

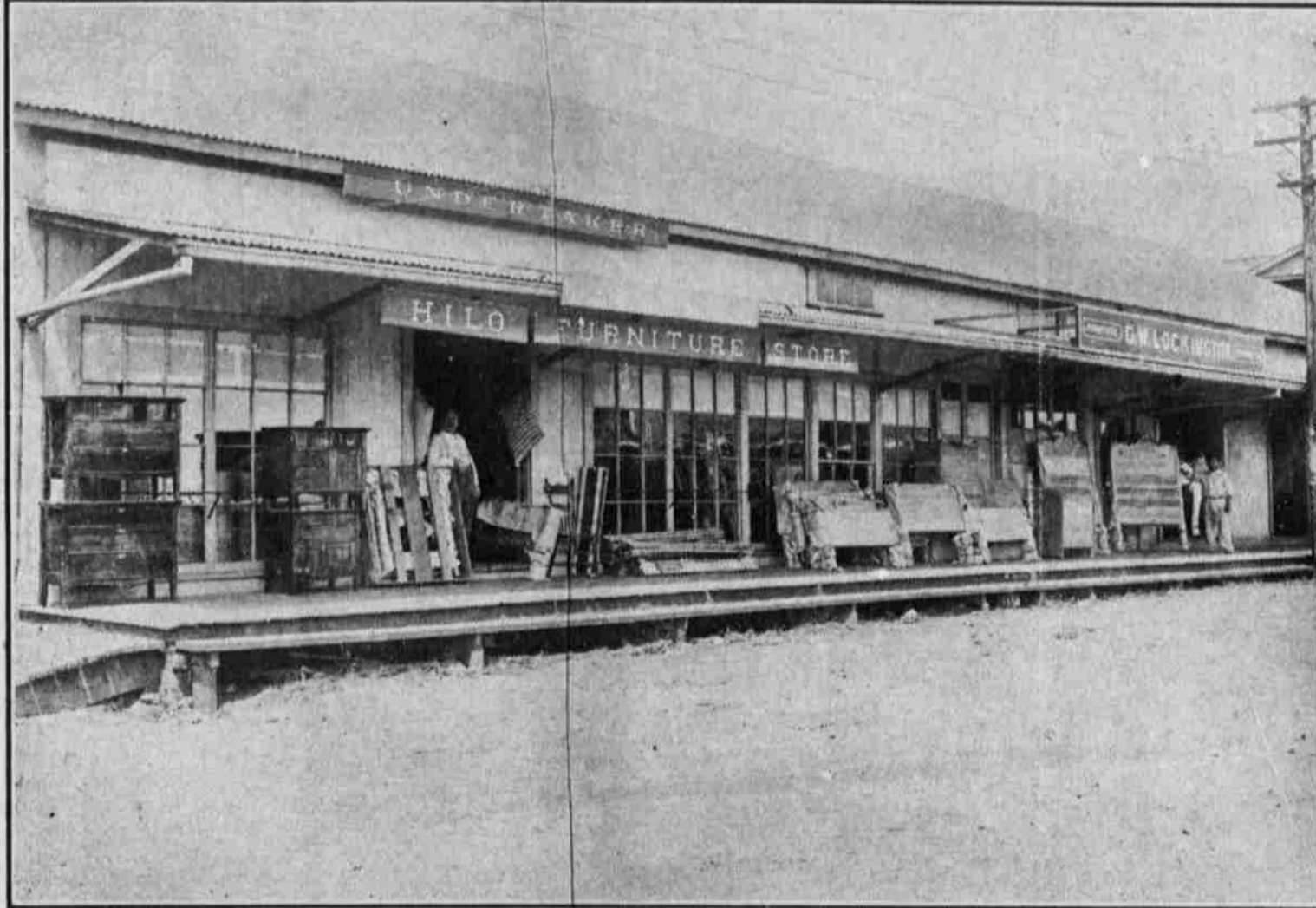
# HILO FURNITURE STORE

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G. W. LOCKINGTON Front Street

Energy, Ambition, Cheerfulness, Strength, a Splendid Appetite, and Perfect Health



may be secured by all who follow the example of the young lady who gives this testimonial:  
"Every spring, for years, I used to have intolerable headaches and total loss of energy, so that the season which should be welcomed by me was a dread; for, as the warm, pleasant days arrived, they brought to me lassitude and pain. A friend advised me to take

**Ayer's Sarsaparilla**

I commenced using it and have not had since then the same symptoms of headache. My appetite is splendid, and I perform my duties with a cheerfulness and energy that surprise myself. I take pleasure in telling all my friends of the merit of Ayer's Sarsaparilla, and the happy results of its use."

There are many imitations of Ayer's Sarsaparilla.

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AYER'S PILLS, the best family laxative.

For Sale by HILO DRUG COMPANY!

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**Rooms and Cottages To Let**

APPLY TO

**L. SEVERANCE**

Front St., next to Cameron's

**EVOLUTION OF THE SUGAR MILL.**

**Enterprise of Our Planters in Perfecting Process of Manufacture.**

The process of evolution through which the manufacture of sugar has passed on the Islands is told in a report of the committee on machinery read at a recent meeting of the Planters' Association. The development of the sugar manufactory from the primitive mill of thirty years ago to the present complications of machinery and apparatus of the mills of the present, is interesting. It indicates that the planters have been fully alive to the interests of the industry and have brought the milling process up to a high degree of perfection. The committee report recognizes the fact that the Waiakea mill at Hilo has been in the forefront in successfully adopting new mechanical devices, and this is undoubtedly due to the fact that its manager has a special, practical interest in machinery. The following are extracts made from the report:

The year 1876 was the first year in which we enjoyed the benefits of the Reciprocity Treaty, and through that treaty a new impetus had been given to the sugar industry—a steady improvement having been the rule since then, in every department of the business. At that time no one ever dreamed that more than one 3-roller mill was necessary for crushing cane, and extraction was not often mentioned as a criterion of efficiency. What we did hear often was, "How many tons are you making?"—"Oh, about ten!" and, mark you, this referred to a whole day's work, although candor compels the admission that it was not a twenty-four-hour day. But certainly it is a vast step from ten tons of sugar per ten-hour day, to as much as 100 and 300 tons in a twenty-four-hour day, which is now accomplished on some of our larger plantations.

When 8 cent sugar became a past experience, and all indications

foretold a still lower price, it became obvious that we would have to get more of the sugar which was in the cane, into the market. The first improvement with this end in view was made in the year 1880, when a two-roller mill was placed behind the existing 3-roller mill at Spreckelsville, Maui. This could not be called a successful experiment, as great difficulty was experienced in getting the new 2-roller mill to take the feed, and therefore drier grinding, which was the object of the additional mill, was out of the question. This difficulty did not prove an insurmountable one, however, for in 1884 a 2-roller mill was installed at Waiakea, which had a patent feeder, the invention of Mr. Alexander Young, then manager of the Honolulu Iron Works.

This combination was eminently successful, the results being far beyond any expectations. The percentage of extraction was raised from the seventies to eighty-five and ninety. This was such a large increase in extraction, that grave doubts were expressed as to the accuracy of the reports. Chemists came from Honolulu to verify them, and did so. Even then doubting Thomases were rife, and one fine morning the S. S. Likelike arrived in Hilo, with a lot of megass in bags, to put with a fair amount of maceration, through the new 2-roller mill at Waiakea. The engineer of the plantation sending the megass came along to see fair play. The result of this special trial was conclusive, and the plantation referred to, ordered a mill with a feeder at once. Orders then went to Honolulu Iron Works so fast, that working day and night, they could not supply the demand but had to send to San Francisco and have some made the same as the original. We called these mills "Maceration Mills" on account of the water used.

I well remember while they were yet new, how sceptical many were, as to their necessity. Mr. Alex-

ander Young said to a plantation owner one day, standing behind his mill. "Mr. So-and-so, you are not getting more than 65 per cent. extraction with that mill of yours." "Sir," said Mr. So-and-so, "you say that again and will have you arrested." "Well, I would like to put in a mill to catch what is left," said Mr. Young, and the planter felt badly hurt at the implication. He is still amongst us and may be here today, but he now has three 3-roller mills.

Maceration was such a decided improvement, that various combinations of mills were tried in the effort to get increased extraction. It soon became evident that some method of preparing the cane was necessary, so that the first mill would take its feed steadily and evenly, and discharge a blanket of megass, which after dilution, would feed to the second and third mills without baulking.

Rollers which were held absolutely rigid could only do good work with a feed of uniform thickness, but the then necessarily uneven feed was partly overcome by the application of the toggle springs to the cap bolts of the top roll. This, however, did not assure a steady a feed at the first mill as was necessary, and in our efforts to overcome this defect, we were shortly adding to our crushing plants, the Krajewski Crusher, the National Cane Shredder, and the Smith Revolving Cutter: the first installation of each being placed at Pepekeo, Wainaku and Waiakea respectively. Some of these machines are now a part of nearly every factory, and their value is beyond question. Some factories indeed, have installed both a cutter and a crusher, and many cutters, which were thrown to one side shortly after installation, have been since resurrected from the scrap pile, and are now doing duty nobly, thanks to Mr. H. Lorenz, who admired the knives the first he saw them at work.

After a short but comprehensive

experience with the diffusion process of extraction, the Ewa Plantation Co. determined to discard this process and adopt crushing. This mill, having three 3-roller mills, with the top roll of each fitted with hydraulic rams, the pressure applied to the rolls being within immediate control, and a uniform known pressure being assured for cane and macerated bagasse, was a distinct advance over our previous combinations. The extraction rose from 90 per cent. up to 93 per cent., and it was so necessary by this time to get everything possible out of the cane, that all interested desired such mills for their factories.

This combination (three 3-rollers) with the various feeders remained the standard, until the installation two years ago at Oahu Plantation of a four 3-roller mill, behind their three 3-roller combination. This installation was the first of its kind in the world. The adoption of this idea and its application is entirely due to the progressive spirit of Hawaiian planters and engineers and the results have amply justified their judgment. Increased capacity and better extraction with a minimum of maceration have been obtained. The decrease in maceration is obtained by taking the thin juices from the fourth mill to macerate at the back of the first mill.

**Construction of Steamer.**

J. A. Kennedy has advertised for bids in San Francisco for the new 15-knot boat to displace the Kinau on the Hilo-Honolulu run. The new steamer is to be an exceptionally fine vessel, with ample passenger accommodations, and eclipsing in some respects the passenger arrangements of some of the ocean-going liners calling at this port. The new vessel is to have a saloon, piano, library, hardwood dining tables, etc. Especial attention is to be given to the staterooms. The new boat may burn oil for fuel and she may be ready to go into commission at the end of the present year.

**Hilo Railroad Co.**

Short Route to Volcano  
**TIME TABLE**  
In effect July 1, 1905.  
Passenger Trains, Except Sunday.

7 A.M.	9 P.M.	STATIONS	8 A.M.	10 P.M.
7:00	2:30	lv. Hilo	9:40	5:45
7:05	2:35	ar. Waiakea	9:35	5:40
7:12	2:33	ar. Oiaa Mill	9:20	5:25
7:30	3:15	ar. Keau	9:15	5:15
7:46	3:30	ar. Ferndale	9:00	4:55
8:00	3:55	ar. Mount. V'w.	8:50	4:45
8:20	4:15	ar. Glenwood	8:30	4:25

**FOR PUNA:**  
The trains of this Company between Hilo and Puna will be run as follows:

**WEDNESDAY:**  
Leave Hilo Station, by way of Railroad Wharf, for Oiaa and Puna, upon the arrival of the Steamship Kinau, running through to Puna and stopping at Pahoa.

13 A.M.	FRIDAY:	14 A.M.
6:00	lv. Hilo	9:55
6:00	ar. R. R. Wharf	9:30
6:06	ar. Waiakea	9:30
6:28	ar. Oiaa Mill	9:10
6:58	ar. Pahoa Junc.	8:42
7:00	ar. Pahoa	8:30
7:20	ar. Puna	7:35

5 A.M.	SUNDAY:	6 P.M.
9:00	lv. Hilo	4:40
9:06	ar. Waiakea	4:35
9:25	ar. Oiaa Mill	4:15
9:50	ar. Pahoa Junc.	3:47
10:20	ar. Pahoa	3:35
10:55	ar. Puna	3:00

Excursion tickets between all points are sold on Saturdays and Sundays, good returning, until the following Monday noon.

Commutation tickets, good for twenty-five rides between any two points, and thousand mile tickets are sold at very low rates.

D. E. METZGER, Superintendent.

**ALL KINDS OF RUBBER GOODS**

**GOODYEAR RUBBER CO.**

R. H. PEASE, President.  
SAN FRANCISCO, CAL., U. S. A.

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