

manufactured in the United States have of late years paid toll to the McKay Association. Besides this, the machine became speedily popular in Europe, where it is known as the Blake and Goodyear machine."—*Industrial News*.

### A LONG SLEEP.

Early in February last, a young man, a stranger, was discovered in what seemed to be profound sleep in the sitting room of a country tavern near Allentown, Pa. He could not be roused, and was sent to the Lehigh County Poorhouse. A small devotional book found in his pocket bore on a fly leaf the name Johann Gyumbere, written in German script. On the opposite page was written "Saros Cometat, Post Raslavidz, Austria." It was inferred that the man was from Saros, a county in Hungary, and that his name was Gyumbere. He has since been known as the sleeping Hungarian, and his long coma or trance has attracted the attention of many physicians as well as much popular interest.

Until April 22nd. he had to be fed with liquid nourishment only. On that morning, the seventy-first day of his sleep, he arose from his bed, dressed himself and sat down on a chair, staring wildly about the room. The attendant placed him in bed again, and went down after his breakfast. On his return, Gyumbere was sitting up in the same chair, looking deathly pale and with his eyes wide open. He was given something, but instead of eating freely, as usual, he seemed to have difficulty in swallowing and ate very little.

He kept his eyes open all day and shewed some signs of intelligence, but could not speak. Later he fell asleep and his attendant left him for a moment. Thereupon Gyumbere rose, locked the door, opened the window, and jumped out, falling twenty-five feet. He was found lying on the ground near a high fence, ten feet or so from the window. He was somewhat bruised, but not seriously hurt. For four days he continued to rise from his cot of his own accord, but never spoke. The physicians of the almhouse reported that during the four days of his wakefulness he was weak and feverish. His eyes were staring but continually open. He acted like one delirious during a fever. On one occasion, when his eyes were held open, Dr. Erdman repeatedly threatened him with clinched fist, and every time he did so the patient laughed. This convinced the physician that he could see. When a flute was played in the room, Dr. Erdman noticed that the patient's feet moved in a manner that suggested dancing.

Hopes were expressed of his speedy recovery, but on April 26th. he relapsed, closed his eyes, and did not open them until May, 20th. when he spoke, a flower having been held to his nose. Six hours after he closed his eyes again and kept them shut until late on the night of July 31st when he was roused by a Poland, who spoke to him in Salvonic. Subsequently he sat up and told his story, which confirms the report published by the *Jeffersonian* of Charlottesville, Va., some months ago, with regard to the victim of a practical joke at that place some time last summer.

His recollections of events show a complete gap between the time of his falling asleep in the tavern and some day about four weeks ago, when he began to realize again that he was living. He knew nothing of his fall from the window, or of an abscess which formed on his head during his sleep. Altogether the case is a curious one, and the report of the conditions and progress of it by Dr. Erdman the almhouse physician, is likely to be of considerable interest.

SCIENCE IN CHINA.—The interest which the Chinese are taking in modern science and culture is not confined to the fact that they are sending great numbers of their young men to England and other countries for a liberal education, for they are also establishing schools of science and literature in their own midst, modeled after those of foreign nations and partly under the conduct of foreigners. They are not only apt as scholars—as imitators—but they are also beginning to strike out as original thinkers. As a case in point, a Chinese physicist, as reported in *Nature*, has recently asserted that "the law, which is commonly accepted, and which states that the octave of any note may be produced by doubling the length of a musical cord or tube, is strictly true only for chords. He says that experiments with tubes of different lengths and diameters have led him to the conclusion that the ratio of length is as 4 to 9, instead of 1 to 2." Several English and American scientific treatises have already been translated and published in the Chinese language, and it is probable that the time is not far distant when we may find valuable original publications in the same language.

## Mining, Metallurgy, Mineralogy

### THE MILLING OF GOLD QUARTZ.

The following paper was recently read before the California State Geological Society, by Melville Attwood, F. G. S., "On the Milling of Gold Quartz.—Amalgamation.

When last I had the pleasure of addressing you, the subject was on the petrology, or jointed structure of the rock masses of the Bodie mining district. This evening I wish to call your attention to a much more important subject, namely, the milling of "Gold Quartz." At the present time the mining community of this State are using strenuous efforts to make the working of low-grade ores a profitable business, and if any suggestion of mine will in the least assist the matter I shall feel amply repaid.

I hope, however, other miners more capable than myself will communicate the results of their experience on this subject.

If we search the records of past times, we shall find that a great deal has been done years ago, which might be applied with great advantage even at the present time, in proof of which examine the drawings and descriptions of them which I have brought for your inspection. The first, or No. 1, (see engraving) I copied from Sir John Pettus' book on the "Laws of Metals, &c," published in 1683, nearly 200 years ago. You will see how much better it is calculated to wash gold alluvia than our modern rocker.

An explanation of the engraving, taken from the book referred to, is as follows:

1. The man that worketh with the rattar.
2. The middle floor whereon that which goeth through the rattar doth fall.
3. The lower floor whereon that which cometh from the middle floor doth fall.
4. The plain receiver of that which falls upon both.
5. The person that stands on a board and out of a wheelbarrow throws the matter or oar, into the tunnel which guides it into the rattar.
6. The channel in which water doth run into the rattar.

"Then some of the gold washers use upon their hearths the strong timode black and russet woolen cloth, over which they do drive their works, because the woolen is rough and hairy, so that the small and round grains of gold will remain, and not run forth, (as it will from the timode), whereby the gold upon the black cloth may apparently be known, though it be small and little. Others use instead of the timode or black woolen cloths, linsy-woolsy (half linen and half woolen; wrought in the manner as the timode is), upon which the gold doth stick better, and such cloths do last longer, because of the linen that is among the woolen, which doth strengthen it; therefore it is better for this work."

For the concentration of sulphurets look at the drawing No. 2, "Brunton's ore-dressing frame," which I remember seeing in successful operation in the year 1847. The drawings I have copied, were published in the London *Mining Journal*, 1847. It is very similar to the Frue concentrator now being so successfully introduced at our different quartz mills.

*A* is a piece of prepared canvas, 30 ft long, joined at the ends—thus forming an endless band, with slips of wood fastened transversely on the inside, and making, when stretched on frame and rollers, a surface of 12ft. long and 4ft. wide, the inclination of which is altered to suit the material to be operated on by the screws, *GG*. *B* is an inclined plane, divided into several channels, in connection with the trough, *C*, into which is placed the ore to be dressed, from which it is washed and distributed over the channel, *B*. *D* is a shoot, over which clear water runs; *E* a cistern or receptacle, where the cleaned or dressed ore is deposited; and *F* another, into which the dirt and waste falls. By the action of the water-wheel, the endless belt is made to move continuously upward against the stream; and as the work is washed on the table overhead, *B*, where the stream is increased by the clean water, which two streams combined are sufficient to wash the waste over the end of frame into cistern, *F*, while the ore by its superior gravity, resists the force of the stream and is carried upward, being, while passing between the heads, *B* and *D*, subject to the action of the stream of clean water. When the ore thus separated from the waste is carried up past the head, *D*, it is free from all action of water, and adheres to the canvas until it touches the water in cistern, *E*, when it directly falls off, and is deposited in the bottom of the cistern, *E*. Thus, there is a continuous stream of material to be dressed passing over the inclined plane, *B*—a continuous stream