The Little Giant Controversy, Mechanical and Legal History of Hydraulic Nozzles.

A curious legal contest which has, for a number of years, been waged over a patented machine, has recently been decided by Judge Sawyer, of the United States Circuit Court, District of California. It involved the title and ownership of the famous hydraulic mining machine known as the Little Giant, heretofore made and sold by Richard Hoskin, of Marysville, Cal., but which was formerly made and sold by E. R. & Joseph Craig, of Nevada City. This machine has done more to encourage and develop the hydraulic mining industry of the world than all other causes. It solved the problem of practically handling large streams of water under great pressures, which is a necessity in working our large hydraulic claims on a profitable scale.

Some of our readers may not understand the nature of the work that such a machine is called upon to perform. Some idea may be gathered from a mere statement of the circumstances under which they are used. In some of our large mines the reservoir from which the water is taken is 300 ft. above the point where the water is to be used, and the water is- conducted from this reservoir to the Little Giant, or hydraulic machine, through large sheet-iron pipes, which in some cases are two ft. in diameter. Before the water reaches the Little Giant it is under an enormous pressure, and it issues from the nozzle of the machine with such force that it is projected in a solid stream from 100 to 150 ft. against the bank to be washed and literally carries all before it. So compact and solid is the stream near where it issues from the nozzle, that a person could no more strike a heavy crowbar through it than he could through an equal body of iron or steel. Sometimes the banks are very high, in which case the Giant must be kept at a respectful distance from it, otherwise it is in danger of being buried when the bank caves or falls in.

The usual method of attacking a bank is to direct the stream at its base and wash out or burrow a tunnel so as to cut in under the bank until the upper portion falls or caves down in a broken mass. The stream then cleans up the debris which has fallen and washes it into the flume, down which it courses, depositing its particles of gold in the riffles which are distributed over the bottom of the flume.

Hydraulic mining was first carried on by conducting the water through an ordinary two-inch hose and projecting it through an inch nozzle, such as are now used by our fire department for conducting water from fire engines and throwing it upon a fire. This was necessarily slow business, as the stream would do but little execution against a tough cement bank. There was no scarcity of water, but there was no competent machine for handling a large stream. Even with a small hose and nozzle, such as we have described, the labor of holding and directing the nozzle was almost Herculean. The hose had a tendency to fly from side to bide, especially when it got a little bent, and the nozzle-man was a lucky one indeed that didn't get thrashed by bis pipe and nozzle several times a day. In 1864, J. M. Allenwood, of Timbuctoo, Yuba county, patented what was afterwards known as the "Gooseneck machine." It had two joints; a lower horizontal joint and an upper joint made of a short section of canvas. This machine was one step in the right direction, but the canvas joint was liable to get "kinked," and then the machine would fly around like a whirligig and knock everything over within its reach. This the miners called "bucking." The machine was, however, used in several mines by using a block and tackle for holding it to its work.

In 1867, Jenkin W, Richards, of Michigan Bluff, Placer county, devised a double-jointed machine to take the place of the usual nozzle. It was intended, with this machine, to get the desired range of motion from the two joints, and thus avoid the necessity of bending the hose in order to change the direction of the stream. This machine never amounted to much, as its joints were found to be almost as unreliable as the hose. It was, therefore, abandoned as a failure, and inventors came to the conclusion that two-jointed machines would never answer.

In 1869, the Craigs—E. K. and Joseph above mentioned, devised and patented a single joint,

ball and socket machine, which it was at first supposed would answer every purpose. Other inventors followed, all with single-jointed machines—except in one or two instances, where some sanguine inventor would bring out a nondescript two-jointed machine to be tested and then taken back to the foundry to be broken up for old iron. Such was the Shaw, the Rice, the Gorman and Hoskin and a number of others.

In 1870. Frank H. Fisher, of Nevada City, invented his famous "Hydraulic Chief." This was a two-jointed machine, and the first successful two-jointed machine that any one had produced. Its element of success was in its upper joint. Instead of the canvas or hose section used in the Allenwood machine, he substituted a metallic joint that worked on pivots on both sides, so that the nozzle could only be moved up and down on this joint, while it got its side motions from the horizontal, or lower joint. This machine was a success, and it became quite popular for the short time it had in the field. In the meantime the Craigs commenced suit against several of the machines, Hoskin amongst the rest, and threatened Fisher with a suit, alleging that all of the machines were infringements upon their Globe, or ball and socket single-jointed machine.

Instead of contesting the case with the Craigs, Hoskin compromised his suit with them and entered into a compact with them by which Hoskin was to be the manufacturer and seller and the combination was to drive out competition and control the market. Hoskin then got up the present Little Giant, which was simply a duplication of Fisher's Hydraulic Chief, with slight changes. They also purchased from the inventors, Macy & Martin, a patent which covered the use of riffles in a hydraulic discharge pipe. This "riffle" patent was the key to the situation. Without the riffles none of the machines could be successfully used, and all of their machines were using them. Craig then commenced suit against Fisher in the United States Circuit Court to prevent him from using the refiles and served a preliminary injunction on him, pendente lite. Fisher was contumacious, and persisted in using the riffles, even after the injunction was served, and as a consequence he was brought before the court on an order to show cause why he should not be punished for contempt of court. Judge Sawyer, after due consideration of the case, fined Fisher $100 and gave him a severe lecture on the danger and possible consequences of violating an order of the court, and warned him to desist in the future from committing any further contempt. Fisher was not altogether subdued by this fine and lecture, but returned to his home in Nevada City, determined to get around the Craigs and the order of the court in some way; but, nevertheless, he did not act without the advice of his counsel. His business was in jeopardy unless be could use riffle in some way in his discharge pipe, because, with out the refiles the water which issued from the nozzle would scatter and be ineffectual. He therefore purchased a number of old, worn-out pipes in which riffles had been placed by Macy & Martin, the inventors, and, taking out the riffles, placed them in the new discharge pipes of his Hydraulic Chief.

Again he was brought before the court for contempt, and Judge Sawyer, after considering the case, rendered the decision which has ever since been recognized as authority in like cases, viz : "In a combination of two elements it is an infringement to manufacture one of the elements and combine it with the other element, although the other element is purchased from the patentee himself." Fisher was therefore found guilty of a contempt of court.

This being the second offense, Fisher was fined $500 and ordered to be confined in the San Jose jail for 30 days. Fisher says his confinement was not irksome and not altogether without enjoyment. He spent most of his time in a steeple, with a spy-glass in his hand, from whence he became quite familiar with the landmarks around the bucolic city of San Jose. The balance of his time he spent on parole, wandering through the streets and taking needed exercise. After his release he one day happened into the

Mining and Scientific Press Patent Agency in this city, where he was informed by Mr. Juo. L. Boone, who was at that time connected with the agency, that his patent could be reissued so as to cover the upper joint of the Little Giant machine. Munn and Co., of New York, had taken out the original patent, but had only patented the lever attachment by which the machine was handled. A reissue of his patent was then applied for, through the Mining and Scientific Press Patent Agency, and in due time the new patent was issued with a claim for the upper joint. Fisher then employed the law firm of Morgan & Heydenfeldt, and a suit was commenced against the Craigs for injuring the reissued patent.

Meanwhile the Craigs had not been idle. They had purchased the old Allen wood patent of 1864, and immediately they reissued it so as to cover broadly a two-jointed machine. With this patent they went into court, and defeated Fisher's suit by anticipating his invention with the Allen wood machine. This put a quietus on Fisher. He had become deeply involved financially in his several battles with the Craigs, and it now became necessary to seek other means to afford him a livelihood. He obtained employment in the San Francisco Mint, where he has remained ever since. About two years ago, he again reissued his patent with good success, and he then employed our friend, Jno. L. Boone, Esq., who had meanwhile commenced the practice of law, to commence another suit against Hoskin and the Craigs. This suit was contested on the part of Craigs by the same attorneys who had successfully defeated the former suit, and the case was prosecuted before the same Judge. This time, however, Fisher was successful, and a decision was rendered in his favor in the early part of the present tem, and as the Macy & Martin patent on the riffles has expired, Fisher now succeeds to his legitimate rights, and will hereafter furnish hydraulic mining machines.

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