of clear turpentine. Now take strong glue, or that in which isinglass has been dissolved; then, putting the gums into a double glue pot, add by degrees the glue, constantly stirring it over the fire till the whole is well mixed; then strain it through a cloth, and it is ready for use. You may now return it into the glue pot, and add  $\frac{1}{2}$  an ounce of very finely powdered glass; use it quite hot. If you join two pieces of wood together with it, you may, when perfectly hard and dry, immerse it in water and the joint will not separate.

A paste for laying Cloth or Leather on Table Tops. -To a pint of the best wheaten flour add two table spoonfuls of finely powdered rosin, and one spoonful of powdered alum. Mix them well together, put them into a pan, and add by degrees rain water, carefully stirring it till it is of the consistence of thinish cream; put it into a saucepan over a clear fire, keeping it constantly stirred, that it may not get lumpy. When it is of a stiff consistence, so that the spoon will stand upright in it, it is done Be careful to stir it well from the bottom, enough. for it will burn if not well attended to. Empty it out into a pan, and cover it over till cold, to prevent a skin forming on the top, which would make it lumpy. This paste is very superior for the purpose, and adhesive. To use it for cloth or baize spread the paste evenly and smoothly on the top of the table, and lay your cloth on it, pressing and smoothing it with a flat piece of wood ; let it remain till dry : then trim the edges close to the cross-banding. If you cut it close at first it will, in drying, shrink and look bad where it meets the banding all around. If used for leather, the leather must be first previously damped and the paste then spread over it; then lay it on the table, and rub it smooth and level with a linen cloth and cut the edges close to the banding with a short knife. Some lay their table-cover with glue instead of paste, and for cloth perhaps it is the best method ; but for leather it is not proper, as glue is apt to run through. In using it for cloth, great care must be taken that your glue is not two thin, and that you rub the cloth well down with a thick piece of wood made hot at the fire, for the glue soon chills. You may by this method cut off the edges close to the border at once.

Cement Stopping.—Mix equal quantities of sawdust, of the same wood required to be stopped, and clear glue; and with this stop up the holes or defects of the wood. Where the surface is to be japanned or painted, whiting may be used instead of sawdust. Be sure to let the stopping dry before you attempt to finish the surface.

Mahogany coloured Cement.—Melt two ounces of beeswax, and half an ounce of rosin, together; then add half an ounce of Indian red, and a small quantity of yellow ochre to bring the cement to the desired colour. Keep it in a pipkin for use.

A Cement to stop Flaws or Cracks in wood of any colour.—Put any quantity of fine sawdust, of the same wood your work is made with, into an earthen pan, and pour boiling water upon it, stir it well, and let it remain for a week or ten days, occasionally stirring it; then boil it for some time, and it will be of the consistence of pulp or paste; put it into a coarse cloth, and squeeze all the moisture from it. Keep for use, and when wanted mix a sufficient quantity of thin glue to make it into a paste; rub it well into the cracks, or fill up the holes in your work with it. When quite hard and dry, clean

your work off, and, if carefully done, you will scarcely discover the imperfection.

Fireproof Stucco for Wood, &c.—Take moist gravelly earth (previously washed), and make it into stucco with the following composition: Pearlashes two parts; water, five parts; common clay, one part. It has been tried on a large scale and found to answer.

Terra Cotta.—Potter's clay, Ryegate sand, and water, each a sufficient quantity. Model and bake.

Pew's Composition for covering Buildings.—Take the hardest and purest limestone (white marble is to be preferred), free from sand, clay or other matter; calcine it in a reverberatory furnace, pulverize and pass it through a seive. One part, by weight, is to be mixed with two parts of clay well baked and similarly pulverized, conducting the whole ope-ration with great care. This forms the first powder. The second is to be made of one part of calcined and pulverized gypsum, to which is added two parts of clay, baked and pulverized. These two powders are to be combined, and intimately incorporated, so as to form a perfect mixture. When it is to be used, mix it with about a fourth part of its weight of water, added gradually, stirring the mass well the whole time, until it forms a thick paste, in which state it is to be spread like mortar upon the desired surface. It becomes in time as hard as stone, allows no moisture to penetrate, and is not cracked by heat. When well prepared it will last any length of time. When in its plastic or soft state, it may be coloured of any desired tint.

## Miscellaneous.

## Corn=Leaf and Grass Paper.

Paper has been and is now manufactured somewhat extensively from dry grass and straw, but P. W. Runel, of Plumstead, England, states he has made the discovery that paper pulp can be manufactured at less cost, by using green, instead of dry grasses, for its production He has taken out a patent for the improvement, and he states that when grass becomes dry its silica becomes hard and difficult of solution, whereas, when it is taken green, the silica and other unfibrous substances in it are more easily separated. He takes any green plants, such as sea grasses, which are abundant and cheap, and first mashes, then steeps them in warm water, and after this he boils them in a weak alkaline solution. They are now easily reduced to pulp by passing them between crushing rollers, or through the common beating engines used in paper mills. The pulp is bleached in the usual manner with chlorine.

The leaves of Indian corn are now used for making good paper, in Europe. There is one paper mill in operation in Switzerland, and another in Australia, in which paper is made from such leaves exclusively. The husks, which envelope the ears of corn, make the best quality. It is stated by the London Mechanics' Magazine to be excellent, and in some respects superior to that made from rags. As we are dependent upon Europe, in a great measure, for our supply of rage to make our paper, if we can obtain as good qualities from Indian corn leaves, we may yet become the manufacturers of paper for the whole world, as the greatest supply of cheap raw material is found in America. This is a subject worthy of deep attention, as we import rags to the value of about \$1,500,000 annually, and paper manufactures to the value of about one million of