

NEW GOLD SAVING DEVICE

Machine Which Makes Sand Washing Profitable.

Where Sand Formerly Went 14 Cents to the Ton, 85 Cents can now be Saved.

A machine that bids fair to double the gold output of the world, revolutionizing methods of separating gold from crushed quartz, and particularly from river, beach and placer sands, has recently been constructed in Washington, D. C., and such confidence is entertained in its practical value that hundreds of thousands of dollars have already been invested in it. The right to use it in Colorado alone is expected to bring unusually large profits to the inventor and his financial backers.

For instance, in one single mine, where the output has hitherto not quite paid expenses, the profits will be several million dollars annually. Mine owners out in that part of the country are wild about it and a belief is entertained that it will convert at least five hundred non-paying Western properties of the kind into richly profitable deposits. Placer sands and beach sands by this apparatus will be made to yield from two to five times as much gold per ton as has been obtained from them hitherto.

The invention has been newly patented by Prof. Elmer Gates, and its whole secret lies in removing from the gold bearing sand the magnetic iron (known as "magnetite") which stuff always contains as a preliminary to separating the gold. Under ordinary circumstances the sand, poured, with water, through a long trough called a "sluice box," is separated by gravity from the gold, the latter sinking to the bottom of the trough by reason of its greater weight, and then being caught in cross-wise slots, from which it is afterwards removed. The chief difficulty in the process is due to the magnetite, which, being nearly as heavy as the gold, collects in slots, or riffles, and chokes them up.

Perhaps the most striking point about the machine at first glance are its extreme simplicity and its small size relative to the work it accomplishes. It may be stood conveniently on a small table and easily operated by hand with a crank. Ordinarily, however, an electric motor furnishes the trifling power required. The apparatus consists of a copper drum, about as big as a good sized toy drum, inside of which is a powerful electro-magnet. The core of the magnet consists of a bunch of iron plates with fluted edges on the pole face of one end, likewise within the drum, but which approach their fluted edges close to the inside of the copper periphery of the latter.

What is seen from the outside is simply the drum, which conceals the magnet and corrugated pole face plates, and a sort of hopper above, into which the sand is poured. Small as the machine is it is capable of handling in this way 100 tons of sand in a day, sifting out every particle of magnetite from that quantity of the raw material. As the sand is poured into the hopper it falls through it and against the side of the revolving drum. The drum, thanks to the magnet inside of it, draws every particle of the magnetic iron out of the sand and holds it tightly against the outside of the revolving copper drum, while the sand—that is to say, the silicious particles and dirt—drops straight down into a receptacle beneath the table. The particles of iron while magnetically held against the drum are moved downward by it over the wavy lines of force of the fluted magnet face and vigorously shaken to and fro so as to detach all foreign matter.

It picks the attracted sand into thousands of pieces and shakes out the non-magnetic sand. This is one of the prime features of the machine.

It will be understood that the silicious sand is not attracted by the magnet, and on that account falls vertically, whereas the particles of iron, which look like iron filings, sticks fast to the drum in rapidly oscillating bunches until they drop off by their own weight into another receptacle. As a result, all the iron (magnetite) is in one box, and the sand and other non-magnetic stuff in another box.

In practical mining work the gold (which is non-magnetic) would be left in with the silicious sand, which subsequently would be put through the ordinary washing or amalgamating processes for the purpose of separating out from it the yellow metal. The magnetite once removed, the separation of the gold from the sand from many mines

becomes comparatively easy—so much so, indeed, that, as above stated, two to five times as much of the precious metal is derived from a given quantity of the raw material. To remove the magnetite by means of the apparatus described costs only three cents for each ton of sand treated.

There are hundreds of mines in the West which have been worked hopefully for years because they have yielded nearly enough gold to pay. With the help of this machine it is confidently predicted, and, indeed, it has been demonstrated, they will become at once more profitable properties. Other mines, which yield a small profit already, will be rendered much more productive and proportionately more valuable. In the latter category might be mentioned one mine which has hitherto yielded only \$1.16 a ton, and which recently, with the aid of the magnetic separator, has been shown to yield \$3.10 a ton. Another mine yielded by ordinary washing processes 14 cents per ton, and, after the magnetite has been removed, yields 86 cents per ton.

The iron removed from the sand in the manner described is an exceedingly valuable by-product, being so pure that it may take the place of hematite iron ores, which, at present, we are obliged to import from Spain for making the best quality of steel. Our own iron ores make brittle pig iron, whereas magnetite affords a malleable iron.

At an expense of 85 cents a ton, by means of electricity, Prof. Gates reduces it to lumps, in which form it may be reduced to iron by any smelting furnace. Nevertheless, there are many furnaces that can work it un-lumped. Companies in Colorado have already agreed to take several thousand tons of magnetite as furnished by the separator, annually, and it is expected that Pittsburg and Chicago will buy several millions of tons more, especially when lumped without cement.

While these gold separators promise to greatly extend the possibilities of gold separation it does not seem necessary to wait for their commercial perfection before announcing a new era in gold mining, because the hydro-magnetic gold separator has already demonstrated practical results in that direction. Very likely it will make at least 500 useless Western mines pay a big profit and will open hundreds of others. It has been conservatively estimated that this invention—or, rather, series of inventions, for there are 30 of them—will double the output of gold in Colorado, and what it can do for that state it will do for others.—Washington Star.

Dr. Bettinger Again.

If, as is generally supposed, Dr. Joseph Bettinger was not lost on the trail, but got safely through to the outside, the following telegram from Tacoma bears out one report current here that his object in passing out inog was to shake his wife:

Mrs. Marie E. Bettinger, wife of Dr. Joseph Bettinger, who mysteriously disappeared from the Yukon trail at Ogilvie, 50 miles from Dawson, while on his way out several weeks ago, arrived here from Skagway today, and is stopping at the home of her sister, Mrs. W. H. Grass. She is prostrated with her great misfortune, and tomorrow goes on to the home of her mother, Mrs. Mary Peterson, who lives at Hillhurst.

Mrs. Bettinger stated tonight that every effort was being made by her friends in the north to locate Dr. Bettinger. If the next boat arriving from Skagway brings no news of the missing man she will either return and personally take a lead in the search or send her brother, Charles T. Peterson, an attorney of Tacoma, to do so.

Mrs. Bettinger has two theories accounting for her husband's disappearance. After leaving Ogilvie, where he last registered at the roadhouse, he may have lost his way and froze, in which event here is little hope of finding the remains until spring, or he may have suffered some mishap, breaking a leg or freezing his feet, and may now be being cared for at some miners' cabin between Ogilvie and Stewart. Acting on the last supposition, if no news is heard from Bettinger she will have these cabins searched. Mrs. Bettinger does not believe her husband met with foul play. He was well known in Tacoma, he and Mrs. Bettinger having been married here last fall.

Candies for the Millions.

I have enough candies, nuts, and toys to supply the whole population of the Yukon country. My stock is complete. Plenty of Lowrey's chocolate and Gunther's bonbons in any quantity; cigars by the box. Bring your friends and as I am a Missourian, I will show you the finest store in the Yukon territory. GANDOLFO, Third st., opp. A. C. C.

Any kind of wine \$5 per bottle at the Regina Club hotel.

Full line family groceries at Meeker's.

THE ZERO CLUB ELECTION

Charter Members Closed Saturday Night With 75 Members

Composed of the Leading Men of Dawson — Is Strictly a Gentleman's Club.

The Zero Club held its final election for charter members last Saturday night, making a total of 70 members, all leading men in commercial and professional circles. This club is now the leading club of Dawson and is to be conducted on the same lines as those in the great cities on the outside. A finely appointed dining room is an adjunct of the institution where club members can be entertained and at which place guests may partake of the hospitality of their friends. Reading and recreation rooms will be maintained as well as a series of smaller rooms for card parties. The members elected last Saturday are as follows: C. C. Chateway, J. B. Tyrrell, J. H. Hartmann, J. H. Hess, Frank Charman, W. H. B. Lyons, C. S. Sargent, M. A. Vinska, E. J. Fitzpatrick, Geo. M. Allen, G. H. Duncan, J. D. McGillivray, James F. Macdonald, Frank Phiscator, John A. Christie, Courtland Starnes, Major Z. T. Wood.

The members elected at a previous meeting were: Dr. I. H. McArthur, F. W. Clayton, John Turner, Thomas A. McGowan, C. W. C. Tabor, C. C. McCaul, James Butler, E. C. Senkler, Herbert R. A. Robertson, W. M. McKay, C. George Johansson, R. M. Lindsay, W. H. Crowell, J. A. Aikman, J. P. Smith, William E. Burritt, Capt. Donald B. Olson, J. J. Delaney, H. D. Hulme, E. B. Condon, J. K. Macrae, J. T. Lithgow, E. M. Sullivan, Frank Stackpole, A. H. Mogridge, J. J. Thornton, Dr. Alfred Thompson, O. H. Clark, C. M. Woodworth, C. S. Barwell, L. L. James, E. W. Brown, W. D. Bruce, E. A. Mizner, D. G. Stewart, R. Butler, Wm. Butler, Judge A. Dugas, Judge James Craig, A. E. Willis, L. R. Fulda, Wm. H. Fairbanks, W. C. White, Frank J. McDougall, H. T. Roller, Dr. W. G. Cassels, H. A. Bliss, Ed. Lewin, W. L. Walsh, Arthur G. Smith, M. D. Rainbow, Fred G. Crisp, Joseph Burke, Thomas O'Brien, Charles E. G. Powell, A. G. Wissell, H. G. Wilson, F. Gwillam.

This does not close the books of the club to applicants who desire to join as the complete membership will be 100. For subsequent names proposed from now on until the 100 mark is reached an initiation fee of \$25 will be demanded and the regular dues \$10 a month. The officers are: E. A. Mizner, president; C. C. McCaul, vice-president; C. W. C. Tabor, secretary-treasurer.

Duty on Parkies.

W. Northrup, an old timer, arrived in Dawson from the outside a few days ago. Mr. Northrup has a kick coming on the customs collector at the summit. Northrup had very little dutiable goods with him and the customs officer, whose name is Cole, compelled him to pay duty on his parkie which he wore. He also taxed a pair of mitts which the traveler had with him, the whole duty amounting to \$2.10, for which Northrup exhibits a receipt. The parkie cost in Skagway \$3 and the mitts \$2.50 and Northrup says he had worn both for some time.

Small Mail Coming.

A notice at the telegraph office today says a small mail passed Selwyn at 6:30 last night. From the time the mail left Whitehorse last week there should be a consignment nearer to Dawson than that reported.

The Weather.

For the 24 hours previous to 9 o'clock this morning the minimum temperature was 6 below, the maximum 4 degrees above zero.

Good stock, large eggs. See Meeker.

\$25 reward for one black malamute dog, with white tips; name Jack. Return to Sam Means, No. 20 above Bonanza.

Goetzman makes the crack photos of dog teams.

\$1 reward for sweet potato thief. Meeker.

Notice is hereby given that an application will be made to the parliament of Canada, at the next session thereof for an act to amend the act respecting the Dawson City Electric Company, Ltd., and to extend the time limited for the commencement and completion of the electric railway and tramway by said last mentioned act authorized to be constructed.

BELCOURT & RITCHIE, Solicitors for the Applicants. Dated at Ottawa, this 10th day of December, 1900.

Special Power of Attorney forms for sale at the Nugget office.

Public Notice.

The Commissioner of the Yukon Territory directs that all public offices be closed during Monday and Tuesday, 28th and 29th of January, and respectfully asks the public to observe these two days as days of mourning for the death of Her Majesty Queen Victoria, as far as business necessities will permit. J. N. E. BROWN, Territorial Secretary.

At the present rate of consumption, the white fish the Pacific Cold Storage Co. brought in for the lenten season will all be gone long before Easter.

When in want of laundry work call up 'phone 52. Cascade Laundry.

Fresh Eastern oysters at Meeker's.

Lines and official envelopes at Zaccarelli's Bank Cafe corner. cr5

Imported Turkish cigarettes, at Zaccarelli's Bank Cafe corner. cr5

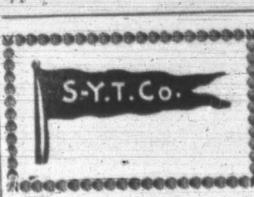
Sweet potatoes at Meeker's.

Chewing tobacco's all brands, at Zaccarelli's, 75c per pound up, Bank Cafe corner. cr5

Steel marten traps, just in—0, 1 and 1 1/2. "Shindler's." cr5

Brewitt makes clothes fit. crt

All watch-repairing guaranteed by C. A. Cochran, the expert watchmaker, opposite Bank B. N. A., Second street.



S-Y. T. CO.,

Turkeys - Ducks - Poultry

Fresh Meats

Bay City Market

Chas. Rossy & Co.

THIRD STREET Near Second Ave.

Electric Light

Dawson Electric Light & Power Co. Ltd. Donald B. Olson, Manager. City Office Joslyn Building. Power House near Klondike. Tel. No 1

FULL LINE CHOICE BRANDS

Wines, Liquors & Cigars

CHISHOLM'S SALOON.

TOM CHISHOLM, Prop.

ARCTIC SAWMILL

Removed to Mouth of Hunker Creek on Klondike River. SLUICE, FLUME & MINING LUMBER Office: At Mill, at Upper Ferry on Klondike river and at Boyie's Wash. J. W. BOYLE

"HIGH GRADE GOODS"

CAR WHEELS

RAILROAD IRON

ONE - HALF INCH CABLE

SECOND AVENUE

TELEPHONE 30

"White Pass and Yukon Route."

A Daily Train Each Way Between Whitehorse and Skagway

COMFORTABLE UPHOLSTERED COACHES

NORTH—Leave Skagway daily, except Sundays, 8:30 a. m. Bennett 12:15 a. m. Arrive at Whitehorse, 5:15 p. m. SOUTH—Leave Whitehorse daily, except Sundays, 8:00 a. m. Bennett 1:25 p. m. Arrive at Skagway, 4:40 p. m.

E. C. HAWKINS, General Manager

J. FRANCIS LEE, Traffic Manager

J. H. ROGERS, Agent

Special to the Family Trade

Wine, Beer and Liquors

Will be sold by the bottle or gallon at satisfactory prices. These goods are bought direct from the best vintages, breweries and distilleries in the world thus insuring quality.

A. E. Co.



Here We Have

"the Drayman"

If you were engaged in the Freight-hauling Business this illustration would look well on your cards or letterheads. We make all kinds of engravings appropriate for all kinds of business.

We have the only engraving plant in the Territory.

THE NUGGET

WE HAVE

Steam hose, Points, Ejectors, Injectors, Valves, Pipe, Fittings, Lubricating Oil and a Full Supply of

...MINER'S HARDWARE...

The DAWSON HARDWARE CO. PHONE 30 SECOND AVE.