

**WHAT IS A MINER'S INCH?****Indefinite and Variable Method of Measuring Water.**

A recent article, entitled, "Where Water Comes High," discussing the quantity of water commonly called a "miner's inch," states that the General Government fixes the quantity as one cubic foot in 50 seconds. I have consulted all available authorities on the subject, and can find no mention of the volume of a miner's inch being fixed by the General Government. In California, where the term originated, it is a well-known fact that the miner's inch is about as definite a quantity as a "pail of water," and hydraulic engineers have been trying for years to have the arbitrary term discarded for the "cubic foot per second" and "acre foot." In California custom seems to have made the miner's inch as equal to one cubic foot in 50 seconds, but this depends much on geographical location.

In Colorado the statutes fixed the miner's inch as equal to a quantity of water flowing from an inch-square orifice under a pressure of five inches above the top of the orifice, and assumes that the quantity of water delivered is proportional to the area of the orifice; but this is far from being true. For instance, if a flow of 144 miner's inches be required, the volume obtained would be 3.3 4.2, 4.7 cubic feet per second, according as there were 144 holes one inch square, one opening one inch deep and 144 inches long, or one opening 12 inches square, the tops of all opening being five inches below the surface of the water. Weir measurements are much more accurate, and could almost always be substituted for the method by orifices.

The science of hydraulics has made considerable progress within the last decade, but the multiplicity of detail necessary to consider in the accurate measurements of water renders many of the approximate rules valueless, and the best methods are none too good. It is to be hoped that, in view of the increasing use and value of water for power, irrigation and domestic purposes, the miner's inch, as a standard, will be relegated to innocuous desuetude, and the more definite measurement of "second foot" used in preference. For irrigation purposes the acre foot is generally coming into use, on account of the convenience in making calculations. The acre foot is one acre covered one foot deep with water, or 43,560 cubic feet.

The article referred to also makes the statement that a miner's inch (presumably under a six-inch pressure) serves to irrigate 160 acres of land. The writer was for some years connected with the Bear Valley Irrigation Company, of Redlands, Cal., and under this system the highest duty is one miner's inch to 10 acres, the average being one inch to four acres. The Jurupa Land & Water Company, near San Bernardino, use one inch to irrigate nine acres; other parts of California use one miner's (six-inch pressure) for from 4 to 10 acres.—J. H. Cunningham, in Portland Mining Review.

**Thirteen Mills in Fourteen Miles.**

George W. Herrin, a mining man of much experience in the west, is in the city after a four months' trip through the eastern Oregon gold fields. He speaks enthusiastically of the country. "I found in an area 14 miles square 13 mills grinding on good ore, and more are being put in as fast as teams can haul the machinery to the ground," said he. "There is much activity among the mines and prospects in Granite and Sumpter districts, in spite of the fact that the towns are dull. I believe that there is no doubt about the future of the country. It is one of the most promising I have ever seen. The actual showing is sufficient to establish it as a great producer, and new de-

posits are constantly being explored with excellent results. The geological character of the country is granite and porphyry, with quartzite in considerable quantities. The vein matter is, as a rule, a black sulphide, and it carries a great deal of free gold. I do not believe that it will always be a free-milling camp, however. It will be found eventually that the cyanide process will be required for the best results. Now that a railroad into the district from Hilgard is assured the country must advance by leaps and bounds. All that was needed was transportation. There is a great deal of country that is yet somewhat inaccessible, and with easy ingress and egress it will have a chance to grow that will surely not be lost."—Spokesman Review.

**NONE OF HIS BUSINESS.****The Assayer is Expected Merely to Find the Values.**

The following is written by J. M. Fisk, of Portland, in reply to an article printed in these columns last week, taken from the Telegram:

My attention is called to a communication of Mr. O. M. Rosendale in The Telegram of last week, on the sampling and assaying of ores. Allow me to set that gentleman right, as he appears to be a little off.

Nine-tenths of the assays made in Portland are not for the purpose of buying ores, or purchasing mines, but simply to learn if the ore contains any metals of value, and no such certificate should be taken, or would be taken by a business man as documentary evidence of the value of the property.

The assayer has no right or business to state on the face of his certificate, exactly from where he obtained the sample, or what mine it came from. It is none of his business. The certificate is the property of his client, and he can make whatever disposition of it that he sees fit. The responsibility of the assayer ends with the results he states in his certificate. It would be just as absurd, or as correct in judgment for a burglar to enter a hardware store during the night and bring the first thing he had to the light and say the whole store was stocked with axes, as to say the one stone sample assay was a true sample of the whole mine of ore.

I have just returned from examining a mining property, from which I have taken 100 samples, and on this result will I base my determination of its value, and not from any one same assay, or anybody's say so. Some 30 years ago, when I was green in the business, I would frequently ask my client from where he obtained his ore, or from what mine it came from, and was politely told that it was none of my business, and that all they wished of me was to give them its value in gold and silver per ton.

Mr. Rosendale's scale of prices is all right for a smelter to purchase ores, by deducting the units for smelter charges. But there are no purchasers of ores here, for smelters, and no smelter would purchase ores without the proper sampling of the lot purchased. Sealed bottled samples of ore are frequently sent me from British Columbia, Utah, Nevada and Arizona, but they are samples put up by a public sampling works, simply for check on other assayers. I make three assays from the sample, and take the mean of the three as the correct one. I have no knowledge of the mine it comes from, neither do I care. My business is to give the results of the sample furnished.

As for the valuation of metals, we may as well give New York quotations as to give British Columbia or San Francisco. There is no market valuations on metals in Portland. There was a time when we had a par valuation of gold bars here, but we have none at present.

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