

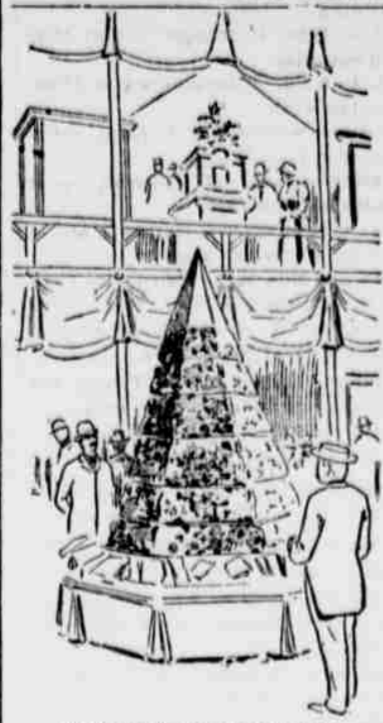
COSTA RICA.

A CENTRAL AMERICAN STATE AT THE FAIR.

Fine Exhibit of Its Products—Minerals, Woods, Hides, Coffee, Herbs and Roots in Great Profusion.

COSTA RICA'S house stands at the head of the lagoon which washes the steps to the Art Palace. It is the yellow building, with the blue, white and red flag flapping above the trees. Along the back runs a wide pinza, whose foundation is laid in the water. At the front two marble urns stand at each door post and above the door is the coat-of-arms of the State. Striving to develop its impenetrable forests and ore-filled mountains, it bankrupted its treasury and thus has not much money to spend for luxuries. However, it is at the Fair in a most creditable shape, and the old country which Columbus stumbled on during his third voyage hopes to receive an impulse in the right direction by taking its light from under a bushel. Once out of

interesting, since the average visitor has never seen saraparilla out of bottles or the soda fountain. Extending down the side of the long structure



COSTA RICA'S DISPLAY OF ORES.

are a score or more cases containing bottles and jars of plants and herbs used in medical practice. Barks, beans, roots, leaves, branches and

displays of all the articles imported, silken wares and sea weed products made by the natives. Everything about the place suggests commerce, and that is exactly why the country came to the Fair—to boom its export relations with the rest of the world, and particularly with this edge of it. —Chicago Herald.

The Atlantic Ocean.

The area of the Atlantic is about 30,000,000 square miles, less than half the area of the Pacific, and between one-sixth and one-seventh of the total surface area of the world. It would form a circle 6180 miles in diameter, which is rather more than double the distance from Liverpool to New York. Its depth is much better known than that of the Pacific, and averages more than 2000 fathoms, probably about 14,000 feet, or about two and two-thirds miles. The height of Mont Blanc is about three miles. The cubic contents are therefore nearly 80,000,000 cubic miles, so that the Atlantic could be contained bodily in the Pacific nearly three times. The number of cubic feet is 117 followed by seventeen ciphers, a number that would be ticked off by our million clocks in 370,000 years. Its weight is 825,000 billion tons, and the number of gallons in it is seventy-three trillions. A sphere to hold the Atlantic would have to be 538½ miles in diameter.

If it were made to fill a circular pipe reaching from the earth to the sun—a distance of 93,000,000 miles—the diameter of the pipe would be 1837 yards, or rather over a mile; while a pipe of similar length to contain the Pacific would be over a mile and three-quarters across. Yet the distance to the sun is so great that, as has been pointed out, if a child were born with an arm long enough to reach to the sun it would not live long enough to know that it had touched it, for sensation passes along our nerves at the rate of 100 feet a second, and to travel from the sun to the earth at that rate would take a century and a half, and such an abnormal infant is an unlikely centenarian.—Longman's Magazine.

Mathematical Combination Wonders.

If you want to know to what many depths mathematics can take you just begin to figure on combinations and keep it up industriously for an hour or two. One of the most wonderful examples in this line, perhaps, is that relating to the various combinations in dominoes. Doctor Bein, a Frankfurt (Germany) mathematician of international reputation, has calculated that two persons playing the game ten hours a day, and making four moves a minute, could continue one hundred and eighteen million years (118,000,000) without exhausting all the combinations of the game, the total of which is 248,528,211,840!—St. Louis Republic.

Mrs. Harrison's Monument.

The monument which ex-President Harrison has ordered for the grave of his wife in Crown Hill Cemetery, Indianapolis, will be massive in proportions and graceful in outline. Before General Harrison made his choice he examined designs submitted by monument dealers all over the country.



THE HARRISON MONUMENT.

The beautiful memorial to be erected will comprise four huge blocks. On the third base will be the name "Harrison" in large raised letters. Columns with tastefully carved capitals will be placed at the four corners of the base. Around the massive die, near the top, will be a handsomely carved astragal.

The monument will be made of granite from Barre, Vt., after designs by J. R. Lane, of Indianapolis. It will be one of the finest monuments in the cemetery.

The Real Thing.



"Well, now, this is what I call a genuine—"



snap."—Judge.

FOR FARM AND GARDEN.

EFFECT OF GRASSES ON WOOL.

Coarse, rough, wild grasses have been known to change the quality of Merino wool in a few months. On the contrary, the fine, soft, sweet grasses have always improved the coarser-wooled breeds of sheep. The wool market reports show a difference of value in the wools of the same grade of sheep from different sections. For convenience rather than from equity, the trade classes these domestic fleeces by states at present, and always have done so. It is worthy of note that these arbitrary gradings have been greatly modified and are continually tending to higher grades and values. It is said that western and prairie fleeces are dirty, gritty, and string so badly in scouring as to reduce their price; and as lands are closely grazed and become set in better grasses, a sod is formed that keeps the sheep's feet from the soil and less dust raised to settle in the fleeces, and so fleeces are cleaner and lighter. —[American Farmer.

COST OF SHEARING SHEEP.

It is not desirable to wash the sheep before shearing them unless the wool has been permitted to become filthy, and this no careful sheepmaster should allow to happen. Generally the washing injures the wool by removing the yolk and natural grease that give the usual softness and lustre to the fleece, and this is a damage to it, because it gives a harsh, rough feeling to the wool, and actually injures its selling value, while nothing at all is gained in any way. If the fleeces have been permitted to become foul, the sheep should be washed in warm water two or three weeks before shearing, and some sweet oil rubbed on the wool before it is quite dry. In the interval between the washing and the shearing, the wool will regain its softness and natural feeling and strength and elasticity. But as a rule the practice of washing sheep in brooks or ponds, with its barbarous recklessness as to the health of the men employed, is becoming rightly obsolete among sensible shepherds. The price paid for shearing varies from three cents a head to seven or eight. It is not difficult to shear a sheep in ten minutes. Thus a good shearer may make nearly \$2 a day at his work at three cents per fleece, and he well deserves it. A bungler is dear at any price, as he will eat the sheep and make future trouble. —[New York Times.

WETTING AND COOKING MEAL.

One of the largest feeders of swine gives his experience and judgment as follows: I find that if I take ten bushels of meal and wet it in cold water and feed twenty-five hogs with it, they eat it well, but if I take the same quantity and cook it, it doubles the bulk and will take the same number of hogs twice as long to eat it, and I think they fatten twice as fast in the same length of time.

Professor Stewart, in commenting on this, says he took two lots of three pigs each from the same litter, weighing 225 pounds each lot. Lot 1 had corn meal soaked twelve hours in cold water. Lot 2 had cooked corn meal, and each had all they could eat, and each had a cock of early cut clover every day. Lot 1 consumed 2,111 pounds of meal, and gained 420 pounds or 140 each. Lot 2 gained 600 pounds, or 200 pounds each. Or, figuring in another way, he got 11 pounds of pork for a bushel of meal soaked in water, and 16.47 for a bushel when cooked, a gain of nearly 5½ pounds to the bushel, getting half as much again for his corn by cooking it. Professor Stewart further says that "by good management the general feeder may reach with raw corn eight pounds, with raw meal ten pounds, with boiled corn twelve pounds, and with boiled meal fifteen pounds of live pork per bushel." —[Rural Life.

CONCERNING CREAM AND BUTTER.

It has generally been believed, writes Mrs. S. E. Wilcox of Ohio, that milk, to yield cream most perfectly in cold weather, must be kept in a warm atmosphere. Some experiments that I have made during the last winter would appear to disprove this. These few suggestions, regarding cream and butter, are not given for those who have large dairies, with separators, creameries, and other modern appliances, but for the average farmer who has only a few cows, and for the farmer's wife, who, with common and not altogether modern appliances, aims to make the most of the milk and butter. City people rely largely upon fancy dairy or creamery butter. But there is a large population in small villages who depend upon the local farmers for their sup-

ply, and are willing to pay a good price for a prime article.

During last winter I have kept milk at as low a temperature as possible above freezing, not only away from a fire heat, but, except in the very coldest weather, the window the room in which it has stood for thirty-six hours before being skimmed, was open night and day. It has been a matter of surprise how well the milk, under these conditions, withstood frost. Only a few times has it been necessary to introduce heat to prevent freezing. I think I have never gathered as much cream from the same quantity of milk under other circumstances. The "guide man" affirms that "the cows are the same as formerly, and have not received as good rations as usual." Directly after the milk was skimmed it was emptied from the pans into a large vessel and placed in a warm room; quoting from the "guide man" again "it was turned over and skimmed on the other side," and in twelve hours yielded a supply of cream for coffee, soups, and gravies. Many affirm that this second rising is counterfeited cream, and will not churn into butter, but I can testify that it is a very acceptable article for the cook. Doubtless many writers on dairy matters will say these experiments were very superficial, and their results unreliable and of little practical value, but make a note of them, my rural sisters, for future experiments and satisfy yourself regarding them.

Into the first skimming of cream put half a teaspoonful of salt and a heaping teaspoonful of pulverized salt-peter to every gallon of cream when churned. Salt causes cream to yield butter more readily and retards acidity. This quantity will not make the butter-milk too salt for culinary purposes. Salt-peter tends to keep the cream from becoming bitter in winter, and gives butter a firmer texture in the summer. It also acts as a preservative in the butter. I find some excellent butter makers are putting white sugar in butter; some use half as much sugar as salt. I use one-third. The presence of sugar increases the preservative quality of salt and imparts a pleasant flavor. Few people on small farms have ice, but nearly all have plenty of cold water. With neither ice nor cold water good butter cannot be made in warm weather. Put a strong bail on an old-fashioned stone churn and keep the cream in it. In hot weather put the jar into the well twelve hours before churning. This is also a good place to cool butter. Most wells can be arranged to make this practicable. If this jar is used for a churn, it saves time and labor in handling the cream, and is easily kept sweet. It is claimed that granular butter cannot be made in a dash churn, yet an article can be made for which local consumers will gladly pay more than the market price. —[American Agriculturist.

FARM AND GARDEN NOTES.

Waste no grain in harvesting.

You can't give corn too much cultivation.

Keep a careful record of all farm experiments.

Never change milkers when it can be avoided.

Bran will balance fodder better than corn meal, as a milk ration.

Rosin and tallow in equal parts make a good covering for wounds in fruit trees.

In some cases one reason why peaches do not do well is lack of potash in the soil.

Nothing is too good for a good feeder that is capable of improvement in flesh and order.

Weeding out the poorest is the cheapest way of improving the record of a dairy herd.

Horses will do more work on barley than on oats, corn, peas, beans or any combination of these.

Night pasture for work horses will help to cool their blood. Give their grain ration just the same.

Growing colts need plenty of exercise, and this is as important in summer as at any other season.

The trouble with a very large amount of dairy butter is the lack of skill and system in its manufacture, hence the quality is often variable.

A cow is a good cow simply because she has an increased capacity for turning raw material into the kind of product the dairyman wants.

Give your stable a thorough cleaning occasionally, it will more than repay you in the way of appearance, and is beneficial in a sanitary way.

American horses are too high for their weight, with legs too small for their overgrown bodies, a lack of substance, which superinduces unsoundness and weak constitutions.

SCIENTIFIC SCRAPS.

False teeth are now made from paper, and are said to wear well and last a lifetime.

The excavation of Hell Gate reef, New York City, was attended by 21,000 soundings and 8,000 borings.

An alloy of seventy-eight per cent gold and twenty-two per cent aluminum is the most brilliant known.

Diamond cutters in Holland have succeeded in cutting stones so small that it takes 1,500 of them to weigh a karat.

More women than men go blind in Sweden, Norway and Ireland; more men than women in the rest of Europe and the United States.

The Prussian government is making an experimental boring in the Rybnik district of Prussian Silesia which at the depth of a mile and a quarter, is still progressing.

Naphthalene, which is a product of coal tar distillation, in appearance something like paraffin, has been found useful in England for the preservation of timber.

England reports a ten-ton cutter about to be built of the new metal. The theory is that an aluminum hull with the usual lead keel ought to be both light and stable.

A locomotive engineer's ear becomes so acutely trained to the noise of his engine that when a bolt gets loose or anything goes wrong its sense of hearing informs him of the trouble at once.

A Victoria Regia lily in the park of Schonbrunn, near Vienna, was in bloom recently. The plant has eleven leaves, and one of them is capable of supporting sixty-five pounds without sinking in the middle.

There are at present something like 70,000 public gas jets in London; their average power is that of sixteen candles—that is to say, the total is equal to 11,000,000. Were these all clustered together and placed at a height of 2,000 feet, the resulting light could be seen for a distance of more than 100 miles.

It is said that a process of gilding and plating on aluminum has been invented by a German scientist. By this process aluminum may now be gilded and plated either by galvanic deposit, in the same manner as is adopted for other metals, or by direct application and heat. The process involves the covering of aluminum with a special metallic film, and it is completed by the usual electro-plating methods.

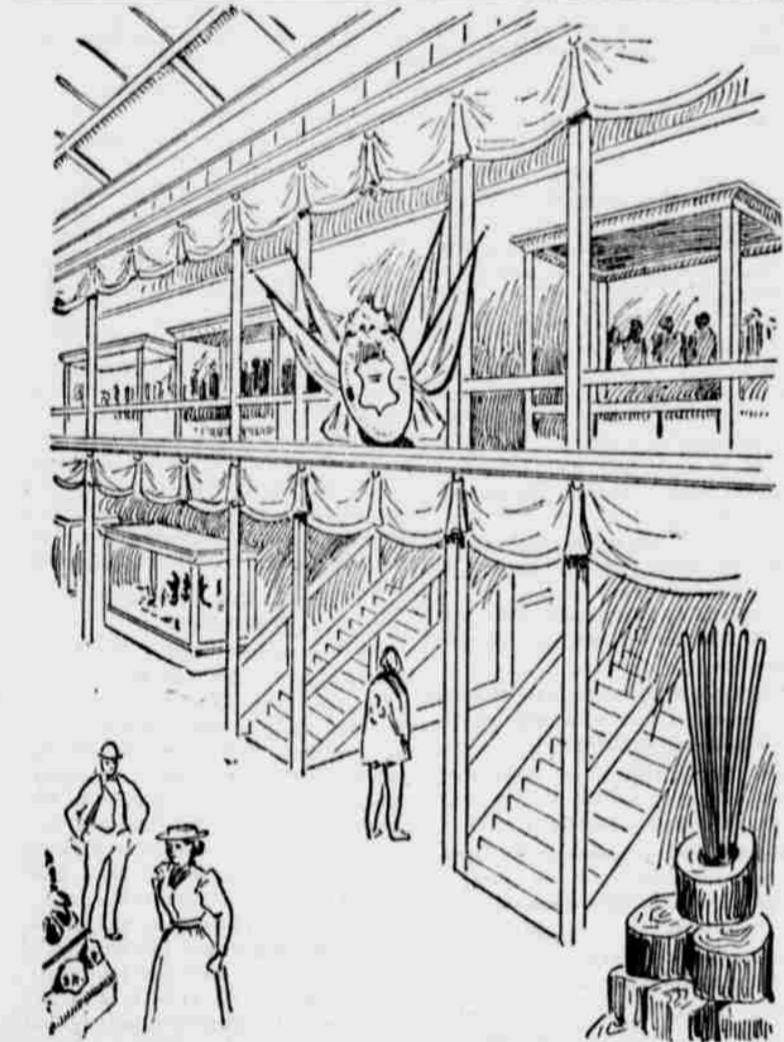
An invention designed to facilitate the immediate stopping of a vessel moving in dangerous waters, or in colliding with another vessel, has been patented by a Peruvian. A vertically sliding frame on a post at the bow of the vessel has on its sides pivoted wings adapted to expand transversely to offer resistance to the forward motion of the vessel in the water when the frame is in its lowermost position.

How Plants Travel.

The manner in which some plants travel is peculiar. A certain weed was transferred to Antartice Island in the mould clinging to a spade and soon became common. Birds carry seeds in the clay which sticks to their feet, sheep and other animals in their hair; and few things are more common than the dispersion of edible plants by birds and beasts which pass the indigestible seeds of the fruits they have eaten. The struggle for existence between the native and the alien flora is, on a small scale, as remarkable as the same process in the case of men, in the end the struggle tends to right itself, for the prolific growth of the alien species on favorable ground leads to severe internal competition, and after the earth is drained of the substances which they especially require they die a natural death, while the native plants, which were temporarily banished, recover their position. Many instances are quoted of vigorous and heavy crops of foreign weeds one year being followed by total disappearance the next.

Buttons of Blood.

"One secret of the Chicago packers' great fortune is simply," said a resident of that city recently, "they don't waste anything. The meat, the entrails, everything is made use of but the squeal. They can't catch that, so it is wasted. Funny thing what they do with the blood. It is all caught in a great tank, and after it clots is carted off to a stamping house, where powerful machines are busy stamping it into buttons. Yes, buttons of blood are a novelty. It is all done at one stamp of the big dies, and it was found that they wore remarkably well. They are distinguished by their peculiar red color."



MAIN EXHIBITION HALL IN THE COSTA RICA BUILDING.

debt, or even able to meet its obligations, the country will forgo to the front. It is blessed by nature most lavishly. Its greatest need is men, and men with money.

Draped in the colors of the country, the interior of the building is devoted exclusively to business. There are no elaborate reception-rooms nor offices with magnificent furniture. Dr. Guzman, Costa Rica's Commissioner, retained only a corner for himself among the animals and birds, and silks and dyes that his country has sent. The gallery makes the circle of the building, with great slashes of color hanging in the arches. Shields and bronze groups of soldiers, and zealots rushing with blazing torches are among the decorations. Many photographs of almost topless mountains, endless jungles and handsome girls from the far South, adorn the walls, with here and there oils executed in peculiar ways.

pulverized woods are in a bewildering profusion until it looks as though nature had grown a remedy for all the real and imaginary ills of body and flesh. Not even the old family "doctor book" can relate a disease for which Costa Rica does not grow its balm.

Pyramids of minerals and woods fill the center, showing the natural resources of the country. The stones range along the whole gamut of value from the cumbersome lumps of iron to bits of precious metals. The woods are stub-ends of logs, polished and varnished to high degrees and in a variety which is simply marvelous. The forests are yet practically virgin, the natives alone being large consumers and the uses being largely those for heat and waste. Long on timber, Costa Rica is short on a market for it, and thus the very best sells at almost ridiculous prices.

Hides of almost everything from snakes up are shown, those of the fur tribes being most numerous. The country has not much use for warm garments, and it is curious that nature in its wisdom filled the south woods with pelts for Arctic coats. The birds with densest plumage always pant where the sun is fiercest, and thus it happens that Costa Rica has songsters with feathers a yard long, and other birds with plumage rivaling the rainbow in brilliancy. They are in the National Building in great profusion, and arranged as found in the jungles. Some look like jokes, with spindling legs and bodies too heavy for them, and others are built on graceful lines with most wonderful beauty. One end of the gallery is a long-distance landscape, and the blue sky and white clouds are helped out by stuffed birds nailed to the canvas. This is realism in art with a vengeance, but since the aim is to show the birds and not the landscape the criticism hardly stands.

Like all the neighboring States and Kingdoms, Costa Rica raises coffee and challenges the world to equal its product in quality. To prove its value great silver tanks have been arranged to cook samples, and when the building was opened all visitors were given long draughts of the fragrant mixture. For this purpose the end next the north had been reserved. Thus all the departments of the country's varied business relations are exhibited, the Government sending many things from the National Museum. There are cases of coin and script of the country,



BIRDS FROM COSTA RICA.

Saraparilla grows in Costa Rica and along with a wealth of other shrubbery this medicine is shown. It is