

occasionally hold a piece of sandpaper to the brush. Should the points of the brush be too straight, let them strike over a piece of wire, but do not hook them too much, as this would prevent matting. Always preserve the brush in a good condition; should the wires become entangled or twist into knots, separate or cut them out. After the work is matted, take a soft hair brush and brush it in soap water, then rinse it in warm water charged with a small quantity of spirits of ammonia and caustic potash; immerse it in pure alcohol for a short time, and finally dry it in sawdust.

COLD SILVERING OF METALS.—Mix 1 part of chloride of silver with 3 parts of pearlash, 1 1/2 parts of common salt, and 1 part of whiting, and well rub the mixture on the surface of brass or copper (previously well cleaned), by means of soft leather, or a cork dipped in the powder. When properly silvered, the metal should be well washed in hot water, slightly alkalinized, and then wiped dry.

ARTIFICIAL PEARLS.—The following process for manufacturing artificial pearls is based on the property of logwood extract and bichromate of potash to form with gelatine a compound insoluble in water. 1. Dissolve in heat 1 part gelatine and 3 parts water; 2. Dissolve in heat 1 part logwood extract in 5 parts water. Mix the two solutions, pour off the excess of water, then mix one part of the logwood and gelatine mixtures with 2 parts water. Agitate until it dissolves, and add 8 parts of solution one, so as to have excess of gelatine. Evaporate till small pellicles are formed, then cast in the molds required. After one hour the casting is dipped in a bath containing 1 part of bichromate of potash to 30 parts water, where it is left for five minutes. Artificial pearl of a brilliant black is thus obtained which is hard and insoluble.

THE OIL STONE.—Twenty years ago, the oil stone was found only on the joiner's bench, and possibly that of the machinist, and its sole use was the sharpening of the edges of tools. To-day its use has extended beyond this province of edging tools to that of grinding, reducing, finishing, in fact, invading the limits of the grindstone, emery, rotten stone, tripoli, and reaching almost to rouge. This stone, which is a slate brown in science as novaculite—from novacula, a razor,—is cut and dressed in hundreds of varying forms for different purposes. In any hardware or mechanic furnishing store it may be found in all manner of shapes under the name of "alips," adapted for tools of all forms. In dentists supply stores it may be seen in twenty or more cylindrical and circular forms, and so minute as to be used at a rapid rate of revolution even between the teeth of dental suffering humanity. Some of these cylinders, ovoids, cones, and edged wheels are so minute that a pea looks large by their side yet they are all veritable grindstones. In the manufacture and finishing of the metals, the oil stone or novaculite, plays an important part. Our recent exactions as to fits and measures can hardly be filled except by the use of this stone, and it is in demand for turning turned surfaces and planed areas of iron and brass, slowly grinding down the imperfections left by the finish file and the corundum wheel. Recently its powder has largely usurped the place in mechanics' valuation of flour of emery or emery of the higher

grades. It is found that a finish "for fit" can be readily obtained by its use in much less time than by the scraper; and that it does not leave embedded particles of quartz or corundum to keep up a perpetual wear. This material is not strictly an oil stone; it is amenable to all of those. Perhaps its best use is with water, especially when the stone is of the harder sort, as the Onachita.

OTHER NOTES.

INTERNATIONAL EXHIBITION.—An international exhibition of metal work is to be held at Nuremberg next year. It will be held in the new museum building, and will contain specimens of the art of the silversmith and the worker in brass and copper, together with the machinery and appliances used in the making of jewelry and art metal work. The exhibition will be open from the middle of June to the end of September.

TRANSITORY STATE.—The German gold and silversmiths and jewelers are at present passing through the state of transition from "cheap and nasty," when everything sold at a penny a dozen and the adjective "bad" was the positive form, to the present substantial, artistic productions. In this state of affairs it is hardly to be expected that the manufacturers of the better class of goods will realize much on their productions.

SHARPENING FILES.—The process of sharpening files by means of the sand-blast is exciting universal interest in Europe. Of course, it is next to impossible to re-sharpen old and worn files by this process, but it is said to be excellent for imparting an extra finish to new files, and those that have been sharpened originally in this manner can easily be retouched and sharpened twice or three times after becoming partially dull. Report has it that Krupp, in Essen, is making universal use of such files.

CONVENIENT MIXTURE FOR PRODUCING COLD.—In the coming piping hot times, when ice is at a premium, the owner of a parched throat will be gladdened by learning that he can prepare "ice-cold lemonade" by means of the mixture of equal parts of nitrate of ammonia, soda and water, which, it is said, produces a temperature of—23°C., equal to—9.4° Fahr. It has the following good qualities: It does not attack metallic vessels; it is cheap, and can be recovered by evaporating; only a small quantity of water is necessary, and it can therefore be evaporated the more quickly.

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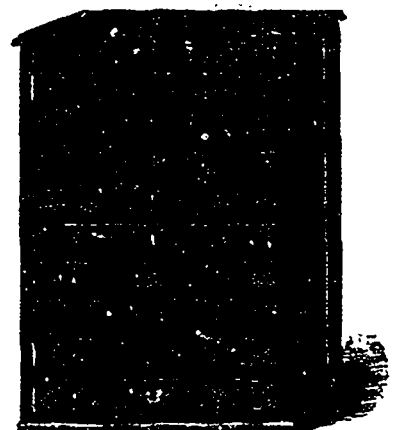
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