time it has been necessary to develop an entirely new system of handling pottery products.

Porcelain for electrical purposes is a mixture of ground flint or silicon dioxide and feldspar, or ($K_2O\ Al_2O_3SiO_2$) potassium aluminum silicate, raised to vitrifying temperature, that is, to a temperature sufficiently high to melt the feldspar and permit it to unite the particles of flint into a perfectly homogeneous body of uniform electrical and mechanical strength. The production of electrical porcelain differs from the ordinary pottery product in that, in addition to presenting a symmetrical and flawless exterior, it must possess inherent electrical and mechanical strength.

Process.

Flint and feldspar occur in nature as rock which is reduced at the mine by grinding to a degree of fineness comparable to that of flour and of equal whiteness. The modern electrical porcelain potter mixes the proper proportions of flint and feldspar and again grinds the material in the presence of water in order to obtain intimate mixture. The mixture, or as it is dubbed in the factory, "clay," is separated from the excess water, immediately after leaving the grinding mills, by means of filter presses and afterward brought to uniform plasticity by means of kneading machinery.

The first step in the construction of an insulator is to build a model 16% larger than the required insulator, and from this model to make moulds of Plaster of Paris. Fig. 1 shows a plaster model of a 60,000 volt insulator top from which the mould in Fig. 2 was taken. Each shell of a multipart insulator is treated in this manner, the inside contour of the mould being that of the desired shell. Fig. 2 shows a conventional power driven potter's wheel upon the top of which is fixed the mould partly filled with clay. The whole device is rotated rapidly and a forming tool whose profile is that of the inside shape of the shell under consideration, is forced into the mass of clay. A few revolutions usually accomplish the desired end and the mould with its wet and plastic clay is then placed in a hot room of approximately 130° F. Within an hour the warm air and plaster mould have absorbed a large proportion of the water in the clay, and the embryo insulator may be removed from its mould and the rough surface, which originally rested against the mould, scraped smooth. The shell, as it may now properly be designated, is set aside for a period of ten days to two weeks in order that all water held by the clay be evaporated. If fired in this state the shell would come from the kiln hard, white and quite rough, of good dielectric strength, but with a surface which would gather and hold dirt and soot and, because of the extreme fineness of the irregularities, be practically beyond possibility of cleaning. For this reason,