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CONGRESS ON PATENTS, TRADE MARKS AND INVENTIONS.

On October 2 the World's Fair congress devoted to patents, trade marks and inventions opened its sessions in the Art Institute, of Chicago. Among those participating were: Dr. R. J. Gatling, the inventor of the Gatling gun and president of the American Association of Inventors and Manufacturers; Everhard Faber, of this city; Judge Henry W. Blodgett, who held the position of permanent chairman of the congress; Richard Pope, Canadian Commissioner of Patents, and others well known either as lawyers, manufacturers or inventors. Judge Blodgett in his opening address spoke principally of what invention had done for the great farming regions of the Northwest in the production of improved harvesting machinery. These inventions alone have made it possible to harvest the enormous crop of the grain-producing area. As the management of this machinery requires a considerable degree of mechanical skill, the speaker held that it had operated to develop the intelligence of the population, as well as to admit of improved farming apparatus, thus bringing about a two-fold benefit. Dr. Gatling delivered an address of welcome on behalf of the American association, briefly recapitulating the well known story of American patents. Rowland Cox, of the New York bar, read a paper on trade mark law, taking the ground that it is a fortunate thing that in adopting the constitution of the United States, trade marks had been left out of the patent statutes. His contention was that they should be awarded what they have received, namely, the common law protection, holding that a constitutional provision for them would have degraded their common law right into a statutory privilege.

Mr. Faber, in an address which he delivered on the next day, rather took the opposite ground, feeling that the United States should make some statutory provision for the protection of trade marks, if it was only for adequate registration thereof. He cited a directory of trade marks of stoves, which was issued a few years ago, which showed that all but one brand or name given were used by from two to five different manufacturers. A Bureau for the International Registration of Trade Marks has been established at Berne, Switzerland, in connection with the International Union, but, so far, no provision for registration of trade marks by citizens of this country has been made. Expensive litigation or long advertising seemed to him the only way of determining right of priority in trade marks. It will be seen that to some extent his views were the opposite of those of the distinguished lawyer, Mr. Cox, who preceded him in this subject. Lemuel W. Serrell, of this city, read a paper on the uniformity of patent laws, incidentally pleading for a more liberal construction of patents on the assignment of a reasonable period of public use which should not invalidate a patent. Papers by Dr. Gatling and by L. L. Bond, of Illinois, were devoted largely to the same subject, the epoch-making and great inventions of the world. Mr. Francis Forbes, of New York, formerly delegate from the United States to the Madrid convention of the International Union for the Protection of Industrial Property, spoke on the international law of trade marks. Other very able addresses signalized the meeting, some of which will be found outlined on page 246.

While these gentlemen were laboring at Chicago in the very midst of the most wonderful exposition of inventive genius the world has ever known—an exposition which never could have been realized except for the beneficent influences of the American patent laws—another set of men, assembled in the Congress of the United States at Washington, were at work in the unwise business of trying to emasculate and break down the system which has conferred such marvelous benefits upon the country.

The Hon. Mr. J. T. Heard, of Missouri, introduced a bill (H. R. 84) to prohibit inventors from bringing suit against individual infringers of patents, thereby allowing such infringers to take possession of and enjoy the labors of the inventor, without compensation to him, thus legalizing robbery.

The Hon. Mr. John Davis, of Kansas, introduced a bill (H. R. 3433) reducing the term for which patents are granted from seventeen years, which is the present term, to seven years. This law if passed would deprive nine-tenths of all inventors of any emolument from their inventions, and we presume that is the object of the bill.

The Hon. Mr. J. F. Lacey, of Iowa, introduced a bill (H. R. 1989) authorizing Congress, by a special act, at any time, to nullify any existing patent on payment of from twenty-five thousand to one hundred thousand dollars. The value of many patents is reckoned by millions of dollars, especially such as telephone patents, electrical railways, sewing machines, and hundreds of other new inventions, that confer inestimable benefits upon the people. This law legalizes the taking away of the inventor's property without due compensation.

The Hon. Mr. O. M. Hall, of Minnesota, intro-

duced a bill (H. R. 1985) to prevent the inventor from obtaining any compensation for the use of his invention from "innocent users of patented articles."

We regret that not a single member of Congress has brought forward a bill to facilitate, protect, or assist the innocent inventor in securing reasonable rewards for his labors in benefiting the country by discovering new processes and inventions. It seems to us the true policy is to pass laws to foster, encourage and promote the establishment of new industries, not to break down and chastise the authors and inventors thereof.

BLOWING UP A WRECK.

Recent heavy storms along our coast not only created sad havoc, destroyed much property and ended many lives, but they left in their track many dangers which make possible future disasters. Among these may be mentioned derelicts and sunken wrecks. Of the former there are now some twenty along our coast, endangering the coastwise trade as well as the transatlantic trade.

From time to time, the Hydrographic Office of the Navy Department receives notices of the positions of these derelicts from the various ships that have sighted them. This office issues a monthly chart showing the positions of the derelicts, and it is interesting to note how they drift with the currents and winds.

There are also a number of sunken wrecks, whose masts and rigging project above the surface of the water. These, being in shoal water, are near the coast, and are particularly dangerous to our coastwise trade.

A ship running into a derelict or sunken wreck is in as great danger of serious injury as if she had collided with a ship under way, and the ugly point about the derelict is that it carries no lights, and on a dark night it would be impossible to see it in time to avoid the danger. The brave seaman must rush boldly on and trust to the "cherub who sits up aloft" to guide him clear of the masked foe.

The increasing commerce of the world has made apparent the necessity of doing something for the lessening of this danger and for some time past there has been serious discussion of a plan to have an international arrangement for the removal of wrecks. The plan proposes that each country take upon itself the task of keeping clear a certain definite section of the frequented parts of the ocean. At the present moment there is an endeavor to secure legislation on the subject in Congress. There is a strong possibility that our government will detail a vessel, probably a sea-going tugboat, to this duty, equipping her with the necessary gear, as hawsers, grappels, tackles, kedges, explosives, torpedoes, electric machines, and means of setting fire to dangerous floating wrecks.

Recently the old war veteran the U. S. S. Kearsarge was sent to destroy a particularly dangerous wreck off the entrance to Delaware Bay. It may not be without interest to describe her experience, methods and the results.

She left New York on September 27, and on the morning of September 28 arrived near the position of the reported danger. The position had to be accurately determined by astronomical observations, for no land or lighthouse was in sight from which to reckon by compass bearings.

The danger sought had been described as two spars sticking out of water to the height of about eighteen feet, a rather small object to see on the sea even in daylight unless close to it.

Arriving on the exact position as reported, nothing could be seen of the spars. Search was begun on the plan used in the Coast Survey when looking for a shoal spot. It is known as the "starring" method or "running radials." This consists in running a few miles on any given course, then steering a course at right angles for a few miles, then steering for the original position, passing it and standing on for a few miles, turning at right angles, running a few miles and then turning and running again for the original position. This method, if continued, will cause the ship to describe a sort of Maltese cross around the original position. All this time a bright lookout was kept, many men being on the watch for anything that looked like a spar sticking out of the water.

The second tack brought success, and the ship was soon at anchor near the wreck. The exact position was latitude 39° 3' north, longitude 74° 9' west. The wreck was that of a very large three masted schooner. The hull was on the bottom in seventeen fathoms of water, but the masts, with other wreckage, held in some manner by the rigging to the hull, projected above water. One of them was upright, but two of them were inclined, and all were bobbing around in the heavy sea in such a manner as to make it extremely dangerous to approach them in a boat.

A cutter, in charge of the ordnance officer, left the Kearsarge and went to the wreck. Soundings were taken over the wreck, and the officer's investigations led to the conclusion that the decks of the hull must have split, and that the only part dangerous to navigation was the floating wreckage, masts, spars, etc., that remained attached to the hull. The problem then resolved into blowing up or

tearing away this wreckage. A gun cotton torpedo, wires and an electric machine were then placed in the boat, and the boat proceeded to the wreck. A line was loosely placed around one of the masts, forming a sort of grommet. The torpedo was fastened to the grommet and lowered about thirty feet under water, the grommet keeping it near the mast. This was a very dangerous part of the operations, on account of the plunging of the masts and boat in the heavy sea, and it required all the strength and skill of the twelve hearty seamen to keep the boat from being swamped or crushed.

After the torpedo was lowered the boat pulled away to a distance of about five hundred feet, paying out on the electric wires. Arriving at this distance, the electric machine was put in action, the circuit tested, a button pressed, and an explosion followed which shattered the mast.

A second torpedo was in like manner taken out and secured to one of the remaining masts, but the wires becoming foul of the wreckage, the circuit was broken and the torpedo could not be exploded. It was then decided to try and pull one of the masts clear. The Kearsarge hove up her anchor and steamed over near the wreck.

A large hawser was taken out by the boat and made fast to one of the masts. When all was ready, the Kearsarge backed on her engines, tugging away at the hawser. The mast pulled under water, the hawser surged and strained. The mast had a good hold on the wreck and would not let go. Something had to come. So the hawser parted.

The hawser was again taken out by the boat, and this time it was made fast to the third mast. The Kearsarge backed as before, and after tugging for several minutes, till it seemed as though the hawser was again about to part, the mast broke adrift from the wreck. From an examination of this mast and the rigging, and parts of sails that still clung to it, it was evident that the schooner had been capsized in a sudden squall with all sail set. Probably all hands were lost.

The big mainmast remained to be got rid of. A third torpedo was put in the boat, the wires were carefully overhauled, all connections examined and the boat proceeded to the wreck. This torpedo was attached to the mainmast as the others had been, the boat pulled to a safe distance, and the torpedo was successfully exploded, so successfully in fact as to cause by its concussion the explosion of the second torpedo. There were two distinct explosions, following each other very closely, probably within a second. The pieces of the splintered spars floated off, the wire and rope rigging and sails sank to the bottom and the wreck was no longer dangerous to navigation.

The electric machine used was a Farmer dynamo-electric, series-wound machine, of eighteen volts and 3.6 amperes. Twelve hundred feet of number fourteen gauge, copper, rubber-insulated wire were used. The resistance of the wire was three ohms per mile, with 96 per cent conductivity. The insulation resistance is one hundred and fifty megohms.

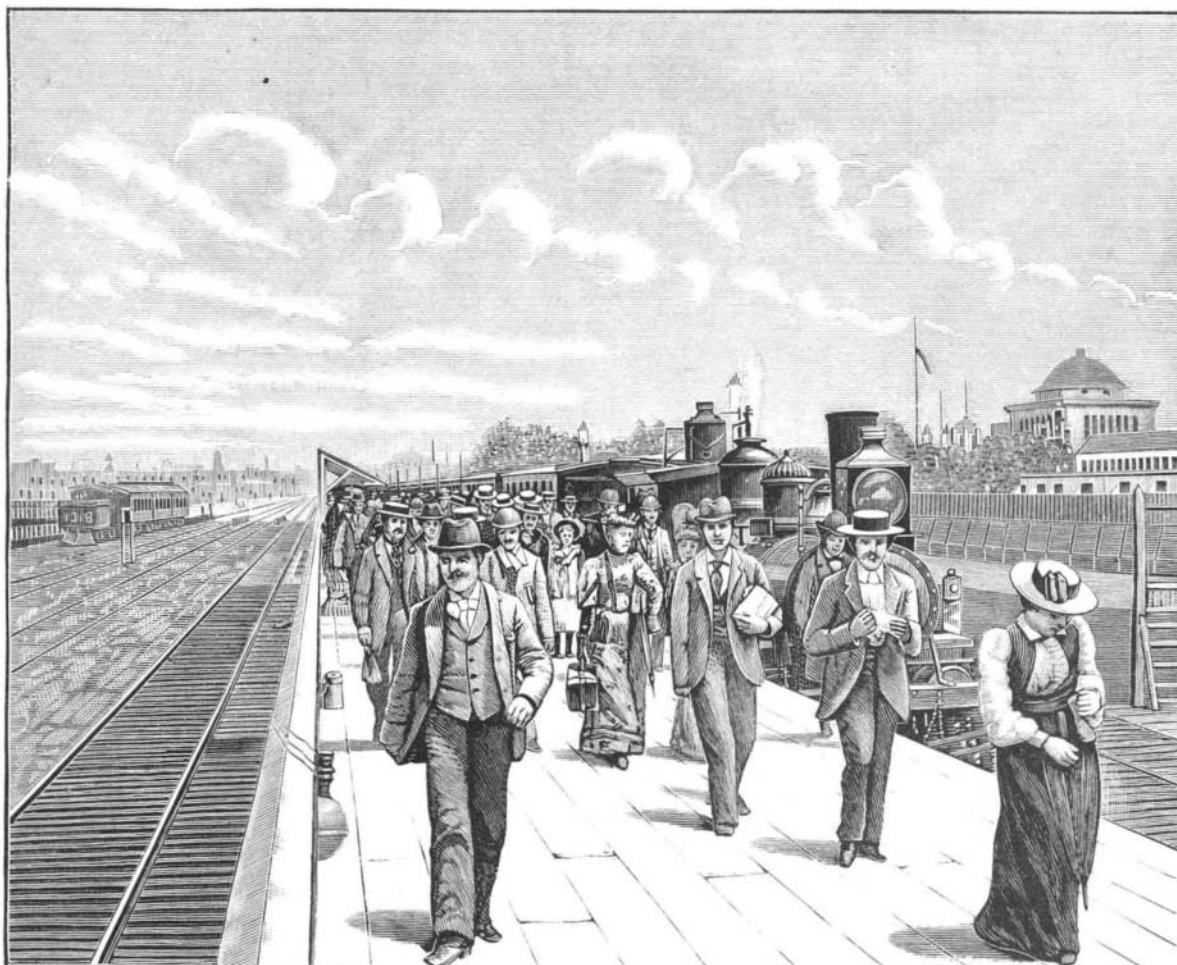
The fuse bridge had a resistance of 0.69 ohm and required 0.89 ampere to fire the fuse. The torpedo consisted of an iron casing containing thirty-four pounds of wet gun cotton with a dry priming charge of 2.7 pounds.--Brainard.

**Thirty Knot Steamers.**

Mr. J. H. Biles, the designer of the Paris and New York, suggests the possibility of 30 knot steamers in the future. Ten knots must be added to the present speeds. Of this Mr. Biles proposes to gain two knots by the use of nickel steel instead of ordinary steel, then three and a half knots by the use of oil instead of coal as a fuel, and the remaining four and a half knots he believes can be secured by such changes in dimensions as will increase the length and draught and by improving the machinery. The length will be about 1,000 ft., and the beam 100 ft., with a draught of 30 ft.



The National Wall Paper Company makes an exhibit at the World's Columbian Exposition based on the principle that such an Exposition as this is intended to show the latest achievements in the various arts and manufactures. This company comprises twenty-three of the leading wall paper manufacturers of the country. The designing of the structure and the work of decorating and placing the exhibits is due to Mr. Paul Groeber, one of the leading designers of wall paper. There are five separate rooms, one being a central or inner court, which Mr. Groeber has decorated in a manner to show the very latest achievements in wall paper manufactures. This room is two stories in height, open to the top, and is papered in the Empire style, in what is called applique relief print, and is all hand work. The design stands out in bold relief. This is accomplished by the use of flexible pig-



ARRIVALS AT THE FAIR—ILLINOIS CENTRAL RAILROAD.

ments, instead of by embossing the paper, so that the paper can be rolled or wet without injury. Over two hundred hand printing blocks were required in printing the paper. The silk draperies and velvet carpeting were designed and manufactured to harmonize and correspond with the papering. Pilasters of this applique relief paper form an important part of the decoration and they stand boldly out. The other four rooms are devoted to the display of various kinds of paper, which embraces the nicest of hand work. The best machine work is also displayed, so that grades of paper are to be seen here ranging in price from 50 cents to \$24 a roll. One large case is full of paper that has the rich sheen of satin, but which is made entirely of pulp. That satin effect is given by the use of pulverized mica in making the paper.

In the house furnishing section, one of the most striking novelties is a large exhibit of rattan furniture, comprising three rooms. The face of the structure is covered with rattan and woven cane. There is a reception room, sleeping apartment and parlor, all the furniture of which is made of rattan, while the cornice, ornaments, decorating of the mantel, and the grilles are of the same material.

Stove manufacturers have vied with each other in making large and complete displays. One of the most noticeable exhibits is that of the Garland stoves. There is a superstructure 25 feet high, 30 feet long and 20 feet wide, arranged in the form of a huge kitchen stove. In this exhibit is shown what is believed to be the oldest stove in America. It was brought from France in 1693 and placed in the first convent estab-

lished in Quebec. It is the ordinary type of box stove, and nearly square. The castings in it would be considered excellent work in stove making to-day. In another exhibit there is shown the first anthracite self-feeding base burner made. This stove was invented by the late Dr. Nott, who was president of Union College, New York. It is believed to date back to 1817.

Few people who have attended the Exposition have appreciated the importance of the Emergency Hospital; although probably they have been terror stricken by the apparently reckless manner in which the hospital ambulances dash around the promenades. There have been an average of over one hundred hospital patients a day since the opening of the Exposition. The largest percentage is the people who keep on going in their sightseeing until they fall exhausted, and in many cases the attending physicians say indigestion brought about by irregular eating has played an important part.

St. Thomas, one of the West Indies Islands, discovered by Columbus, is vividly represented by a model in the Transportation building, which is made on the scale of six inches to a mile horizontally. The outlines of the island are an exact reproduction of the sea beach in miniature, and palm groves, towns, harbors and shipping are shown in the naturalness of real life. Among the vessels represented in the harbor are United States cruisers and two of the Columbus caravels now to be seen at the Exposition.

An exhibit made by the Horticultural Department in a section of the Midway Plaisance causes surprise, but is very practical in its way. It is a section of an old rail fence overgrown by a vigorous growth of ordinary garden weeds, which are described by a card as "Things to hit with a hoe." Nearly all of the more troublesome weeds are to be seen here.

Probably very few of the millions of people that have visited the Exposition have thought of the busy scenes that must be enacted after the gates to the grounds are closed to the public for the night. A glimpse late in the afternoon of the plaza around the Administration building and of the benches surrounding the basin and lagoons reveals an amount of rubbish in the shape of packages, papers, and boxes remaining from lunch parties that would fill a great many wagons. Every night, promptly at eleven o'clock, an army of men goes over the grounds gathering up all the rubbish, which is then burned. Another army follows with sweepers, cleaning up and repairing the promenades and repairing breaks in the lawns. Following

these come the sprinkling carts. This work consumes the greater part of the night. As early as three o'clock A. M., provisions and supplies of all kinds begin to arrive at the various gates.

The Chicago, Milwaukee and St. Paul Railroad exhibits a light and heat tender in the Transportation building, which has been used on its vestibuled express trains. The car weighs 76,000 pounds. It is fitted with a boiler of the locomotive type, which carries steam at a pressure of 100 pounds. Five thousand pounds of coal and 300 gallons of water can be carried in the fuel and water tanks. These tanks and the boiler occupy about three-fifths of the car. In the remaining space is an electric plant, consisting of a Westinghouse automatic engine of eighteen horse power, belted by a link belt to an Edison fifteen kilowatt 110 volt dynamo. This tender has been used continually in winter on limited trains of ten cars each running between Chicago and Minneapolis, and has not only supplied necessary steam for heating the train, but has also maintained 200 incandescent lamps of sixteen candle power each.

The General Electric Company shows in one of its spaces in the Electricity building the first dynamo that Mr. Edison built, and it is an interesting fact that the Edison dynamo of to-day does not differ from this first one except in minor detail. This dynamo was one of fifteen used at Menlo Park, N. J., for the first public exhibition of incandescent lighting. It was built in 1880, and has been in constant operation until it was brought to the Exposition.

(Continued on page 246.)