she was under full steam was about 13 knots. Although, financially, she was a failure, her vast size proved most opportune for the task of laying the transatlantic cable. The latter days of the great ship were somewhat ignominious. After being sold to an enterprising speculator, who used her for show purposes, she was sold for old iron and broken up on the banks of the Mersey. If we bear in mind that the art of iron shipbuilding was in its infancy at the time she was built, we must admit that the construction of the "Great Eastern" was, and is to-day, the greatest engineering feat of the nineteenth century, and reflects the highest credit upon her designers, J. Scott Russell and I. K. Brunel.

THE "OCEANIC"—We have recently described the "Oceanic" at such great length that it will not be necessary at this time to do more than recapitulate her leading features. In her lines and general arrangement the new ship is an enlargement of the White Star boats "Majestic" and "Teutonic," and unless one is near enough to realize her gigantic proportions, she might easily be mistaken for either of these vessels.

DIMENSIONS OF THE LARGEST OCEAN STEAMERS.

Name of Ship.	Date.	Length Over All.	Beam.	Depth.	Draught.	Displacement.	Speed.
		Feet	Feet	Feet	Feet	Tons	Knots
Great Eastern	1858	692	83	57½	25½	27,000	14½
Paris	1888	560	63	42	26½	15,000	20
Teutonic	1890	585	57½	42	26	13,800	20
St. Paul	1895	554	63	42	27	16,000	21
Campania	1893	625	65	41½	28	19,000	22
Kaiser Wilhelm der Grosse	1897	649	66	43	29	20,000	22·62
Oceanic	1899	704	68	49	32½	28,500	21¼

The accompanying table shows what an advance in size has been made in the "Oceanic" over existing ships. She is 42 per cent larger than the next largest transatlantic liner, "Kaiser Wilhelm der Grosse," whose displacement on a draught of 29 feet is 20,000 tons. Following the "Kaiser Wilhelm" is the "Campania," of 19,000 tons, and then in order of size come the "St. Paul," of 16,000 tons, the "Paris," of 15,000 tons, and the "Teutonic," of 13,800 tons. But though the vessel is so much larger, she does not compare in speed with the fastest of the transatlantic liners. Her indicated horse power is only 28,000, or the same as that of the "Kaiser Wilhelm der Grosse," and the estimated sea speed is only 20 knots an hour, as against a sea speed of over 22½ knots, which has been achieved by the North German Lloyd vessel. It is the belief of the White Star Company that the average transatlantic traveler cares less about extremely high speed than is generally supposed, and it is believed that by giving the "Oceanic" sufficient power to enable her to make the trip with great regularity, the company will not only effect a great saving of fuel, but will meet all the wishes of the traveling public. Thus, it is claimed that the saving of twelve hours by pushing a vessel across the Atlantic at the highest speed frequently serves merely to bring the ship into New York Harbor just too late to pass Quarantine. This necessitates the passengers being detained on board until the following morning.

In the construction of the vessel great attention has been paid to the elements of strength and stiffness. The frames are heavy channel irons of steel 9 inches in depth, spaced 31½ inches from center to center. The plating varies in thickness from 1 inch to 1¼ inches. The double bottom extends throughout the full length of the ship, and in general is a little over 5 feet in depth, except beneath the engines, where, in order to comply with naval requirements, the depth is increased to 7 feet. Great strength is also derived from the five steel decks, which are completely plated from stem to stern. Including the inside floor of the ship's bottom, there are seven distinct decks, and above these a boat deck which extends for several hundred feet amidships. The captain's bridge is about 96 feet above the keel, and will be 68 feet above the water when the ship is down to her present load line of 29 feet.

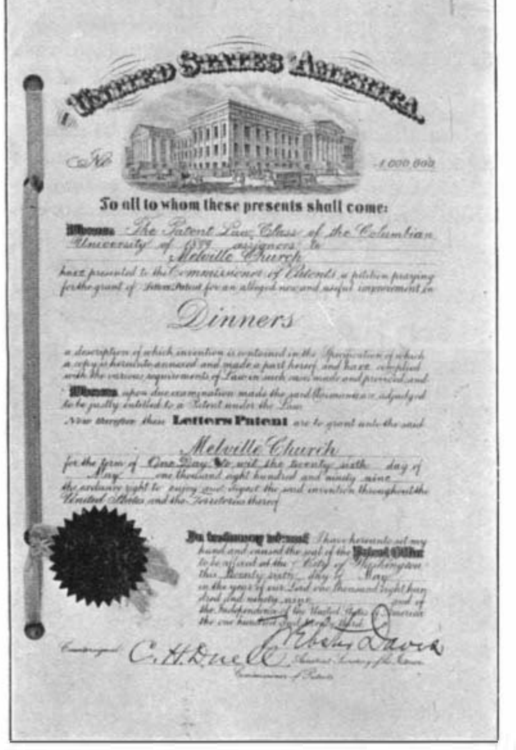
The engines are of the twin-screw triple-compound inverted type, working upon four cranks, are set according to the Schlick system, which is designed to reduce vibration and has shown excellent results in practice. The cylinders are high pressure 47½ inches, intermediate 79 inches, and two low pressure 93 inches in diameter, the common stroke being 72 inches.

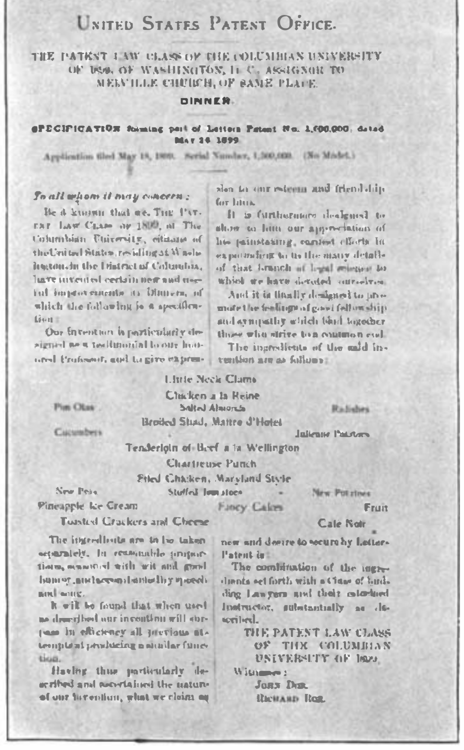
There are accommodations for 410 first-class passengers, 300 second-class, and 1,000 third-class passengers, and as the crew numbers 390, the total number of people on board when the ship carries her full complement will be 2,100. The decorations are carried out with the good taste which is a marked feature in all the vessels of this line, and while it is rich there is nothing gaudy or over-elaborate. The saloon has the generous proportions of 64 feet in width by 84 feet in length. It has a seating accommodation of 350. The opening in the ceiling under the glass dome is 21 feet square, and the four sides between the pendentives contain allegorical figures that represent respectively Great Britain, America, New York, and Liverpool. The library is an exceedingly picturesque room, measuring 53 feet in length by 40 feet wide, with a height of 9 feet 6 inches from floor to ceiling. An excellent effect has been secured in this room in breaking away from the long, straight sides and forming nooks and recesses. We cannot attempt to enter any further into a detailed description of the passenger accommodation on this fine vessel. It is sufficient to say that her vast size and weight insure a degree of spacious comfort and steadiness of movement which have never before been realized in ocean travel. The total cost of the vessel was five million dollars.

In conclusion we must confess that, contrary to our expectations, the "Oceanic," on a near inspection, looks every inch of her great size. There is a sense of roominess and steadiness both above and below decks far in excess of anything experienced on other large ships, and her behavior in a seaway on the passage over was up to and beyond expectations.

A NOVEL MENU CARD.

One of the most curious menu cards on record was used by the Patent Law Class of 1899 of Columbian University, Washington, D. C. By the courtesy of one of those who were fortunate enough to partake of the repast, we are enabled to present our readers with a reproduction of this interesting menu card, which simulates a United States patent issued for one day.




United States Patent Office.

THE PATENT LAW CLASS OF THE COLUMBIAN UNIVERSITY OF 1899, OF WASHINGTON, D. C., ASSIGNOR TO MELVILLE CHURCH, OF SAME PLACE.

DINNER.

SPECIFICATION forming part of Letters Patent No. 1,000,000, dated May 24, 1899.

Application filed May 18, 1899. Serial Number, 1,300,000. (No Model.)

To all whom it may concern:

Be it known that we, The Patent Law Class of 1899, of The Columbian University, citizens of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful improvements in Dinners, of which the following is a specification:

Our invention is particularly designed as a testimonial to our honored Professor, and to give expression to our esteem and friendship for him.

It is furthermore designed to show to him our appreciation of his painstaking, earnest efforts in expounding to us the many details of that branch of legal science to which we have devoted ourselves.

And it is finally designed to promote the feelings of good fellowship and sympathy which bind together those who strive to a common end.

The ingredients of the said invention are as follows:

Little Neck Clams
Chicken a la Reine
Pim Olas — Salted Almonds — Radishes
Broiled Shad, Maitre d'Hotel
Cucumbers — Julienne Potatoes
Tenderloin of Beef a la Wellington
Chartreuse Punch
Fried Chicken, Maryland Style
New Peas — Stuffed Tomatoes — New Potatoes
Pineapple Ice Cream — Fancy Cakes — Fruit
Toasted Crackers and Cheese — Cafe Noir

The ingredients are to be taken separately, in reasonable proportions, seasoned with wit and good humor and accompanied by speech and song.

It will be found that when used as described our invention will surpass in efficiency all previous attempts at producing a similar function.

Having thus particularly described and ascertained the nature of our invention, what we claim as new and desire to secure by Letters Patent is:

The combination of the ingredients set forth with a Class of budding Lawyers and their esteemed Instructor, substantially as described.

THE PATENT LAW CLASS OF THE COLUMBIAN UNIVERSITY OF 1899.

Witnesses:
John Doe.
Richard Roe.

MENU CARD SIMULATING A PATENT.

We are pleased to note that the "ingredients are to be taken separately, in reasonable proportions," and that they are to be "seasoned with wit and good humor and accompanied by speech and song." Of course dinners are very much alike and we do not doubt that the statement of the "invention" that "it will be found that when used as described, our invention will surpass in efficiency all previous attempts to produce a similar function" will at once be challenged. This question will never be decided without recourse to the Court of Appeals of bon vivants.

The patent was supposed to be issued for the term of one day, and it will probably not be reissued unless some satisfactory grounds can be given, such as failure to produce the desired effect as specified in the preamble.

The Reduction of Prints as Contrasted with the Reduction of Negatives.

The August issue of the Photographische Rundschau contains a long article by Herr Janko on the reduction of prints, the essential feature of this article being a useful contrasting of the conditions under which negatives and prints may be treated with advantage. In the first place, there must be a clear understanding as to the difference between true reduction and the mere removal of a general veil or fog, the latter operation being of special importance in relation to prints, as an amount of veil which may be of no practical importance in the case of a negative will sometimes ruin a print, as by reflected light a slight veil may completely mask a vigorous or fully gradated print. Further, a consideration of this subject will show that reducers which are excellent in the case of negatives may be useless for slightly veiled prints. The persulphate of ammonium is a case in point, as it does not sufficiently attack the faint deposit. Farmer's ferricyanide reducer, as also cupric chloride, ferric chloride, and cupric bromide, are excellent fog or veil removers in the case of negatives, but when used for prints are subject to the disadvantage that the faintest deposits of silver which remain take a yellowish tone, and sometimes the whole surface of the paper takes a yellowish tint. The general yellow tint which often arises when Farmer's reducer is used for prints may be removed by a sodium sulphite bath or by Belitski's alum and hydrochloric acid bath, but neither of these will remove the yellowish tint of the faint gradations of the true silver image. A fog-eliminating reducer not subject to this disadvantage is prepared as follows: Stock solution—Water, 100 parts; iodide of potassium, 10 parts; iodine, 1 part. From 2 to 5 c. c. of this liquid are added to 100 c. c. of water, and the positive print is immersed, when the fainter deposits become rapidly converted into silver iodide, and this salt must be removed by a hyposulphite bath, a 10 per cent strength being convenient. Ordinary papers are frequently sized with starch, and this will cause a general blue coloration, but this blue coloration disappears in the hyposulphite bath. Still, the blue coloration is an inconvenience, as it renders it difficult to judge of the progress of the reduction; hence, a more convenient all-round fog-removing reducer for prints is the following: Saturated solution of alum, 50 parts; 4 per cent thiocarbamide solution, 50 parts; glacial acetic acid, 1 part. The print being immersed in this bath, the dish is rocked until the reduction has sufficiently progressed, after which the print is washed.—Amateur Photographer.

The Camphor Barometer.

A recent number of the weekly bulletin of questions and answers, published by the secretary of the French Association for the Advancement of Science, submits the following problem says The Monthly Weather Review:

How can we explain the formation of clouds, threads, and crystals that are produced in the so-called chemical or camphor barometer, which consists of a solution in alcohol of equal parts of three substances, the nitrate of potash, camphor, the hydrochlorate of ammonia, if the glass tube that contains this solution is hermetically sealed, and the variations of temperature to which it is subjected have no influence on the phenomenon?

This form of barometer is found everywhere in English-speaking countries under the names of "the farmers' weather glass," "the domestic barometer," or some other equally misleading title. In some forms that the editor has tested, there is scarcely any apparent change in the clearness of the liquid, year after year. In other instruments, the crystals of camphor assume different forms, from day to day, which are certainly very interesting to observe and study, but have nothing to do with the weather and storms, and even less than one would expect with the current temperature. To the meteorologist and farmer, these instruments have no value, but to the student of molecular physics, they are well worth an investigation.

The gas in the space above the liquid being a mixture of air and vapor of alcohol exerts a very variable pressure upon the liquid below; the latter is saturated with the three chemicals above mentioned, but as its temperature and pressure vary, it alternately rejects and absorbs a slight surplus of camphor. The rapidity with which this change takes place appears to decide the question as to the crystalline or fibrous structure of the visible cloud. Nearly all the changes in the appearance of the camphor cloud seem to depend upon the rate at which the changes of temperature take place, and the time that is given to the solid to collect into larger crystals and settle to the bottom or rise to the top, according to the relative density of different parts of the liquid. The ascending and descending currents going on within the liquid are slow and barely appreciable, but must have an effect upon its cloudy appearance.

THE projected ship canal from Georgian Bay to Montreal would mean the saving of 725 miles in the transportation of grain from Chicago to Liverpool; all but 29 miles is open river and lake waters.