

50 miles north of the Canadian Pacific Railway from where I received samples of ore last fall identical with those coming from the more southern and western district.

On my recent trip through the Seine river country, I observed the building of the several concentrating mills on locations where the veins are neither developed, nor the people have any idea of what character their ore is or will be, and if the machines bought are suited for it or not. Judging from my experience in testing the different ores over a period of six years, I have to say that a number of these machines are not adapted to our ores here, because they neither work economically nor profitably. Allow me to prove my assertion. As I remarked before, a large percentage of our ores consist of quartz, blende, copper and iron pyrites and galena, also, after taking them out of the workings, out of a certain amount of the country rock, chloritic, talcous and cerisitic in character, and further some gold combined and free. The latter usually more so at the surface than farther below where the atmospheric influence ceases, yet in a great number of veins the gold will be found there exclusively combined with the pyrites, and also the other sulphurets greatly increased, therefore the ore will be distinctly refractory. Further, we have to consider that there are no reduction works in the immediate neighborhood, the nearest are in Omaha and Newark, that the communications in that country are very primitive yet, therefore the freight will absorb a large amount of the value of the ores or concentrates.

The machines generally used here are stamps, amalgamating tables and Frue vanners, or vanners of a similar type. Now we know that the stamp is not an ideal grinder, that it produces a large amount of fine muddy slimes, and the more so in disintegrating our ores here. The consequence is that these slimes are settling so tenaciously upon the common amalgamating table, and even on the Frue vanners, that there is often a great loss of leafy hammered gold particles as well as valuable concentrates. Furthermore, instead of separating the components of the ore, we receive them in our old method mixed together, thereby experiencing not only loss of zinc, lead and copper, by making a present to the smelting works, but also have to pay perhaps an extra cost for treating our high grade zincous concentrates, and increasing our shipping expenses enormously. Because instead of shipping the gold value (let us say from 30 tons of ore) in only one ton to the reduction works, we