FLOWERS and

# The TONQUA BEAN

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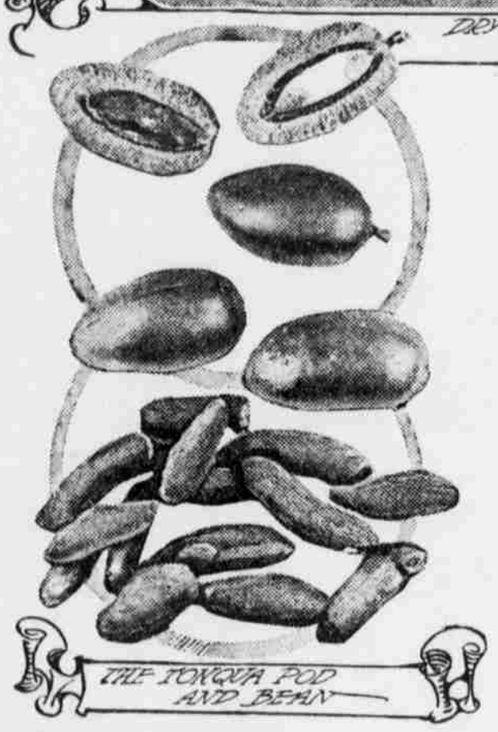
FRUIT OF THE TONQUA-BEAN TREE

DRYING TONQUA BEANS AT BORBURATA, VENEZUELA



THE TONQUA POD AND BEAN

THERE is a witchery about the smell of new-mown hay that appeals to humankind of high as well as low degree. There seems to be a tendency to revert to the primitive and bucolic in most of us, however effete and blase our tastes may have become, and the fragrance of the fields gratifies the olfactory nerves of prince and pauper, of the scullery maid and the pampered social butterfly, whose more or less remote ancestors doubtless breathed in the perfume as it rose from the dew-covered, tender grass they mowed with shining blade and gathered with their own strong arms. The attraction of the perfume seems to have lingered even through many generations.

New-mown hay not being always available, and somewhat too bulky for aesthetic use even when it is, the art of the perfumer has been called upon to gratify the sense of smell which longed for this particular aroma; so "new-mown hay" was added to the varied "perfumes of Araby" used as toilet accessories in liquid form, and now "milady" may inhale the delicious odor from her cut glass scent bottle. Mayhap she pictures to herself the sturdy youth with big, bare arms swinging his gleaming scythe and gathering the sweet young grass which she fondly thinks is the source of the delicious essence she now inhales. But perfumes, like many other things, are not always what they seem. Grass, freshly cut or otherwise, has had nothing to do with the production of the sweet-scented liquid labeled "new-mown hay." The source of the essence is really a bean. Not the prosaic, everyday, commonplace, edible bean of our market gardens, but a bean that grows in that section of the world where once El Dorado, the "Gilded One," was thought to rule in glittering splendor; that fabled land in the fruitless quest of which so many daring, gold-loving adventurers spent money, time, and even lives most lavishly. It is known as the Tonqua, Tonka, or Tonquin bean, said to be so called because it was erroneously thought to have been first introduced into Europe from the Chinese province of Tonquin. However it got its name, the real source of the bean is to be found in the tropical countries of South America, chiefly in the valleys of the Orfnoco, Caura, and Cuchivero rivers in Venezuela and in certain sections of Colombia.

The bean is the seed of Dipterix odorata, a tree belonging to the leguminosae or pulse family. The genus dipterix comprises about eight species, all large trees, to be found in the forests of Brazil, the Guianas, Venezuela, Colombia, and tropical South America generally, having no representatives in northern localities. The tree grows from 60 to 90 feet high, with a trunk sometimes three feet in diameter. The iridescent pods are about two inches long, almond shaped, and very thick; the single seed is over an inch long and shaped somewhat like a large kidney bean; it has a wrinkled skin of a shiny black color when ready for the market. The odor, which is remarkably strong, resembles that of sweet clover or new-mown hay, and is due to the presence of coumarin, a concrete crystallizable, volatile, neutral substance, which is soluble in alcohol and ether and somewhat so in boiling water, from which it crystallizes on cooling. The beans are often frosted with crystals of this substance, which show distinctly on their black surface and give them the appearance of being sugar coated.

As stated, the tree is indigenous to tropical South America, but the section which produces the largest quantities and perhaps the best variety of the beans is the region between the Caura and Cuchivero rivers. The watershed between these two streams consists of several mountain ranges of granitic formation, the most considerable of which is the Serrania de Mato. On the right bank of the Caura river mountains of similar formation, of which Turagua is the highest, also exist. The average altitude of these ranges is between 3,000 and 4,000 feet, although there are peaks as high as 6,000 feet. Besides the mountain ranges many isolated hills and large open masses of granite, only a little higher than the surrounding country, are scattered through the forest. The land in the vicinity of these mountains consists largely of granitic grit, and it is this soil that seems to be the most favorable for the growth of the tonqua-bean tree. The trees are not usually found in groves, but grow singly, though small clumps are occasionally found. The gathering of the nuts is thus all the more difficult and arduous. The wood of the tree is remarkably close-grained, very hard and heavy, and of a reddish color. In some respects it resembles lignum-vitae and is frequently mistaken for it. It is highly prized as a cabinet wood. While cultivation of the tree has been attempted in Trinidad and other of the West Indies to a limited extent, the fact that it takes from ten to twelve years to come into bearing has discouraged any systematic efforts along this line, and the wild product is still depended upon to supply the market. Again the crops seem to be very irregular, and it is impossible to forecast the yield of any particular year. As a rule there is perhaps not more than one good crop in every three years, production in the intervals being so scant that it hardly pays to collect the beans.

In Venezuela the tree is known as sarrapia, and the men engaged in the collection of the seeds or beans are called sarrapieros. Ciudad Bolivar is the center of the tonqua-bean industry of Venezuela, and it is there that the sarrapieros market their product.

One factor which has much to do with curtailing the tonqua-bean crop is the presence of birds in the tropical forests where the trees grow. Especially are the large macaws with their gorgeously colored plumage and the many other varieties of the parrot family to be found in these regions an abomination in the eyes of the sarrapieros. They feed on the small immature fruit of the trees in the months of October and November, long before the beans are ready to be gathered, and often flocks of these devastating birds may be seen wherever a large tonqua-bean tree is to be found. According to Eugene Andre, the English naturalist, no birds are more extravagant than parrots in their method of feeding, not so much on account of what they consume as of what they waste. Wherever these birds have eaten the ground is strewn with fruit only clawed and then awkwardly dropped, or perhaps with just a small piece bitten off. Hence the destruction before maturity of enormous quantities of the valuable beans.

In Andre's account of the industry in "A Naturalist in the Guianas" he states that it is usually about the beginning of February that the sarrapieros begin to organize their expeditions to the interior to collect the beans. For two or three months thereafter the Caura river presents a scene of animation. Boats of every size and description may be seen making their slow progress up the strong current of the river. Here will be seen a large bongo, or dugout canoe, of several tons capacity, carrying an entire family up the stream and laden with provisions for a stay of several weeks. Again small skiffs, just large enough for the two hard-working paddlers and their outfit may be seen making somewhat better progress. Occasionally a flotilla of several boats carrying a larger expedition, consisting of 15 to 20 men, is met with. Progress up the river is slow and frequent stops at the settlements along the banks are made for the purpose of laying in fresh supplies, resting, and having a good time. Many of the sarrapieros are old hands at the business and usually stop at the places leading to the sarrapiales with which they are familiar. They know every inch of the ground and every tonqua-bean tree in the district. Cano Guayapo, Suapure, Temblador, and La Prision are the names of some of the settlements where most of the boats stop. A few of the more energetic sarrapieros push on farther to Cangrejo, but it is hard work getting through the rapids of Mura and Piritu.

As soon as a party has selected a spot as a center of operations, the men build the ranchos or huts which are to be their homes for perhaps two or three months. If the fruit is sufficiently ripe and has commenced to fall, they begin gathering at once. Otherwise they spend the intervening time in locating the best trees and in hunting and fishing. When the fruit begins to fall, everyone gets busy. Men, women, and children all take part in the work of collecting. By daybreak the workers scatter through the forest and no fruit-bearing tree is overlooked. After all the fruit of the trees near to the ranchos has been gathered the men go farther into the forests, sometimes taking supplies with them and remaining absent for a week or two. During this time they sleep in the forest in their hammocks, using plantain leaves or palm branches as a covering to keep dry when it rains.

The fruit of the tonqua-bean tree, or sarrapia, resembles a mango in appearance, has but little pulp, which is rather sticky and tasteless but is edible, and the seed is covered with a hard furry substance. After a sufficient quantity of the fruit has been gathered, the sarrapiero takes the lot to some open place where he can get the benefit of strong sunlight. The hard shell is carefully crushed between two stones, and a single oblong bean of dark-brown color is obtained. After a heap of these has been secured they are spread out on the large open masses of granite called lajas, which form a peculiar feature of the forests of this region. When dried, these are the tonqua beans of commerce as they are sold to the merchants and exporters in Ciudad Bolivar. By the end of May or the first part of June the crop is about exhausted and the Caura river again becomes alive with the returning boats. From the Caura they go into the Orinoco and thence down to Ciudad Bolivar, where the sarrapieros sell their accumulations of beans to the large exporting houses.

Before the tonqua beans are exported they go through a process of crystallizing by being steeped in strong rum or alcohol. Casks open at one end are placed in rows and filled to within about a foot of the top with the beans. The rum is then poured in until the cask is full. It is then covered by layers of bagging or gunny sacks. At the end of 24 hours the rum that has not been absorbed is run off and the beans taken out and spread out to dry in a current of air. When first taken out the beans are of a dull black color and are soft and swollen with the absorbed fluid. On drying shiny white crystals appear on the surface of the beans, which gives them the sugar-coated appearance they have when they arrive at their final destination in Europe or the United States. In the drying process they shrink considerably, and this gives them the wrinkled surface. They are shipped in wine casks or rum puncheons to the markets of the world.

As indicated heretofore, the value of the bean lies in its sweet and lasting odor, and its active principle is much used by the manufacturer of perfumes as a basis. While the odor is really that of sweet clover or freshly cut grass, it resembles that of the vanilla bean so closely that the tonqua bean has been used as an adulterant in the cheaper grades of vanilla extracts. Once upon a time, when our not very remote forefathers had the habit of taking a pinch of snuff to titillate their olfactories to the sneezing point, the bean was in great demand. Every jar of snuff on the shelves of the wealthy contained several of these sweet-smelling beans, and even in the gold or silver pocket snuffboxes carried by our grandfathers a single bean was usually found to add its fragrance to the pungent powder which gave them such delight. Later the beans were used in pulverized form to give a delightful aroma to smoking tobacco, one use to which they are still sometimes put. A cheaper substitute has been found, however, in the so-called "wild vanilla," found in Florida, and the ordinary grade of smoking tobacco knows not the fragrance of the tonqua bean.

The price of the beans varies greatly and depends largely upon whether there is a good or poor crop. The crop of 1912 was very short and the price rose to $4.87 per pound. According year it fell to less than $1 per pound. According to the commercial statistics of the United States importations during the year ending June 30, 1913, amounted to 783,888 pounds, valued at $1,140,409. These figures are some evidence that the scent of "new-mown hay" is still quite popular in the United States, for the scent is about all there is to the tonqua bean. It lends its fragrance to fine tobacco for the smoker, to fine toilet soaps, to "brilliantine," and other hair dressings and dyes, to dainty cosmetics that softly tint the cheeks and lips of beauty, to flavoring extracts used in confections and ice creams, and to many other things that gratify the sense of smell. Thus has an agreeable odor become an important commercial commodity.

### INSULTED.

"Why are you so angry at the doctor?"

"Because when I told him I had a terribly tired feeling he told me to show him my tongue."—Fun.

### THE HOME COLOR SCHEME.

"What makes you look so blue, Jenks?"

"My wife's just drawn on me to go to a white sale."

# OUT-OF-ORDINARY PEOPLE

## DOES NOT SEEK PUBLICITY

Ask almost any man in Washington to name the assistant secretaries of state and this is the kind of an answer you will get:

"Let's see. There is Adee, who has been in the department since it was invented, and Phillips, a Republican, who came in in the midst of this administration because they wanted another experienced man in the department. Why, hang it all, there must be another assistant somewhere! I have it. What's that fellow's name who came here from Wyoming? I think he was a druggist, and, if I remember correctly, he is the Democratic national committeeman from that state."

"John E. Osborne?"

"Sure, that's the fellow. By jimminy, I have not heard of him since he was first appointed. Where does he keep himself?"

John E. Osborne keeps himself pretty much out of sight, so far as publicity goes. He is not mixing up in international matters to any great extent, and consequently his name is not getting into the newspapers. However, Mr. Osborne is not loafing on his job, which has to do mainly with the finances of the department.

Although he succeeded in substantially burying himself, for publicity purposes, Mr. Osborne has kept the state department out of bankruptcy, which was no mean job when the European war broke out and everybody looked to the United States for help. Between times he has found opportunity to set out a few diplomatic seeds, and one of them is now blooming in the shape of a readjustment of Santo Domingo matters which he handled when on a special mission.

## AID TO SANTA CLAUS

At one of the desks in the United States patent office sits a young woman scanning a pile of drawings. They are odd-looking sketches, consisting of hundreds of dotted lines, big circles and little circles, almost all the letters of the alphabet, and shadowy forms of human beings and animals. She is Miss Alice Purinton, an assistant examiner in the patent office, and it is her duty to pass upon the patentability of children's toys.

Hundreds of drawings and specifications of every toy imaginable find their way to her desk daily, and this material must explain exactly how the toys are made and operated. It is absolutely necessary that the toys work as the specifications state, and any skilled mechanic is supposed to be able to make them. If the description of a certain toy is not lucid enough for Miss Purinton to derive a clear understanding of the mechanism a model must be submitted. The submission of models is being discouraged, however, as they only accumulate in the patent office, collecting dust and taking up space.

One of the first and foremost requirements of a new toy invented is that it must have some new feature or improvement over an old and similar toy, or that it be a new and original idea entirely.

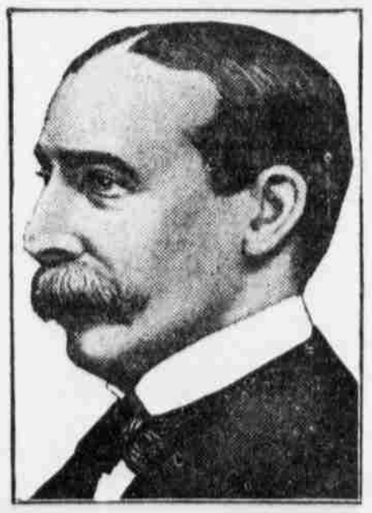
Mechanical and electrical toys with action are the most popular nowadays, according to Miss Purinton.

## VICTIM OF RACE HATRED

Sir Edgar Speyer, member of a banking firm that has houses in London, Frankfort and New York, has truly become a victim of race hatred generated by the war. Because he is a native of Germany, his loyalty to England, his adopted country, was fiercely attacked, and finally he resigned his post as privy councillor and came to America. He tried also to resign his baronetcy, but found he would have to remain a nobleman for life.

Sir Edgar has lived most of his life in England and was made a baronet because of his munificent philanthropies and his public spirit. Up to the outbreak of the war he was one of the most popular men in London, and he remained popular until last spring, when the undercurrent of English resentment toward Germany and Germans became vindictive. He was attacked in the newspapers, and despite a public assurance by Premier Asquith, long his friend, that he was loyal to England, it became necessary to place a guard around his London residence. Deeply hurt by the aspersions cast on him, Sir Edgar finally decided to quit England, at least for the present.

## "TORPS" OF THE BRITISH NAVY



"Torps" is the nickname of the torpedo lieutenant on a battleship. Sir Henry Jackson, new first sea lord of the admiralty, is the "Torps" of the British navy, for he is unquestionably its leading torpedo expert. His selection as successor to Lord Fisher is recognized as most fitting, for Germany's naval tactics have forced England to admit the importance of submarine warfare.

When Sir Henry entered the navy in 1868 the world was still chiefly thinking about the crude "spar" torpedoes which Cushing and other Americans had used in the Civil war, with the result that they were apt to blow up the torpedoer as well as the torpedoed. In 1881 he was appointed to the Vernon, the old torpedo schoolship at Portmouth, as a young lieutenant for a course of instruction. When that was completed he was able to start his career as torpedo lieutenant on a battleship, and that soon brought him to the command of the Vesuvius. This craft was attached to the Vernon as an experimental vessel and the captain of the Vesuvius showed so much zeal and knowledge that he was sent off to Fiume to learn about the Whitehead torpedo, which was being manufactured at the Austrian port.