

burning, will frequently split and large pieces drop off. If it is first pulverized and then pressed into shape, as is done for battery plates, difficulties of one form or another still appear, and the long road of trial and failure has generally had to be pretty well trodden over by all who have given this part of the subject much attention. Mr. Wallace, who has studied it very closely, has, we believe, succeeded in producing very satisfactory carbons, but we are, as yet, unacquainted with the process.

The best illuminating effect appears to be produced from thin carbon pencils, but it has heretofore been found impracticable to use such pencils, on account of their high resistance and the rapid consumption of material due to the action of the air on their highly heated ends. Mr. Brush has sought to obviate these difficulties, and at the same time improve the illuminating power of the light, by the admixture of different foreign substances with the carbon and by surrounding the stick either mechanically or by electro-plating with various metals. By this means a free and ready conductor is afforded for the current and a good connection between the carbon and its holder secured, while the employment of longer and thinner pencils is also rendered practicable, and there is little or no liability to breakage.

In operation the intense heat of the arc melts and disperses the covering of the carbon sticks at their opposing points and for a proper distance beyond, but no farther. The balance of the carbons is entirely preserved, while as fast as they are burned, just so fast will their covering be removed, leaving the carbons exposed.

The subdivision of the light is another of the problems that have occupied the attention of inventors a great deal. No one doubts that the division can be effected, but to do this in a simple manner, and offer to the public a cheap and practical device for the purpose, has not been an easy task. It would appear, from some of the latest experiments made at the works of Messrs. Wallace & Sons, that there is scarcely any limit to the number of subdivisions that can be made, and, to a certain extent, most of the machines are now constructed to give