and in a few minutes saw the writing standing out in relief. The next step necessary was simply to ink the stone and take off an impression.

The composition of which printing-rollers are made was discovered by a Salopian printer. Not being able to find the pelt-ball, he inked the type with a piece of soft glue which had fallen out of a glue pot. It was such an excellent substitute that, after mixing molasses with the glue, to give the mass proper consistency, the old pelt-ball was entirely discarded.

The shop of a Dublin tobacconist, by the name of Lundyfoot, was destroyed by fire. While he was gazing dolefully into the smouldering ruins, he noticed that his poorer neighbors were gathering the snuff from the canisters. He tested the snuff himself, and discovered that the fire had largely improved its pungency and aroma.

It was a hint worth profiting by. He secured another shop, built a lot of ovens, subjected the snuff to a heating process, gave the brand a particular name, and in a few years became rich through an accident which he at first thought had completely ruined him.

The process of whitening sugar was discovered in a curious way. A hen that had gone through a clay puddle went with her muddy feet into a sugar-house. She left her tracks on a pile of sugar. It was noticed that wherever her tracks were, the sugar was whitened. Experiments were instituted, and the result was that wet clay came to be used in refining sugar.

The origin of blue-tinted paper came about by a mere slip of the hand.

The wife of William East, an English paper-maker, accidentally let a blue-bag fall into one of the vats of pulp. The workmen were astonished when they saw the peculiar color of the paper, while Mr. East was highly incensed over what he considered a grave pecuniary loss. His wife was so much frightened that she would not confess her agency in the matter.

After storing the damaged paper for four years, Mr. East sent it to his agent in London, with instructions to sell it for what it would bring. The paper was accepted as a "purposed novelty," and was disposed of at quite an advance over market price.

Mr. East was astonished at receiving an order from his agent for another large invoice of the paper. He was without the secret, and found himself in a dilemma. Upon mentioning it to his wife, she told him about the accident. He kept the secret, and the demand for the novel tint far exceeded his ability to supply it.

A Brighton stationer took a fancy for dressing his show-window with piles of writing paper, rising gradually from the largest to the smallest size in use; and to finish his pyramid off nicely, he cut cards to bring them to a point.

Taking these cards for diminutive note paper, lady customers were continually wanting some of "that lovely little paper," and the stationer found it advantageous to cut paper to the desired pattern.

As there was no space for addressing the notelets after they were folded, he, after much thought, invented the envelope, which he cut by the aid of metal plates made for the purpose.

The sale increased so rapidly that he was unable to produce the envelopes fast enough, so he commissioned a dozen houses to make them for him, and thus set going an important branch of the manufacturing stationery trade.

YEAST.

The yeast plant is now universally admitted to be a fungus growing and feeding on decaying organic matter, and is met with all over the globe. Nature seems indeed to have very carefully provided for its universal diffusion. The mildew which forms on the surface of yeast is really the fruit, the spores of which, it has been calculated, are but one-sixth of the diameter of the pollen-dust of the fir tree, showers of which have been sometimes met with hundreds of miles out at sea. When the yeast plant comes to maturity, therefore, and throws off its spores, they are very likely to travel over a great part of the earth's surface before settling. The propagation of the plant by the budding process just alluded to is very curious. A single cell will put forth one, or sometimes two tiny projections, which presently becomes complete cells, capable themselves of multiplying in the same manner, and thus in a few hours, under favorable circumstances, a portion of yeast introduced into a saccharine fluid will increase its volume to five or six times its original dimensions. Scientific men have made a distinction between surface yeast and sediment yeast—surface yeast being, they tell us, propagated by buds, and sediment yeast by spores. Beer yeast, at any rate has been thus divided. There is, however, very little, if any difference in the cells of the two kinds, and sedimentary yeast appears to be only a fungus developed at a lower temperature than surface yeast, into which, as a matter of fact, it is really converted by a rise of temperature. The reason of one kind appearing as a sediment and the other a surface growth is said to be attributable to a difference in the evolution of carbonic acid gas, the rapid generation of which keeps one "variety" of yeast at the surface, while the want of the buoyancy imparted by this generation of gas is the cause of the other kind remaining as a sediment. It seems, in fact, to be not a difference of kind, but of condition.

It is the rapid generation of carbonic acid gas which has given yeast its great value as a substitute for the ancient "leaven" in the making of bread, which is still used in many parts of the continent in the manufacture of black bread. Leaven is simply sour dough—dough that has been over-fermented, and which has the power of imparting its own fermentation to any fresh batch. In this case, also, the fermentation is produced by a fungus, the growth of which is attended by the evolution of carbonic acid gas. This permeates the whole mass with bubbles, which puff up the solid dough into an agglomeration of cells, thus imparting to it what we call lightness, and which within the past few years science has endeavored to accomplish in a more direct manner by "aereating" with the gas chemically manufactured. Whether in bread or an infusion of malt, however, the growth of the yeast plant is the same. The tiny vesicles of the yeast are nourished by appropriating the sugar in the fluid, or, more correctly, by decomposing the sugar. This decomposition, in some way which, so far as we are aware, is still a mystery to scientific men, produces a similar process throughout the fluid in which the yeast is operating. Whether this process, which is neither more or less than fermentation, is caused by the action of the yeast, or whether the action of the yeast is caused by the fermentation of the liquor, is a point on which a good deal of discussion has been held. Some have maintained that one is simply the accompaniment of the other, and that the two things do not stand to each other in the relation of cause and effect. It is now very generally considered that fermentation is initiated by the yeast, though it is not, we believe, a point that can be considered settled beyond dispute. As is very well known, an outcome of the process of fermentation set agoing by the yeast is alcohol. This is produced in the bread that has been "raised" by yeast just as it is in the infusion of malt or the grape juice, and it was computed by Dr. Odling a few years ago that no less than 300,000 gallons of spirit were annually generated by the manufacture of bread in London. All this escaped into the atmosphere, and some forty or fifty years ago a company was actually formed for carrying out a process of bread-baking by which this waste of spirit might be avoided. They propose making their profit by catching this 300,000 gallons of spirit, or the proportion of it corresponding to the amount of bread they made. It need hardly be said that it was an utter failure. The promoters sunk a great deal of money in their preparations, but they were unable to catch their volatile profit, and in the attempt to do so they spoiled the bread.

The baker's oven put an end to the action of the yeast by simply killing the plant, just as it would kill any other plant. It can not survive a temperature of more than about 212 degrees—the temperature of water boiling in an open vessel. The yeast fungus may, however, be dried in a moderate temperature, or it may be desiccated by pressure, and its vitality would be arrested. The plant may thus be kept for a long time, and hence it is that "German yeast" has found such a market in this country. We have no statistics at hand for the present time, but about fifteen years ago it was computed that from the large breweries of the continent nearly 6,000 tons of dried yeast were annually imported into this country, and consumed by our bakers. At the present time the quantity is probably far greater. At the same time it is a curious fact that larger quantities of yeast are bought up from our own brewers and exported in a compressed form to the continent, whence it probably returns in various forms of "baking powders," as well as in the shape of "German yeast." If the yeast trade is to revive in this country this fact will probably commend itself to the serious attention of English capitalists.

INK FOR WRITING ON GLASS.—Mr. F. L. Slocum has examined the ink for writing on glass, and, according to the *Am. Journ. Pharm.*, reports that it is made by mixing barium sulphate, three parts; ammonium fluoride, one part; and sulphuric acid q. s. to decompose the ammonium fluoride and make the mixture of a semifluid consistence. It should be prepared in a leaden dish, and kept in a guttapercha or leaden bottle.