and subsequently patented her discovery. So the story ran. Romantic, indeed—but, like many another tale of the beginning of some great enterprise, it lacked the verification of fact. In reality, Mrs. Everson was the wife of a doctor. She was a good chemist and her discoveries were the result of laborious experimentation.

Potter and Delprat, though working independently, devised a method also involving the use of gas in adsorption. During the next few years, the names of Froment, Cattermole, Wolf, Elmore, De Bavay, McQuiston and Bradford came into prominence through their efforts in improving upon the earlier methods of ore concentration by flotation.

But not until Sulman, Pickard and Ballot had conjointly rubbed the miner's lamp which evolved modern froth flotation, did the colossal outlines of this djinn of mining appear in its true significance.

These men were experimenting with the Cattermole process which used oil in the proportion of from forty to one hundred and twenty pounds per ton of ore. The oily metallic particles collected in clusters and then sank from sheer weight. The gangue was forced upward by streams of water and floated off. These men decided to see what would happen if the quantity of oil was reduced gradually to the vanishing point.

As the percentage of oil was diminished, the results became less and less satisfactory, until the process failed to work at all. Then to the amazement of the experimenters, upon stopping the agitation, myriads of glistening, dancing bubbles came surging along the surface of the liquid, crowding each other in their effort to reach the top with their precious cargo of mineral wealth. The oil had entirely disappeared from sight and touch. Investigation revealed the presence of the oil on the metal particles in a very thin film. The bubbles were extremely small and persisted longer.

At Broken Hill, Australia, where the experiments were performed under the supervision of Sulman, Pickard and Ballot, there had accumulated about 12,000,000 tons of ore from which the metals could not be recovered by the ordinary methods. The weight of gangue equalled that of the zinc and lead minerals present. Therefore, separation by gravitation methods was out of the question. While the Cattermole process would recover a reasonably large percentage of these metals, the newly discovered froth method gave unlooked-for success, and has been widely used ever since.

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Is the Wind Right for Gas? Look At the Trench Weather Vane

A weather vane made from bits of metal by a soldier at the front

THERE are weather vanes galore in the trenches and throughout the fighting area. Many of them are ornamental in design and plainly testify to the skilful fingers and artistic temperament of some of the boys. The one shown in the accompanying illustration was made by a Canadian soldier out of odds and ends of metal. It represents a cyclist and answers to the slightest breath of wind.

It is vitally important that the soldier know in what direction the wind is blowing or is likely to blow; for if it is coming from over the enemy's camp there is danger of a gas attack, and when the gas starts over, he has only from twenty to forty seconds in which to adjust his gas mask.