

The Central Virginia Gold Prospectors World News and Report

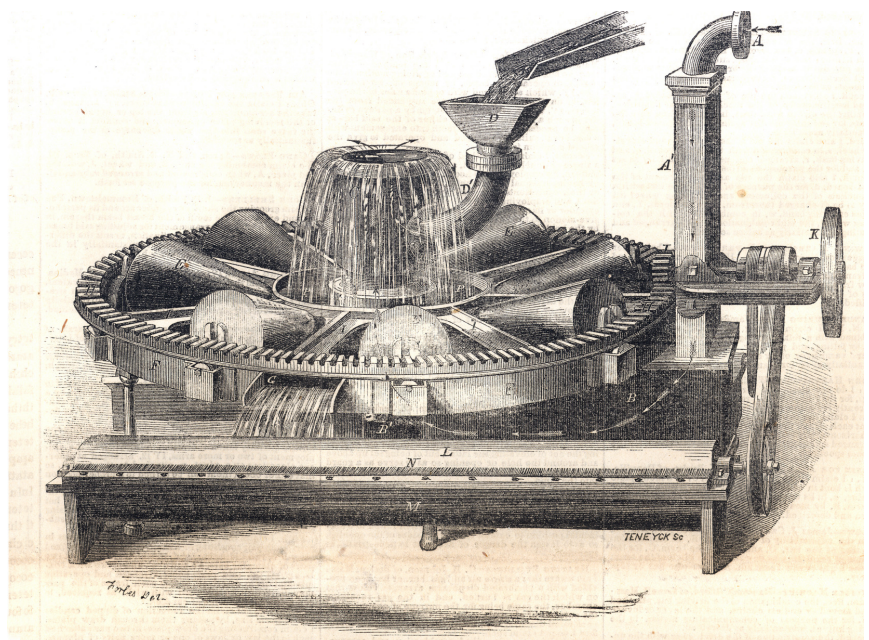
Circulation: 8 or 9 maybe 10
Issue # 3

Wednesday, Feb 21, 2007

Publication: Weekly,
Monthly, or when we get time

Addison's Fabulous Improved Gold Separator

Our engraving illustrates an invention for separating gold from sand, crushed quartz, &c. The separation is effected in part by water, and in part by quicksilver, the two processes being ingeniously combined. Since the great discoveries of gold in California and other parts of the world, many contrivances have been invented for the extraction of the precious ore. A leading endeavor has been to dispense with the use of quicksilver, the procurement, application, and cost of that metal having always formed a serious difficulty. But all such efforts have been fruitless; those who had abandoned the mercurial process, found, after abundant experiment, that



Addison's Improved Gold Separator, Wykoff Goldmine Fauquier County Virginia 1856

they were cheating themselves.

The affinity between quicksilver and gold is so great that, no sooner do their particles come in contact than they unite, and hold fast to each other in a loving embrace which fire alone can fully separate. The larger particles of gold maybe easily separated from the quartz by means of water, but quicksilver is the only substance known that will effectually arrest

the fine dust. In quartz crushing and sand washing a large percentage of the gold is always present in the form of an impalpable powder, to collect which mercury is indispensable.

The apparatus here presented operates in the following manner:-A stream of pure water is introduced at the supply pipe, A, and flows down through the post, A', into the tank, B, passing onward towards the end of the tank, B', in the direction

indicated the arrows. The tank is divided by a partition at the end, and in the compartment thus formed there is a small waterwheel with spiral buck - not here shown. The partition is furnished with suitable valves, for regulating flow of water into the wheel. The water wheel is put in motion by the pressure of the incoming water; the wheel serves to agitate the water and give it a circling upward motion

The receiver, C, is placed immediately above the water wheel, and the water, after passing through the wheel. Rises, bubbling and gurgling, into the receiver. Here it meets the sand or quartz dust, which is fed into the receiver, C, mixed with water, from the trough box, D, and pipe, D'; continuing its upward course, the water rises over the top of the receiver, and falls down, as from a fountain, into the basin, P. The heavier pieces of gold fall down through the receiver and wheel to the bottom of the tank, B', into

some quicksilver there deposited. The finer particles of gold, and dirt are carried with the water, and , fall over the edge of the receiver into the basin just mentioned. From this basin the mixture spreads and flows evenly over a circular platform or bedplate, F, upon which the conical rollers, E, travel. Quicksilver is spread out on the platform and the rollers serve to' mix the gold and dirt with the mercury. The latter will, of course, absorb and' retain the gold, leaving the dirt and water to flow away " through spout G. The rollers are carried in a circular ring or wheel, of which the rack, H, forms the upper edge, and I the spokes. The rack, and with it the rollers are put in motion by means of the pinion, J, power being applied at K. Less than half a horse power is required to operate the machine.

L is a long wooden roller, covered with cloth, and revolving in a trough, M, the bottom of which contains quicksilver. The water and dirt from the spout, G, fall

into the trough, and if any minute particles of gold are present they are absorbed by the mercury. N is a long brush, for preventing the quicksilver from being carried over on the roller, L. The roller, L, serves to agitate and mix the substances in the trough with the mercury. The muddy water finally escapes from a spout at one end, of trough M.

The large machine from which our engraving was taken is six feet in diameter. Price, \$ 2000. It was built by Messrs. Dunkin and Vansiclen for the Wykoff Gold Mining Co., whose mines are located in Farquhar Co., Va., near Fredericksburgh.

It strikes us that, machines like the above maybe may be very easily worked, and that they must be very effective and thorough in their operations. We do not remember to have seen any invention for the purpose that appeared to be more perfect, either theoretically or practically. The arrangement is such that ores containing sulphurets may pass

through the machine without the least danger of clogging up. The Sulphurets being generally lighter, float upon the surface of the water; the peculiar construction of the machine facilitates their escape.

This improvement is the invention of Mr.

John S. Addison, deceased, and was patented Jan 16 1855. The owner of the patent is Mr. P.W. Engs, No. 6 Old Slip of whom further information may be obtained.

(This Article and engraving appeared in Scientific American March 15, 1856. The Wykoff Gold Mine is located in Goldvein, Virginia.)