Other substances will produce electricity. For instance, a silk cloth and a glass rod. If the glass be rubbed briskly with the silk and then placed near one of the neutral pith balls the ball is attracted. The glass rod has also been electrified by friction. If the glass is placed close enough that the pith ball touches it, then it immediately repels the ball. The ball on touching the glass becomes electrified by contact with part of the charge that is on the glass. Thus again, "like charges repel."

Two Kinds of Electricity—Like Charges Repel; Unlike Charges Attract.

But if the electrified glass be applied to the pith ball that was charged from the ebonite, the ball is attracted! Also charging the ebonite from the catskin, as before, and applying it to the ball charged from the glass this ball is likewise attracted. Thus, we see that the charge on the glass and ebonite are different. The glass will repel a ball charged from itself, but attract one charged from the ebonite; the ebonite, likewise, repels the ball charged from itself and attracts the one charged from the glass. (Fig. 8.)

Consequently, we see that there are two kinds of electricity, one of which is produced on ebonite by rubbing it with cat's fur and the other on glass by rubbing it with silk; and, furthermore, we are able to say that "like charges repel and unlike charges attract." This is a fundamental law in electricity. The charge found on the glass is called *positive* and that on the ebonite *negative*. It can also be shown that whenever a positive charge is generated in one body by friction an equal negative is generated in the other body which produced the friction.. Scientifically there is no inherent reason why these terms should not have been reversed when the distinction was first made.

Conductors and Non-conductors.

One of these pith balls is suspended by a *cotton* thread. If the electrified ebonite or the electrified glass be applied to this ball we see that it is very strongly attracted, and, further, that when it is allowed to touch the rod it clings instead of being repelled as were the others after contact. (Fig. 9.) In this position it remains until by and by it lets go and hangs straight down. (See figure 5.) Testing this ball now we see that it is not charged as the ones suspended by the silk threads were after contact and no charge is left on the ebonite! Both ball and ebonite are neutral! Consequently, we conclude that cotton and silk behave differently with regard to electricity. The cotton thread has allowed the charge to flow along it to the beam and away to the floor and thence to the earth. The cotton is called a "conductor," while the silk is called a "non-conductor." Copper, or indeed any metal, would conduct a charge away much faster than even the cotton. The words "conductor" and "non-conductor" are not absolute, but rather relative. There is probably no substance which is an absolute non-conductor of electricity. The term simply means that the substance referred to is a poor conductor.

Three Ways to Charge a Body, viz., Friction, Contact, Induction.

We have seen two ways of charging a body with electricity. One is by "friction" and the other by "contact" with a charged body. There is a third, namely, by "induction." A brass body is supported on a glass base. Glass is a non-conductor, or insulator. The brass body is touched by the hand to make it neutral. If applied to a neutral pith ball there is no attraction. If neutral ebonite be placed