

MINING.

WHY DIP IS MORE LIKELY TO BE REGULAR THAN STRIKE WITH FISSURE VEINS.

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Faults may throw a vein out of plane as to either din or strike, or both ; perhaps more frequently the former. But, barring the effects of faulting, experience has shown that most fissure veins are tolarably uniform in their downward trend, while more or less wavy in th ir horizontal course, and that the dip often remains constant even where the average strike may be distorted by large scallopings. Reference here is not to the outcrop, which may be apparently twisted from the real course by the manner in which the topographical contours cut the plane of the vein, but to the flexures shown underground, where no such cause misleads observation. The splitting of veins into off-hoots, and the irregularities where two parts of a vein widen apart to inclose a horse, also occur in such ways as to affect both dip and strike, or either ; but sgain the effect is more commonly to deflect the strike than the dip. While there are few positive laws thus far established regarding ore deposits, (about the safest deduction of all being that what we do not know about them far exceeds what we do,) the characteristics just referred to seem to be sufficiently frequent to have some significance ; and though this frequency may not be enough to lead to anything that could be fairly called a law, yet even if it is established in a prependerance of caves only—and this at least may be conceded—it has a direct barring upon the choice of plan to be adopted in mining where not much is known in advance as to the character of the ground to be opened. Probabilities are certainly tetter than nothing to work upon.

in advance as to the character of the ground to be opened. Probabilities are certainly better than nothing to work upon. If then it is really true that the dip of fissure veins is likely to be more reliable in point of uniformity than their strike, the question naturally comes up, Why should this be so ?

comes up, Why should this be so? The most satisfactory answer seems to be that a large proportion of the veins are on the lines of *fault* fissures. This is pointed to by the occurrence of smooth walle, slickensides and clay selvages, which perhaps might also be accounted for by assuming small movements of the ground up and down during a long time, where the throw is not large enough to be dignified by the name of fault, but when these narks are very pronounced and there is found besides in the vein crushed rock indicating violent disturbance, the testimony becomes stronger, and when, as sometimes (though rarely) happens, the amount of throw can be measured and disjointed rock formations actually matched, then the evidence becomes conclusive. As to such veins as most probably were filled by hot ascending solutions, on the solfataric theory, there are parallel examples in the case of existing thermal springs, (whether metalliferous or not,) for these are often found in lines along the tops of evident fault fissures. Now, faulting means a movement more in an up-and down direction than in any other This being so, it is easy to understand why, when a rupture of rock masses has taken place, one being heaved up or the other slid down, or both wills moving in opposite ways or in the same direction, but with different degrees of motion, the fracture along the line in which the force was applied should have been more or less straight, while in other directions the result might have been a warped surface, since there the line of least resistance would be determined rather by the character of the ground than by the direction of effort, that is, where the impulse was most intense the break would be a clean one, whereas sidewise it might be irregular. Indeed, if it is conceivable that in faulting the up-and-down surfaces might have split off in waves, the cuntinuance or renewal of the movement would cause the walls to act upon each other like huge planing machines, or rather like two slabs which the stone-dresser is surfacing, thus grinding off the inequalities with irresistable power and leaving the wall faces smooth and slickensided, with broken rock in the vein and ol-y gouges along the edges, just as in fact they are seen in the distinctly typical fissure veins.

Country Harbor, Guysboro County, bids fair at no distant day to become o.e of the busiest scenes in Nova Scotis. During last summer a rich and extensive belt of gold-bearing quartz was discovered there by local prospectors. They subsequently transferred their claims to parties in Antigonish, who by diligent exploration have apparently struck a very profitable mine. During the past month over 312 ozt. of gold were raised by about 30 men. The Company works at a great disadvantage so far, as it owns but a small ten stamp crusher. The owners have, however, made arrangements whereby they have secured sufficient water power to operate a forty stamp mill, which they propose to immediately erect. When the proposed changes are made it is understood the Company intends to employ a number of men sufficient to quadruple their present output. This would represent a monthly production of about \$24,000. The mine consists of a belt of auriferous quartz 141 feet wide, which

The mine consists of a belt of auriferous quartz 142 feet wide, which has already been traced and located for a considerable distance. A somewhat peculiar circumstance about this deposit is that the lodes run north and south contrary to the general rule. Already the mine has yielded about \$25,000 to its owners, who anticipate much better results when they shall have reached a lower level.

The whole vicinity of this mine is apparently traversed by belts of quartz all gold-bearing and of varying richness. A company is being at present organized with a view to mining on the areas situate some short distance north of the property above mentioned.

About one mile from this deposit another has been discovered and is now owned by Halifax and Antigonish parties, who intend to proceed during the coming season with its development. Experienced miners pronounce the quarts excellent and consider the indications most favorable.