

# Progress in Science.

## THE LARGEST SHIP: THE EUROPA.

### A 50,000 Ton Passenger Liner.

**A**BOUT once in a decade a new fleet of ocean liners is launched, setting a new standard for size, luxury, and safety at sea. The great ships which are thought to express the last word in boat building are soon greatly exceeded by their new sisters, and relegated to a second place. The new Atlantic fleet now under construction in turn surpasses all the great ships which have gone before. To do them justice, we must find a new vocabulary of adjectives for these super-leviathans and greyhounds of the high seas.

The world had scarcely become accustomed to using the Mauretania as a synonym for large objects, when two great ships, the Olympic and the Titanic, were designed to surpass all of her dimensions. No sooner was one of these liners launched than the owners of the Mauretania planned a new ship of even greater length. Now, in turn, comes the greatest of all ocean liners,

the Europa, of the Hamburg-American Line, which is still larger. With the increase in length, beam, and tonnage, we have a corresponding development in the luxury of equipment. We can no longer call the great ocean liners floating hotels, since the new boats offer many attractive features not yet attempted by the builder of hotels. The new liners have all, even more than, the comforts of a palatial home.

The dimensions of the three latest and largest liners are as follows:—  
Mauretania, length 780ft., tonnage 32,300; Olympic, length 880ft., tonnage 48,000; Europa, length 900ft., tonnage 50,000.

Statistics are likely to be stupid, and the mere recital of dimensions, however large, gives little idea of the overpowering bulk of such a ship as the Europa. The new liner will have an extreme displacement of between 60,000 and 70,000 tons. In other words, the ship and load weigh 140,000,000 pounds. It would, therefore, require 1,400,000 men, each carrying 100 pounds, to handle this material. The combined capacity of the three largest hotels in New York city

is 3,235 persons, while the Europa carries 4,250 passengers.

The Europa will have a beam of 96ft. She will have nine decks above the waterline, which is the height of the largest apartment houses, thus making her literally a skyscraper afloat. The population of a small city will be comfortably accommodated aboard without crowding, since her capacity will slightly exceed 5,000.

With the laying of the keel of the "Europa," the largest ship in the world now under construction, comes the news from abroad that the gross tonnage of all the ships flying the Hamburg-American Line flag has passed the 1,000,000-ton mark, or to be correct, 1,022,452 tons. Some idea of the enormous size of the "Europa" may be had from the order which has been given for 2,000,000 feet of Oregon fir to be used for the decks alone. For months this lumber was drying near Portland, Oregon, before being shipped to Germany. Special care has been taken to provide only clear, vertical grain wood, which has been selected with the greatest care.

With the unprecedented amount of cabin and deck space available on the "Europa," a number of unique features become possible which have never before been attempted on a ship. None of the staterooms will be cramped as on the early boats. For all those who care to travel with the comforts of home, there will be complete suites available. There will be a choice of dining rooms for those who do not care for the main dining saloon; there will be a Ritz-Carlton restaurant, a grill room, tea garden, and even a rathskellar. Spacious palm gardens, which in winter may be converted to sun parlours, will occupy the upper deck. Several ladies' saloons finished in different decorative periods will appeal to the tastes of different nationalities. All of these saloons will be connected by telephone to the private staterooms,

so that those whose cabins are perhaps two or three city blocks apart, may talk with one another.

The gymnasium on the "Europa" will be much larger and more completely equipped than any heretofore installed. In addition to the regular apparatus, there will be a running track, so that an athlete could actually cross the ocean without breaking training. The mechanical exercising devices already introduced on some ships will be very complete, enabling one to exercise any set of muscles without effort or enjoy a mechanical camel or horseback ride. An experienced attendant will be in charge of the gymnasium, to offer intelligent advice to those seeking exercise.

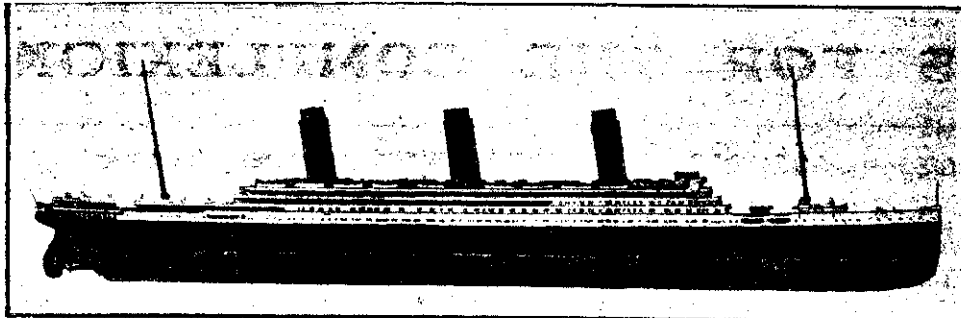
A special squash court will be built in connection with the gymnasium. Nearby will be found a large swimming pool and completely equipped Turkish and Roman baths, presided over by skilled attendants.

The "Europa" will be ventilated throughout by a new system. She has no ventilator rising above her decks, and her long, unbroken deck incidentally gives her a very trim and ship-shape appearance. Air will be forced to the lowermost decks by powerful air pumps. Every part of the great ship will be thus supplied with currents of pure air of her masts will make it possible to transmit or receive messages at any point on the Atlantic Ocean, so that the "Europa" will always be in direct communication with land.

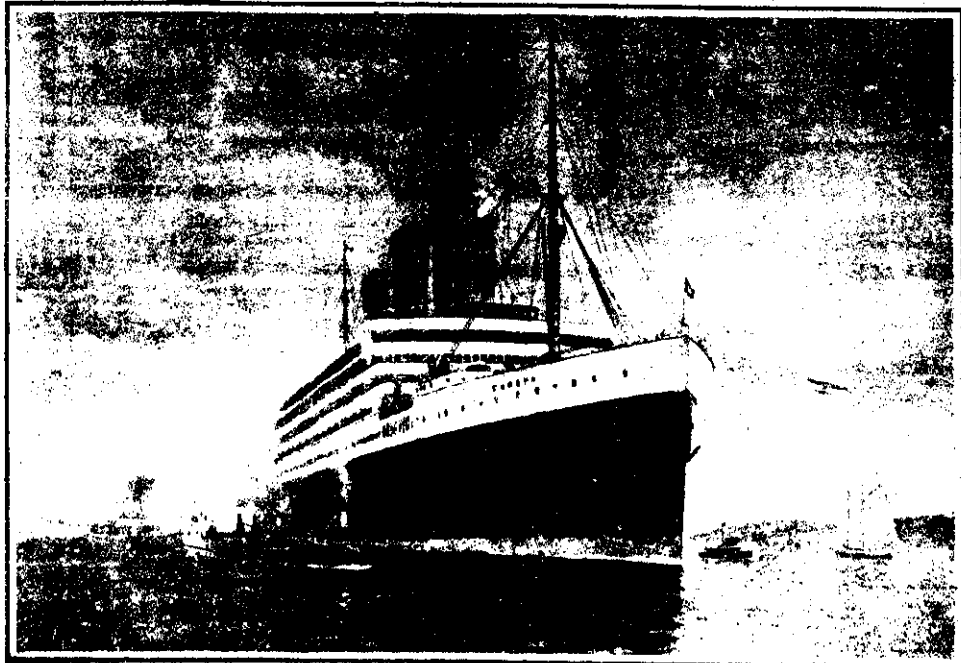
The most powerful wireless telegraph apparatus ever carried to sea will be set up on the "Europa." The unusual height at the proper temperature.

#### Electric Rat Killers.

It may be accepted as an axiom that rats in ships from foreign climes bring with them plague and other diseases. Various methods of destruction have been adopted, but against fumigation and the employment of gases there is always present the danger of damage to the cargo. An Austrian engineer, Herr von Florentin, has an invention which is quite as efficacious as either gas or fumigation. It is a method of electrocution, and the apparatus makes allowance for all varieties of the rat. He is attracted to a plate by an electric light. The plate is baited with some dainty loved by rodents, and as soon as the rat gets on the plate his own weight charges it with electricity, and death is instantaneous.



Broadside view of the new 900-foot, 50,000-ton liner, showing the nine decks above water line.



View of the bow of the Europa as completed.

**VAN HOUTEN'S COCOA**  
The Standard  
Cocoa of  
the  
World.