comparatively regular bottom. A wider range of soundings made by the American ship Dolphin, the German frigate Gazelle, the British ships Hydra and Porcupine, and more recently by the Challenger, quite overthrows the popular idea, proving the Atlantic bed to be rather a double trough, the deeper depressions separated by a mountainous ridge of great altitude ' ing a refuge on the tops of high mountains. running north and south, almost midway between the existentrance of the Gulf of Uraba, in Darien. The same combi- it exceeds 30 feet by 350 feet." nation appeared also in *Quetzalchohuatl*, the name of the quetzal plumed serpent god of the Aztecs.

We are not aware of any geological reason for doubting the possibility of the lingering of Atlantis as an archipelago down to post-tertiary times, and its final submergence within the period since man appeared. The probability of its continuance hinges entirely on the credibility of human traditions. In the absence of conflicting evidence, the concurrence of testimony from people so widely separated as the ancient Greeks and Egyptians on the one side, and the Central Americans on the other, may in some minds count for a great deal. At any rate it must be admitted that Atlantis has existed as a substantial reality.

# AN ENGLISH MECHANIC ON AMERICAN MACHINES,

Dr. John Anderson, C. E., contributes the report on machines and tools for working wood, metal and stone, at the Centennial, to the recently issued volume of reports of the British Commissioners and Judges. As one of the most desired channel through them. eminent of English mechanics and engineers, and besides an observer of much acuteness and intelligence, Dr. Anderson is capable of pronouncing a just opinion of our productions -one indeed which Americans will look for with interest and read with respect. Most of Dr. Anderson's report is taken up with descriptions of machines which especially impressed him, and which need not be noted here. He has a that enables us to convey pretty clearly the drift of his opinions by a sentence now and then abstracted.

As was the case with most of our foreign mechanical visof the high standard of excellence of American watch mak- and Turkey, despite the war, are to take part. ing machinery. Sellers' tools were without a parallel in the history of exhibitions either for extent, money value, or for originality and mechanical perfection." For torsional, ten-<sup>1</sup> make the necessary preparations to ensure the representation sional, and malleable qualities the samples of American iron of our industries is, as is well known, due to the failure of impression is left upon the minds of European visitors, that is stated that already large numbers of Americans are in American competition in machine tools will soon be upon Paris endeavoring to make arrangements as to space, etc., us, but that the competition will not be in regard to price, and that on the other hand, the "French are burning with but rather for high quality and productiveness and the capa- desire to strain a point in favor of Americans by recognizing bilities of doing more work with a given expenditure on any body of men, or any invividual having a shadow of oflabor." The concluding paragraph of the report which is ficial authority, but until that person shall appear they are the conclusion drawn from the whole, is suggestive.

"In past times England has been the nursery ground of purposes of their mighty show." the manufacturing system, her factories have been visited and her system of cotton and other textile manufactures deal of regret over the so-called negligence of Congress is copied by all nations, but the time seems to have arrived; being wasted over here. Let the representatives of Amerfor the same purpose, in regard to the production of other our own in the hardware trade of the world, at least in regard to the class of things that are required in large number or quantity. \* \* When we consider the enormously any further formalities are required, at least in the face of 1879. greater area of the American continent, it is a matter of vast the statement quoted in the last paragraph. Then let them importance, that tools have taken such a hold on the American mind which will influence the civilization of the West- from every one who is interested in having an American ern world for ages to come, and will exercise a powerful display in the show, and with the funds so raised go ahead. effect not only on that continent, but on Australia, China, and the world generally: this therefore has a profound significance which can scarcely be overrated."

# PROGRESS OF THE MISSISSIPPI JETTY WORKS.

Captain Eads' latest report of progress upon the improvement of the South Pass of the Mississippi river is most gratifying and leaves no question as to the ultimate triumphant gress did not do, when the way out of the difficulty is persuccess of the entire great work. Careful examinations fectly clear, and it is more absurd to wait for the possible to be provided with smoke balls and these discharged from have been conducted from time to time with the result of action of Congress in granting money when it meets next the launches on igniting envelope both the assaulting craft showing a steady increase in width and depth of the chan- winter. Even if money appropriated in December would and that assaulted in such a thick cloud that it will be pracnels, thus bringing to Captain Eads' theories the strongest not come too late to secure a proper official organization, in confirmation. For two years work has now been going on the present state of the national finances, when retrenchment any efficacy, or to sight her guns at her concealed antagoupon an unused outlet of the vast river. Up to the present is everywhere being enforced, Congress should not devote a nists. time the concentration of the water flowing across the sand cent to assisting any one or any class of the people to adverbar at the mouth of the Pass by the jetties has created a tise themselves in Paris. channel over 200 feet wide and in no place less than 20 feet deep, where only about 8 feet previously existed. The con-FAST FREIGHT RAILWAY TRAINS. centration of the water flowing over the shoal in the river at The subject of moving freight at faster and cheaper rates the head of the Pass has likewise created a channel over 400 was one of the principal topics of discussion at the late meet- than usual value and novelty. For information address the feet wide, in no portion less than 20 feet deep and 30 feet ing of the master car builders' association. The competition General Superintendent. deep in the center, where before the depth was scarcely 14 of water conveyance, together with the general depression feet. During the time in which a portion of the flow into of business, makes the demand imperative that there be some the Pass was interrupted by the works at its head, and while method by which freights may be moved at cheaper rates the current consequently slackened, Captain Eads states than those now employed. The solution of the problem is that a temporary deposit took place in the Pass and between one that effects, not only railway companies, but the public preventative, and has been known to cure in many instances the jetties. But the gradual restoration of the normal flow at large. Stockholders are interested in a fair percentage for after the disease has commenced. into the Pass through the new channel at its head has al- the stock they hold, while the public are more interested in ready begun to enlarge the Pass again and, continues the re- some cheap, yet rapid method of conveying goods and agriport, "has, since this restored flow commenced, removed cultural products to their various points of destination. To stuffing machine, illustrated in last number, will address Mr. from between the jetties within the past three months over those railways that come in direct competition with lake, | B. F. Grayson, Jr., Luray, Page county, Va.

atlan, on the border of or amid the water; also atlaça (pre- which is already throughout more than 2,000 feet, 28 feet transportation. terit, atlaz), to combat or be in agony, and to hurl or dart by 300 feet, or that required to entitled us to the fifth pay- | It is claimed by some railroad men, and men, too. who

> river current fails to carry to unknown distances seaward. after necessary with but little additional outlay. Captain Eads concludes his report and at the same time announces his genius and ability in the following terms:

> "I may add with absolute certainty, that this entire

#### .... AMERICAN REPRESENTATION AT THE FRENCH EXPOSITION.

There has been some doubt expressed recently as to whether

Germany's refusal to contribute is owing to the unhealed twelve miles per hour. breach between herself and France. Our own failure to

It seems to us that if this view of affairs is correct a great to the President for official recognition. We do not see that or their principals furnish money and invite subscription It is getting to be an altogether too prevalent notion in these days of World's Fairs that we cannot get up a respectable display of our productions without an appropriation and a new army of office holders to spend it. Our unfortunate experience at Vienna goes to prove the fallacy of this even if to every thoughtful person the same were not already apparent. It is radically absurd to sit grieving over what Con-

Nahuatl language, which played so important a part in Mex- half a million cubic yards of deposit, and given through river, and canal transportation, the demand is imperative, ico and Central America. It signified water, war, and the more than half the length of the jetties a much larger and that to secure returns to stockholders, some energetic action top of the head, and furnished a series of words, such as deeper channel than ever previously existed, the size of must be taken that will enable them to lower their rates of

from the water. Atlan was the name of a native city at the ment from the United States, while many hundred feet of have had long and varied experience in such matters, that it is more economical to run freight trains at a high rate of The reformation of the bar in advance of the jetties, speed, say twenty five miles per hour, than to run a train a which many engineers believed would occur, is effectually one half that speed. This will be one great benefit in the prevented by the gulf current athwart the mouth of the competition with the waterroutes. The advantages claimed Pass, which deepens the outer slope of the bar and sweeps for this high speed are, that when a train is once under way away any such portion of the discharged sediment as the less fuel is consumed, and less power is actually expended than when moving at the low rate of speed. In proof of At the head of the Passes the river has a width of over 9,000 this, experiments were made on the Lake Shore Road. An feet, and yet is brought under complete control by Captain engine with dynamometer attached was run from Buffalo Eads' works, which are so designed as to allow of the in- to Chicago and a record kept the entire distance, both at crease or limit of the discharge into the South Pass if here- twenty-five miles per hour and at twelve miles. The fuel was weighed and everything recorded that was thought of value. The result showed that in economy of fuel, the fast the splendid success which has crowned this application to speed had the precedence. Resulting from this is the economy of power in moving a train at quick speed, as, after once started, less power is required to keep the train at that system of works is now so far completed that no financial speed than if kept running at a low rate of speed, as, at the difficulties can intervene to arrest the processes of nature less rate, the engine is kept under strain twice as long, and which are constantly operating to enlarge and perfect the during this time a large amount of heat is lost by radiation. With the fast speed, the train hands would be on duty but half as long and a consequent saving of wages paid, and finally but half as many cars would be required to transport the same amount of freight.

With fast speed trains, it will be necessary to look well to the Paris International Exposition would take place in 1878, track and rolling stock. If the track be high in some places it being surmised that the unsettled condition of affairs in and low in others, causing the train to be tossed from one side Europe would render its postponement necessary. Late ad- to the other, it will result in wear and destruction. Car straightforward way, however, of telling what he thinks, vices, however, show that there is no basis for this suppo- wheels must be round and not eccentrics. With the movesition, and that the work of erecting and making ready the ment of the train these defects will be augmented and result buildings is being vigorously prosecuted. The N.Y. World's in danger and damage. It was said by an official, who was correspondent states that the masonry and brickwork are in connected with a very important line: "If you car men will itors. Dr. Anderson was first struck by our multiplicity of place, that the great iron works of Creusot and Fives-Lille give us the control of our trains through some continuous special and labor-saving devices. The invention of these he are competing in the matter of rapidity of erecting the train brake, we will dispense with from one third to one half thinks is our "natural forte and worthy of the old stock frames of the structures, and that the French Commissioner of the number of cars now in use, we will transfer grain probably quickened by the peculiarly favorable circumstan- General has officially announced the certain completion of from Chicago to New York in one half the time we now do ces under which they live. It was the display made in this all by the spring of next year. All nations with the excep- it in, we will move our trains at less cost to you for repairs, section of the exhibition which most conspicuously brought | tion of Germany and the United States, have accepted invi- as has been demonstrated by trains running over this line out the enormous strength of America as a producing tations to participate and have already entered upon the or- for a series of years at twenty-five miles per hour termed power." "No mere words," he says, "can convey an idea ganization of their representative displays. Even Russia 'immigrant trains." He also said, that the repairs on these trains is less per number of cars than in the trains moved at

Surprising as may seem the statements made before the association, the facts of the economy of fast speed freight trains was acquiesced in, but it was thought advisable not to and steel "were equal to the best of any country." "The Congress to attend to the matter before adjournment. It attempt such high rates of speed unless these trains were equipped with suitable train brakes, and the engine and tender provided with steam brakes always ready for application.

# Nordenskjold's Next Expedition.

For Professor Nordenskjold's expedition, which is to set out from Gothenburg, in Sweden, in June, 1878, a vessel has obliged to hold that the United States is non-existent for the already been chartered for 150,000 Swedish crowns (about \$25,000). King Oscar has contributed 50,000 crowns from his personal revenue, but the burden of the expense will be borne by the friend and patron of Nordenskjold, a merchant of Gothenburg named Dickson. The route of the expediwhen we shall have to visit America in the same way and ican manufacturers, who "run from the legation to the tion will be from its starting point to the North Cape, thence office of the French Commission and back again without eastwardly through the Polar Sea to and through Behring's things, and there is no time to be lost if we mean to hold inding anyone to give them a helping hand," help them- Strait, thence along the eastern and southern coasts of Asia, selves. Let them organize their own commission and apply through the Red Sea, the Suez Canal, and the Mediterranean Sea to the Atlantic Ocean, and return home in the autumn

### Smoke Screens for Torpedoes,

History is repeating itself again. In his veracious chronicle of New York Mr. Diedrich Knickerbocker says that, when an English ship sailed into the harbor, and arrogantly demanded of the primeval Dutch, the prompt surrender of their possessions, that portion of the phlegmatic population which had settled in Communipaw raised such a cloud of smoke from their huge pipes that the piratical British never discovered their existence in the midst of the dense fog. A similar plan is now proposed for the protection of torpedo boats from the fire of an attacked ship. Hale's rockets are tically impossible for the latter to use her electric light with

#### \*\*\* American Institute Exhibition.

Our manufacturers are now fully awake in the matter of exhibitions (thanks to the "Centennial,") and so far as their limited space is concerned, we are assured the coming exhibition of the American Institute of this city will be of more \*\*\*\*\*

RECEIPT FOR HOG CHOLERA.—Take one teacupful of pulverized copperas and mix with one gallon of salt; and salt the hogs twice a week regularly. This is said to be a sure

PARTIES desiring information in regard to the horse-collar