

on the contrary, as has been shown, it is in conflict with the legislative intent as declared in the charter and in the subsequent legislation referred to. At all events, there is a fair, reasonable doubt concerning the power of the city council to enter into the transaction complained of, and the same should be resolved against the corporation, and the power denied. "Whatever is done in contravention of a prohibitory law is void, although the nullity be not formally directed." Rev. Civil Code La. art. 12. The other nullities alleged against the rights of appellees need not be considered. It follows that the order appealed from should be affirmed, and it is so ordered.

DOE v. WATERLOO MIN. CO.

(Circuit Court, S. D. California. March 27, 1893.)

No. 183.

1. MINES AND MINING—PATENTS—RIGHT TO FOLLOW DIP.

The patentee, and even the mere possessor, of a mining claim, under license from the government, has a right to all minerals lying vertically beneath the surface of his claim, subject only to the right of the lawful possessor of a neighboring claim having parallel end lines to follow any lode, the apex of which lies within his claim, on its dip within the limits of infinite planes vertically projected through such end lines. An unlawful possessor has no such right to follow the dip. *Montana Co. v. Clark*, 42 Fed Rep. 626, disapproved. *Duggan v. Davey*, (Dak.) 26 N. W. Rep. 887, approved. *Reynolds v. Mining Co.*, 6 Sup. Ct. Rep. 601, 116 U. S. 687, distinguished.

2. SAME—END LINES—PARALLELISM—PATENT CONCLUSIVE.

Where the end lines of a surface location of mining lands, as fixed and declared in the government patent, are parallel, the patentee's right to follow the dip beyond his side lines cannot be defeated by showing that in the original location of the claim the end lines were not parallel. The patent while unrevoked is conclusive on this point. *Iron Silver Min. Co. v. Elgin Mining & Smelting Co.*, 6 Sup. Ct. Rep. 1177, 118 U. S. 196, and *Mining Co. v. Tarbet*, 98 U. S. 463, distinguished.

3. SAME.

The patentee's right to follow the dip exists by virtue of Rev. St. § 2322, whether the express grant of such right is contained in the patent or not.

4. SAME—ABANDONMENT OF PART OF CLAIM.

Where a mining claim as located does not have parallel end lines, but the United States surveyor in surveying it draws in one end line so as to make them parallel, the rejection of such survey by the locator will not deprive his assignee, upon thereafter accepting the survey, and obtaining a patent in accordance therewith, (abandoning the portion of his claim not included in the survey,) of his right to follow the dip beyond his side lines within the vertical planes drawn through the parallel end lines of the survey.

5. SAME—WHAT CONSTITUTES A LODE.

Where mineral deposits are separated into three well-defined parts, traceable for a great distance in their length and depth, and having distinct foot and hanging walls, each part is a separate vein, within the meaning of the mining laws giving the right to follow the dip of a vein beyond the side lines of the claim, although there are many ore-bearing cracks and seams running out from each vein, and sometimes extending from one to the other. *Eureka Con. Min. Co. v. Richmond Min. Co.*, 4 Sawy. 302, distinguished.

In Equity. Bill by John S. Doe against the Waterloo Mining Company to enjoin respondent from entering under the surface of complainant's claim and extracting ore from a certain lode there situated. Decree for complainant.

Mesick, Maxwell & Phelan and Mesick & Waters, for complainant.

W. F. Herrin, and A. H. Ricketts, for defendant.

ROSS, District Judge. The Silver King is a quartz lode mining claim situate in the Calico mining district of San Bernardino county, Cal., for which, at the time of the commission of the acts for which this suit is brought, the defendant held a certificate of purchase, followed, since the bringing of the suit, by a government patent which the defendant by supplemental answer has set up. The Oriental No. 2 and the Red Cloud are also quartz lode mining claims, lying immediately south of and adjoining the Silver King, for which the complainant, at the time of the commission of the acts complained of, held certificates of purchase from the United States. The purpose of the suit on complainant's part is to enjoin the defendant from entering under the surface of the Oriental and Red Cloud claims, and mining and extracting ore from what defendant claims to be a continuation of a lode having its apex within the surface lines of the Silver King claim. The Silver King was originally located by T. C. Warden, for himself, John King, and some others, on the 6th day of April, 1881; and as thus located its end lines were not parallel. There was a divergence of the west end line of 259 feet in the direction of the dip of the ore bodies. In 1882, with the intention of making application for a patent for the claim, Warden and his associates caused it to be surveyed by United States Deputy Surveyor Dunlap who, in making his survey, drew in the southwest corner of the claim so as to make the end lines parallel, thus leaving out of the survey a triangular piece of the original location. In all other respects the survey was made in accordance with the original location, and the lines and corners of the survey were plainly and distinctly marked on the ground. With the action of the surveyor, in thus leaving out of the claim a triangular piece of the original location, Warden and his associates were dissatisfied, and they declined to accept the survey, or to make any application for a patent based upon it. But in 1884 they sold and conveyed their interest in the claim to Bradley, Metcalf, Sanger, and others, the grantors of the defendant, and thereupon Bradley and his associates adopted the Dunlap survey, caused him to again go over the lines of his survey and monuments, and thereupon, and on the 21st of September, 1885, filed their application in the proper United States land office for a patent based upon that survey, and describing the ground included therein as the "Silver King Claim." On the 20th of July, 1887, the defendant herein, as grantee of Bradley and his associates, was permitted to enter the claim, and on the 10th of January, 1891, the government issued to the defendant its patent for the claim in accordance with the lines of the Dunlap survey. The certificates of purchase for the Oriental No. 2 and Red Cloud

claims were issued to the complainant on the 24th of September, 1887, based upon surveys thereof made June 4, 1887, in accordance with relocations of those claims made by complainant on the 9th of May, 1887. When the original locations of the Oriental No. 2 and the Red Cloud were made does not appear.

Three questions have been presented, and ably and elaborately argued by counsel, and upon one of which a large mass of testimony has been taken.

The first is presented by the defendant, and is to the effect that the certificates, which it is conceded are to be regarded, for the purposes of this case, with like force and effect as patents, held by the complainant, confer upon him no right to anything except the surface of the ground within the surface lines of the claims, and such veins, lodes, or ledges as have their apex within such surface lines, and that the holder of such certificates has no cause of complaint against any one who enters and mines, even without any right in himself, under the surface of such lode claim, so long as he leaves the surface undisturbed, and does not interfere with any vein, lode, or ledge having its apex within the surface lines of such claim or claims. To this I cannot assent. It is true it was so decided in *Montana Co. v. Clark*, 42 Fed. Rep. 626. But the opposite conclusion was reached in what I consider the better reasoned case of *Duggan v. Davey*, (Dak.) 26 N. W. Rep. 887. It is entirely true that whoever takes a grant of a lode claim takes it subject to the provision of the statute reserving to locators of other mining claims the right to follow under its surface, for the purpose of extracting the ore therefrom, any vein, lode, or ledge, the top or apex of which lies within the surface lines of such other location. Rev. St. § 2322. But until some one comes clothed with that reserved right, the holder of a government patent or certificate has, I think, the just and legal right to say, "Hands off of any and everything within my surface lines extending vertically downward." The mere possessor of a mining claim under license from the government would have that right; a fortiori, the holder of a conveyance from the government. For it must be remembered that the extralateral right conferred by the statute is but an incident of a valid lode location. By the express language of the statute the right given is to "the locators of all mining locations," etc. Without such location the incidental extralateral right does not exist. It could not therefore exist in a stranger to the paramount source of title. While the real object of grants of the nature of those under consideration is the mineral, the statute makes provision, as stated in *Duggan v. Davey*, for the disposition of "lands valuable for mineral." "It is the 'lands' in which mineral deposits are found which are 'open to purchase.' It is 'land' claimed and located for valuable mineral deposits which is the subject of application for patent, and where patent of the United States issues it is for the 'land' at so much per acre."

Except as modified by the statute, no reason is perceived why one who acquires the ownership or possession of such lands should not hold them with and subject to the incidents of ownership and pos-

session at common law. That seems to have been the view of Judge Hallett in *Mining Co. v. Fitzgerald*, 4 Morr. Min. Rep. 385, where he says:

"Within the lines of each location the owner shall be regarded as having full right to all that may be found, until some one can show a clear title to it as a part of some lode or vein having its top or apex in other territory. In other words, we may say that there is a presumption of ownership in every locator as to the territory covered by his location, and within his own lines he shall be regarded as the owner of all valuable deposits until some one else shall show by preponderance of testimony that such deposits belong to another lode having its top or apex elsewhere."

This must also have been the opinion of the supreme court in *Iron Silver Min. Co. v. Elgin Mining & Smelting Co.*, 118 U. S. 196, 6 Sup. Ct. Rep. 1177, otherwise the judgment in that case could not have been affirmed; for the defendant there offered to prove, among other things, that the vein, lode, or ledge it admitted it had followed from the Stone claim into and under the surface of the Gilt Edge claim, and in and upon which it admitted it was mining, had its apex within the surface lines of the Stone claim, and—

"That the vein, lode, or ledge on its dip, within vertical planes drawn downward through the end lines of the vein, lode, or ledge, so existing and found within the Stone surface mining claim, and continued in their own direction, namely, in the direction of the dip of the vein, lode, or ledge, passed through, out of, and beyond the east vertical side line of the Stone surface claim and location into lands adjoining, to wit, into and under the said Gilt Edge surface claim."

—To which plaintiff objected on the ground that the proffered proof would not be a defense to the action, nor tend to establish a defense thereto, and that, by reason of the surface form or shape of the Stone claim, its owners had no right, under the laws of the United States or otherwise, to follow the lode alleged to exist therein in its downward course beyond the lines of the claim and into the plaintiff's claim, and that no part of the Gilt Edge claim, or the mineral or lode within it, was within vertical planes drawn downward through the end lines of the Stone claim, and continued indefinitely in their own direction. The lower court sustained the objection, and excluded the evidence offered, to which ruling the defendant excepted. The supreme court held that, in view of the facts of the case, the defendant did not have the extralateral right conferred by the statute, and affirmed the action of the lower court excluding the proffered proof. But if, as is contended here, any stranger could pursue such a vein, lode, or ledge upon the theory that it constituted no part of the claim under the surface of which it was found, defendant in that case would have been entitled, even though a stranger to the paramount source of title, to have pursued the vein, lode, or ledge, and the judgment of the lower court must have been reversed for refusing the proof that was offered.

There is nothing in conflict with this in the previous case of *Reynolds v. Mining Co.*, 116 U. S. 687, 6 Sup. Ct. Rep. 601. It was there held that where a vein or lode is known to exist under the surface included in a patent for a placer claim, and is not in the claimant's possession, and is not mentioned in the claim on which the patent

issues, the title to such vein or lode remains in the United States, unless previously conveyed to some one else, and does not pass to the placer patentee, who thereby acquires no interest in such vein or lode, and cannot maintain ejectment therefor. The provisions of the statute in respect to lode and placer claims are different, and those differences are founded, as pointed out in *Reynolds v. Mining Co.*, on the well-known difference in the character of the two classes of mineral deposits. In the case there the holder of a patent for a placer claim sought to recover possession of a vein which was known to exist under its surface at the time of the application for the patent, and of which the applicant was not in possession, and which was not referred to or mentioned in the application of the claimant or in his patent. The court held that, under such circumstances, such vein was excluded from the placer patent because of that provision of the statute relating to placer claims which declares in effect that under such circumstances "the application shall be construed as a conclusive declaration that the claimant of the placer mine has no right to the possession of the vein or lode." But, where no such vein or lode is known to exist at the time that the patent is applied for, the patent even for a placer claim will carry all valuable mineral and other deposits which may be found within the boundaries thereof. 116 U. S. 696, 6 Sup. Ct. Rep. 601. In *Cheesman v. Shreve*, 37 Fed. Rep. 36, Judge Brewer, now an associate justice of the supreme court, held that, where parties enter beneath the surface within the side lines of a lode claim patented to others, they are prima facie trespassers, and must justify their entrance, or they will be restrained. I am of opinion, therefore, that the certificates of purchase issued by the government to the complainant make a prima facie case for him, and that the burden is upon the defendant to justify its entry and mining beneath the surface of complainant's claims, by showing—First, such a location of the Silver King as under the law entitles it to follow any vein, lode, or ledge having its apex within its surface lines, outside its side lines extended vertically downward; and, second, that the acts of mining committed and threatened to be continued by it under the surface of complainant's claim were and are upon a vein, lode, or ledge having its apex within the surface lines of the Silver King claim, and which in its dip downward passes outside of the side lines of that claim, extended vertically downward, and into and beneath the surface of complainant's claim, and which lies between vertical planes drawn through the end lines of the Silver King, continued in their own direction.

In the original location of the Silver King, as has been said, the end lines were not parallel, there being a divergence of 259 feet at the southwest corner, in the direction of the dip of the ore bodies; and, that being the case, it is earnestly insisted on the part of the complainant that the defendant has no right to follow any vein, lode, or ledge having its apex within the surface lines of the Silver King, outside of the side lines of that claim extended vertically downward; that whether or not the extralateral right conferred by the statute exists depends entirely upon the fact whether or not the end lines as originally located were parallel, and that for that

purpose regard cannot be had to the lines of the claim as patented by the government. The cases of *Iron Silver Min. Co. v. Elgin Mining & Smelting Co.*, 118 U. S. 196, 6 Sup. Ct. Rep. 1177, and *Mining Co. v. Tarbet*, 98 U. S. 463, are relied upon as conclusively sustaining that position. Those cases undoubtedly determine that a locator is bound by the lines of his surface location; and the former further determines that where, as in the present case, the location was made after the passage of the act of May 10, 1872, it is "essential to the existence of any right in the locator or patentee to follow his vein outside of vertical planes drawn through the side lines" that the end lines of such surface location be parallel. But by neither of those cases, nor by any other case that has been cited, has it been determined that, where the end lines of the surface location as fixed and declared in the government patent are parallel, the extralateral right given by the statute can be defeated by showing that, according to the original location of the claim, such surface end lines were not parallel. If the rights conferred by the patent can be defeated by showing a want of parallelism of the end lines in the original location, it is difficult to understand why the patent may not likewise be defeated by showing that the original location was void because its boundaries were not properly marked upon the ground, or because no vein, lode, or ledge was discovered within them, or because the statutory requirement in respect to the posting of the notice of location was not complied with, or because of an omission on the part of the locator to comply with any other provision of the statute regarding the location of such lode claims. All such matters I understand to be absolutely concluded by the patent so long as it stands unrevoked. If questions relating to the boundaries of the location, the marking of them, the discovery of a vein, lode, or ledge within them, the posting of the required notice, etc., are open to contestation after the issuance of a patent for the claim as before, the issuance of such an instrument would be a vain act, and would wholly fail to secure to the patentee the rights and privileges designed by the law authorizing its issue. The very purpose of the patent is to do away with the necessity of going back to the facts upon which it is based. Authorities to this effect in both federal and state courts are so numerous as to render it, I think, unnecessary to cite them.

The patent in question was based, as has been said, upon a survey made in 1882 by United States Deputy Surveyor Dunlap, upon the request of Warden and his associates, and they rejected it because the drawing in of the southwest corner of the claim as originally located, in order to make the end lines parallel, left out of the claim a triangular piece of the ground. But they subsequently, in 1884, conveyed their interest in the entire claim to Bradley and his associates, and those purchasers adopted the survey as correctly representing the boundaries of the claim, and, after causing the surveyor to again go over the boundaries and lines of his survey, made application to the government for the purchase and patent of the whole claim according to those monuments and boundaries; and it was upon such survey and application that their grantee, the defendant here, was permitted to enter the claim, and upon which

the patent was based. The lines of the claim as surveyed by the surveyor were plainly marked on the ground, and the monuments which marked them were thus adopted by the owners of the claim as correctly defining its boundaries. No rights of third parties having intervened, it surely could not have been necessary for the owners to take down the monuments that marked the lines, and erect them over again. The drawing in of the southwest corner of the original location in order to make the end lines parallel, and which change was thus adopted by defendant's grantors and by defendant, did not take in any ground not included in the original location. It did not take anything that belonged to any one else; on the contrary, it left out of the claim a triangular piece of the ground. No good reason is perceived why the lines of the claim could not be thus changed, so as to comply with the statute requiring the end lines to be parallel, nor any reason for holding that a patent based upon such a survey is not conclusive upon the government as well as the patentee as to the boundaries of the claim; and if conclusive upon the government, so also upon any of its grantees acquiring rights subsequent to those of such patentee. In *Mining Co. v. Rose*, 114 U. S. 576, 5 Sup. Ct. Rep. 1055, it was claimed, among other things, that the St. George claim included 200 more feet along the lode than the law allowed, and for that reason it was contended the location was void. Upon that point the court said:

"We hardly think it needs discussion to decide that the inclusion of a larger number of lineal feet than two hundred renders a location, otherwise valid, totally void. This may occur, and often must occur, by accident of the surveyor, or other innocent mistake where there exists no intention to claim more than the two hundred feet. Must the whole claim be made void by this mistake, which may injure no one, and was without design to violate the law? We can see no reason, in justice or in the nature of the transaction, why the excess may not be rejected, and the claim be held good for the remainder, unless it interferes with rights previously acquired. It appears by the facts found that one hundred and forty feet of the east end of plaintiffs' location is lost to them by the superior right of the Tip Top claim, leaving only sixty feet of excess, and this, if it were necessary, might be excluded by the government at the other or western end of the claim when it comes to issue the patent, which would leave plaintiffs only six hundred feet in one body in regular form. This also would interfere with no prior rights, and would give plaintiffs the benefit of their claim to the extent of two hundred feet for each locator."

Holding, as I do, that the patent is conclusive evidence as to the true location of the Silver King claim, and as the end lines of that claim as thus established are parallel, the right on the defendant's part to pursue any vein, lode, or ledge having its apex within those surface lines in its downward dip outside of the side lines of that claim extended vertically downward, and within vertical planes drawn down through those patented end lines continued in their own direction, follows, whether effect be given to the express grant of that right contained in the patent or not; for the statute itself gives it. Rev. St. § 2322. It is therefore not necessary to decide whether the question in respect to defendant's extralateral right was or was not properly cognizable by the officers of the land department. If it was, it was in this case found to exist, and was

expressly granted by the patent to the defendant. If not, it followed by virtue of the statute as an incident of the parallelism of the end lines of the granted claim.

It remains to be determined whether the acts complained of by the complainant were committed and are threatened to be continued upon a vein, lode, or ledge having its apex within the surface lines of the Silver King claim, and which in its dip downward passes outside of the side lines of that claim, extended vertically downward, and into and beneath the surface of complainant's claims, and which lies between vertical planes drawn down through the end lines of the Silver King, continued in their own direction. Upon this point, as has been said, a large mass of testimony has been taken. The contention of the complainant is that in the ground in controversy there are a number of separate and distinct veins, each subject to separate ownership; on the part of the defendant, that these veins are included in and are but a part of a lode, and that the first location upon its apex or any part of its apex carries the right to the entire lode from foot wall to hanging wall within the end lines of the claim. If the lode exists as claimed, the conclusion contended for by the defendant would undoubtedly follow; but I feel bound to give it as my judgment upon the evidence that it does not exist.

It is endeavored to liken the ground in controversy to the great Eureka lode. I do not see the resemblance. The zone that was there the subject of contention, and which was held to be a single lode, was thus described by Mr. Justice Field:

"We find the zone is contained within clearly defined limits, and that it bears unmistakable marks of originating, in all its parts, under the influence of the same creative forces. It is bounded on its south side for its whole length, at least so far as explorations have been made, by a wall of quartzite of several hundred feet in thickness; and on its north side, for a like extent, by a belt of clay or shale, ranging in thickness from less than an inch to seventy or eighty feet. At the east end of the zone, in the Jackson mine, the quartzite and shale approach so closely as to be separated by a bare seam, less than an inch in width. From that point they diverge, until, on the surface in the Eureka mine, they are about five hundred feet apart, and on the surface in the Richmond mine, about eight hundred feet. The quartzite has a general dip to the north, at an angle of about forty-five degrees, subject to some local variations, as the course changes. The clay or shale is more perpendicular, having a dip at an angle of about eighty degrees. At some depth under the surface, these two boundaries of the limestone, descending at their respective angles, may come together. In some of the levels worked, they are now only from two to three hundred feet apart.

"The limestone found between these two limits—the wall of quartzite and the seam of clay or shale—has, at some period of the world's history, been subjected to some dynamic force of nature, by which it has been broken up, crushed, disintegrated, and fissured in all directions, so as to destroy, except in places of a few feet each, so far as explorations show, all traces of stratification; thus specially fitting it, according to the testimony of the men of science to whom we have listened, for the reception of the mineral, which, in ages past, came up from the depths below in solution, and was deposited in it. Evidence that the whole mass of limestone has been, at some period, lifted up and moved along the quartzite, is found in the marks of attrition engraved on the rock. This broken, crushed, and fissured condition pervades, to a greater or less extent, the whole body, showing that the same forces which operated upon a part operated upon the whole, and at the same time. Wherever the quartzite is exposed, the marks of attrition appear. Below the quartzite no one has penetrated. Above the shale the rock has not been

thus broken and crushed. Stratification exists there. If in some isolated places there is found evidence of disturbance, that disturbance has not been sufficient to affect the stratification. The broken, crushed, and fissured condition of the limestone gives it a specific, individual character, by which it can be identified and separated from all other limestone in the vicinity.

"In this zone of limestone numerous caves or chambers are found, further distinguishing it from the neighboring rock. The limestone, being broken and crushed up as stated, the water from above readily penetrated into it, and, operating as a solvent, formed these caves and chambers. No similar cavities are found in the rock beyond the shale, its hard and unbroken character not permitting, or at least opposing, such action from the water above.

"Oxide of iron is also found in numerous places throughout the zone, giving to the miner assurance that the metal he seeks is in its vicinity.

"This broken, crushed, and fissured condition of the limestone, the presence of the oxides of iron, the caves or chambers we have mentioned, with the wall of quartzite and seam of clay bounding it, give to the zone, in the eyes of the practical miner, an individuality, a oneness as complete as that which the most perfect lode in a geological sense ever possessed. Each of the characteristics named, though produced at a different period from the others, was undoubtedly caused by the same forces operating at the same time upon the whole body of the limestone.

"Throughout this zone of limestone, as we have already stated, mineral is found in the numerous fissures of the rock. According to the opinions of all the scientific men who have been examined, this mineral was brought up in solution from the depths of the earth below, and would therefore naturally be very irregularly deposited in the fissures of the crushed matter, as these fissures are in every variety of form and size, and would also find its way in minute particles in the loose material of the rock. The evidence shows that it is sufficiently diffused to justify giving to the limestone the general designation of mineralized matter,—metal-bearing rock." Eureka Case, 4 Sawy. 312.

Between the wall of quartzite which formed the boundary of that zone on the north side and the belt of clay or shale which formed its boundary on the south side, there was no other distinct wall or boundary of any character, and the intervening limestone being so broken up, crushed, disintegrated, fissured, and permeated in all directions with minerals, it was held to constitute a lode in the eyes of the practical miner, and within the meaning of the acts of congress upon the subject, whether it answered the geological definition of a lode or not.

But the physical facts in respect to the ground here in question are widely different. The acts complained of by the complainant were committed, and are threatened to be continued, by defendant, upon a vein having its apex within the surface lines of the Oriental No. 2 and Red Cloud, and at a point thereon under the surface of the Oriental No. 2 claim. This vein is spoken of by the witnesses and referred to by counsel as the "South Vein." Within the surface lines of the Silver King claim is the outcrop of another somewhat parallel vein spoken of and referred to as the "North Vein;" and between the two is another, also having its apex within the lines of the Silver King claim, spoken of and referred to as the "Middle Vein." All of these veins are on the southerly flank of the Silver King mountain, the country rock of which is liparite. All of them have been extensively mined, and they have been carefully examined by a number of learned gentlemen who have given special study and attention to mining engineering, and who have been examined as expert wit-

nesses in this case; among them, Mr. John Hays Hammond, for the defendant, who thus gives his views of the history of the geology of the Silver King mountain:

"Referring to the Exhibit P, [a map prepared under the direction of the witness,] we see the portion colored blue, and designated upon the map by the word 'liparite,' the rock that constitutes the mass of the King mountain. Superimposed upon this mass of liparite are the tufaceous deposits represented or designated 'brown tufa,' 'white tufa,' and 'trass,' respectively. Included between the liparite and the material designated 'brown tufa' is the Silver King lode. Overlying the ore of the Silver King lode, designated upon the map as 'birdseye' capping, there is a material which throughout the eastern end of the King mine forms a capping of the ore of the lode. Denudation has removed this capping of 'birdseye' from the western portion of the Silver King claim. The material, which composes the formation which I have designated as 'birdseye' likewise forms a septum underlying the brown tufa, which tufa forms the hanging wall proper of the lode. Then follows, going south, the white tufa, and then a tufaceous deposit to which I have applied the name 'trass.' Then, as the last of this series of rocks of clastic origin, or, for short, clastic rocks, is the shale formation.

"The first period in the geological history of the King mountain was the accumulation of the tufa deposits to which I have just referred. These tufaceous deposits were the ejections from the craters of volcanoes, or from fissures connecting with the seat of volcanic activity. The period of eruption was not a continuous one. There was an intermittency between the volcanic eruptions from which resulted the tufa deposits above represented on sketch 'P.' The most important of these tufa deposits is that of the indurated brown material locally known as 'mud.' This material or mud shows evidences of the action of water subsequent to its deposition as a tufa, in that there is a well-marked stratification of the deposit.

"The width of this deposit of brown tufa or mud, where erosion has not denuded a part of the formation, is from 200 to 400 feet. Overlying this formation is a deposit designated 'white tufa.' This deposit is separated from the deposit of brown tufa by a plane of division, called by geologists 'the plane of contact' between the two formations. The white tufa is further distinguishable from the brown tufa by the absence of stratification, and by the difference of color. The width of this deposit is from about 200 to 300 feet, where not removed by erosion. There may be a further difference in these deposits, and that is a difference as to origin. The brown tufa indicates or at least strongly suggests, from its color, its derivation from basic volcanic rock, while the white tufa would seem to indicate its origin from the acidic volcanic rocks. Overlying the white tufa is the tufaceous material designated as trass, in which occurs the ore of the silver monument.

"The second period in the geological history of the King mountain was the period of uplift or elevation. The tilted position of the strata of the brown tufa evidences this uplift.

"Immediately following and referable to the elevation of the King mountain, through the readjustment of the mountain mass, occurred the fissuring and faulting of a certain portion of the liparite mountain.

"Referring to sketch map 'O' the line, B, B, will indicate the position of the first and main fault plane, the result of the readjustment above referred to.

"As a result of the formation of this fissure or fault plane there was sliced off, as it were, a segment of the liparitic mass of the mountain, included within the lines, B, B, and A, A. As a secondary fault plane we have the fissure represented by the line A, A.

"Contemporaneous with this faulting occurred the formation of the connecting fissures and of the fissures which I shall call the 'interjacent' fissures of the lode.

"Further, there occurred the formation of innumerable smaller fissures which traversed the lode in all directions. These fissures, designated as the 'connecting' fissures and as the 'interjacent' fissures, as well as the smaller

fissures just referred to, do not at any place penetrate the foot wall or the hanging wall of the lode.

"By this dynamic force to which the origin of the fissures is to be ascribed, there occurred a most thorough and extensive fracturing of the segment of liparite now known as the 'Silver King Lode,' and to which I shall refer as the 'Silver King Lode.'

"Then followed the fourth period in the geological history of the King mountain. Into the shattered and fissured zone, thus prepared, came the infiltrating mineral solutions, which penetrated and permeated the entire fractured zone where interstitial spaces admitted of the passage of the mineral-bearing solution.

"A further phenomenon connected with this period of mineralization was the kaolinization of certain portions of the lode where fissuring admitted of the entrance of the solutions which decomposed the feldspar of the liparite. A further feature connected with and evidence of the fracturing to which I have referred, is the formation of the 'vughs' or 'druses' which are now found in the zone. The absence of mineralization where druses occur, or where kaolinization has taken place, is compensated by these latter vein features. The mineralization thus effected resulted in the formation of the foot wall and hanging wall veins, as well as of the connecting veins, the interjacent veins, and the smaller metalliferous veinlets, which latter form a more or less reticulated mass within the zone.

"That completes the synopsis of the geological history of the King mountain and of the ore deposits within the zone."

This witness further testified that there is a very distinctive lode within the Silver King mine, dipping to the south at an angle of 70 degrees, and having a northwesterly and southwesterly strike. Being asked to give its boundaries, he answered:

"The lode is bounded upon the north by the rock known as 'liparite.' This rock constitutes the mass of the King mountain. It is a rock of volcanic origin, closely related to trachyte, containing more quartz than trachyte, however. It is bounded upon the south by the indurated material locally known as 'mud,' the origin of which I have described in connection with the history of the geology of the King mountain. This indurated mud forms the hanging wall of the lode, the liparite constituting the foot wall of the lode."

The difference between the materials forming the asserted lode and those forming its foot-wall country and its hanging-wall country, respectively, are thus stated by Mr. Hammond.

"The differences are apparent and even striking. Take the typical representatives of the three formations you have referred to. In the first place, there is a marked difference between the foot wall liparite and the hanging wall brown tufa or indurated mud. The difference is represented or expressed by the contrast in color, by the difference in hardness, and by the lack of stratification in the liparite upon the King ground, as compared with the stratified character of the indurated mud. The difference between these formations that I have just described is so great as to be observable by the physical character alone of the rock. The difference between the material composing the lode and the material forming these walls is likewise apparent, in that there is a lack of mineralization, or there is a characteristic lack of mineralization in the rocks forming the foot wall and the hanging wall of the lode. Physically there is a difference, in that the lode material evidences a more or less complete disintegration and kaolinization. The lode material shows, further, a difference from the other two formations we are considering in its fissured character. Another difference is the characteristic occurrence of vughs within the lode. As far as my examination goes, I have seen no vughs without the lode."

It is, of course, impossible to refer in detail to the evidence in the case. It shows that what the defendant claims to be the north-
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erly boundary of the asserted lode is the foot wall of the north vein, and that its southerly boundary is the hanging wall of what the complainant claims to be the separate and entirely distinct south vein already mentioned.

Respecting these veins and the adjacent ground, Mr. Louis Janin, a gentleman whom the respective counsel concede to be possessed of much learning and experience in such matters, testified on behalf of the complainant:

"The silver bearing veins of Calico, San Bernardino county, situated on the southerly flank of Silver King mountain, one or more of which course through the mining claims of the plaintiff, one or more of which course through the mining claims of the defendant, are true fissure veins entirely in a liparite country rock, continuous in their course and regular in their dip. They have well-defined walls, and are independent of one another. The outcrop or apex of one of these veins is within the surface boundaries of the Red Cloud and Oriental No. 2 locations. The alleged trespass was upon this vein. This vein is separate, distinct, and independent of all veins in the vicinity. There is no mineral lode or mineralized body of rock within well-defined boundaries or any boundaries of which this vein is but a part. That is the result I came to. That is the result I came to from my original examination, and it was confirmed by my subsequent examination, and it is my present opinion."

Being asked to describe the features of this Red Cloud and Oriental No. 2 vein, of which he was speaking, the witness answered:

"Well, one of the striking features, and one of the most important features, of this vein, is that it outcrops, as shown on Exhibit 31 for the complainant, from the point marked 'D, D,' to and including the shaft some distance beyond. I believe it is not precisely continuous between those points, but it is proven to be so by tunneling underneath the surface. That is a striking feature, but that has already been dwelt upon at some length in the previous testimony. * * * I propose now to go a little beyond the ground covered by the croppings, or that which we know to exist between the King Sixth tunnel and a point below the croppings at the point, D, D, and take in the continuation of the vein as far as I have traced it underground, and perhaps farther. At the point, D, D, the croppings disappear, I believe; or, if they do not, if they continue their course, they cross the north boundary line of the Red Cloud location. Then they are covered up by some brown liparite breccia, which lies on the surface of the ground, and, indeed, to a considerable depth beneath the surface, and appear once more in what is known locally as the 'Mammoth Claim.' I am speaking of the vein, or the croppings, marked 'E, E,' 'F, F,' on Exhibit 31, (south vein.) That is all that one sees of it on the surface. On the sixth level of the Red Cloud and Oriental it is traced easterly from the Oriental shaft a long distance, and also 130 feet below on the Wall street tunnel, to a point where the tunnel cuts out of the vein, and passes into what is called the mud. It is also— That goes on still further east than the sixth level. And westerly this vein has been traced upon this sixth tunnel up into the Red Cloud sixth tunnel, and along to the end of the drift, which is not marked on this map, nor is it marked on the larger map, Exhibit 22. As I said, I traced it from the Oriental shaft, and, indeed, from the King sixth tunnel, on this sixth level all along,—the sixth level of the Red Cloud,—to a point marked 'Q, Q, Q, Q.' I have traced it by following the wall, the foot wall. Coming back, I went up on the vein to the upper level, which is called, I believe, 'Barber Tunnel, 5th Level.' Going westerly, I followed the vein to the end of that tunnel to the west, on Exhibit 22. That was as far as I could follow it on the fifth level, and it was as far as I could follow it on the sixth; that is to the point Q, Q, Q, Q. But afterwards, going on the Mammoth ground into the Red Cloud third level, or afterwards going on the Mammoth ground, I have followed the same vein from the croppings down to the Red Cloud lower tunnel; by the various tunnels that were run in between

the croppings and the Red Cloud lower, where I found it strong and continuous throughout its depth, and have followed it in various drifts there, not represented on this illustrative sketch, easterly and westerly. Now, on the third level of the Red Cloud, I have followed it out easterly about a hundred feet or so, to a point which is nearly opposite the end of the Barber fifth level, but somewhat above it. I have also followed the Mammoth vein on the easterly drift from the fourth level of the Red Cloud to a point which is very near the point marked 'R, R, R, R,' on the Barber tunnel fifth level. So that there can be no possible doubt as to this Mammoth vein being the same vein which I followed, and called 'Oriental Vein.' They have not been connected, because the two works belong to different companies; that is, at least, I suppose, the reason. So that we have followed this vein from the sixth tunnel level along the sixth level, and in the Red Cloud works, with the croppings included, for a distance of some 2,000 feet. And in depth I have followed it from the croppings down,—at least, so much as I could see of it at the croppings, and in the upper level, and in the sixth level of the Oriental, and also in the Wall street level,—I followed it to that distance in depth. It also continues down to the tenth level, as has been testified here in court. But I did not go down to the lower level there myself, simply because it was too difficult for me. So that gives me a total depth, in round numbers, of 350 feet, through which depth the vein had been found and followed, and the wall continuous and distinct. The same is the case wherever I know its depth—that is, on the western end as marked on this illustrative sketch—from the croppings down to the Red Cloud lower tunnel, a distance on the vein of about 510 feet, or 490 feet perpendicularly. So here is a vein that we have followed from 350 to 500 feet in depth in various sections along its length, and which we followed along its length for some 2,000 feet, showing croppings wherever it was possible for croppings to be shown; that is to say, where the vein was not covered, where the ground was not covered by this brown liparite breccia, or by detritus. The vein itself has the very strong and distinctive features of a foot wall that is continuous. The vein filling is to the south,—that is to say, towards the hanging wall side,—with occasional breaks on the foot wall side, where it shows some jasper at least, and I presume it was a portion of the vein filling once. So it is easy to trace throughout this whole length of 2,000 feet on the surface, and also in depth. I therefore consider it to be a very continuous strong vein, so far as it is worked and goes. The vein is like all other fissure veins, or rather it is a fissure faulting plane, because it shows some evidence of movement, and the hanging wall rock is somewhat broken. At the Oriental shaft on the upper level the foot wall is very highly polished. Indeed, it shows slickensides very plainly, and this shows there must have been some movement. How considerable, I cannot tell. But the result of the movement has been the breaking of the hanging wall to a certain extent, and then, when the vein was filled between its original walls, the vein fillings in solution overflowed somewhat and impregnated or surrounded the particles of broken country rock of the hanging wall. In other words, the hanging wall itself carries some ore. Of course, it being a fissure vein it once had two distinct and decided walls. The one being broken and fractured, very naturally contains some mineral. I said that occasionally I found some vein matter back of the wall. That is true, I think, of a portion of the vein in the immediate vicinity of where the shaft and the sixth level intersect one another. But the main feature is all the time that the vein lies on the foot wall, and is continuous throughout. Sometimes, the vein is exceedingly narrow; at least, it looks so to me; and other times it broadens out so that the vein fillings occupy some 8 to 12 feet. I cannot conceive of any possibility of any one's doubting that it is a continuous, well-developed, strong fissure vein. It has occupied a faulting plane, with the natural result of occasional little breaks in the wall. It has a regular dip to the south. By 'regular' I mean, of course, with such variations as one always finds in mines. At the easterly end the dip is quite steep,—about 70 to 73 degrees,—and perhaps a little steeper. As one goes westerly, the dip changes; becomes flatter. In some places it is about 54; my recollection is of its having been so determined. And still further west I found it to be 45. By regularity in the dip, I mean it does not shoot off suddenly, and dip back again, like a broken zone of rock in the

country, or like an irregular body. It has a continuous, well-defined dip,—regular; what all miners would call regular. Therefore, I say, I consider that a very regular, well-defined fissure vein."

Having stated that the Oriental or south vein was an independent vein having no connection with the middle or north veins, and being asked to state what examination he had made to determine that fact, Mr. Janin answered:

"In order to determine whether or not this vein was independent, after having traced it throughout its length, as far as I could, and in depth as far as I could, or found convenient, I then went in front of the vein, and examined this brown tufa, which has been called 'mud,' by means of all the tunnels which penetrate through this brown tufa and into the vein, and passing the vein and other veins, and going to the north of them. In other words, along this two thousand feet of length I have examined quite a number of cross cuts and tunnels which cross these various veins. So that I have seen the vein in many places, seen the country in many places, both behind the vein and in front of the vein. I have also had assays made of the country rock. This was purely for my own satisfaction, and I don't know whether it has been in evidence or not. I have paid no attention to it. But I had assays made of the country rock on the Wall street tunnel level from the vein back as far as that tunnel had been carried in up to the face of the tunnel. And I will say the same of the Oriental tunnel level. I think I had assays made of all the ground in front as well as back of the ledge. That was to see whether the inspection which I had made with my eyes was indorsed more or less by assays taken at regular intervals. In the same way I had samples taken all along the King sixth level, some of which I have had assayed, and others not. Those which were omitted were merely those which came out of the brown mud. Therefore, I have seen this country, as I said, in many cross cuts. And the result I have already stated, namely, that the vein has a well-defined foot wall throughout its whole length, and that the vein filling does not penetrate the foot wall except occasionally, and I mean just occasionally. But it does lie between the hanging wall and the foot wall, and sometimes the hanging wall is broken, is not well defined, and is more or less impregnated, or the broken fragments of the wall are interlaced by vein matter. I have found nowhere any indication of any irregular body of ore, or any impregnation, or any stock works, or anything else which has attached itself to this vein, so that, extending backwards and over any considerable length, it may be said to be a part of it. * * * Well, I have described what I saw in the immediate vicinity of the vein in question, the Oriental vein. I would like to mention by the letters, if it has any letters. It is the vein 'E, E,' 'F, F,' as marked on Exhibits 31, 28, 29, and 30. I have described now what I found directly in contact with the vein, and I will say that I moreover went into the Silver King Mining Company's claim on the sixth level, and followed back the veins there as far as developed on that level, namely, I found one, which is the most northerly vein, with works continuous for a long distance. Then I found one, which has been spoken of here as a 'divergent,' and which is marked on Exhibit 22 as 'A.A.A,' 'B.B.B,' [middle vein.] The one I before mentioned [the north vein] is marked 'X,X,' 'Y,Y.' I examined them along the sixth tunnel,—I mean on the sixth level. I have examined all the cross cuts between those veins just mentioned and the Oriental vein or the vein E, F."

Being asked to describe the north and middle veins, the witness answered:

"I first of all examined the surface and the croppings on the surface by passing over them repeatedly in different directions, and also inspection by particular examination,—that is, of both of those veins, over part of their length; and then my next examination was chiefly confined to the sixth level, as I said before. I find those veins possessing almost precisely the same characteristics as the Oriental vein marked 'E,' 'F,' on the sections; that is to say, I look upon each of them as a fissure vein, as occupying a faulting

plane; that they show the evidence of this in the broken state of their country rock, just precisely as in places the vein E, F, does. I find that they have a strongly marked foot wall, each of them; the north vein having a much better defined one than the one marked 'A,A,A,' and 'B,B,B,' [middle vein;] but both of them having what miners call, or should call if they don't, a well-defined foot wall which they can trace and have traced. I find that both these veins have their ore resting on their foot wall, breaking at times into the hanging wall, and have been worked accordingly, sometimes mere stoping along the veins, sometimes branching out into the hanging wall as far as the ore would pay; the ore represented more or less by parallel stringers of ore, and other times by a brecciated mass of ore cemented, you might say, by sulphate of baryta, which is a gangue of these veins. I might state that again. The gangue of these veins—that is to say, that which is between and is included within the walls—is heavy spar or baryta, sometimes jasper, intermixed with a little chloride of silver and bromide. I find that these veins have regular walls, and that these walls penetrate to the lowest workings continuously, and are regular; that they have about the same dip, taken in a general sense, as the vein E, F, and I find that they are perfectly distinct from one another. I find that every ore body which has been worked is in direct connection with the foot wall of the vein which is nearest to it, unless, of course, there may be little broken fragments between the two veins where they approach very close to one another. I find that in all respects, omitting local peculiarities, the three veins may be described in one and the same manner. Then I notice that between them—between the vein A,A,A, B,B,B, which is nearest to the vein E, F, in a number of cross cuts in the country, in all of which I have been, and all of which I have examined—I find as good a separation between these two veins as any man could desire, and as good a separation as is usual to happen between veins which are so close together, namely, there are occasionally some parallel streaks of spar, which has no mining importance so far as I have been able to determine. I have determined that fact, not only by my own inspection,—not only by asking workmen, which I always make a point of doing,—but I have also found out that that was a fact from the actual developments on both those mines, namely, the Silver King and Oriental No. 2 mine, and the Red Cloud mine. Long before experts ever got to this ground, and without any fears of geology or geological reasonings, the miners have gone into these works, have penetrated the walls on both sides, and have hunted there with very keen scent for all the ore that was to be had. They have struck the ore on or along these foot walls, they have followed them with their works, they have found the ore there, and nowhere else. Occasionally they have gone back of that wall or the foot walls in a number of places to hunt for ore, and found nothing but little seams. They have gone in front of the vein A,A,A, and B,B,B, and found nothing but little seams. Wherever you trace them these veins are distinct and independent, and cannot be confounded with one another or with any intervening body of ore. Now, in order to correct any misapprehension, I will say immediately that I know of little divergents, as they are called, that is, little offshoots from the vein, which give the appearance as if there has been stoping a little ways in the hanging wall of the different veins. That I include as part and parcel of the main fissure vein, only they are called usually by different names than 'divergents,'—called 'feeders' or 'followers' or 'spurs;' and wherever I have found any of these apparently independent stopes I have found always reason to believe that it was connected with the fissure vein; and, as I was saying, the miners have found that to be the case themselves. They are the ones that study the mine daily, and, no matter whether they call tufa 'mud,' or liparite 'birdseye,' they understand the differences in the formation, and they follow it just as well as any of us can do in a few weeks' labor. So I have determined those veins to be separate and distinct by my own personal examination of all the cross cuts, of all the drifts on the sixth level, by their croppings, by the workings of the miners, which I will take any time rather than their asseverations. I think the works on the mine will settle or prove exactly the existence of the ore, and exactly how it occurs. Therefore I have come to the conclusion, from my examination of all those neighboring veins, that this ore deposit along the

walls of the veins marked 'E,' 'F,' is entirely distinct from any other formation in the country."

As has been already said, the evidence in the case is too voluminous to render it practicable to review it in detail. While there is not a great deal of conflict in the testimony respecting the facts, the conclusions reached by the expert witnesses for the complainant and defendant, respectively, are directly opposed. In my opinion, the evidence, taken as a whole, shows that the north, south, and middle veins each have distinct and well-defined boundaries, and that each of them has sufficient length, sufficient depth, and sufficient breadth to constitute a true and independent fissure vein. Towards the easterly end of the Silver King claim, the middle vein closely approaches the north one, and it may be that they join; but it seems to me clear that the north and south veins are entirely separate and independent of each other. There cannot be any doubt, in view of the evidence, that the foot wall of the south vein is a perfectly distinct, well-defined boundary which has been actually traced for 2,000 feet in length, and for from 350 to 500 feet in depth; and yet this boundary lies between what the defendant claims as the boundaries of the asserted lode. So, too, the middle vein has distinct, well-defined foot and hanging walls, and the north vein a distinct, well-defined hanging wall as well as foot wall. It is true that, throughout the liparite rock included between the foot wall of the north vein and the hanging wall of the south vein, there are innumerable cracks and seams, some of them running out from the respective veins, and some of them extending from one vein to the other; and the rock in places is much broken and crushed. But there is no such general breakage and crushing, nor is there any such general and irregular impregnation of it with mineral, or any such irregular disposition of the ore bodies, as was the case with the crushed and disintegrated limestone in the Eureka Case. Here, the great bodies of ore are in and along the large veins that course through the ground in question in substantially parallel lines. There, there were, in the first place, no such veins with well-defined foot and hanging walls between the boundaries of the lode, and the mineral was there disseminated almost everywhere throughout the broken, crushed, and disintegrated mass of limestone. No such general and irregular diffusion of mineral through the ground here in question can, I think, be justly affirmed. Many of the little seams and cracks undoubtedly lead to ore, but I think they are properly referable to one or the other of the fissure veins, having been but the overflow of the mineralizing vapor or water when, in the course of nature, it came up from the depths below, filling the fissures that had been previously made in the rocks. Just when, and the order in which, those fissures were made and the sources from which they were filled with the vein matter, no one, in the nature of things, can exactly know. The scientific gentlemen who have been examined as experts differ in their theories respecting those matters, although they agree that it all occurred within the same geological period, which, however, may have extended, as one of them said, a million of years. The evidence, in my

opinion, does not show that the same force of nature operated upon the whole mass here claimed as a lode, and at the same time. The more reasonable theory, I think, is that adopted by complainant's expert witnesses, that the fissure veins mentioned were made at different times and that each of them had its own and independent source of supply of vein matter.

By stipulation of the parties the question of damages was withdrawn from consideration in this case, and a line agreed on, to the east of which the present controversy should be confined. The decree, which must be for the complainant, will be so limited.

HAYNE v. GOULD.

GOULD v. HAYNE.

(Circuit Court, S. D. California. February 13, 1893.)

No. 176.

1. TENANCY IN COMMON—PARTITION—OLIVE RANCH.

Where two persons contract to maintain and cultivate an olive ranch, contemplating, not a division of the property, but its building up, operation, and sale as a whole, but making no distinct or specific agreement to that effect, one party may enforce a division, under Code Civil Proc. Cal. § 763, providing that the court must order a partition "unless the property is so situated that partition cannot be made without great prejudice to the owners;" and the fact that defendant is a lawyer practicing in a distant state, having no knowledge of farming or olive culture, and that plaintiff would be unable to buy in the property if it should be sold as a whole, are unimportant in the determination of the question, for the situation of the property, not the circumstances of the parties, must control.

2. SAME—OLIVE RANCH—DIVISIBILITY.

Where an olive ranch is so large that it can be divided into two large orchards, such as to justify the building of works for either the manufacture of oil or the pickling of the olives, one of two tenants in common can enforce partition, under Code Civil Proc. Cal. § 763, which secures this right unless great prejudice to the owners would result because of the situation of the property.

3. SAME—EXPENSES—MISTAKEN ESTIMATE.

One of two tenants in common agreed to share the expense of a house, to be built by his cotenant at an estimated expense of \$400. Owing to a mistake in the estimates of the material man and damage by a storm while building, the house actually cost \$700. *Held*, that upon partition, the expense should be equally shared, and the house be regarded as the property of both parties.

4. SAME—ACCOUNTING—INTEREST.

An agreement between two tenants in common of an olive ranch provided that one of them should pay the other a certain sum for a failure to plant certain trees. The debtor under this agreement began a suit for partition, thereby putting it out of his power to fulfill the contract. *Held*, that upon partition he should be charged with that sum, with interest from the date of the commencement of the suit.

5. SAME.

One of two tenants in common of an olive ranch, who agrees with his cotenant to give his whole time and attention to the cultivation of the ranch, and who thereafter enforces a partition, should be charged with one half of his profits in real-estate dealings carried on by him while the