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SCIENTIFIC AMERICAN SUPPLEMENT

No. 645.

For the Week Ending May 12, 1888.

Price 10 cents. For sale by all newsdealers.

A PATENT LAW FOR SWITZERLAND.

Switzerland and Holland are almost the only nations in Europe that have no patent laws. In Switzerland the Federal Assembly passed resolutions in 1886 in favor of submitting to the popular vote the question of the desirability of establishing patent laws, and the voice of the people given in 1887 was four to one in favor of a patent enactment. The Federal Council has accordingly formulated a patent bill which will soon be presented to the Federal Assembly and it is expected will be passed. The proposed law contains features resembling the French patent law, with certain "modern improvements." We shall give the details when the bill passes.

SUCCESSFUL MOVING OF A GREAT HOTEL.

In our issue for April 14 we gave a number of engravings illustrating the somewhat novel mode of moving by railway the great Brighton Beach Hotel, at Coney Island, N. Y. By the encroachment of the sea the foundations of the building had become undermined, and its prompt removal inland became necessary.

The Brooklyn and Brighton Beach Railroad Company, the owners of the building, thereupon applied to Messrs. B. C. Miller & Son, of Brooklyn, experienced house movers, to undertake the job. Mr. Langford, the secretary of the company, asked if the house could not be put on wheels and drawn back by locomotives. Mr. B. C. Miller thereupon set to work and studied the subject, with the result that he devised a practical plan for doing the work in the manner hinted at. December 5, 1887, a contract was entered into between Miller & Son and the company for the removal of the building, for the gross sum of twelve thousand dollars, all the cars, tracks, locomotives, etc., required to be supplied by the company, the work being done exclusively by Messrs. Miller. It is gratifying to be able to say that the work was conducted by the contractors in the most successful manner. No obstruction or difficulty in carrying out the work, as planned by Mr. Miller, was experienced. The great building has been moved back from the seashore a distance of 595 feet, and now stands on its new site. It is being rapidly finished for summer business. The estimated weight of the building, cars, and timbers was 6,000 tons, to carry which 112 strong railway cars were employed.

PROPOSED REORGANIZATION OF PUBLIC WORKS.

The executive board of the council of engineering societies on national public works have recently been engaged in compiling a short treatise on a proposed reorganization of national public works. The movement in the direction of such reorganization was started at Cleveland, Ohio, in 1885. At a meeting held there, beginning December 3, by duly accredited delegates from ten civil engineering societies, a report was adopted which stated the desirability of a more extensive employment of civilian talent in government engineering works. In the report, Congress is asked to establish a civil bureau of public works. A few months later, the council under whose auspices the present pamphlet is being compiled and edited was formed. Taking up the one subject of the river and harbor improvements, for the present, the organization of a well paid civil staff is suggested. This staff, it is stated, should range from chief engineer, with a salary of $10,000, through such grades as 4 associate chiefs at $7,500, 9 department engineers at $6,000, etc., down to 250 cadet engineers at $1,200. All these should be commissioned by the President, and should be under the direction of the Secretary of War. Provision is made for appointments of army engineers to positions on the civil staff, and about half the positions it is proposed shall at the start be thus filled. The object of the plan is to provide a more efficient force. The high salaries are designed to secure good men—men of such professional standing that they would refuse to occupy positions in the present military service, on account of the low compensation.

The whole system is well thought out, and its features are well presented in the pamphlet before us. The matter has been brought to the President's notice by a memorial, and House of Representatives bill No. 4,923, by Messrs. Cullom and Breckenridge, has brought it before Congress. Both of these documents are given in the pamphlet. There is a great deal to be commended in the scheme. In the matter of the improvement of such harbors as that of New York, there is room for the highest talent, and there should exist no hesitation on the part of the authorities in providing for its retainment.

Collisions at Sea.

At the recent meeting of the Institution of Naval Architects a paper was read by Mr. J. H. Heck.

The author drew attention to the vague character of the existing regulations as regards reduction of speed in foggy weather, and the omission of the element of size, which is of some importance. It is quite possible for a small vessel, when going at full speed, to be more under control than a large steamer going at half speed. By theoretical investigations, which the author gave in an appendix, he arrived at the following results:

(1) Two steamers of different maximum speeds, but of equal size and displacement, when going at full speed, can be stopped in the same distance by the reversing of the engines. Showing in vessels of equal dimensions and form, but of different maximum speeds, that in foggy weather the faster vessel can go at a greater speed, and still be under the same control as the slow vessel.

(2) If two vessels of different maximum speeds, but of equal size and displacement, are going at equal speeds, the fast vessel would be under greater control, and could be stopped in a lesser distance, by the reversing of the engines.

(3) A vessel when in the light condition is under much greater control than when loaded, and can be stopped in a shorter distance by the reversing of the engines. In thick or foggy weather, therefore, a loaded vessel should go at a less speed than when simply making a voyage in ballast.

(4) Of two steamers of the same form and speed, but one having twice the dimensions of the other, the smaller vessel is more under control, and can be stopped in half the distance. In other words, the larger vessel would go through twice the distance after the engines were reversed before she would come to rest. From this it follows that if the condition of the weather renders a reduction of speed prudent, then the reduction of speed should be greatest in the case of larger vessels.

(5) Of two vessels of the same size and form, but having different maximum speeds, while both can be stopped in the same distance by the reversing of the engines, the faster vessel will come to rest in less time than the slow one. The loss, of course, of a few seconds by a captain or mate being undecided what to do would be of more consequence in the case of a fast than a slow vessel.

(6) Of two vessels of similar form and speed, but of different dimensions, the smaller vessel will come to rest in less time than the larger; more promptness is, therefore, necessary in the case of the larger vessel.

(7) Steamers traveling between ordinary speeds will go an enormous distance before coming to rest if the engines are simply stopped, but not reversed; this distance being at least from twenty to thirty lengths, according to the speed and size of the vessels, showing how much less under control a sailing vessel is when compared with a steamer.

In conclusion the author advocated that experiments on retardation and steering qualities of vessels should be made during the course of the ordinary speed trial trips, to enable seamen to get more reliable and accurate information in regard to the vessels under their charge.

The Appointment of Chief Justice Fuller.

The President of the United States on April 30 appointed Melville W. Fuller, of Chicago, to the position of Chief Justice of the United States Supreme Court, lately rendered vacant by the death of Judge Waite. The new incumbent was born in Augusta, Me., February 11, 1838. His mother was a daughter of Chief Justice Martin Weston. He graduated at Bowdoin College in 1853, having as a classmate E. J. Phelps, United States Minister to England, the latter having been also spoken of as a candidate for the same office. After practicing law in Augusta, beginning in 1856, and also editing a paper called *The Age*, he decided to try the West, and established himself in Chicago. There he has since remained. In 1861 he was elected a member of the State constitutional convention; in 1862 he was elected to the legislature; and he was a delegate to the Democratic conventions of 1864, 1872, 1876, and 1880. He has had a large practice in the law, including many Supreme Court cases.

The Smith Observatory, Geneva, N. Y.

By the liberality of Mr. William Smith, of Geneva, a first-class astronomical observatory has been established at that place, fully equipped with instruments of the highest standard, to be known as the Smith Observatory. Prof. Wm. R. Brooks, who has been for many years well known to readers of the SCIENTIFIC AMERICAN by his contributions to astronomical science from the Red House Observatory, at Phelps, N. Y., has removed to Geneva, N. Y., where he will in future carry on his astronomical work under more favorable auspices, as director of the new Smith Observatory. The many valuable discoveries in astronomy heretofore made by Prof. Phelps not only attest his competency and indefatigability, but afford the best promise of success in his new location.

Ten Cows Hanged.

Samuel Stevens, a milk dealer of Monroe, Conn., on going to his barn the other morning, found the entire flooring of his cow stables had given way during the night and precipitated his ten cows into the opening. Nothing remained but the stanchions to which his stock were fastened, and from these hung ten dead cows.