and \$3.50 for his money 00 and \$3.50 n get elsewhere. ells more \$3.00 and \$3.50 ner two manufacturers. a \$4.00 Gilt Edge Line



Birds Learning Grasshopper Songs. It is generally known that some species of birds are able to imitate the songs of other birds, but a more surprising fact is related by a French naturalist, Monsier Coupin, concerning a sparrow which learned the shrill chant of grasshoppers. The insects happened to be confined in a cage but it was not until a year afterward, when again the bird and grasshoppers were neighbors, that the sparrow was heard mitating the notes of the insects. All the rest of its life, and long after the grasshoppers from whom it had taken its lessons were dead, the sparrow continued to interningle with its own songs the peculiar music of its lost friends.

Birds Learning Grasshopper

First Use of the Hot Blast.

First Use of the Hot Blast.

James M. Swank, in a Government report on iron and steel, says: The first practical application of the hot blast to the manufacture of pig iron in this country was made at Oxford Furnace, in New Jersey, in 1834, by William Henry, the manager. The waste heat at the tymp passed over the surface of a neat of small cast-iron pipes, through which the blast was conveyed to the furnace. The temperature was raised to 250 degrees Fahrenheit, and the product of the furnace was increased about 10 per cent. In 1835 a hot blast oven, containing cast-iron arched pipes, was placed on the top of the stack by Mr. Henry and heated by the flames from the tunnel head. By this means the temperature of the blast was raised to 500 degrees. The fuel used was charcoal. returne was raised to 250 degrees along to 1835 a hot blast oven, consuling cast-fron arched pipes, was laced on the top of the stack by Mr. feirny and heated by the flames from he tunnel head. By this means the superature of the blast was raised to 500 degrees. The fuel used was harcoal.

Electrical apparatus used in mining estimated to be worth \$100,000,000.

# No Hair?

"My hair was falling out very fast and I was greatly alarmed. I then tried Ayer's Hair Vigor and my hair stepped falling at once."— Mrs. G. A. McVay, Alexandria, O.

The trouble is your hair does not have life enough. Act promptly. Save your hair. Feed it with Ayer's Hair Vigor. If the gray hairs are beginning to show, Ayer's Hair Vigor will restore color every time. \$1.00 a bottle. All druggists.

If your druggist cannot supply you, send us one dollar and we will express you a bottle. Be sure and give the name of your nearest express office. Address, "J. C. AYER CO., Lowell, Mass.

### Dizzy?

Then your liver isn't acting well. You suffer from biliousness, constipation. Ayer's Pills act directly on the liver. For 60 years they have been the Standard Family Pill. Small doses cure. All drugglets.

Want your moustache or beard a beautit brown or rich black? Then use BUCKINGHAM'S DYE Whiske

Moving a Mammoth.

The skeleton of a giant mammoth, unearthed some time ago in East Siberia, will be brought to St. Petersburg in the coming winter. The task of conveying it is a most formidable one, as the distance to idkutak, which is the nearest railroad station, is some 5,000 miles. The skeleton will have to be cut up and treated with arsenic each portion being encased in cowhide in order to prevent the air ketting it. As far as Yakutak the river Lena will be utilized, but from there nearly 2,000 miles of swampy forest will have to be traversed. The conveyance will be effected in sleighs, and it is calculated that at the least 50 horses will be required to draw them.

Pneumatic Clocks.

The city of Paris is being rapidly supplied with a system of public clocks worked by compressed air under electrical control. The entire area of the city is divided into sections about a mile and three-quarters in radius, and in the center of each section is a sub-station provided with a reservoir of compressed air, from which air-pipes extend to all the clocks included in the section. By means of electro-magnets, energized every minute with currents from a commutator controlled by a master-clock at the central station, the air-pipes are intermittently connected with the reservoirs, and thus the compressed air, once every minute, drives forward the hands of the clock.



Mrs. Emma E. Felch, Treasurer Fond du Lac, Wis., Social Economic Club, Tells How She was Cured of Irregular and Painful Menstruation by Lydia E. Pinkham's Vegetable Compound.

"DEAR MRS. PINKHAM: - I have used Lydia E. Pinkham's Vegetable Compound for irregular and painful menstruation, and was entirely cured after using two bottles. I can truly say it is a boon to suffering women, and I would recommend all suffering from the above troubles to try a few bottles and be cured. Very thankfully yours, EMMA E. FELCH, Division St., Fond du Lac, Wis.'

\$5000 FORFEIT IF THE ABOVE LETTER IS NOT GENUINE.

When women are troubled with irregular, suppressed or painful menstruation, weakness, leucorrhes, displacement or ulceration of the womb, that bearing-down feeling, inflammation of the ovaries, backache, bloating (or flatulence), general debility, indigestion, and nervous prostration, or are beset with such symptoms as dizziness, faintness, lassitude, excitability, irritability, nervousness, sleeplessness, melancholy, "all-gone" and "want-to-be-left-alone" seelings, blues and hopelessness, they should remember there is one tried and true remedy. Lydia E. Plinkham's Vegetable Compound at once removes such troubles. Refuse to buy any other medicine, for you need the best.

No other medicine for female ills in the world has received such widespread and unqualified endorsement.

Mrs. Pinkham invites all sick women to write her for advice. She has guided thousands to health. Address, Lynn, Mass.

Tamieted with Thempson's Eye Water SOZODONT for the TEETH 25c

SCIENCE AND INDUSTRY.

There is to be a rival to margarine to the British Consul-General at Ma to the British Consul-General at Mar-seilles. He says it is to be called "vegetaline," and is nothing else than the oil extracted fram coprah (dried cocoanut); refined, and with all smell and taste neutralized, it becomes like

A London paper announces that the sum of \$7,500 has been placed at the disposal of Professors Haeckel, Con-rad and Fraas, of Jena, Halle and Stuttgart, respectively, as a prize for the best work on the theme "What do we learn from the principles of the theory of heredity in reference to the inner political development and legis-lation of States?" Manuscripts must be in German and are to be delivered to Professor Haekel not later than Dec. 1, 1902.

At the Hodbarrow Mines, at Millom, on the Cumberland coast, England, work is being carried out to enable mining to proceed still further under the sea. The company's first lease the best of the company's first lease. extended to ordinary high-wate only extended to ordinary high-water mark on the south. Through the surface caving in when ore was extracted, it was necessary to leave a barrier of 360 feet wide, to protect the mines, as the sea would otherwise have filled the hollows on the surface and eventually have flooded the mine. This barrier was ultimately found to contain over 5,000,000 tons of ore. A second sea wall going beyond the older one has been commenced.

one has been commenced.

The wholesale slaughter of kangaroos for their valuable hides has resulted in the practical extinction of these remarkable animals except in the remoter regions of Australia, and most visitors make their only experience of the continent's typical quadrupeds in the zoological gardens of the principal cities. In the "back blocks," as the interior parts of Australia are called, they are still to be found in considerable numbers, and afford exciting sport to the hunter. The tribo of Australian kangaroos includes, besides these animals proper, a constantly dwindling succession of related species—wallaroos, wallables, paddymeloos, and so on, ending with the diminutive and dainty kangaroo rat.

Everybody has observed the habit me insects have of hovering or that some insects have of hovering or dancing on the air, generally in a group, with every manifestation of enjoyment. There is a species of two-winged flies that are particularly fond of this sport, for sport it undoubtedly is. They assemble in some spot shel-tered from the wind, and indulge in their dance for hours at a time. Their motions consist of alternate rising and motions consist of alternate rising and falling in periods of a few seconds, and over a distance varying from one foot to four. They become so much interested in the dance that they cannot be scattered. If disturbed for a moment they at once reassemble, continue the sport as if nothing had interfered with them. Much has been written about this habit, but the nat uralists agree, we believe, in consider-ing it real play.

Ing it real play.

According to a paper recently read by Dr. Aron before the Berlin Medical society the inhalation of oxygen for the relief and cure of certain lung and heart affections, in which it is commonly recommended, is of little value. The atmosphere, he said, contained a sufficient proportion of oxygen to saturate the haemoglobin of the blood, and as the haemoglobin when saturated was, of course, unable to absorb more oxygen inhalations of oxygen were evidently useless. He had found that the results of practical experience were in accordance with these views. The few instances in which the oxygen seemed beneficial were cases of dysponae (difficulty in breathing), in cardiac and pulmonary diseases, but the improvement was maintained only while the inhalations were actually in progress. In the treatment of apparent death from drowning artificial respiration was just as efficacious. In poisoning by carboile oxide and in rarefied air, where the amount of available oxygen was less than the normal, the administration of oxygen was desirable.

### Apoplexy and Brain Workers

Apoplexy and Brain Workers.

The number of deaths from apoplexy daily among prominent business men is a matter for comment. It almost appears that the disease has a special predilection for brain workers who have passed the life meridian. Some explanation for this may be made by taking into account the stress of mental work to which the ambitious and untiring American so willingly yields himself. The brain is the last organ that seemingly feels the strain, organ that seemingly feels the strain, and the ultimate breakdown is usually more or less sudden

more or less sudden.

The latter was particularly the case in the death of Bishop Littlejohn. For a long time the mine was being prepared for the final explosion. In a person of his years, temperate habits, vital force and persistent mental activity the gradual wear and tear upon the blood vessels of the brain directly invited the ultimate issue. the blood vessels of the brain directly invited the ultimate issue. The arterial supply was evidently quite extensively involved in the gradual degenerative process that occurs late in life. The hemorrhage was consequently quite extensive, involving the deeper portions of the centres, tearing their tissues and overwhelming pain and consciousness in a quick stroke. Melancholy as is the fest the feet.

nd consciousness in a quick Melancholy as is the fact, this Meancing as is the last, this more of death is the best of all that are caused by apoplexy, and the patient is spared a life of subsequent misery and comparative helplessness while and comparative helplessness while awaiting and dreaming an inevitable



When using insect remedies keep in view that the bordeaux mixture should be resorted to against fungus diseases, the kerosene emulsion for insects that the kerosene emuision for insects that suck juices (such as plant lice), and Paris green for those that gnaw or bite (potato beetle). Kerosene emui-sion will injure some plants, however, unless well diluted.

### Storage of Farm Products

Storage of Farm Froducts.

When harvesting the beets, carrots and turnips this fall care should be given their storage. When put into pits or mounds the frost sometimes seals them up until spring. Some pack in bins, in dry earth or sand, but it has been found that one of the best methods is to pack in large bins and thinng in with oaus, which keep the roots at an even temperature, and makes them convenient for use, while the oats are not injured. the oats are not injured.

Disposing of Dead Animals.

The bodies of uead animals are converted into fertilizer by some farmers, but something depends upon circumstances as to the advisability of so doing. If an animal dies of some contagious disease, and is buried, the carthworms will bring to the surface the germs of the disease. This fact was demonstrated by Pasteur, the famous French chemist, who made tests in that direction. Disease was communicated to animals that ate grass which grew over the body of a buried animal. The better plan is to consume the bodies of diseased animals, or subject them to a bath of sulphuric acid, after death, in order to destroy the germs of disease. Disposing of Dead Animals.

Favus is a disease produced by a minute parasitic fungus and attacks the comb, wattles and neck, causing the feathers of the latter to fall out. It is very destructive in poultry yards in England, and being highly contagious spreads with great rapidity. A single diseased bird soon contamin ates the whole flock and several outbreaks have been traced to the intro duction of a new bird from an affected

yard.

Unless treated properly, is usually ends fatally. The feathers become erect, dry and fall out, leaving the skin covered with dull yellowish gray crusts. The English board of agriculture in a recent leaflet recommends bathing the affected parts with warm water and castle soap, then applying some ointment to destroy the fungus. Nitrate of soda and lard is useful. Red oxide of mercury has also proved an excellent remedy.

### Sorghum as Feed.

Many farmers are looking for a etter fodder plant than Indian corn, better fodder plant than Indian corn, and our individual experiences as well as observation leads us to believe that for a good part of our country no better plant has been found than sorghum. It is easily raised, and if sown broadcast it may be cut with a mownlog machine and dried about as pond grass, and fed out at any time If sown in this way it should be sown as carly as possible, so as to have hot carly as possible, so as to have hot weather in which to cure it. Or it may be planted in drill rows and har-

vested as is corn.

If a litle care is exercised in bringing up stock to a full feed, there need be no danger of colic. In feeding to cows and other stock that are to have young we have always taken the seed off, as it seemingly is productive of premature birth. I have tried almost every forage plant in a small way, and am anchored on sorghum as the fleshbuilding and retaining fodder for cattle, horses and sheep, and the best winter fodder to aid in a good flow of sweet, pure milk from much cows. The sugar in the stalks is a great fat produncer in winter. D. T. Stephenson in the Epitomist. ing up stock to a full feed, there

## Effect of Fumigation on Grain.

Effect of Famigation on Grain.

Owing to the fact that many millers fumigate their storehouses, bins and buildings in which grain is stored by means of bydrocyanic acid gas, without removing such grain, the question has arisen whether or not his fumigating has injured the grain either for food or planting. The Maryland experiment station has made a number of tests along these lines.

In the test as to the effect on the germinating quality of the seeds it was found that dry seeds are sufficiently resistant to the influence of the gas to stand a treatment of several weeks of an atmosphere saturated with hydrocyanic acid gas without destroying their vitality. If the seeds are damp, however, they are much more susceptible to the influences of the gas, and should not remain more than two or three hours in gas of sufficient strength to destroy animal life.

Only a few tests were made along the line of the effect of gas on the seeds for food, but it was found by feeding the treated seeds to mice that there appears no danger in the use of them for foods. The general conclu-

there appears no danger in the use of them for foods. The general conclusions arrived at showed that stored grains and other seeds may be fumigated with hydrocyanic acid gas of required strength, and for sufficient time to insure the destriction of insect pests without injury to the germinating quality of the seeds and withrendering them injurious as foods

Wheat for Animals.

unprecedented drouth which bade fair to cut the corn crop

down to next to nothing, but which began late enough to allow the production of a large crop of wheat, is turning the attention of the farmers to the possibility of feeding wheat in place of corn. A number of considerations must be kept in view. The kernels being much smaller than those of corn, there is much more danger of their escaping mastication and passing out undigested. Many farmers who regarded it as unprofitable to feed wheat whole found on crushing or grinding it that all difficulty disappeared. It is especially necessary when fed to steers or mileh cows. In animals with smaller mouths, there is less waste than with cattle, and some have observed a positive advantage with sheep in feeding it whole. This was due, however, to the greater consumption of whole grain than ground. Ground wheat has an important disadvantage in feeding, in that it is apt to form a gummy mass, which adheres to the teeth, making it ground. Ground wheat has an important disadvantage in feeding, in that it is apt to form a gummy mass, which adheres to the teeth, making it difficult and disagreeable to handle by the animal. This fault has been the source of some of the poor results in feeding it, and is best obviated by feeding it mixed with some other grain, as corn, oats, or Kafir corn. Animals fed upon a mixture are less liable to become cloyed than when fed upon wheat alone. In brief, the nutritive value of wheat, as shown by its composition, is greater than that of corn. It can be best utilized by feeding it ground or crushed, and mixed to a certain extent with oats, corn or Kaffir-cbrn; it may be fed advantageously to horses, cattle, hogs, sheep or poultry. In discussing the feeding value of wheat, the grain only has thus far been in mind. In this year of extreme scarcity of roughage, it may not be amiles to inject a word of suggestion that wheat straw is much better than nothing, and that in all probability the farmers of the wheat belt can contribute to the needs of their less fortunate fellow citizens, and add to their own profits by preserving, balling and marketing their straw, instead of burning it as usual.—J. T. Willard of the Kansas Experiment station in the Country Gentleman.

Growing Market Potatoes.

Almost any kind of soil that will raise a crop of corn will produce good potatoes if properly prepared. It very essential that the ground be lo and fine before the seed potatoes are planted. If the land has been plowed

and fine before the seed potatoes are planted. If the land has been plowed in the fall, disk or harrow till it is loose and fine to a depth of three inches, then plow again. This will give a good seed bed of six or seven inches of fine loose earth.

If you wish to plant in hills they should be about three and a half feet apart each way, to allow of free cultivation. I mark with a corn marker one way, and then use a four-shovel sulky cultivator to open up the furnow the other way, taking off the two inside shovels and fastening the other two the desired distance apart.

The next thing of importance is to have good seed of some popular salable variety. Cut to one or two eyes and place only one piece in a hill.

and place only one piece in a Place your foot on each piece so

able variety. Cut to one or two eyes and place only one piece in a hill. Place your foot on each piece so as to press it down into the loose dirt as deep as possible. This will make covering easier and will also prevent drying out. Cover with a hoe, putting one hoeful of dirt on each piece of potato. The marks made by the sulky cultivator will remain so as to be easily seen across the field. Never plant scabby potatoes if it can be avoided, but if you must plant them, soak in corrosive sublimate solution, one part of sublimate to 1000 parts water, for two hours before planting. After planting it will not be necessary to do anything more to the potato patch for two weeks. By that time pigcon grass and other weed seeds will have commenced to grow by the thousands, but the potatoes will not be above the ground. Now take the sulky cultivator and turn the inside shovels a little, so that when you follow the cultivator marks it will leave the ground as level as possible. This will kill all the weeds, and by the time they start up again the potatoes will be out of the ground. They can then be easily cultivated field after planting to kill weeds. I never do it, for if the soil is very loose the drag is sure to break off many sprouts and sometimes remove the seed piece out of its place.

The cultivating should be kept up as long as the vines will permit, and the soil should never be allowed to bake after a heavy rain or ugly, deformed, bunchy potatoes will result. A good plan is to cultivate one a week whether there are any weeks in the natch or

bunchy potatoes will result. A good plan is to cultivate one a week wheth-er there are any weeks in the patch or not, for if dry weather prevails the loose dirt will hold the moisture bet-ter. If rainfall is excessive, the ground cannot bake if the cultivator The hiller should be kept going. The hiller should sed the last two or three times. will not disturb the small potatoes which will set before the vines are large enough to stop the cultivation. If potato bugs bother the vines

spray with paris green.
ng pump for that purpose be bought for 50 cents at most hardbe bought for 50 cents at most hardware stores, but if one cannot be obtained, mix paris green, one teaspoonful to three gallons water, and for a sprinkler use a bunch of ...motay heads, and when you are through using, put it into the stove. It is only the work of a minute to get another when needed.

If the potatoes are to be shipped as soon as harvested, they should not be dug until the middle of October They can be dug in the forenoon, left to dry a few hours in the sun, then loaded into wagons and hauled directly to the cars.—John Lye, in American Agriculturist.

UTILITY OF THE SANDBINDERS.

Grasses with Which It Is Hoped to Hold the Drifting Sands on Our Coast.

Grasses with Which it is Hoped to Hold the Drifting Sands on Our Coast.

Prof. F. Samson Scribner, agrostologist of the department of agriculture, has returned to Washington from Buffalo, where he has been in charge of the department's exhibit of grasses. 90 varieties of which are under cultivation at the exposition. Since he left Washington Prof. Scribner has traveled extensively along the Atlantic coast and throughout New England and New York states, engaged in superintending the selection and the preparation of various species of grasses known as sandbinders, by the extensive cultivation of which the department hopes to hold the drifting sands of the Atlantic coast. The principal experiments with different varieties of these grasses are now being conducted in the vicinity of Cape Cod, and Prof. Scribner said today that it had been demonstrated that the sand dunes of that locality were being held by the intelligent use of the sand-binders. On the Pacific coast the cultivation of these grasses had resulted in fixing the sandhills in the vicinity of San Francisco and Los Angeles and had made possible the creation of the Golden Gate park.

tivation of these grasses had resulted in fixing the sandhills in the vicinity of San Francisco and Los Angeles and had made possible the creation of the Golden Gate park.

These experiments with the sandbiners, Prof. Scribner said, were being conducted in all sections of the country in co-operation with the experiment stations of the various states, and since the inception of the idea and the steps taken toward carrying it out, commendatory letters have been received almost daily at the department from persons who either reside in the sandy districts where the grasses are being utilized, or whose business interests bring them in touch with conditions along the coast. One variety of the sandbinders which has shown up well in experiments is the Montana blue grass, which has been transplanted with great success to the north Atlantic coast. This grass, aside from its utility, lends most picturesque coloring to the sand dunes, and when thickly grown along the coast, blends with the hue of the ocean and from a distance makes it a difficult matter to determine the line of sea and shore.

While in New England Prof. Scribner had a consultation with the secretary of the Massachusetts state board of agriculture, looking to the redemption of the abandoned farms of New England from their present state of disuse, while the abandoned farms are generally considered, through a misconception of the facts, to be sections of worked out land. Prof. Scribners said that as good land as any in the east is embraced in some of these abandoned tracts. All they needed, he said, was intelligent cultivation and tillage. The planting of forage crops, noted as soil improvers, would aid materially in increasing the proper use of fertilizers would do the rest. In the majority of cases he productiveness of the land and the proper use of fertilizers would do the rest. In the majority of cases he productiveness of the land and the proper use of fertilizers would do the rest. In the majority of cases he productiveness of the land and the proper us

doned because the land was too poor and barren to till, but because the younger generation had drifted to the cities, not caring to continue the strug-gle in the old-fashioned way, opgle in the old-fashioned way, op-pressed by mortgages and discouraged by the failure of crops and the refrac-tory and unproductive soil, and not having sufficient knowledge of mod-ern agricultural ways. agricultural methods to open the fight on other lines,

"Hit Me; I'm Big Enough."

"Hit Me; I'm Nig Enough."

He wasn't very big, but he was a sturdy little chap with a face that bore the marks of much thinking and fremature responsibility. I learned afterward that he was supporting a crippled mother and an invalid sister who had been left helpless in the world by the death of her father. He wight have run away from hone and might have run away from home and evaded the responsibility, but he didn't think of it. He just sold pa-

pers.
At the loop on Fifteenth street a crowd was gathered, waiting for the evening cars. A ragged young girl was selling flowers at the Fifteenth street end of the waiting station when a man, rushing to catch his car, knocked her against the side of the building. Without stopping, proba not having noticed what he had-do he continued his rush, when the tstepped in front of him, defiantly. 'Say, what do you want to knock girl down for? Hit me, 'fm' tenough.'

The man paused in surprise, and then man paused in surprise, and then glanced around. He saw the flower girl picking up her wares, and understood. Without a moment's hes-

itation he went back to her, gave her enough money to makes her eyes sparkle with joy, and said:

sparkle with joy, and said:
"I'm sorry, my dear, that I hurt
you. I didn't see." Then turning to
the boy, he continued: "You said you
were big enough, young man, but
you're a great deal bigger than you
think. Men like you will have a lot
to do with keeping this old world in
a condition of self-respect."
Then he caught his ear and the boy
and the girl stood there wondering
what he meant.—Denver Times.

Sovereigns Who Might Change.
The two monarchs who could change thrones to the greatest advantage are Edward VII, R. I., of Britain and the Indies, and Wilhelm II, King of Prussia and German Emperor Bath are Indies, and Wilhelm II., King of Prussia and German Emperor. Both are thoroughly acquainted with the political and social conditions of the "other country." Each speaks the language of the realm of his imaginary adoption with perfect ease. Kaiser Wilhelm is half English. King Edward is half German.—Pearson's Weekly.

The difference between self esteem and conceit is the difference between you and your neighbor.