

like lead, cast-iron, and ice, may be so compressed as to undergo an internal motion of their parts, closely analogous to that of fluids. Thus, a solid jet of lead has been produced, by placing a piece of the metal in a cavity between the jaws of a powerful compressing machine. Iron, in like manner, has been forced to flow in the solid state into cavities and take their shape. On cutting sections of the metals so compressed, their particles or crystals are found to have ranged themselves in lines of flow which follow the contour of the space into which they have been squeezed. Such experiments are of considerable geological interest. They illustrate how in certain circumstances, under great strain, rocks may not only be made to undergo internal deformation along certain shearing planes, as in cleavage, but may even be subjected to such stresses as to acquire a "shear-structure" resembling the fluxion-structure seen in rocks which have been truly liquid (Fig. 256).⁴⁸

Numerous examples have been found during the last few years in the northwest Highlands of Scotland where rocks have been subjected to such mechanical movements as to have been crushed down and made to flow in certain directions. Massive crystalline pegmatites may there be traced through successive stages until the material becomes a fine compact felsitic substance with thin lines of flow so like the "flow-structure" of a lava that it would deceive even a practiced geologist, and sometimes splitting into thin laminæ like those of shale. Further reference to this subject will be made in Book IV. Part VIII. § ii.

(5.) **Plication.**—On the assumption of a more rapid con-

⁴⁸ This remarkable kind of structure has been developed to an enormous extent among the crystalline rocks of the northwest Highlands of Scotland (Book IV. Part VIII. § ii. "Scottish Highlands").