

TOOLS FOR STONE WORKING.

The pneumatic tool used in stone cutting is one of great importance, and is likely to take precedence of every other device in shaping natural stone into whatever form the architect or designer may specify. The skilled operator of this tool will do more work in a given time than ten ordinary cutters could in the old way. Its general use will bring about a larger demand for ornamental stone work in building and more monuments of better grade will be erected. The increased consumption will compensate for the reduction of the force of stone cutters, inasmuch as the output will need to be greater and the manufacture of the tools will employ large numbers of men. Such labor saving devices are not always the means of robbing the mechanic or artisan of employment, but rather broadens the field and increases their usefulness. The natural result is, then, that a less number of men are not employed, but simply the transportation of talents from one activity to another, and mankind in general is the beneficiary.

Compressed air is the power utilized to operate this tool, and in skilled hands it marks out lines of beauty and symmetrical figure equal in finish to the clear cut work of the master in the art of chiselry. With it the noblest conceptions of the sculptor are quickly wrought into enduring form. Where power is available the cost of plants may easily be borne by even smaller yard owners.—Compressed Air.

The chemical changes which take place resulting in what is commonly known as rust on iron are described in a contemporary. In the presence of carbonic acid and water, the formation of a ferrous carbonate takes place, which is dissolved in carbonic acid water to form ferrous bicarbonate; this in turn decomposing in the presence of air into magnetic oxide, and this again in turn, in connection with the water, forming a hydrated ferric oxide, this last form being what is known as common rust. Iron will not rust in pure water, nor in dry air, though the air

contains free oxygen. Carbonic acid is held to be a necessary adjunct to the oxidation, though there will not be any carbon in the resulting oxide. Further, it appears that there must be a layer of water on the iron formed by condensation or otherwise. In addition to the complexity of the chemical changes occurring in oxidation, there are electrical elements affecting the process which are as yet but little understood, although varying relations of their galvanic elements may greatly retard or assist oxidation; as, where two metals are connected together, one being electro positive to the other, oxidation will be retarded in the one and hastened in the other.

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