



A CURIOUS INHABITANT OF THE SARGASSO SEA AND ITS NEST.

THE ELECTRIC LIGHT AT SIR WILLIAM ARMSTRONG'S.

The distinguished Tynesider began to use the Swan electric lamps some six or seven weeks ago at his country residence, at Cragside, Rothbury, near Newcastle, and one of the most remarkable facts in his experience with it is that he obtains the motor or mechanical force, which is in due course converted into electricity and eventually into light of brilliant whiteness, without the use of a steam engine, or gas engine, or anything of the sort. Of course, he must employ a dynamo-electric machine so as to generate the requisite electricity, but that is set in motion by a six-horse power turbine used as the motor, and which is so disposed close by a neighbouring brook as to take advantage of that natural source of power. The turbine and generator are situated about 1,500 yards from the mansion, and, therefore, as the electric circuit has to be completed, a stretch of copper wire of twice that length, or 3,000 yards, has to be used. But after that has been done, and all the lamps are in position and put in circuit, the light for the whole of the house is got for nothing. Now, let us see what the light amounts to. Sir William Armstrong has 45 lamps distributed through his house, but as he can switch off the current from room to room, he never requires to have more than 37 in light at once, and for that number of lamps six-horse power proves to be amply sufficient, notwithstanding the great length of the conducting wire used, and the dissipation of energy consequent thereon. His library, a room of 33 ft. by 20 ft., with a large recess on one side, is well lighted

by eight lamps, four of which are clustered in one globe of ground glass suspended from the ceiling in the recess, while the remainder are distributed singly and in globes in various parts of the room upon vases which were previously used as stands for duplex kerosene lamps. The lighting of the dining-room is also effected by the use of eight lamps, six of which are grouped together in one glass shade suspended over the centre of the table, the other two being used singly as bracket lamps, one at each side of the room. Twelve overhead lamps are employed to light a picture gallery, which is also used as a drawing-room; but when the eight lamps in the dining-room are no longer wanted, the current supplying them is switched off to the gallery for lighting eight additional lamps, making twenty in all. Sir William remarks that the gallery is agreeably lighted even with the twelve lamps, while with the full illumination the pictures are seen as distinctly as in daylight. In the passages and stairs the lamps are, for the most part, used without glass shades, and present a very beautiful star like appearance, not so bright as to pain the eye in passing, and very efficient for lighting the way. The turbine and generator at Cragside are occasionally used in the daytime for the transmission of motive power to a second dynamo-electric machine acting as a motor to drive a sewing machine. It does so with good effect, but Sir William Armstrong is not prepared to say how much of the original power is realised, or what should be the proportions between the generator and the motor to give the best effect.—*Engineering and Building Times.*