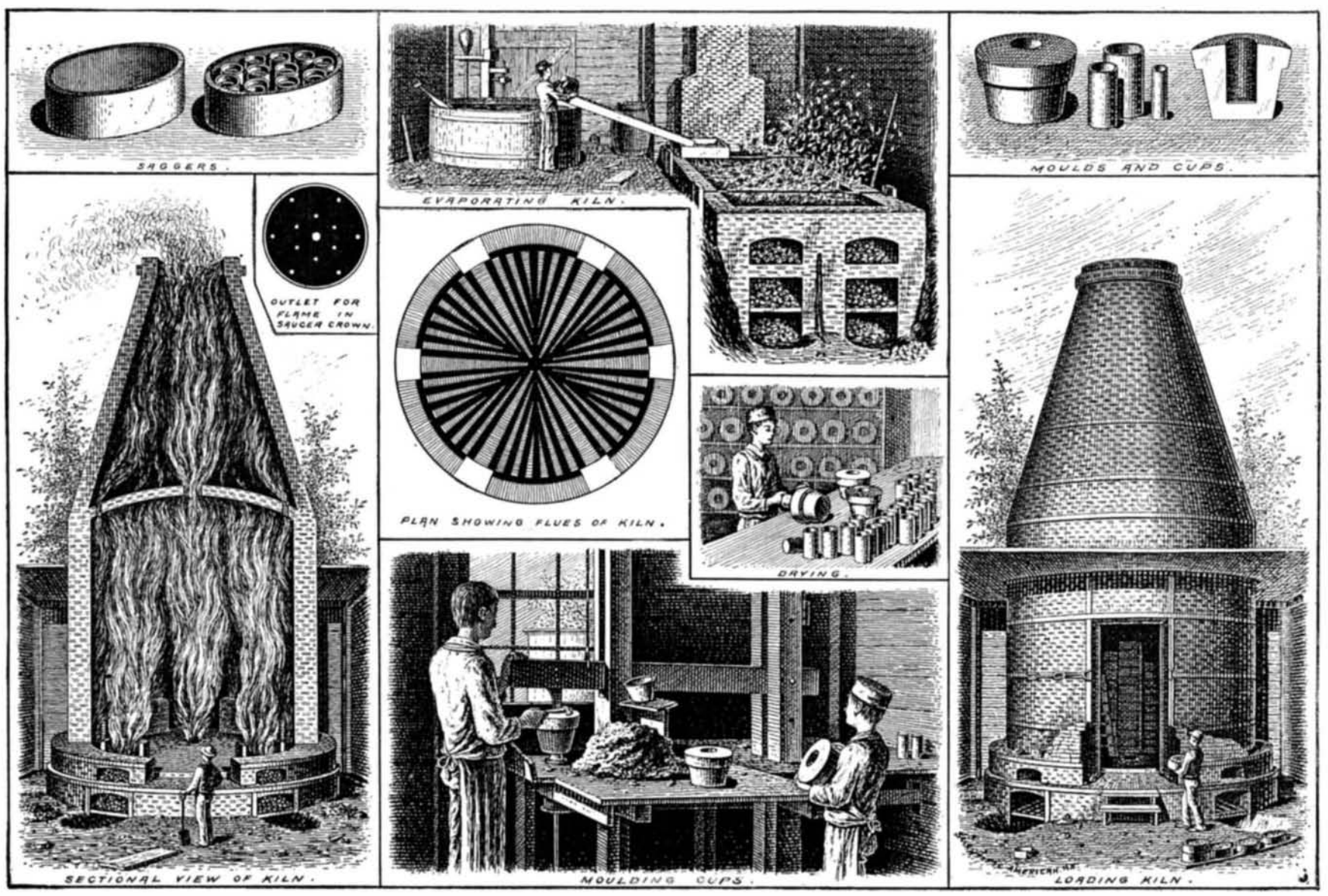
MANUFACTURE OF POROUS CUPS FOR ELECTRIC BATTERIES.

The standard porous cups which hold the carbon of galvanic batteries were first introduced by a Frenchman named Leclanche. They are made of a mixture of feldspar, kaolin, white quartz, and ball clay. Feldspar is a mineral pulverized, found in Vermont and New Hampshire. Kaolin is a china clay imported from England. The white quartz which gives body and strength comes generally from Illinois. These ingredients are first put into a large circular tub as follows: 1,440 lb. of kaolin, 1,320 lb. of feldspar, 280 lb. of quartz, and 960 lb. of ball clay, making in all about 4,000 lb. Water is then poured on and the whole mass is thoroughly mixed together and thinned down to about the consistency of paint. It is then run through a 120-mesh lawn or sieve into the evaporating kiln. This kiln is about 5 feet in height, 12 feet in length, 5 feet in width, and about 1 foot in depth. The flooring is made of flanged tiling cemented together. These tiles are 12 inches square and 2½ inches in thickness. A coal fire is built in the ovens at the end of kiln, the flames of which pass through a number of flues underneath the tiling, heating up the liquid mass above. It is then allowed to boil and simmer for 25 hours, causping. The improvements over the old kilns are in the number of flues and size of mouths of kiln, also the shape of crown and the doing away with the old double wall inside of kiln. The old mouths of kiln used to be about 32 inches in width, and fewer than the new, which is about 23 inches. This new kiln has six mouths, each an equal distance apart. There are new flues introduced between each mouth, running from the circular flue around the kiln, called the mid and semi-mid feather flues. These flues all lead into the 10 inch well hole into the center of floor of kiln. The old crown of kiln used to be 3 feet 8 inches higher and ran straight across. The new saucer-shaped crown tends to make it burn more evenly. Over each mouth on the inside of kiln are bags built of brick. The old bags used to be from 4 to 5 feet in height; they have been cut down to about 2 feet square and 10 inches in width. They tend to keep the heat and flame from going to the center of kiln. The well holes on the floor of kiln and crown are directly over each other. The heat required for burning is about 1,800 degrees. The illustrations were taken from the plant of Thomas Loughran, Marion, N. J. The cost of outfit, with 1,000 moulds and 5 H. P. engine, was about $3,500. There are several establishments in this country for the manufacture of porous cups, and their aggregate production is about 1,000 cups a day.



MANUFACTURE OF POROUS CUPS FOR ELECTRIC BATTERIES

Quarter-Sawed Oak.

Two years ago the demand for quarter-sawed oak reached such proportions that it could hardly be supplied in the quantities called for. Fashion dictated that this wood be used extensively, both in the manufacture of furniture and for interior work, and for once the requirements of fashion were in the line of common sense. Price, quality and available supply considered, quarter-sawed oak ranks well with any of the other hard woods for the purposes mentioned, and is superior to most of them. But it is not necessary to enlarge upon the excellence of this wood. Its claims for recognition are already established, and are not disputed. Suppose, however, the tide of public favor turns toward some other wood, what then?

The *Lumberman* does not believe that quartered oak will ever cease to be an important factor of the hard wood trade. Governed by the inexorable laws of supply and demand, its monetary value will fluctuate, but the wood itself will continue to be used so long as a sufficient supply of oak trees can be found to furnish material for the saw mills. Some there are who believe now that the erratic something called fashion has issued a decree that quarter-sawed oak is no longer "the thing." But, if so, what has come forward to take its place? Plain-sawed oak may have done so to a certain extent, but none will claim that plain stock is as desirable as quartered, the one point of superiority in the former being its lower price.

Whenever the price of any commodity, because of its scarcity or for other reasons, becomes excessive, users of such commodity will look for something to take its place. On the other hand, when the price is high, manufacturers will use every endeavor to increase their output of the high-priced article, and if their resources are ample enough, will eventually produce more than the market calls for. It is one of the axioms of the hard wood business that a season of scarcity is always followed by one of overproduction, and overproduction by scarcity. The trade in quarter-sawed oak has proved this up to the present point, and such will be its history in the future.

The Decoration of St. Paul's.

The decoration of the interior of St. Paul's, London, with mosaics instead of the paintings (which proved impracticable owing to the bad atmosphere) is proceeding slowly. Mr. W. B. Richmond has to fill with mosaics twelve spandrels about the arch tops in the choir, twelve window spaces about the windows in the clerestory of the choir above the spandrels, three sections of the vault over the apse, and twelve "pendentives" or spaces on the vaulted ceiling about the base of three domes which light the choir. In the three domes the acts of creation are to be shown, namely, the creation of birds, fishes, and beasts. The fall of man and the redemption provide subjects for spandrels and window walls. In the vault of the apse a leading design shows Christ seated in judgment with recording angels by his side. The kite-shaped pendentives narrowing down from the bases of the domes will contain each an angel with many wings, the arms raised upward and outward, so as to fill the space. There are twelve, or four to each dome. Mr. Richmond has already placed the mosaics in two spandrels and drawn the designs for the other ten and for the east end figures. At this rate of progress the dull interior of St. Paul's will in a few years glow and glitter with gold and bright glass mosaics, as it was meant to when the cathedral was first erected.—*N. Y. Times.*

Cocaine Fatalities.

At a recent meeting of the Societe de Chirurgie, of Paris, a letter from Professor Germain See was read, in which he stated that he had collected particulars of two hundred and sixty accidents with hypodermic injections of cocaine, of which twenty-one terminated fatally. The professor considers the drug to be dangerous, and pronounces himself opposed to its employment.