The results, in round numbers, were as follows:

PYRITE FROM LEVEL A.

Mesh.	Percentage of whole.	SiO_2 %.	Average per ton.	Average per ton for 100% pyrite.
18 to 40	40	6	$ 73	$ 78.73
40 to 80	40	19	81	100.09
Below 80	20	23	264	342.86

PYRITE FROM LEVEL B.

Mesh.	Percentage of whole.	SiO_2 %.	Average per ton.	Average per ton for 100% pyrite.
18 to 40	40	3.5	$142	$147.15
40 to 80	40	9.5	188	207.73
Below 80	20	13.5	589	680.92

In the first case the product below 80-mesh, although only about one-fifth of the whole in quantity, carried 47% of the gold. In the second case it carried 49%. The fine (below 80-mesh) was carefully examined under the microscope for free gold, but none was observed. The tailing from the pannings was not sampled in this particular set of determinations. In another similar set, however, it had run $0.77, $2.06, and $4.90 per ton. It seemed quite certain therefore that the gold was contained either in the pyrite, or in some mineral very closely associated with it. Qualitative tests of the fine concentrate showed that it contained neither copper, tellurium, arsenic, nor bismuth. The pyrite was apparently exceptionally pure. On treating the fine with nitric acid and examining the washed residue under the microscope, a large number of minute particles of gold appeared. These particles in many cases had a dull surface. A few had a side or corner rubbed bright.

These experiments seemed to us to indicate that most of the gold was situated on or just within the pyrite, along cracks or close to the surface of the grains. On breaking the grains in the mortar the surface or richer portions would be reduced to powder first, and this would account for the concentration of the minute particles of gold in the fine.

The higher value of the pyrite in level B, which is below A, is clearly due to secondary enrichment.

WHEN it becomes necessary to mine a vein or ore deposit under a stream or body of water care must be taken not to carry the workings too close to the surface. It is much better to remove ore from the deeper portion of the vein first, leaving that nearer the surface until the last, for in a number of cases where haste has been made to recover ore extending under water it has resulted in the flooding of the mine to an uncontrollable extent from carrying the workings too close to the danger point.

THE overbearing manner of the average American in Mexico, with his indiscriminate contempt for the people of every station in life, which he makes no effort to disguise, is not only humiliating, but is bad policy on the economic side. It arrays the people against us, and is responsible for a large share of that extortion which embarrasses nearly every enterprise which we establish in that republic. It is notable that Americans who affiliate cordially with the Mexicans do not suffer in this manner. We are now about to witness an attempt at the commercial conquest of Sinaloa by our people, which can be achieved with mutual good-fellowship to the eminent advantage of both if we are careful to maintain a spirit of fairness and fraternity. But Sinaloa is not California, and the brutal overwhelming of the Mexican population, which our courts and public opinion permitted there, cannot occur under the Mexican flag. The spirit and manners of the California pioneer will not aid in our peaceful invasion of Sinaloa, and it must be confessed that these unworthy characteristics are too much in evidence among the forerunners of that invasion. — Courtenay De Kalb, in *The Evening Post*.

Wonder, Nevada.

Written for the MINING AND SCIENTIFIC PRESS
By W. FAY BOERICKE.

Wonder, the scene of the latest mining excitement in Nevada, is situated about 22 miles northeast of Fairview, thus making it 80 miles from the nearest railroad point. It may be reached either direct from Fairview, or, as most prefer, by going to Westgate, 12 miles distant, where there is plenty of water, and thence to Wonder, 16 miles more. A stage leaves Fairview daily for the camp, and makes the trip in about six hours.

The new camp is situated in the Silver mountains, about four miles from the head of an old river channel, and half way between Chalk mountain and Horse creek. It is flanked on either side by high, rolling hills, which seem to be less broken than those surrounding Fairview. The tops are covered with a sparse growth of timber, which insures plenty of comparatively cheap fuel. There is enough mountain grass to feed burros.

The formation is typical of the desert region, there being the usual vast andesite and rhyolite dikes, with quartz and spar stringers throughout. To the south is an immense body of limestone of indefinite extent, cut by iron-stained porphyry. The outcrops, in general, are not particularly prominent.

The camp was discovered during the early part of June, sensational surface ore having been obtained from the Wonder claim. The news immediately brought a rush of men from Fairview, nearly depopulating it temporarily, and all surrounding ground was staked off for miles. Several new strikes were made, but nothing approaching in richness the original location.

The surface ore is extremely rich in chloride of silver, with accompanying sulphides and bromides. Gold is also associated with it. Assays running from $247 to $900 were obtained from the float. At Chalk mountain, 10 miles distant, there are bodies of silver-bearing galena, and with further development similar ore may be found at Wonder.

At present the camp consists of about 60 to 80 tents, no wooden buildings having been as yet erected, though several are about to be. Beside work on the Wonder claim, there is much prospecting going on in the surrounding hills, and several rich finds are reported, especially near Horse creek. Just now the camp is laboring under severe handicaps, the worst being lack of water. All water is hauled from Westgate, and has a ready sale at $6 per barrel. However, a new strike of water has been made three miles away, and there is every indication that a good supply will soon be secured. Prices of all commodities are high, but no higher than the conditions warrant. Meals of dubious quality may be had at 75 cents. Town lots are closely held, prices ranging from $150 to $400 in the centre of the town.

Wonder is emphatically not "a poor man's camp." All goods must be hauled in, and ore hauled out, to Hazen, and as the roads are in sandy soil, with frequent steep grades, freight rates are as high as 3½ to 5 cents per pound. But these difficulties can be overcome, and with an intelligent management of capital invested, Wonder should justify the good opinion already formed by conservative mining men who have visited the camp.

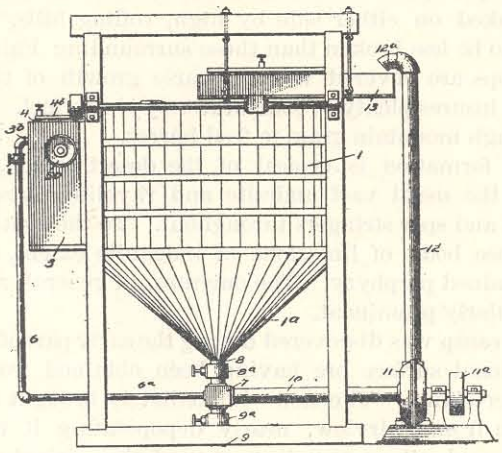
AT South Pasadena, Cal., there is a solar motor in successful operation. It comprises a huge concave reflector made up of 1,788 small mirrors, so arranged that they reflect the sunlight upon a slender boiler in the centre. Focus it toward the sun, and in an hour the steam produced is pumping water at the rate of 1,400 gal. per min. Thrust a piece of wood into the focus and the flames shoot up immediately.

MINING AND METALLURICAL PATENTS.

Specially Reported for the MINING AND SCIENTIFIC PPESS.

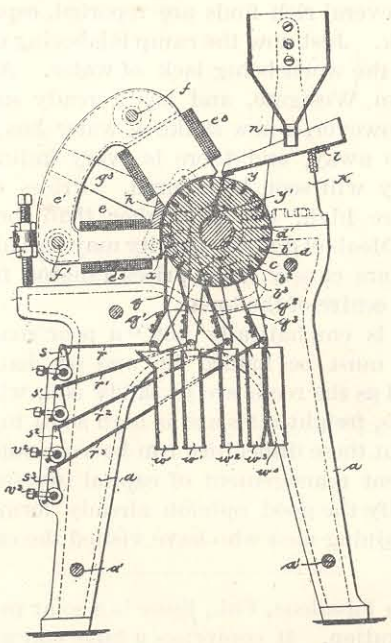
APPARATUS FOR RECOVERING PRECIOUS METALS. No. 822,940. E. J. Garvin, Portland, Oregon.

In an apparatus of the class-described, the combination with a main tank for receiving the pulverized ore and solvent, of a precipitating-tank, including means for separating the material, attached to the main tank near its top, and an amalgamating-tank including means for amalgamating the material suspended above the main tank, a hopper or funnel suspended within the main tank, and a spreading cone on the bottom of the main tank, and means for causing a continuous circulation of the materials and solution through said tanks.



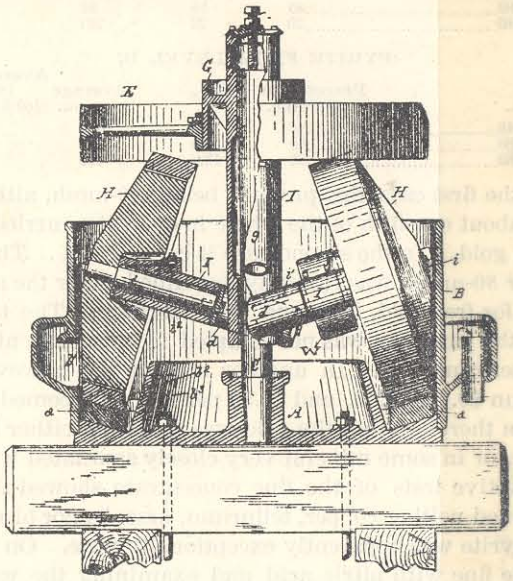
MAGNETIC-SEPARATOR. No. 823,304. F. T. Snyder, Oak Park, Illinois.

In combination, a field-magnet, an armature so related to the field-magnet as to be energized thereby, means for moving the armature and means for feeding material to be separated between the field-magnet and armature, the poles of the field-magnet being arranged, the one above the horizontal plane of the axis of the armature and the other in proximity to the horizontal plane of the axis of the armature whereby there is first produced a stratifying effect and then a separating effect upon the material passed between the field-magnet and armature.



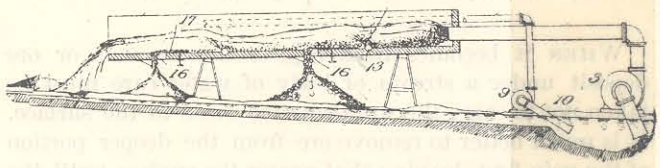
CRUSHING-MILL. No. 822,913. Martin P. Boss, San Francisco, California.

In a crushing-mill, a pan having a rim with an exterior channel, said channel having at one end an entrance communication with the pan, and return communications into the pan beyond the entrance communication, fender-plates disposed to guard against an outward flow from the pan through said return communications, while permitting an inward flow therethrough, and an overflow from the other end of said channel.



PROCESS OF TREATING ORES. No. 821,637. James C. Handy, Pittsburg, Pennsylvania.

In the treatment of arseniferous cobalt and nickel ores, containing silver, the process which consists in grinding and sifting the same to eighty-mesh fineness to separate metallics, fusing the sifted ore with sodium bisulphate to expel and recover arsenic, dissolving the melt and reducing dissolved silver with a fresh portion of ore, removing iron and residual arsenic together from the solution, removing cobalt and nickel by fractional precipitation with hypochlorite, and recovering sodium sulphate for reuse.



MAGNETIC SEPARATOR. No. 823,302. F. T. Snyder, Oak Park, Illinois.

In a magnetic separator, the combination with a magnet, of a pole on said magnet, a cylindrical armature adapted to rotate by said pole, a divider mounted to rotate about the axis of said armature, links attached to said divider, means for moving said links and means for feeding material to be separated to said armature.