

HEAVY LOSS OF SUGAR STOPPED

Chemists Perfect Process of Protecting Raw Product from Mold and Bacteria.

PREY ON SWEETENING FACTOR

At Least \$1,500,000 Worth of Sugar Destroyed Yearly by Tiny, Greedy Organisms—70,000,000 Pounds Is Estimate.

Chicago, Ill.—More sugar will be available for everybody through the discovery of a process of keeping it from being injured by molds and bacteria.

Fully one per cent of the Cuban crop, or about 70,000,000 pounds of sugar a year and worth at least \$1,500,000, it is estimated, has been destroyed by the tiny, greedy organisms which compete with the sweet tooth of mankind. As the per capita consumption of sugar in the United States is approximately 81.84 pounds annually the amount hitherto consumed by the 87,000 persons for a twelve month period. This would keep the sugar bowls of a large city full. Counting each family as five persons, 175,000 of such groups could be kept sweet tempered during this period from the supply which has been wasted by the invisible hordes.

Mr. Nicholas Kopeloff and Mrs. Lillian Kopeloff, bacteriologist and assistant bacteriologist at the Louisiana sugar experiment station in New Orleans, and members of the American Chemical society, have just completed a bulletin on the method of preventing the molds and bacteria from wresting sweet solace of the beet and cane from mortals.

Loses Sweetness.

Sugar loses its sweetness because molds consume the sucrose, which is its sweetening factor. Although the amount thus lost may be only a fraction of one per cent, and far too slight to be detected by the senses of taste or smell in many cases, it is easily determined by the polariscope, an instrument especially designed for measuring the amount of sucrose present. When sugar deteriorates not only does the polariscope detect the differences, but anyone who is sufficiently observant will note that it will actually take a larger spoonful to give the same sweetening power. Thus, if a barrel of raw sugar should be kept through the summer months and it is infected with harmful micro-organisms, it might be necessary to use an extra half-spoonful at the end of the summer to get the same sweetening power that could be obtained before deterioration took place. As all sugar is sold strictly on the polariscopic basis, even small losses aggregate huge sums.

The usual source of these molds is the air, which contains millions of micro-organisms at rest and in circulation. Each individual mold, if it falls on an object which can supply it with sufficient food, such as sugar, can reproduce 300,000 more individuals of the same species in less than a week. This reproduction, however, can only take place in the presence of sufficient moisture, otherwise the organisms lie dormant. Cane sugar primarily undergoes such losses by deterioration in transportation or storage, mainly due to the absorption of moisture by sugar in damp weather or humid climates.

For example, sugars made in Cuba are stored in the hold of a vessel, often with insufficient ventilation, which causes them to "sweat." While coming from a tropical climate into cooler water the moisture condenses on the surface of the sugar. This also occurs when sugar is stored for any length of time, especially at high temperature, as in refineries, where some is melted up at once and the re-

mainder is held in storage for varying periods, as dictated by business needs.

Can Be Prevented.

Having identified the injurious micro-organisms, Doctor and Mrs. Kopeloff developed a method by which the quality of a given sugar might be determined in this respect. By simply consulting a chart after a preliminary analysis, one may now find out whether or not a given sugar will deteriorate or lose its sweetness in storage. The sugars which are unsafe to keep may be melted up first, the sounder sugars being held in storage with safety.

Doctor and Mrs. Kopeloff, by making bacteriological examinations at every stage of the sugar-making process, have found that sugar deterioration can be prevented by substituting dry or super-heated steam for water in the final process of washing sugar in the drums in which sugar is dried. These centrifugals, as they are called, in their whirling suck up air from the floor which may be contaminated with germs. Also, it is common practice to make the color of the sugar lighter by washing the crystals with water, which may be contaminated with molds and bacteria.

In the new process, it is shown that dry steam is successful in killing over 90 per cent of these avid molds and bacteria.

While the practice of steaming sugars is not a new one, the results are shown to have a direct practical value in eliminating losses which have been a considerable factor in the American bill for sweets.

RADIO GUIDES SHIPS IN FOG

Finders of Naval Stations On Shore Give Angle, Mathematics Does Rest.

WAR NECESSITY MOTHERED IT

Navigator Who Wishes to Know His Latitude and Longitude Sends Out Wireless Message and Listening Stations Give Bearings.

New York.—Fogs, clouds and storms are losing their terrors for naval men. In the not very distant past a ship that could navigate when the sun was hidden became the subject of wild seafaring tales, but the radio direction finder has eliminated many of the perils due to the absence of the sun. Today a navigator who wishes to know his latitude and longitude has only to send the following wireless message: "This is the (ship's name). Where am I?" And the data supplied by the various listening stations will give him his bearings. The wireless direction finder is not a new device—finders were patented as long ago as 1907—but war developments have emphasized the value of the instrument for general navigation, says a writer in the New York Evening Post.

It consists of a loop of wire attached to receiving machines. When messages are being received the waves set up a current in the two sides of the loop. If the waves strike both sides of the coil equally there is no difference in voltage. But when the waves strike the coil in such a manner that there is a difference in voltage between the two sides of the coil the receiving machines indicate the extent of this difference. By making mathematical calculations based on this difference it is possible to determine the direction of the ship which is sending

He Wouldn't Stop Work for Wedding.

Detroit.—Devotion to duty prevented Nicholas Alexander, cook, from taking an hour off to get married.

His fiancée, Isabelle M. Sahaycaw, applied at the county clerk's office for a marriage license and, in response to the clerk's question as to why the bridegroom-to-be had not come, she said Nicholas was too busy.

She said further that they had agreed to marry a year ago, but they had a quarrel and Nicholas tore up the license he had taken out.

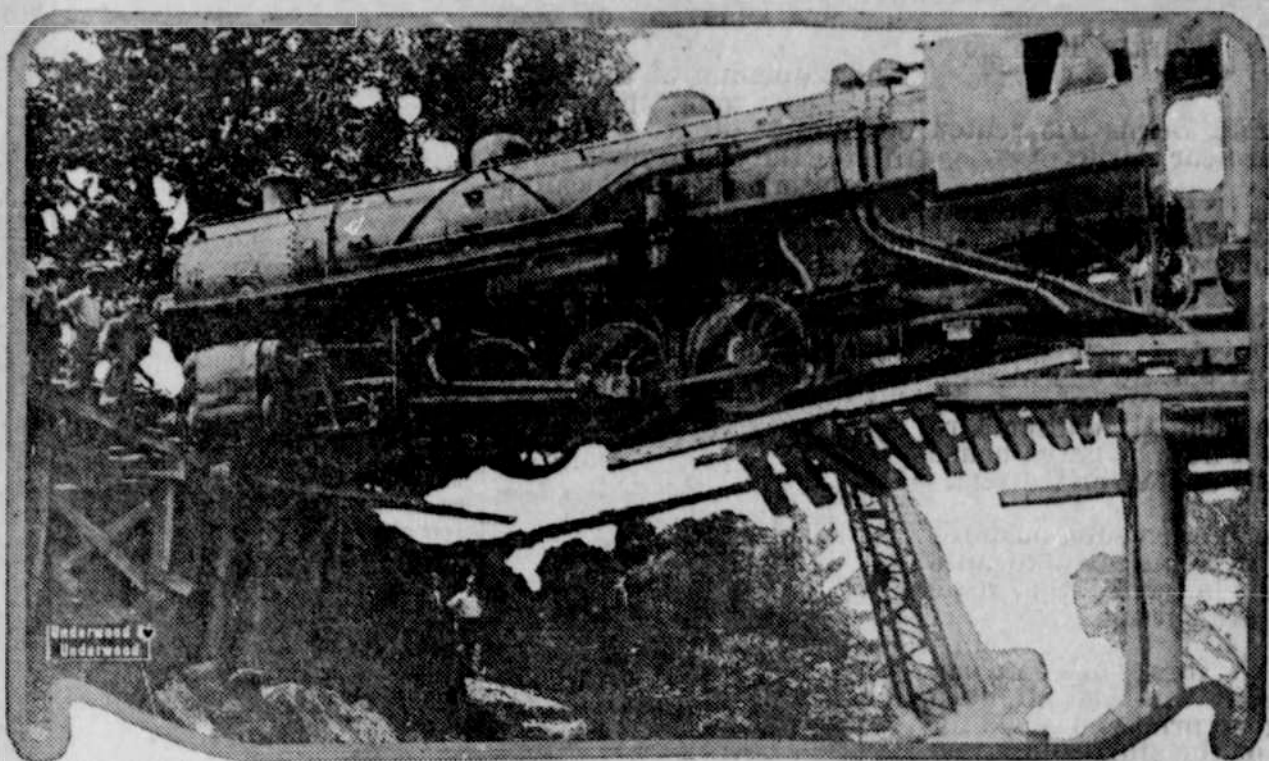
After long and mature deliberation Isabelle came to the conclusion that she had been wrong and that if she did not admit it she ran a good chance of losing Nicholas forever.

She went to him in a penitent mood and found him receptive, but on one point he was adamant. He would not leave his work for a minute to get married, and if she wanted to become his wife she had to take out the marriage license, engage a minister and bring him to the kitchen where the ceremony was to be performed. They were married.

Rooster Just Like Mother.

Winsted, Conn.—A yearling Rhode Island Red rooster owned by Elmer Robbins is brooding a number of chickens that weigh from one and a half to two pounds each. The young rooster also fills a mother's role by calling the chicks when he uncovers worms. At night the chickens huddle beneath his wings.

Monster Locomotive in Perilous Plight



The collapse of a bridge near Greencastle, Ind., from under a battleship type of locomotive developed an unusual problem for the wrecking crew. The bridge had just been built and had been approved by engineers but the locomotive had hardly brought its full weight on it before it sank with a roar and a crash, the center falling 25 feet to the ground, leaving the locomotive suspended with the front wheels on the bastions of one side of the bridge and the rear wheels on the other.

GET RICH QUICK IS OLDEST BAIT

Hope of Getting Something for Nothing Springs Eternal in Human Breast.

MANY WILD SCHEMES TRIED

Story of Romance, Hardship and Violence, of Adventure, Despair and Gullibility, With Sudden Trips Abroad Made by Promoters.

Boston.—Ever since the beginning of things men have been trying in one fashion or another to achieve their fortunes over night, to recover the Midas touch of the fabulist, to "get rich quick."

Sometimes they have succeeded. Sometimes they have nurtured their hopes only to come back to hard reality with a hard bump. Sometimes in their haste they have been swindled. From the days of the sailing of Jason upon his long quest of the Golden Fleece, from the times of the alchemists of the middle ages, who puttered out their lives among dusty tomes, seeking with tired but hopeful eyes for the key to the enigma of sudden wealth—the touchstone which should transmute lead to gold—to the days of mushroom fortunes in "international reply coupons," isn't such a far cry after all, James H. Powers writes in the Boston Globe.

It is a story of romance and hardship and violence, of adventure and despair and sometimes absurd gullibility and sudden trips abroad made by promoters with gripsacks stuffed with cash.

Mad Rush for Gold.
In America the story really begins with the mad rush across the prairies and the mountains in '49 to the gold fields of California. There had been other "gold hunts" before this, but none of them developed such a national fever as resulted from the announcement of this discovery of nuggets "weighing as much as half a pound apiece," that percolated through the East and started that famous uproar.

Enthusiasm rose to unbelievable heights. Families started out from Massachusetts, New York and other eastern seacoast states without even bothering to sell their houses. By horseback, farm wagon and by ship the migration got under way. Parties of prospective millionaires chartered schooners and sailed all the way around the Horn in their excitement. And upon the retina of the inner eye of every one persisted the dream picture of "marble halls," and a "span," and the imagined luxury of doing nothing in particular, while obedient lackeys hovered about forever after, like the genii of Aladdin's lamp, awaiting orders.

The California gold rush enriched thousands, though at the price of vast hardship and sacrifice. Thousands of others it ruined, when they became stranded in a wilderness, 5,000 miles from settled civilization, on their ill-fated claims. The best thing about it wasn't the wealth it produced at all, but the fact that it began the definite expansion of the United States.

Capt. Kidd and the Klondike.
"Something for nothing," many years later, drew thousands more Americans down in the Oklahoma territory when the government announced that it would permit homesteads to be "rushed" on a certain date. All the men who wanted to become a property holder had to do was to be on hand when the signal was given.

Government officials lined off the start, as if it were a 440 yard dash of today. Fences were built and every claimant had to be behind the bulwark ready. Then, at a given signal, down went the barriers and the swarm of fortune hunters piled into the plains, pell-mell, to stake their claims and begin their new careers, and be happy ever after.

So, too, in the latter part of the last century, when the Klondike became a word of magic. Just as in the days of '49, there was a wild rush for gold, the prospectors being, in the main, men who were doomed to failure, although hundreds of them won the fortunes upon which not a few American families base their ability to purchase a new seven passenger car every year.

One of the oldest and the most persistently attractive lures of golden affluence that awaits the fortunate is the mythical buried treasure of Capt. Kidd, the pirate, familiar to every schoolboy and to the schoolboys of Boston in particular.

For the two centuries or more that have elapsed since Kidd swung at the gibbet in Execution Dock, England, expeditions have been continuously gotten up with the purpose of finding his buried booty. All that has been recovered to date has been about \$90,000, most of which was found at one end of Gardner's island. The numerous search parties, according to some estimates, have spent a total of about \$700,000 in the effort.

To Pay 96 Per Cent a Year.
Along with the popular quests for "gold in the raw," or in hidden caches, there have also been scores of clever schemes for enriching people through marvelous "new" discoveries and through manipulation. Massachusetts has had its full share of such ventures in the last half century, and Boston has been the center of the activities of not a few.

More than forty years ago, for instance, there was the notorious "Ladies' Deposit," conducted by Mrs. Sarah E. Howe at 2 East Brookline street. Mrs. Howe had a sensational career in giving people "something for nothing."

The "Ladies' Deposit" was an institution based upon her statement that she was the agent of a legacy amounting to more than \$1,500,000, which was left by a Quaker who wanted to be a benefactor of "widows and single women only."

With this money she was supposed to establish a foundation in Boston which paid such women, whose incomes were inadequate to permit them to live in comfort, 96 per cent a year on deposits made at the "Ladies' Deposit." Mrs. Howe was no parsimonious person. She paid interest three months in advance.

Three Years in Jail.
Mrs. Howe is described as being "short, fat, ugly looking and indescribably vulgar." She couldn't write grammatically and this was one of the causes of her downfall in Boston, for her lack of culture aroused the suspicion of the authorities at last and they began an investigation which landed her in jail.

Then it came out in the court trial that Mrs. Howe's "Quaker" was a day dream and despite the fact that during the last days of "Ladies' Deposit," when the run started, she paid out between \$75,000 and \$100,000 in one day, the investigators found that her insolvency amounted to \$200,000, with the "bank" and some cheap furniture profusely covered with gilt as assets.

Mrs. Howe insisted to the last that she was merely a salaried agent, receiving \$120 a year for her work from the "Quaker organization," but that did not keep her from serving three years in jail. Boston was in an uproar during the whole preceding and hundreds of fascinated hopefuls thronged the institution during the week before the crash.

Received Secret in a Vision.

Then there was the masterpiece of all strokes of the imagination, the Rev. P. F. Jernegan's scheme for getting gold out of sea water. As a "get rich quick" scheme this is yet unsurpassed—both from the romantic aspect of the undertaking and in the sheer audacity with which it was worked out.

Mr. Jernegan was a former Baptist minister, a graduate of Brown uni-

versity and of the Newton Theological seminary. After a few years in the ministry his health broke down and he went south to recover. It was on the way back that "the heavenly vision" came to P. F. Jernegan, and the "Electrolytic Marine Salts company" took shape in his brain.

The "heavenly vision," according to the claim of Jernegan, showed him a marvelous way of getting "something for nothing"—of getting gold from the water in the ocean by a secret process.

He formed a company. He opened offices in this city at 53 State street and 235 Washington street. The "Marine Salts company" became a slogan of amazement and wonder. Mr. Jernegan showed to the doubting Thomases he met several thin metal plates upon which there had been crystallized small deposits of gold.

He suggested the wonderful secret in his possession and spoke vaguely of the fabulous fortune that awaited him. Financiers, men and women of wealth, poor and prosperous—folks thronged his offices to buy shares of his stock.

There was, he affirmed, about four cents' worth of gold in every ton of sea water. Now, just think of it, four cents' worth in every ton! And the Atlantic, Pacific, Indian, Arctic—all the oceans in the world were to pay tribute to his scheme, to make their deposits of gold in the pockets of his shareholders.

Mr. Jernegan estimated the possible returns at 72,000,000 tons of gold. Boston went into a frenzy. All New England went into another frenzy. Mr. Jernegan went to New York, where he deposited \$68,000 with one of the largest savings banks there. Soon after he made another large deposit. The deposits were checks. A few days after this he drew out \$20,000 and then \$75,000 in bills. Then the bank told him that they didn't want his account.

He told New Yorkers that he intended to issue 2,500,000 shares of stock at \$1 a share. Meanwhile, his friend, one "Frank W. Thompson," took the money withdrawn from the New York bank and between them the pair bought \$150,000 worth of government bonds.

Machinery Never Came.

Meanwhile, at North Lubec, Me., the "Marine Salts company" began operations. A dam was raised, and when the tide receded it left water twenty feet deep behind the dam. This was to be flowed over the "secret" machine invented by Mr. Jernegan, and by a "secret" process the metal plates, called accumulators, were to gather the gold from the sea.

More than 600 workmen were hired, and the buildings were begun. By this time 2,400,000 shares of the stock had been sold and the capital was in the hands of the ex-clergyman who had had the "vision."

To work the plant at its proper capacity, machinery, of course, was necessary. Mr. Jernegan and his partner boarded a French liner for LeHavre, France, to get the machinery. Mr. Jernegan took passage as "Louis Sinclair of Chicago," with "the necessary funds"—that is, all of them.

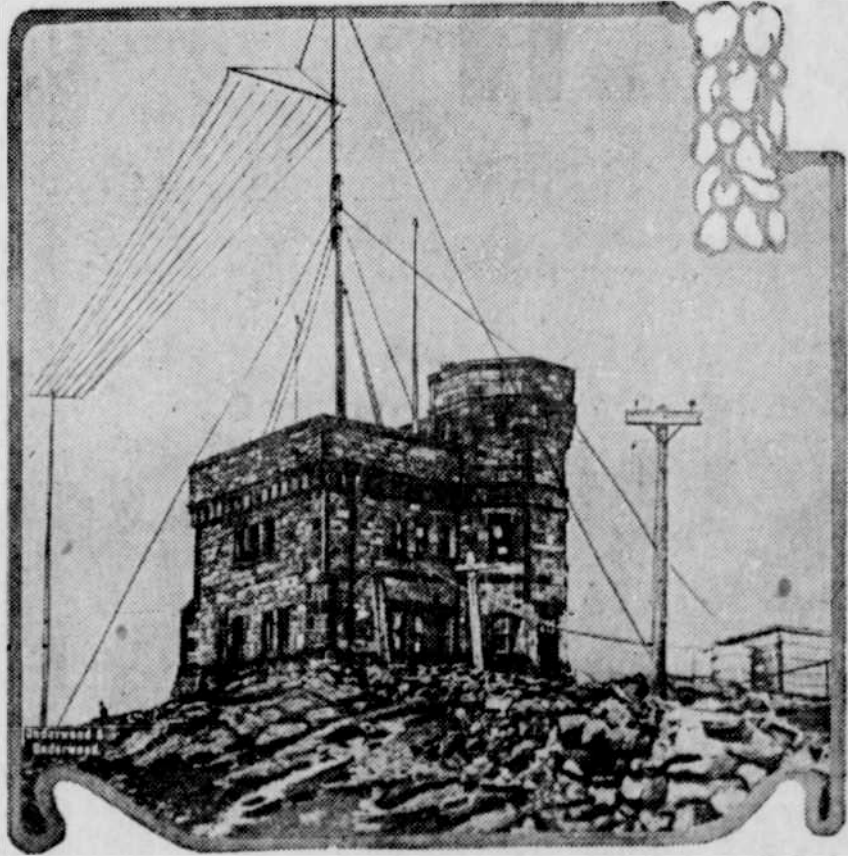
The day after his departure gold ceased to crystallize on the plates of that marvelous "secret" machine up in Lubec, Me. The company suspended business and the 600 workmen on the new buildings were out of a job.

The shareholders in "Electrolytic Marine Salts company" were without their money, too. The gold crystals on the plates had been "planted."

In spite of efforts to bring about extradition, Jernegan and his pal escaped in France. They later sent some of their money back to clear up the activities of the company, but they did not move back to Boston.

So the story runs, year after year. The "Luck Box" is an affair of only yesterday. To make one's fortune without an effort, to hope desperately for "good luck" in "taking a chance," to find a silver mine or become heir to a kingdom, to dig for Kidd's treasure or to buy a machine which will turn out crisp new bank notes in a legal manner; above all, to avoid as much work as possible in the whole affair, has been a human trait ever since Adam fared forth from Eden, where he was not bothered with such dreams.

Heard Wireless Phone Talk in Europe



This is the wireless telephone station on Signal Hill, St. Johns, N. F., in which operators recently heard a wireless phone conversation that was being carried on in Europe.