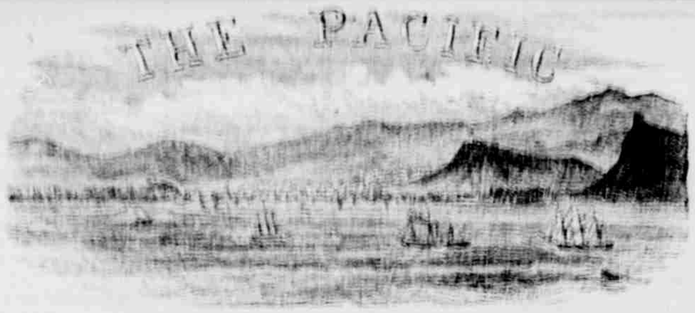
THE PACIFIC
Commercial Advertiser
IS PUBLISHED
Every Saturday Morning.
City and Island Subscriptions, $6.00 a Year.
Foreign Subscriptions, $8.00 a Year.

PLAIN AND FANCY
BOOK AND JOB PRINTING.
CARDS, BUSINESS AND ADDRESS CARDS
"Pacific Post Press" in the highest style of the art.

Commercial  Advertiser.

THE PACIFIC
Commercial Advertiser
SCHEDULE OF ADVERTISING
Advertisements.

Commercial Advertiser.

PUBLISHED WEEKLY BY HENRY M. WHITNEY. | HONOLULU, HAWAIIAN ISLANDS, AUGUST 10, 1867. | SIX DOLLARS PER ANNUM. SINGLE SHEETS 25 CTS. WHOLE NO. 1000.

THE CONCRETOR.

A New and Valuable Method of Manufacturing Refinery Sugar.

Lecture Delivered in Antigua, West Indies, by Albert Fryer, Esq., on Saccharimetry and Concrete.

Mr. Fryer, on coming forward, was warmly greeted by the audience. He stated that he had visited the island, not to propagate his views or to sound the praise of his own patent, but quietly to make arrangements for working it on a large scale on his own account. His firm, confident of success, were about to spend a large sum of money in the manufacture of concrete, but it was no part of his business, nor did he seek to make anything like a crusade against the old system. So great had been the kindness shown to him personally, on every hand, that he could not do less than respond to the invitation that he should address them this evening, and it would give him pleasure to afford to all at once the information, which, amid the intense and varied occupation of his brief sojourn, he had scarcely been able to give to any in private.

He stated that the cultivation of the cane, as he had observed it, both here and in the neighboring islands, compared favorably with the cultivation of the beetroot (the only other important source of sugar,) in France and Germany. There seemed however to be less attention given than ought to be, to the manuring of the land. Though the sugar itself, consisting only of oxygen and carbon, all of them elements of the atmosphere and of water, abstracted nothing from the soil, yet the salts always found in molasses and in large quantity in the ashes of the megass being removed, the land was continuously impoverished. Though cattle were fed on the estate, the return of the cattle-pen manure could not entirely make up the loss entailed upon the soil in the removal of successive crops. He describes experiments of his own upon megass ashes fresh from the copper holes, which gave on the average eleven pounds of salt, principally potash, to the hundred pounds of ashes. But these salts are very soluble, and exposure to very little rain avails to entirely remove them, so that a gentleman wishing to test the report of Mr. Fryer by his own, failed to find a single grain of crystallizable salts in a large quantity of ashes, because he had operated not upon fresh ashes, but upon those which had been exposed to several showers. He therefore recommended the careful return to the ground of the megass ash day by day, before any of the soluble salts had been removed by rain. He gave a most interesting resume of the experiments of Mons. Ville of Paris, recommending the perusal of his writings and the adoption of his system. A safe manure would be Peruvian guano, bones dissolved in acid, and fresh megass ash.

From this topic Mr. Fryer proceeded to the expression of the juice. This, he said, was of the highest importance. To have cane juice—that is sugar—in any quantity, in the megass used for fuel, is not much better than to mix wheaten flour in the wood we use to bake our bread. He had made careful and repeated experiments with windmills having vertical rollers, and he found the average yield to be 49½ pounds of juice to every 100 pounds of cane. With a good steam engine, and 24 inch horizontal rollers he extracted 61 pounds of juice from every 100 pounds of cane, but on passing the megass a second time through the rollers he obtained 9 pounds more—70 pounds upon the whole; and this would be obtained at one operation from a well constructed modern mill. The loss in the use of the windmill appears to arise in part from the intermittent high speed not giving the time necessary for the exudation from the closely packed cells in the canes. He looked forward to the time when, by great pressure and slow speed, 80 pounds of juice would be extracted from every 100 pounds of canes. He had indeed in one experiment, conducted on a small scale, succeeded in extracting at the rate of 84.85, that is 84 pounds 13½ ounces of juice from 100 pounds of canes, and in this case the resulting megass was so dry as to be capable of ready ignition without further drying.

He fully explained the principle and action of the Polarizing Saccharometer. Under certain circumstances a ray of light, supposed to be at first cylindrical, is as it were flattened into the form of a ribbon, which is what is meant by saying that it becomes *polarized*. Some substances, among others quartz, have the power of twisting this ribbon of light in a certain uniform direction. Certain solutions, amongst others, solutions of sugars have the same power. The amount of twist given, depending in the one case upon the thickness of the quartz, in the other upon the quantity of sugar dissolved, is made apparent to the eye by the color imparted to the image of certain holes or openings in the apparatus. If then quartz crystals be so adjusted as to give a certain definite color, by interposing a definite length of a solution of sugar, a new color is produced; and by measuring the thickness of a second crystal of quartz necessary to bring back the original color, we have a measure of the quantity of sugar present in the solution.

Now there are usually present in all natural saccharine solutions two different sugars—one the crystallizable sugar or sucrose, whose parent form is refined loaf sugar; the other fruit sugar, known as glucose or fructose, or grape sugar, which refuses to form crystals. The latter is familiar enough in the greyish sweet nodules found in good large raisins. Both these syrups have the same sort of influence upon the flattened or polarized ray of light, but in different degrees; but it is possible, by the use of proper acids, so far to change the crystalline sugar as to produce a definite twist in the opposite direction, without at all affecting the fructose. If, therefore, any solution of the two be examined in the Polarizscope, and the coloring effect noticed, by observing the thickness of quartz necessary to restore the color; then the sugar be "inverted" by acid, and the residual effect be likewise measured, it is evident that we have in our hands the means of determining the amount of each, present in any syrup submitted to the experiment.

The practical use of the instrument involves however many difficulties of careful observation and delicate manipulation, only to be overcome by the trained and skillful chemist; and it was not described as either necessary or suitable for general adoption here, but simply from the interest attached to an refined and ingenious a test, and as an assurance of the accuracy of any results to be put before the audience, which had been arrived at by its means.

To revert to the cane juice, this was found to darken rapidly in color on exposure to the air, and though for several hours no material injury appeared to be done to the cane sugar or sucrose present, the increase of color was not entirely removed by subsequent defecation; and the amount of molasses went on steadily increasing. In one case—a pattern of too many others—where the juice after expression, flowed down a spout 250 feet in length, from the mill to the boiling house, occupying in the descent about half a minute, the amount of molasses increased from 100 to 253, and the color deepened four-fold. This attached, due to oxidation, pointed to an advantage likely to be gained by steaming the canes before grinding. This plan, however, though satisfying most of the conditions of the problem, labors under the fatal disadvantage that the canes lose weight in the process, in consequence of the heat causing the exudation of a considerable amount of juice, which cannot be advantageously recovered. No less than 4.6, somewhat more than 4 pounds 6½ ounces, after repeated experiments, to be the average loss upon every hundred pounds of canes

We now come to the boiling. All heat above 140° is capable of exerting an injurious effect. As regards the time this effect is proportionate to the duration of the heat; the continuance of any syrup for two hours at any given temperature would cause just double the mischief which would be produced by its continuance at the same temperature for an hour. But as regards the heat, the mischief increases about as the square difference from 140°, the highest innocuous temperature. So at 160° during any given time a certain degree of mischief would be done. To keep the same syrup for the same time at the heat of 180°, would give four times the mischief; at 200°, nine times; the difference of 180° from 140° being twice as great as that of 160°, and that of 200° being three times as great.

This mischief consists partly in the change of color, partly in the change of a quantity of cane sugar or sucrose into fructose. This is made still greater by the fact that every particle of fructose, in a mixed solution, detains from crystallization nearly its own weight of pure sugar. It would be impossible, after mixing equal weights in solution of loaf sugar and fructose, to recover the former in a crystalline state.

The changes produced by the atmosphere alone, without the action of heat, show the necessity of proceeding instantly to raise the temperature to the boiling point, and the concentration should be continued without loss of time. The temperature should not, however, be raised beyond the lowest effectual heat. Mr. Fryer gave many results arrived at by the Polarizing Saccharometer, showing the gradual and rapidly increasing change of cane sugar into fructose, from the simmerer, through the coppers in succession to the tache—the extreme limits of the change being in one case 17 per cent. of the sugar present. Remembering what was said above of the entangling action of fructose, this would represent an ultimate loss of pure sugar upon the production, of 34 per cent.

It is to obviate this that his Patent Concretor has been contrived. The apparatus is not liable either to fracture or derangement, and no part involves any peculiar niceties of construction. It is very economical in fuel, and in attendance. When in full action, the cane juice flows in continuously at one end, and at the other it is as steadily removed in the shape of concrete. The whole period of the passage of any particular quantity from end to end does not occupy more than fifteen minutes, and during that interval not one grain of cane sugar is changed into fructose.

Mr. Fryer showed, as a sample, a lump of the concrete of considerable size. Its color is a pale greenish yellow. In consistency it is almost as hard as a stone, and it may be cast as it leaves the Concretor into blocks of any size. In taste it nearly resembles sugar cane, having no burnt flavor. It yields on re-dissolution a liquid so precisely similar to cane juice, that the most close and careful scrutiny can hardly discriminate the two liquids. It may be packed for carriage in bags, it shows no tendency to deliquesce, and of course cannot drain. Its color is so good as to be certainly preferred by the refiner to good Muscovado sugar—and its make does away with hogsheads, puncheons, molasses, rum, and curing houses, while the increase in value, and the saving of drainage, appear to equal more than £4 sterling per hogshead.

The Concretor, the cost of which will be probably about £1,000, does its work at the rate of 10 cwts. per hour. Its construction is entrusted by the patentee to Messrs. Manlove, Alliott & Co., engineers, Nottingham, from whom may be learned all particulars respecting it.

A concentrated solution of good muscovado sugar, carefully defecated and clarified, was then exhibited by Mr. Fryer, along with a similarly treated solution of concrete. The color of the former was a dark brown sherry, of the latter a pale lemon.

He then resumed his seat amid loud and long continued applause.

The Concretor at Work.

[Abridged from the Antigua Observer, August 25, 1866.]

Having been entrusted by Mr. Fryer to lay before the public the first full exposition of his invention, I have great pleasure in accepting the invitation to describe what I saw on the third day of its actual work, and of its perfect and unquestionable success.

The works at Belvidere stand some height above the road, upon a plateau to which there is a short and steep ascent. The canes are brought to the foot of this incline in carts; they are then placed upon a carrier composed of narrow slabs of wood bolted to two endless chains, which run over a series of pullies, and are driven at a slow rate by the engine. In this way the canes are lifted to the mill—a splendid machine, which expresses in juice fully 72 per cent. of their weight. A similar arrangement is provided on the opposite side of the mill to receive and remove the megass. Both the rollers and the mill-bed are heated by waste steam from the engine, and the juice, preserved by its temperature from any change, is conducted by a copper pipe to the simmerers, which are also heated by waste steam passing through copper tubes. Here it remains at rest long enough for all the heavy earthy particles adherent to the outside of the canes to settle to the bottom. The lighter scum which rises is removed and thrown into a separate cistern, from which more than one half will be recovered by filtration. From the simmerer the juice is withdrawn into a large shallow tank, where it becomes perfectly clear, and from which it is delivered to the tray of the Concretor.

The Concretor itself is completely covered by a wooden casing, with hinged shutters that can be opened so as to give access to the interior through its whole length. About three quarters of it is surrounded by the cylinder and fan enclosed in a continuation of the same casing, and upon a small platform at the upper end stands a busy little engine, which turns the former slowly and the latter very swiftly. All the parts of the machine are admirably made, and were put together with comparatively little trouble. It does great credit to the skill of the engineers, Messrs. Manlove, Alliott & Co., Nottingham.

Where the separate of the tray meet, shallow semicircular dishes of copper project beyond the cover and bring the juice into view as it runs down the inclined plane. The supply of juice is regulated in a manner singularly simple and effective. The delivery pipe from the tank opens with a tap into a small copper cylinder pierced with holes arranged in the form of a screw; any required number of those holes, which from their arrangement may be counted at a glance, may be kept running, and a little boy is able by this means to manage the supply. "How many holes, Tom?" says the superintendent. "Ten, Massa." "Make it twelve." "Yes, Massa."

The juice when delivered, and therefore least susceptible of injury, flows upon the hottest part of the tray, where the fierce flames of the dry megass fuel strike upon its under surface; it is covered instantaneously with a mass of bubbles, which diminish as it flows onward towards the lower and somewhat cooler part of its course. The regularity and speed of its passage are such as it passes to the open air through the connecting dishes, and a pipe from the tank runs along the side of the tray furnished with a tap over every other dish, so that a sudden flush of heat can be at once cooled down. The depth of the stream is nowhere more than about half an inch. Its temperature as it leaves the tray varies very little from boiling point, 212 Fah. It is conveyed to a small tank where cover is level with the floor, filling in its flow a little vessel in which may be placed a saccharimeter to test its density. During the three hours I watched it, this generally varied from 21° , never sinking quite to 20° , nor rising quite to 30° . From this tank it is pumped to a similar one placed above the cylinder. Provision is made for passing a second time any syrup insufficiently evaporated over any portion of the tray by a pipe from this tank, opening with taps over the external dishes already described.

From the upper tank it flows through a regulator like the one at the head of the tray into the cylinder, which has on its inner surface broad spiral vanes following each other, the liquor flowing steadily forward from one end to the other. The fan already mentioned sucks into the cylinder air which is heated by passing among a large number of tubes which carry off the product of combustion of the megass from the furnace to the chimney. This air on entering the cylinder shows a temperature of a little above 250° Fah. It makes its way over the vastly extended surface of the syrup spread over the vanes and among the countless drops and thin films constantly falling through the hot blast.

The juice which entered the cylinder at a density of 20° or 30° of the saccharometer, loses while traversing its tortuous path all its remaining water, and is lifted, by a sort of dredging machine, to the mouth of a shoot from which it flows in a constant slow stream of concrete. A slight motion suffices to suspend the action of the dredger so as to keep the concrete under the action of the hot blast until it be sufficiently dried. The concrete while yet viscid and plastic, is distributed by movable gutters to casks or other vessels placed underneath to receive it. When cast in moulds it becomes in a few hours perfectly hard, and gives out when struck a clear ringing sound. It is of a peculiar light greenish yellow color, slightly granular, and retains the taste and even the faint smell of fresh cane juice solidified by the removal of water, no change having been made in its constitution, nor any foreign material having been added in the process.

Only three persons are required to attend to the machine—the boy who regulates the influx of juice, a man who watches and governs its flow through the tray and into the cylinder, and another who directs to the proper receptacle the finished concrete.

Nothing is wasted: nothing is spoiled. The whole of the saccharine matter of the cane is brought, in the space of a few minutes, without any changes of its nature, into a state ready for transmission to the refiner. There was no steam, no smell, and no oppressive heat close to the machine, which was evaporating to dryness not less than three hundred and sixty gallons of cane juice every hour.

I stepped from the concreting house into the adjacent boiling house, which is still at work, and the contrast was indeed a strong one. A number of people were digging out from a cooler, and carrying off on their heads in buckets to the curing house sugar dark and wet with molasses. The floor was black and sticky with the unavoidable droppings. The coppers frothed and foamed and steamed. Men, toiling and hot, were skimming, splashing and lading the troubled liquor, and as I stood a moment looking at the dark brown contents of the teache ceaselessly rising in huge writhing bubbles, they seemed as they burst to protest in vain against the injurious treatment (now no longer needful) from which they suffered.

Mr. Fryer has modified his original design by omitting the drum, upon the outside of which he proposed to effect the last drying. This simplifies the process, probably without at all diminishing its efficiency.

The perfect balance of all the parts of the concretor in its actual work is scarcely less admirable than the simplicity of its principle, and bespeaks the amount of careful and exact thought which have been expended upon it.

W. J. READ, M.A., F.R.A.S.,
Rector of St. Mary's, and Chaplain to the Lord Bishop of Antigua.

Business Cards.

C. S. BARTOW,
Auctioneer,
Sales Room on Queen Street, one door from Fort. Kaahumanu street. 1y

E. P. ADAMS.
Auctioneer and Commission Merchant,
FIRE PROOF STORE,
In Robinson's Building, Queen Street.
582 1y

ALLEN & CONWAY,
Kawaihae, Hawaii,
Will continue the General Merchandise and Shipping business at the above port, where they are prepared to furnish the justly celebrated Kawaihae Potatoes, and such other recruits as are required by whale ships, at the shortest notice and on the most reasonable terms.
Firewood on Hand.
580 1y

A. S. CLEGHORN,
Dealer in General Merchandise, Fire-proof Store,
Corner Kaahumanu and Queen Sts.,
(Opposite Mak-e's Block.)
Also, Retail establishment on Nuuanu street, above King.
☞ Island Produce bought and sold. Island orders carefully attended to 547 1y

AFONG & ACHUCK,
Importers, Wholesale and Retail Dealers in General Merchandise and Chinese Goods,
Fire-proof Store, Nuuanu Street,
Under the Public Hall. 547 1y

THE NEWSPAPER KUOKOA,
Published Weekly in the Hawaiian Language,
It has the largest circulation in the group, and is read both by Hawaiians and Foreigners. Price $2 a year in advance. Advertisements translated into Hawaiian free of charge. Office in South Street, Corner of Fort's House.
580 1y W. C. ALLEN.

BISHOP & CO., Bankers,
Office, in the east corner of Maker's Block,
Kaahumanu street, Honolulu.
Draw Bills of Exchange on
The Bank of California, San Francisco
Messrs. Morrison, Mitt & Co., New York
" Baring Brothers, London
Tremont National Bank, Boston
Shanghai Bank Corporation, London
Will receive deposits, discount Hawaiian business paper, and attend to collections, etc. 580 1y

HOLLES & CO.,
Ship Chandlers and Commission Merchants,
Queen Street,
Particular attention paid to the purchase and sale of Hawaiian Produce.
Refer by permission to
Messrs C. A. Williams & Co., Messrs C. Brewer & Co.
Messrs Castle & Cooke, Messrs H. Hackfeld & Co.
Messrs H. C. Wetmore, Messrs C. L. Richards & Co.
582 1y

CASTLE & COOKE,
Importers and General Merchants,
To Rent—Stores on Fort and Kaahumanu streets, Fire Proof Store, King street, opposite the Seamen's Chapel.
Agent for
The Aetna Fire Insurance Company,
Wilcox & Gibbs's Sewing Machines,
The Hartford Steam Boiler Inspection and Insurance Company,
The New Haven Clock Company,
The New Haven Manufacturing Company.
582 1y.

C. BREWER & CO.,
Commission and Shipping Merchants,
Honolulu, Oahu, H. I.
AGENTS
Of the Boston and Honolulu Packet Line.
Packets Sailing Between Honolulu and Boston.
AGENTS
For the Purchase and Sale of Island Produce.
Agency at Hilo, Hawaii, Messrs. Rickard & Green.
Agency at Lahaina, Maui, Messrs. Dwight & Baldwin.
Agency at Koloa, Kauai, Messrs. Hofgaard & Widemann.
Agency at Waimea, Kauai, Messrs. Hofgaard & Widemann.
Agency at Kealakekua, Kona, Messrs. Greenwell & Co.
Agency at Kailua, Kona, Messrs. Greenwell & Co.
Agency at Kapaau, Hamakua, Messrs. Greenwell & Co.
Agency at Honomakau, Maui, Messrs. Dwight & Baldwin.
Agency at Honolulu, Oahu, Messrs. Hackfeld & Co.
Agency at Boston, Messrs. Tileston & Hall.
Agency at New Bedford, Messrs. Grinnell, Minturn & Co.
Agency at New York, Messrs. Grinnell, Minturn & Co.
Agency at Liverpool, Messrs. Rathbone Bros. & Co.
Agency at Bremen, Messrs. Schroder & Co.
Agency at Hamburg, Messrs. Schroder & Co.
Agency at Shanghai, Messrs. Heard & Co.
Agency at Canton, Messrs. Olyphant & Co.
Agency at Manila, Messrs. Olyphant & Co.
Agency at Sydney, Messrs. Birkett & Co.
Agency at Melbourne, Messrs. Sharp & Co.
Agency at Calcutta, Messrs. Thomas Wilson & Co.
Agency at Bombay, Messrs. Wilson, Sons & Co.
Agency at Madras, Messrs. Binny & Co.
Agency at Colombo, Messrs. Walker & Co.
Agency at Cape of Good Hope, Messrs. Cole & Co.
Agency at Mauritius, Messrs. Adam & Co.
Agency at Bordeaux, Messrs. Lawton Frères.
Agency at Havre, Messrs. Lawton Frères.
Agency at Marseilles, Messrs. Roux & Co.
Agency at Valparaiso, Messrs. Ed. Lucas & Co.
Agency at Guayaquil, Messrs. Ed. Lucas & Co.
Agency at Callao, Messrs. Ed. Lucas & Co.
Agency at Mexico, Messrs. Ed. Lucas & Co.
Agency at Vera Cruz, Messrs. Ed. Lucas & Co.
Agency at Tampico, Messrs. Ed. Lucas & Co.
Agency at Tuxpan, Messrs. Ed. Lucas & Co.
Agency at Sisal, Messrs. Ed. Lucas & Co.
Agency at Campeachy, Messrs. Ed. Lucas & Co.
Agency at Laguna, Messrs. Ed. Lucas & Co.
Agency at Tabasco, Messrs. Ed. Lucas & Co.
Agency at Panama, Messrs. Ed. Lucas & Co.
Agency at Guatemala, Messrs. Ed. Lucas & Co.
Agency at Sonsonate, Messrs. Ed. Lucas & Co.
Agency at Acajutla, Messrs. Ed. Lucas & Co.
Agency at Libertad, Messrs. Ed. Lucas & Co.
Agency at Paita, Messrs. Ed. Lucas & Co.
Agency at Pisagua, Messrs. Ed. Lucas & Co.
Agency at Iquique, Messrs. Ed. Lucas & Co.
Agency at Huanchaca, Messrs. Ed. Lucas & Co.
Agency at Tacna, Messrs. Ed. Lucas & Co.
Agency at Arica, Messrs. Ed. Lucas & Co.
Agency at Islay, Messrs. Ed. Lucas & Co.
Agency at Arequipa, Messrs. Ed. Lucas & Co.
Agency at Puno, Messrs. Ed. Lucas & Co.
Agency at Cuzco, Messrs. Ed. Lucas & Co.
Agency at Yapacani, Messrs. Ed. Lucas & Co.
Agency at Santa Cruz, Messrs. Ed. Lucas & Co.
Agency at Cochabamba, Messrs. Ed. Lucas & Co.
Agency at Sucre, Messrs. Ed. Lucas & Co.
Agency at Potosi, Messrs. Ed. Lucas & Co.
Agency at La Paz, Messrs. Ed. Lucas & Co.
Agency at Oruro, Messrs. Ed. Lucas & Co.
Agency at Tarija, Messrs. Ed. Lucas & Co.
Agency at Tucuman, Messrs. Ed. Lucas & Co.
Agency at Rosario, Messrs. Ed. Lucas & Co.
Agency at Cordova, Messrs. Ed. Lucas & Co.
Agency at Mendoza, Messrs. Ed. Lucas & Co.
Agency at San Luis, Messrs. Ed. Lucas & Co.
Agency at San Juan, Messrs. Ed. Lucas & Co.
Agency at Rioja, Messrs. Ed. Lucas & Co.
Agency at Catamarca, Messrs. Ed. Lucas & Co.
Agency at Santiago, Messrs. Ed. Lucas & Co.
Agency at Corrientes, Messrs. Ed. Lucas & Co.
Agency at Concepcion, Messrs. Ed. Lucas & Co.
Agency at Montevideo, Messrs. Ed. Lucas & Co.
Agency at Maldonado, Messrs. Ed. Lucas & Co.
Agency at Colonia, Messrs. Ed. Lucas & Co.
Agency at Paysandu, Messrs. Ed. Lucas & Co.
Agency at Salto, Messrs. Ed. Lucas & Co.
Agency at Gualeguay, Messrs. Ed. Lucas & Co.
Agency at Gualeguaychu, Messrs. Ed. Lucas & Co.
Agency at Concordia, Messrs. Ed. Lucas & Co.
Agency at Santa Fe, Messrs. Ed. Lucas & Co.
Agency at Rio Janeiro, Messrs. Ed. Lucas & Co.
Agency at Pernambuco, Messrs. Ed. Lucas & Co.
Agency at Bahia, Messrs. Ed. Lucas & Co.
Agency at Pelotas, Messrs. Ed. Lucas & Co.
Agency at Rio Grande, Messrs. Ed. Lucas & Co.
Agency at Santos, Messrs. Ed. Lucas & Co.
Agency at Cabello, Messrs. Ed. Lucas & Co.
Agency at Laguayra, Messrs. Ed. Lucas & Co.
Agency at Cumana, Messrs. Ed. Lucas & Co.
Agency at Barcelona, Messrs. Ed. Lucas & Co.
Agency at Angostura, Messrs. Ed. Lucas & Co.
Agency at Maracaibo, Messrs. Ed. Lucas & Co.
Agency at Rio Hacha, Messrs. Ed. Lucas & Co.
Agency at Santa Marta, Messrs. Ed. Lucas & Co.
Agency at Carthagena, Messrs. Ed. Lucas & Co.
Agency at Sabanilla, Messrs. Ed. Lucas & Co.
Agency at Aspinwall, Messrs. Ed. Lucas & Co.
Agency at Kingston, Messrs. Ed. Lucas & Co.
Agency at Port Antonio, Messrs. Ed. Lucas & Co.
Agency at Savanna la Mar, Messrs. Ed. Lucas & Co.
Agency at Lucea, Messrs. Ed. Lucas & Co.
Agency at Falmouth, Messrs. Ed. Lucas & Co.
Agency at Port Maria, Messrs. Ed. Lucas & Co.
Agency at Morant Bay, Messrs. Ed. Lucas & Co.
Agency at Port Royal, Messrs. Ed. Lucas & Co.
Agency at Nassau, Messrs. Ed. Lucas & Co.
Agency at Matanzas, Messrs. Ed. Lucas & Co.
Agency at Cienfuegos, Messrs. Ed. Lucas & Co.
Agency at Sagua, Messrs. Ed. Lucas & Co.
Agency at Nuevitas, Messrs. Ed. Lucas & Co.
Agency at Gibara, Messrs. Ed. Lucas & Co.
Agency at Baracoa, Messrs. Ed. Lucas & Co.
Agency at Cuba, Messrs. Ed. Lucas & Co.
Agency at Trinidad, Messrs. Ed. Lucas & Co.
Agency at Sancti Spiritus, Messrs. Ed. Lucas & Co.
Agency at Puerto Principe