

We come now to the classifiers in which the slimes enter at their smallest side. The little sketch shows that they consist of two prisms, made of sheet iron, sitting one in another, and can by means of a hand-screw be set apart as far as desired. Overhead runs a water pipe from which connections are made to the bottom of the outer prism, pressing a stream of clean water upwards, which holds the floating slimes in equilibrium, except those sands and minerals which resist, or better to say, which are heavier than the force of that pressure. These fall to the bottom of the Spitzluten, and are discharged through a spigot bent upwards to nearly the middle of the apparatus. The still suspended slime particles flow on into the second classifier, where the prisms are sitting farther apart and lose here the next heavier grains of the ore. And so the process is going on, until all the coarser grains of the sands and heavier mineral particles are separated from the finer slimes. On considering the construction of these classifiers we see at a glance that the presence of the inner prism is a considerable improvement over those where they do not exist, because we are enabled thereby to regulate the weight of the water column standing above the water pressure from below, I might say, so sensitively, that we can grade the different ore particles in their exact weight and size as they exist in the travelling ore pulp. The finest slimes flow now into a Spitz-kasten, which acts merely as a settling box, over which a horizontal current of water passes, out of which the suspended ore particles fall into the pointed, funnel-shaped bottom of each compartment, and are discharged in the same way upon the buddles, as the coarser from the Spitzluten on the concentrators. The water with the light muddy slimes contain usually only such a small amount of the precious metal and other metallic components of the ore, that they can be allowed to flow out of the mill, but should there be still an appreciable amount of gold or other valuable minerals suspended in it, then it is directed into settling pits, and the settled fine sands and slimes treated on the buddles.

Now we have seen that we receive in these classifiers graded products, that is, coarser sands besides finer mineral particles whose physical conditions differ greatly and when brought upon the table are naturally not only through their different specific weight, but also through their difference in volume, quickly separated. We have to consider that the stream of water on the vanners exerts always one certain pressure, there-

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