THE COLUMBIA.

This magnificent steamship, the latest acquisition of the Oregon Railway and Navigation Co. to their extensive fleet of floating palaces, arrived here from the shipyards of Messrs. Roach & Co., her builders, and is now undergoing a thorough overhauling previous to being placed on the Portland and San Francisco line, leaving here on her initial trip on or about August 16th. Five hundred thousand dollars have been expended in her construction, and it is claimed that in all her appointments and conveniences she is one of the finest steamship afloat.

The Columbia is 334 feet in length, 38½ feet beam, 23 feet depth of hold and 3,200 tons measurement. She is provided with compound engines, and makes an average of 14 knots per hour. Commodore F. Bolles, well known to the traveling public of the Pacific coast, and who brought her out, will be her future commander.

The dining room of the Columbia is of elegant proportions, with two guests' or communicating rooms at the after end. The interior is finished in hard woods — French walnut, Hungarian ash and bird's-eye maple—each section being relieved by two small pilasters running up the entire height and finished with handsome mahogany capitals. The vessel is elegantly fitted throughout in the matter of carpets, furniture and upholstery. Prominent among the newest features is the heating apparatus, consisting of a register in every room, supplied with air driven in by an engine and controlled by the occupant of the room. In hot weather it can be utilized for cold, and in cold weather for hot air, thus securing perfect ventilation and doing away with the disagreeable odor of steam heaters and leakage in the rooms. But the greatest innovation is the adoption of the Edison electric light throughout the ship, the Columbia being the pioneer in this great, and, to passengers, most agreeable improvement. These lights are maintained by four of Edison's dynamo machines in the engine room, arranged so that each line is under command of the engineer. The lights of the state rooms are under control of the steward on the outside. All of the rooms are fitted up with electric calls, and the offices, smoking room, etc., are provided with telephones—the smoking room being in connection with the steward's room, and the captain's with the chief engineer's, purser's and steward's. Among other improvements are an electric tell-tale on the bridge, enabling the captain to tell, by simply pressing a button, whether the engine is going ahead or back, and at what speed, so as to prevent any accident by mistaken signals from the bridge to the engine room. The steering gear has connection with the freight hoister, but with self-acting attachment. The elevators for discharging cargo are new in design, and the running engines at the ports are arranged so that a truck loaded with freight runs from the lower hold out to the dock entirely by steam.

The Maxim electric headlight is of novel construction, and is supplied by a current from one of Maxim's dynamo machines placed between decks.

The four Edison machines are arranged along one side of the engine room, as shown in Fig. 2. One of them is a dynamo electric machine used in exciting the field magnets of the others. The several circuits extending from these machines are controlled by a switch board seen at the farther side of the engine room. The state rooms on the upper and lower decks are on separate circuits; so also are the saloons. This arrangement admits the employment of the light as a signal to indicate when the time approaches for extinguishing the lights altogether, by simply breaking the circuit for an instant ten minutes before the prescribed retiring hour.

Fig. 3 gives a good idea of one of the elegant state rooms provided with an Edison lamp pendent from the ceiling, and Fig. 7 shows the style of lamp adopted for the dining saloon; the lamps in the grand saloon are on the same general plan, differing a little only in form. The lamp fixture, as will be noticed, is of the same form as those used for oil lamps, and by an ingenious mechanical contrivance they are either adapted to the electric or oil lamp, so that should the electric lamps in any way fail the oil lamps may be immediately substituted. The electric lamp globes are frosted lightly by dipping them in hydrofluoric acid. The globe thus treated seems to increase the amount of light proceeding from the incandescent horse shoe carbons, so that by some they are credited with double the actual amount of light, while in reality one-twenty-third is absorbed by the globe.

There can be no question as to the quality or steadiness of the Edison light, this practical application of 120 lamps having settled that point. As to the economy of the system of lighting and of the durability of the lamps, Mr. Edison and his supporters do not hesitate to say that these points are sufficiently well established to insure commercial success. Certainly there is no place where a lamp of this character would be more desirable than on shipboard, where the apartments are necessarily limited in size and pure air is a matter of great consequence.

Among the marked improvement in state room fixtures we notice particularly the arrangement of the berths, which are similar to those of a Pullman palace car. When the berths are not in use they are folded out of the way, affording a cosy little room, where one may enjoy the comforts or discomforts of a sea voyage in seclusion.

The system of water supply for fire and other purposes is most complete. Pipes lead to all parts of the vessel, and terminate in lengths of hose conveniently placed, and in the pipes a constant water pressure is maintained on much the same plan as the well known Holly system of water supply; so that all that is necessary to obtain a copious discharge of water in any part of the ship is to open a valve. The still by which a constant supply of fresh water is maintained is new in its construction and arrangement. Fig. 4 shows the exterior, and Fig. 5 is a vertical longitudinal section showing the exterior. The still, A, is traversed longitudinally by flues through which the steam circulates, entering through the pipe, C, returning to the boiler through the pipe, D. The still, A, communicates with the condenser, B, by a pipe entering the top of the latter. The condenser is traversed lengthwise by tubes through which cool water passes, entering by the pipe, E, and leaving by a vertical pipe at the opposite end. A portion of the water used in cooling the condenser is taken to the still through the float valve, F, which keeps the water at a uniform level. The still is provided with a blow-off, G, for clearing out the salt; it also has a surface blow-off. This apparatus is cap-