

P. J. MITCHELL.
Ore-Separators.

No. 151,044.

Patented May 19, 1874.

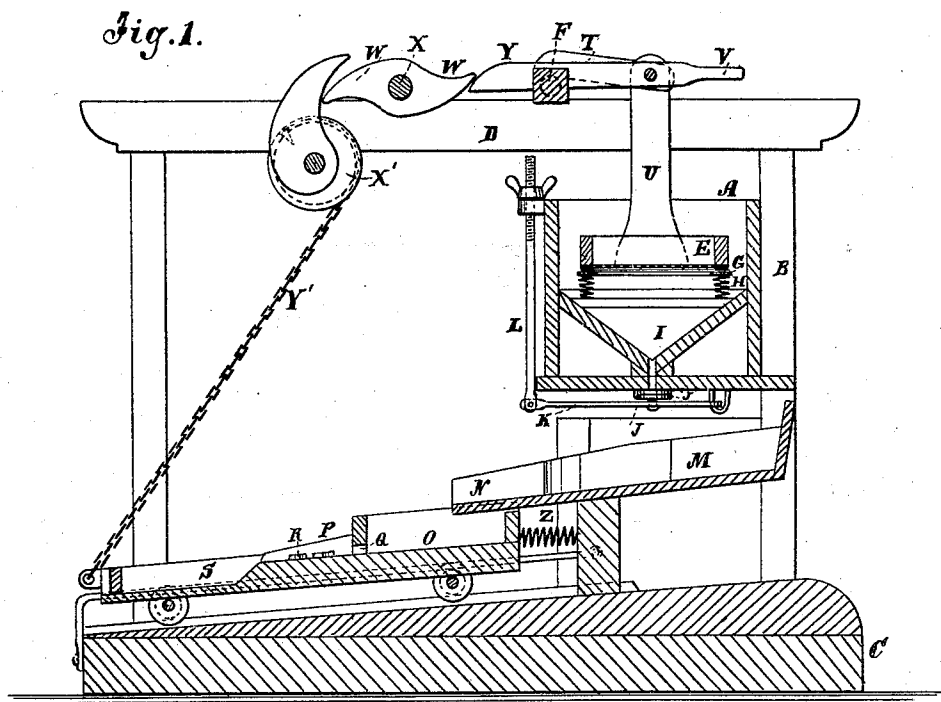
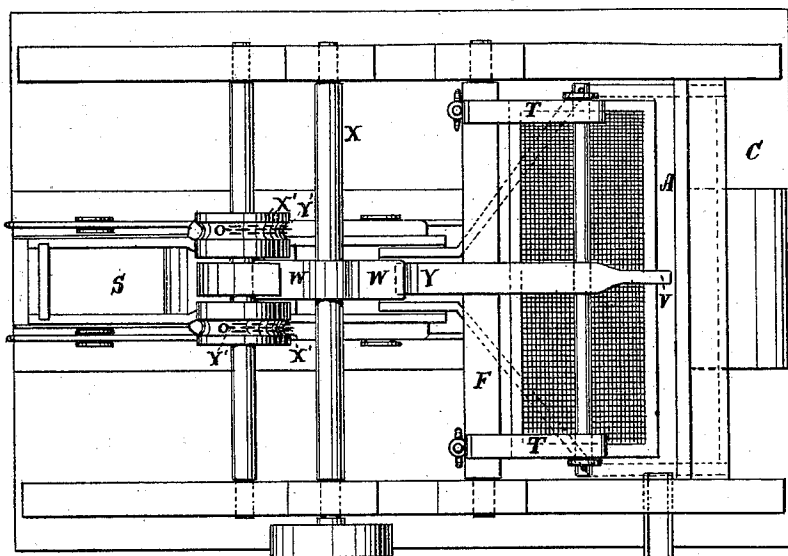


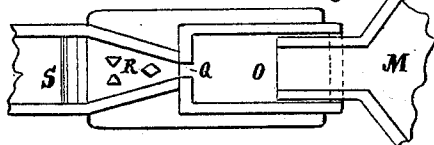
Fig. 2.



WITNESSES:

A. Bennekenhoff.
Chelquick

Fig. 3.



INVENTOR:

P. J. Mitchell

BY

ATTORNEYS.

UNITED STATES PATENT OFFICE.

PENTECOST J. MITCHELL, OF BRIGHAM CITY, UTAH TERRITORY, ASSIGNOR
TO HIMSELF AND JOSEPH E. GAY, OF NEW YORK CITY.

IMPROVEMENT IN ORE-SEPARATORS.

Specification forming part of Letters Patent No. **151,044**, dated May 19, 1874; application filed
March 14, 1874.

To all whom it may concern:

Be it known that I, PENTECOST J. MITCHELL, of Brigham City, in the county of Box Elder and Territory of Utah, have invented a new and Improved Ore-Concentrating Machine, of which the following is a specification:

The invention will first be fully described, and then pointed out in the claims.

Figure 1 is a longitudinal sectional elevation of the machine. Fig. 2 is a plan view, and Fig. 3 is a detail of the car in plan view.

Similar letters of reference indicate corresponding parts.

A represents the vat, which is mounted a suitable distance above the platform C on an upright frame, B, under an overhead frame, D. E is the sieve, which is suspended in the vat from a rock-shaft, F, and drops, when let fall, on bars G supported by springs H. Below the sieve the vat is hopper-shaped, with passages I through it, having a gate or valve, J, below, which is adjusted to regulate the escape by the lever K and adjusting-screw L. Below the vat is a receiver, M, into which the matters fall to be conducted over a fall at N into the upper compartment O of a descending reciprocating car, P. From compartment O the matters pass through a contracted passage, Q, over an amalgamator, R, and into a basin, S, over the top of the lower end of which the light matters pass off with the wa-

ter, leaving ores not previously collected deposited in the bottom of the basin. The sieve is suspended from the rock-shaft by arms T, to which it is connected by connecting-bars U, pivoted to said arms so that the sieve may be lifted up at any time above the top of the vat by a lever, V, and be swung forward over the side of the vat and tilted upward to be cleaned of the coarse matters lodging in it. The rock-lever is raised by the tappets W on the shaft running against the wiper *y* on said shaft. It falls on the springs H, which relieve the shocks and give it a rebounding action, which increases the efficiency. The same tappets W also force the car up the inclined way by turning the winding-drum X and pulling up the chains Y'. A spring, Z, pushes the car down again.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the sieve E, hopper A, receiver M, and car P, substantially as specified.

2. The combination, with car, of spring, chain, drum, and cam, arranged as and for the purpose specified.

PENTECOST J. MITCHELL.

Witnesses:

WM. PAUL,
JAMES CLARKE.