

DEVELOPING CRYSTALLIZED MINERAL SPECIMENS¹

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THE writer takes particular pleasure in developing specimens that are well crystallized, but have too much matrix about them. Considerable difficulty is experienced in trimming delicate specimens such as those from Paterson, N. J. A hammer and chisel, no matter how skilfully used, will jar and shatter the crystals of minerals of very perfect cleavage such as apophyllite, calcite, natrolite, etc. The following have been found to be safe and useful methods.

The materials necessary are a strong bench vise with a considerable opening of the jaws, and a three-cornered file having a $\frac{3}{4}$ -inch face on each side. The file may either be used in its entire length or cut into pieces of an inch or so. The file is placed against the back jaw of the vise, and the specimen held with the back of the matrix against the sharp edge of the file. The front jaw is then closed, any uneven surface of the specimen being filled with a small piece of wood. On closing the vise with a gentle force, the rock will always part in the desired place without any jar, and the most delicate crystals remain unbroken.

Particularly hard matrix with very fragile crystals in a specimen worth saving and taking trouble with may be treated thus: Around the edge of the surface to be saved build a wall of paper, wax, clay or putty. Warm the specimen in an oven. Melt some good stiff paraffin, and when warm (not hot) and completely fluid, pour over the crystals on the warm specimen, until they are deeply imbedded. Let it cool thoroly, even putting it in a refrigerator to harden. The specimen can then be worked on without danger of the crystals jumping off. To remove the paraffin, place the specimen in a pot or pan, cover with water and heat; the wax will melt and float on the top of the water and can be skimmed or poured off; repeat the process until all the wax has been removed, and the crystals will be left in perfect condition.

¹Supplementary to the article by Dr. Hawkins, *Am. Min.* 2, (8), 101, August, 1917. Further contributions on this subject are invited.