

A CURIOUS BRANCH OF MANUFACTURE

HOW FILES ARE MADE

Travelers who have journeyed on the Boston and Maine Railroad have, without doubt, noticed the noise of the wheels striking the rails, and the time raising what may be called a burr. When the tooth passing from right to left has made a line of these burrs across the steel, the file is pushed by hand for a second line, and the tooth goes back to begin in four months' dry goods.

minute squares, which make the roughness. In another machine for making coarse rasps the steel hammer, like a single tooth, strikes the steel, each time raising what may be called a burr.

The file which has been softened to be ground and cut must now be hardened again before it can be of service. This is done in a tank containing a solution of cyanide of potassium. Boys first paste the files on to preserve the steel, which without protection would be burned, and the paste is dried out in an oven. The files are then taken singly and plunged first into melted lead and then into a vat of salt water, and the hardening is completed. The paste is then brushed off by a revolving brush, and the files are left overnight in a lime bath to prevent any danger of rust. The next morning they are taken out and filed, and are then ready for packing. The water in the vat first mentioned has to be continually changed, or else it would soon become hot, and it cannot be wasted on account of the cost of the salt. So two immense tanks are constructed underneath the building, and a third tank outside, all communicating with each other by pipes, and a circulation is kept up with the aid of pumps. In addition to this, ice is placed in summer in a large box, containing coils of pipe, through which a current of water is made to pass, so that the material on the steel there is cut by the company and stored in their own houses.

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