

THE SANTA MARIA.

A great series of celebrations and festivities, upon two continents, in commemoration of the first voyage and the discovery of America by Columbus, was commenced at Palos, Spain, on August 3, the four hundredth anniversary of the day on which the little fleet of the great navigator set sail on its memorable quest. The little town is on the Rio Tinto, near its mouth, in the Gulf of Cadiz, and between it and the sea is the old convent of La Rabida, intimately associated with the memory of Columbus. Near by is the much larger modern town of Huelva, which has considerable export trade, and at this port assembled the Spanish vessels and those representing foreign nations also participating in the inaugural ceremonies, as the harbor at Palos did not allow the entry of large craft.

The principal feature of the celebration at this time was found in the Santa Maria, a vessel built in every respect after the original of the largest of the three vessels of Columbus. The Nina and the Pinta, the two other vessels, completing the squadron, it is expected will be constructed in time to bear a part, in connection with the Santa Maria, in the naval celebration to take place in New York Harbor next spring, preliminary to the opening of the great exhibition at Chicago. Our picture of the Santa Maria is from a drawing made for the *Graphic* by Lieutenant E. C. Villiers, of the British Navy.

It was the design that the little vessel should sail out of the harbor of Palos in the early morning of August 3, after the same manner as the first or discovery voyage was commenced; but when the sailors spread their canvas it was found that there was no breeze, and one of the gunboats was then employed to tow her toward the ocean. The Spanish vessels followed, and every foreign ship saluted with cannon as the Santa Maria passed. The war ships of foreign nations sent to represent their governments in the celebration followed the Spanish vessels. The multitudes on shore cheered in unison with the roar of the artillery. For three hours the Santa Maria followed the route along which Columbus had been wafted by a favoring breeze, and was then towed back to Palos. Huelva, which is undertaking the larger part of the celebration, was bright with flags and thronged with visitors from all parts of the world. Palos is hardly more than a memory of what it was in the days of Columbus. It was then the chief city of the region. It has since decayed, and is overshadowed by Huelva, the capital of the province. The convent of Santa Maria de la Rabida was also thronged with visitors. The convent buildings have been put in nearly the exact condition they were 400 years ago, when Columbus was a guest there. The tower of the convent, which occupies a prominent site, was probably the last object on the mainland which Columbus saw as he sailed away.

These jubilees formed the starting point for a series of *fetes*, designed to occupy Huelva, Palos, and La Rabida during the whole of the months of August, September, and October, concluding with an International Congress and the official celebrations, in which the Queen Regent, the Court, the Ministers, the Corps Diplomatique, and the provincial and foreign deputations were to take part. At Madrid, Granada, and Seville there were to be congresses, horse races, and bull fights, gala theatrical performances, historical cavalcades, and popular fairs, balls, receptions, and *soirees*. Nothing has been spared to mark with becoming pomp the *role* played by Spain in the discovery of the New World.

The Santa Maria of 1892 is in every respect, and in the minutest detail, a reproduction of its analogue of 1492, as it is pictured to us in the diary of the illustrious navigator. It has the same old-fashioned shape, the same primitive masts, rigging, and sails, even the same armament of falconets and mortars, halberds and arquebuses. The cabin of the commander is furnished in the style of the fifteenth century and its table is littered with maps, documents, and nautical instruments of the period. Finally, its mastheads are decorated with the royal standards of Castile and Leon, in exact imitation of the flags which Columbus planted in the New World on October 12, 1492. The vessel is manned by an excellent crew, obtained from among the fishermen and sailors of Cadiz and San Fernando, and placed under the orders of a detachment of officers of the Royal Navy. They are all in the highest spirits and confident that they will be able to conduct this vessel of 240 tons safely to New York next year, when the great celebrations are to take place here. Preliminary to that occasion it is designed that the Santa Maria will be accompanied across the ocean by a Pinta and Nina, also constructed in imitation of the two smaller caravels which formed Columbus' escort four hundred years ago. And these in their turn will be watched over by a modern Spanish squadron, which will act as a guard of honor and render them any assistance they may need, a provision whose necessity will readily be understood when we remember that the largest of the vessels had only about the dimensions of a good sized canal boat of the present day.

World's Fair Items.

Two immense search lights, which will be used to illumine the grounds next summer, have arrived at Chicago, and will probably be used for the dedicatory exercises. These great lamps weigh respectively 2,200 and 1,300 pounds, with diameters of 4 and 3 feet. The larger one will be placed on the roof of the Manufactures Building, and will, it is said, light up the Van Buren Street station, seven miles away, with the intervening space. The other will be mounted on the cupola of the Transportation Building, and will shed light on the Illinois Central tracks, to the south and west. A six foot lamp is to be put up next summer. These search lights are the largest in the world.

The fourteen principal buildings and their cost are:

Transportation Building, 5 3-5 acres.....	\$370,000
Horticultural Building, 5 7-10 acres.....	325,000
Mining Building, 5 3-5 acres.....	265,000
Electricity Building, 5 1-2 acres.....	401,000
Machinery Hall, 9 3-5 acres.....	1,285,000
Administration Building, 1 3-5 acres.....	435,000
Agricultural Building, 9 1-5 acres.....	618,000
Manufactures Building, 30 1-2 acres.....	1,500,000
Government Building, 3 3-10 acres.....	400,000
Fisheries Building, 1 2-5 acres.....	224,000
Battleship, 1-3 acre.....	100,000
Art Building, 4 4-5 acres.....	670,000
Forestry Building, 2 1-2 acres.....	100,000
Women's Building, 1 4-5 acres.....	138,000
Total.....	\$6,831,000

The Finance Committee have decided to recommend that \$150,000 be appropriated to construct a special building for educational exhibits. It will afford 160,000 square feet of space and be located east of the Fine Arts Building. This will relieve the tremendous pressure for space in the Manufactures Building, to which the liberal arts display was previously assigned.

Canada will exhibit a mammoth cheese made at the Dominion experimental station at Perth. It weighs over 22,000 pounds, and contains the curd of a day's milk from 10,000 cows. A gigantic oaken press was erected for the purpose of constructing the cheese, and 200 tons of pressure was applied. The cheese has already been pronounced perfect in texture, flavor, and color. It will be placed in the pyramid of Canadian dairy products at the World's Fair, and will afterward be cut up and sold in pound blocks, either in Chicago or in Great Britain.

Edison's Patents Sustained by the United States Circuit Court of Appeals.

The United States Circuit Court of Appeals for the District of New York, Judge Wallace presiding and Judges Lacombe and Shipman sitting as associates, on October 4 handed down a decision affirming that of the Circuit Court in the action of the Edison Electric Light Company against the United States Electric Lighting Company.

The decision of the Circuit Court in favor of the Edison held, in effect, that the incandescent lamps manufactured and put upon the market by the United States and cognate companies were infringements of the Edison patents. The practical effect of the affirmation by the Appellate Court of Judge Wallace's decision is to give a monopoly of the manufacture of the incandescent bulbs to the Edison Company, and also confer upon it the right to claim an accounting and damages for infringements from the defendant companies. The court finds that not only any known form of incandescent lamp, but probably also any possible form of incandescent lamp that can be manufactured, is an infringement of the Edison patents, and that therefore no other competing company can make such lamps without license from the Edison company.

The present production of incandescent lamps by the Edison Company is 80,000 a day. These lamps have been put forth in like volume by rival companies for several years past. When the action was begun the United States Company was allowed to go on manufacturing the lamps pending a decision of the questions involved, by executing a bond to pay damages and account for their profits to the Edison Company in case the court should decide against them. In the interval between the inception of the action and the decision of the United States Circuit Court of Appeals, the work of assessing the damages has been going on before a master appointed by the court, and is not yet completed.

Mr. Edison applied for a patent for his lamp in 1879. The Edison patent has about three and a half years yet to run.

The *N. Y. Herald*, in commenting on this decision says:

"The decision of the United States Circuit Court, of Appeals in favor of the priority of the Edison incandescent lamp will be hailed with the greatest satisfaction by the numerous friends of the 'Wizard of Menlo Park,' apart from all consideration of the technical and legal questions involved. The decision means many millions of dollars to the Edison General Company, in which, we understand, the inventor still maintains a solid interest.

"Hitherto Mr. Edison has not been so fortunate as he deserved to be in his business ventures. His invention of a transmitter for the telephone was sold for

an annuity of \$6,000, to be paid for a period of seventeen years. The day after he had concluded this bargain he was offered \$500,000 in cash for the invention. The quadruplex system, which revolutionized telegraphy, was bought from Mr. Edison by the Western Union Company for \$30,000. By it the Western Union Company has been enabled to save a million dollars a year in wire.

"The people of all lands owe this man a vast debt of gratitude, and will not, we believe, be slow to hail the decision of the court, which gives him back his own, with loud acclaim."

Steam on the Highway.

Peter Chalmers, a farmer of Farmington, is a genius in his line. When anything new comes out he studies to see whether it cannot be adapted to use on his farm.

For one thing, he has applied helmet oil cups to greasing wagon wheels. He has a score of grain wagons, all of them supplied with these cups, and all of the wheels can be greased by means of them in ten or fifteen minutes—a job which would require an hour or more without them.

All the plowing done on Chalmers' big ranch is done with a traction engine, and during the last plowing season he ran the engine day and night, having three shifts of men. A locomotive headlight was employed to illuminate the path ahead and another was used to throw light on the plows.

Now the farmer is hauling wheat to town with his engine. He brought a load in recently and stored it at the Stockton Warehouse. There were nine wagons in the train, and each carried sixty-eight sacks of grain. Each sack weighs, on an average, 137 pounds, so each wagon load was 9,316 pounds, and the aggregate of all the wagon loads 83,844, or nearly forty-two tons.

The farmer has 30,000 sacks of wheat to haul, some of it belonging to neighbors.

"Is it much cheaper to bring the wheat in this way than it would be to ship by rail?" asked a *Mail* reporter of Mr. Chalmers.

"Well," was the reply, "I can't say positively that it is any cheaper at all, but I think it is. You see, this is only my third trip, and I haven't been able to cast up accounts yet. The wheat I'm bringing now comes from near Farmington, which is seventeen miles from Stockton, and it would cost \$1.10 a ton to get it here by rail. Some of the wheat I'm going to haul is farther away, and to transport it on the railroad would cost \$1.50 a ton. I don't think it will cost me a dollar a ton on the longest haul."

"Where does the saving come in?"

"Well, one has to load his wheat anyhow, and if he ships it by cars, he's got to unload and then load it on the cars. That requires men and time. This way all we've got to do is to load it in the field—the warehouse men do the rest. It requires only three men to take care of our train—an engineer, a fireman, and a man to look out for the wagons and see that they don't get 'hot boxes.' The only expense of hauling, therefore, is the wages of the three men and the cost of the coal used."

"But," said the reporter, "there's the interest on the money in the engine, which cost—"

"Four thousand five hundred."

"And then there's repairs and the steady wear of the machine; and you've got to have a lot of money invested in wagons. You would only need a couple of wagons to haul to the railroad, but this way you need a dozen."

"Oh, I need the wagons and the engine on the farm, anyhow," was the reply.

In further conversation, Mr. Chalmers said it would not be feasible to haul grain as he is doing except on level and good roads. The only trouble he experienced was in crossing small bridges, which he had to brace up on the first trip. The tender carries water sufficient for only twelve hours' consumption, but water is pumped into it from watering troughs along the road.

It might seem foolish to say that the wagons follow one another around corners in the same path, since as a matter of course they would do so, but people often ask the farmer what sort of gearing he puts on his wagons to make them follow the lead.

The engine can haul the train at the rate of four miles and a half an hour, but to prevent jolting the speed is regulated to about three miles an hour.—*Stockton Mail*.

Profits of German Sugar Factories.

Last year was, generally speaking, very favorable to the German sugar factories, as is shown by the following details: The Cares sugar factory, in Dirschau, with a joint stock capital of 600,000 marks, obtained a profit of 201,788 marks, out of which a dividend of 10 per cent was declared. The sugar factory at Radegast declared a dividend of 17 per cent, that at Wendersen 20 per cent, that at Zuckendorf 22½ per cent, the sugar factories at Glazig and Korbisdorf each 12 per cent, that at Camburg 31 per cent, and that at Gross-Gerau 50 per cent (in the preceding year 42 per cent).