

## ELECTRIC LIGHTING—Continued.

unit cone—mean conical candle power—**photometry**—photometric characteristics of the arc—Rumford's photometer—mean spherical candle power—mean horizontal candle power—Leeds and Northrup station photometer—integrating photometer—comparative distribution of light from various sources—distribution curves of light from various sources—**globes for arc lamps—reflectors and shades—diffusers**—reflection and diffusion—concentric diffuser—holophane globes and reflectors—concentric diffusers—**construction of holophane globes—requirements of good illumination**—section through center of holophane globe—dazzling effect of search lights—table of intrinsic brilliancy of light sources—refraction—distribution of light by holophane globes—**calculation of illumination**—the candle foot—table of required intensity of illumination—**point by point method of calculating illumination**—illumination curves for Mazda lamps—**color of walls, and ceiling**—table of illumination intensity for various points—**table of reflection coefficients—rapid method of calculating illumination**—frosted incandescent lamps—table showing increase of illumination—table of properties of various lamps—vertical section of holophane globe—**choice of reflector**—conditions governing same—various incandescent filaments—table of spacing of units for uniform illumination—table showing consumption of various lamps.

## CHAPTER LXIX

## THE 'TELEGRAPH

The word telegraph means *an apparatus for transmitting messages between distant points.*

Broadly, it includes telegraphs operated by mechanical, pneumatic, and hydraulic means, but now these devices are known as signalling apparatus, and the term telegraph is restricted to mean some form of apparatus employing electricity and transmitting more than mere calls or signals.

**Ques. What are the essential parts of a telegraph?**

Ans. 1, a *line wire*; 2, a *battery*, or other source of electricity; 3, a *transmitting instrument*, and 4, a *receiver*.

**Ques. What is the transmitting instrument usually called?**

Ans. A *key*.

**Ques. What is the receiver usually called?**

Ans. A *sounder*.

NOTE.—*A new word.* A friend desires us to give notice that he will ask leave, at some convenient time, to introduce a new word into the vocabulary. The object of this proposed innovation is to avoid the necessity, now existing, of using two words for which there is very frequent occasion, where one will answer. It is "*telegram*," instead of "telegraphic despatch" or "telegraphic communication." . . . Telegraph means to write from a distance—*telegram* the writing itself, executed from a distance. Monogram, logogram, etc., are words based upon the same analogy and in good acceptance.—*Albany Evening Journal*, April 6, 1852.