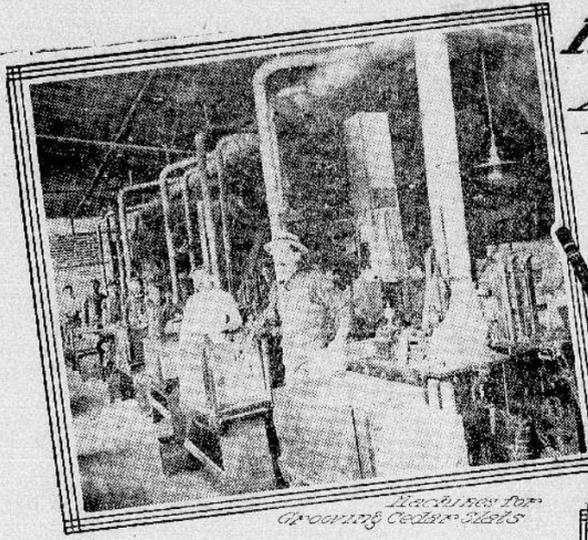


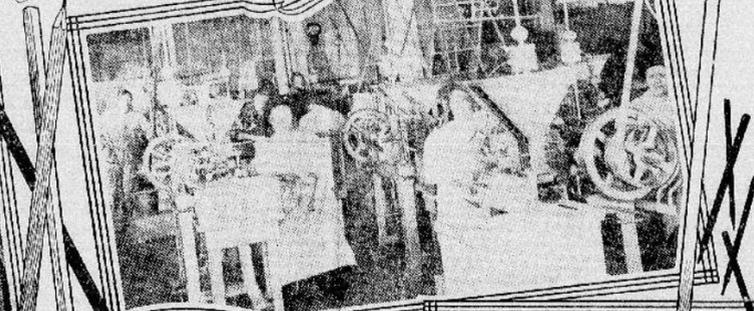
MISSOULA, MONTANA, SUNDAY MORNING, JUNE 13, 1909.

HOW LEAD PENCILS ARE MADE

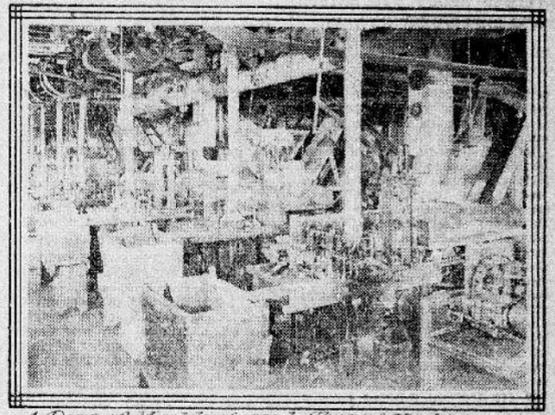
By James L. How



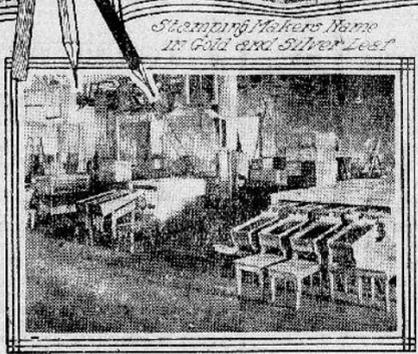
Machinery for processing cedar slats



Stamping Makers Name in Gold and Silver Leaf



A Row of Molding and Shaping Machines



Varnishing Machines



Making Pencil Leads

A LUMP of graphite from Ceylon, a handful of clay from Austria, a few sticks of soft red cedar from Florida, properly worked together by special machinery and skilled labor produces the lead pencil of common use. Just why or when these "writing sticks" came to be called "lead" pencils is not on record; at least, there is no lead in them. The principal ingredient is a mineral called graphite, said to be a formation similar to anthracite coal, containing a large per cent of carbon in which is mixed a little iron and sand. Graphite found in Ceylon is almost pure carbon (98.55 per cent), and is considered to be the very best obtainable for lead pencils. Good graphite is also found in Germany and in various parts of the United States, but the cost of refining the home product is so great that pencil makers prefer to use the imported material instead.

This process is formed by forcing the mass of graphite and clay through a die, which is just the diameter of the required "lead." A very hard substance called "sapphire" is used in making the "die," which is set in the bottom of a strong steel cylinder about 18 inches long and 6 or 8 inches in diameter, with walls more than an inch thick. The material is first packed into the cylinder by hand and then put under a hydraulic press, a plunger pressing the party-like mass through the die at the bottom, from which it falls in a long, pliable rod in a box under the press.

When the contents of the cylinder have been pressed through the die the box full of nicely-coiled pencil "lead" is passed to a girl who gradually uncoils it as she breaks it into lengths of about two feet on a wooden tray. Another girl takes this tray when it is full and cuts the lead into pencil lengths, which are next packed on end in crucibles of fire clay and baked in ovens at a very high temperature. This completes the "lead" making process, for when the little sticks of graphite have been sufficiently baked they are ready to be placed in the wood.

The soft, red cedar of the south has been found to be the very best wood in the world for marking lead pencils. Much of this comes from Florida, where the sawmills cut the cedar logs into uniform slats a little longer than a pencil, as wide as six and just a trifle more than half as thick as one. The eight margin provides for the waste in racking. Upon reaching the pencil factory the handles of slats are broken open and very carefully sorted for imperfections. Those that are split or contain knots, or that show other faults which prevent them from making good pencils, are discarded from the pencil stock and are used for penholders, which do not require frequent sharpening.

The good pencil stick is next taken to the big drying kilns, where it remains until all the moisture and the oil, which abounds in red cedar, is extracted. The process of manufacture now begins with planing and grooving the slats on one side for the reception of the leads. In a big pencil factory there are a number of these machines, into which the cedar slats are fed automatically, and from which they come in a steady stream all neatly surfaced with six little grooves on one side. From these machines the slats are taken to long benches or tables, where cut-into-grooves girls insert the leads and glue the slats together. In the middle of these long benches runs a belt covered with glue, on which one set of slats receive the glue. With a little stick of unglued slats before her and a bunch of pencil "leads" in her right hand, one girl, with a quick motion,

fills the six grooves in a slat and passes it on to the next girl, who takes a glued strip of the gel and fits it on top of the piece in which the "leads" have been placed. These are then pressed and stamped tightly together till the glue becomes dry or "set."

For the more expensive pencils there is a hand-finished process which gives them a higher polish. After going through the regular varnishing process the pencils selected for the hand-finish are placed on a rack-like bench, side by side, in a row about three feet long. This rack is as wide as a pencil is long, and slightly raised on each side to prevent the pencils from sliding off when being rubbed. A narrow belt runs under each end of the row of pencils and keeps them constantly turning. The workman, with his bottles of rubbing oils and varnishes in front of him, picks up a cloth pad, which he dips in oil and rubs rapidly over the row of pencils till they shine like satin. When rubbed on racks to dry. Other grades of pencils are finished by machines, which remove the rough spots and prepare them for a final coat of varnish.

STATE DEPARTMENT PREVENTS WEDDING



"Countess Bettina di Moise," nee Miss Hattie Burchell of New York. At left, Huntington Wilson of the state department; at right, Henry White, ambassador to France, the two diplomats who halted the wedding.

wife, "Countess" di Moise, in this country. Owing to the notoriety brought about by the international complication, the "Countess di Moise" left suddenly for the country with her brother, but her friends and those of her husband were prone to talk freely of their affairs.

These interviews brought to light these salient facts: He married Hattie Burchell, a prominent young society woman of Elkhart, at Martinsburg, West Virginia, street and Fifth avenue, in 1883.

The ceremony was performed by a Roman Catholic priest. The affair was a private one, but one of the most conspicuous witnesses was the editor of Ego Italiano, then the leading Italian newspaper.

The couple had a child a year after their marriage and lived apparently happily together until five years ago, when the "Count" went to Spain to attend a medical conference, from which he never returned.

B. Bertini, proprietor of the Hotel Bell Campolongo, who is president of many influential Italian societies, for several years head of the Italian hospital and one of the most prominent of his countrymen in America, had known the alleged count for 20 years.

"In 1882," he said, "the doctor had an office in McDougal street, at that time a high class residential street.

"He lived at my hotel at times and when, in May, the year I have mentioned, my wife had begun to suffer from neuritis, I sent her to see him. She knew him well and had great confidence in his ability, for he was, at that time, one of the most talked of of all physicians in New York.

"No sooner than she had reached his door he grabbed her by the hand and asked that she be congratulated, for he was to be married in 48 hours."

Mr. Bertini went along to relate that his wife asked if his bride was to be an Italian. The doctor said she was an American woman that he had met at a ball in Fifth avenue.

The following day the physician saw Bertini and he related to him his story of good luck.

"I am the happiest man in the world," the Count said, "I have met the woman for whom I have sought all my life."

It was at Martinelli's restaurant that the marriage took place, just three days after the meeting between the then young couple—the doctor and Miss Burchell.

"Many times after that, though," Mr. Bertini said, "he brought his wife to my place, and I remember well when their son was born in 48 hours."

brought in through trying to help a poor woman. "For some time he and his wife and child lived in Fifth avenue hotels, but finally took a house in Seventy-sixth street, where they lived until five years ago. During their residence here they had a retinue of servants, including a chief cook and assistant."

BIG FAIR STIMULATES PROGRESS

IMPETUS IS GIVEN TO AFFAIRS THROUGHOUT THE PACIFIC COAST REGION.

St. Paul, June 12.—Three months of 1909, a period which has just begun with the opening of the great fair at Seattle, promise to do more for the northwest in bringing its tremendous wealth and resources in a practical way to the attention of our central and eastern states than all the previous history of the states west of the Mississippi. Interest in this exposition through Minnesota, Wisconsin and the states farther east, is different from that in any other which has been held in the United States excepting, possibly, the world's fair at Chicago. And travel will be greater, so great that the flood of tourists through the St. Paul gateway this summer will be larger than for any year in history by a very comfortable majority.

Some things are being done for the far northwest and Pacific states this summer that were never done before, and this fact is very significant.

Every letter which leaves the office of the mayor of St. Paul bears upon it the official insignia of the Seattle exposition, with an invitation to visit and see St. Paul en route.

Eighty-five of the largest and most powerful St. Paul business houses are sending out the same enclosures in every letter, and the Seattle exposition design appears not only on their envelopes but upon their stationery, their bill heads and practically all of their printed matter.

The offices of the St. Paul city advertisement movement have mailed every letter, and the Seattle exposition design appears not only on their envelopes but upon their stationery, their bill heads and practically all of their printed matter.

But this is not all. The powerful railway lines at this gateway are developing an inquiry such as never occurred before, and every agency for

the distribution of information, not only concerning the exposition, but all the territory along the long route to and from it, is flooded with letters, and stenographers and mailing forces are working overtime answering them. In the office of a single railroad representative in Philadelphia two weeks ago there were 2,800 letters on the flip from persons desiring to make the trip into the northwest. These have been answered with personal replies and supplies of handsome printed matter. That one railway has already replied to 31,000 letters of inquiry and it is but one of ten reaching this gateway and interested in the travel. Through official channels inquiries have been made from St. Paul to develop, if possible, the extent of the travel which will be handled during the summer. The result is confusing, but indicates beyond doubt that the travel will far surpass what was hoped for; it promises to be so large, in fact, that authorities usually competent to judge hesitate to name a figure.

The westward excursion of Chicago business men indicates the commercial interest in what is being done for the west this year. Within three weeks a special train will carry westward representatives of practically every large commercial house in St. Paul, the mayor of the city heading the delegation, and an extensive territory will be covered in a trip devoted to securing new information and impressions of the west and fraternizing with the men who have been slowly and surely building it up during these years to its present greatness and promise.

The westward rush is already on. Through passenger trains are running from Chicago to Seattle and Portland via St. Paul for the first time. Extra equipment is being added to all trains between Chicago and St. Paul connecting with the transcontinental routes at this point. The crowds on the street show thousands of new faces and strangers are everywhere, marveling that the west is so well developed, so substantial, so civilized.

A little later Minnesota's interest will be shown in a still more practical way. Governor Johnson will tour the western states and visit the exposition by special train with a party of some of the most prominent men in the state during August. His journey, and especially with the men who accompany him, will do much to bring Minnesota and the farther west neighbors into touch. But it will only follow and precede the visiting thousands who will go in their private capacities, these trips resulting in the best advertising which any section of the country can have—the favorable comment by word of mouth to thousands of friends less fortunate—upon their return to their own homes and duties.

After washing down chimneys with them with dry salt, which will give a brilliant polish to the glass.

OFFICERS OF NAVY ARE TRANSFERRED



Lieutenant Commander Hourigan at left and Captain W. H. H. Sutherland at right, snapped on the battleship New Jersey, with which they have been identified so long.

Washington, June 9.—Two changes in the officers of the battleship New Jersey have taken place. Captain W. H. H. Sutherland and Lieutenant Commander Hourigan were detached from sea duty to take up important posts on land.

Captain W. H. H. Sutherland, who commanded the battleship on the cruise of Admiral Evans' fleet around the world, was ordered to report at Newport, R. I., where he will join

the naval examining board. He has seen a wide variety of naval service, and is one of the most popular commanders under Uncle Sam's flag.

Lieutenant Commander Hourigan was ordered to report to Washington and has also been detached from duty on the New Jersey. His popularity with the crew was tangibly shown when he was leaving the boat. They cheered him as he left the ship until he was out of sight on shore.

TO BUILD FLYING MACHINE. San Antonio, Texas, June 11.—Local capitalists have formed a company to build a flying machine on the model designed by J. W. Corman of this city. This machine is a combination of the aeroplane and hydropter, and thus while in motion in the air it is possible for it to rise from the ground or from the water without the use of a track. The car is made water-tight with the windows down and it can alight or rise from the water or sail be propelled on the water. Dr. P. J. Fiedling, winner of the world's prize day

SEEKING A RELEASE. Honolulu, June 11.—An effort is being made to secure the release on writs of habeas corpus of Makiho, Negoro and Soga, alleged leaders of the striking sugar plantation laborers, who were taken into custody yesterday.