on the bull of his ship before launching which showed her exact water line when launched. The water line of the ship in every possible position is known, and consequently her stability. From the table of proportions the shape of the cross sections or frame at any given point is laid out on the "mould loft" floor with great accuracy, in the actual size of the ship to be built. And from this wooden patterns are made to correspond with every part of the frame. These patterns are now in turn placed upon an iron floor, covered all over with square holes intended to receive iron pins, and its curvature accurately marked in and out among the holes, which are then supplied with pins and bolts. The angle iron intended for that particular rib or part of the frame is brought from the furnace at a red heat, and after being drawn into this curved line, is bolted down until it cools into permanent shape. Two are made alike, corresponding for the opposite sides of the ship; so of every part of the frame from stem to stern. The iron plates are rolled in the mill, with equal care, into the required curvature for each part of the ship, sharp or gradual as to the position required. Each plate has its number and place to which it is brought ready shapen to be laid in place, where and when alone it can be placed, and then riveted to the frame.

The drawing room of this yard presents to the visitor perhaps a more perfect idea of the extent of the works than any other part. It has the appearance almost of an art gallery of marine subjects. Every object the eye rests upon is a reminder of ships. The walls are covered with pictures and models of every form of ocean steamer, steamboat, and yacht built or now building, these models beautifully executed, while the cases are filled with working drawings of every part of the ship, finished in the most elaborate manner. The party for whom the ship is to be built indicates generally what is to be her carrying capacity, and possibly expresses some fancy as to her lines, but beyond this the constructor designs the ship, whether as to practical considerations or matters of fancy.

On another page we give a sketch of the City of Peking, the largest ship yet built by Mr. Roach, turned out of this yard, and of a design in construction which has been largely followed, and has received very general commendation. There are in process of building here six or more iron ships, designed for foreign trade, the work as well done as can be produced in any shipyard in the world. The United States ironclad, Puritan, lies on the stocks in an unfinished condition. It seems incomprehensible that the Government should leave so magnificent a ship in an unfinished condition for so many years. Near by, on the stocks, and almost complete, is the Pilgrim. She is built with a double hull, that is, two iron hulls, one somewhat smaller and inside the other, braced together. This gives increased strength on the principle of the tubular bridge, and safety in case of injury to the outer hull. Her length over all is 390 feet, 87 feet beam outside the guards amidship, and 12 feet draught, with a proposed speed of twenty miles an hour. The American ensign, presumably in proportion, is to be 30 x 20 feet. She appears on the stocks like an iron mountain, and that, too, without saloons or deck houses. As the shaft implies the engine, so the work turned out implies the magnitude of the works, the capital, skill, and enterprise of its organizer, as well as the labor, skill, and materials utilized. The average number of laborers in this yard is 1,800 to 3,000.

During the past ten years the firm of John Roach & Sons has built and delivered over one hundred iron steamers. That is to say, ten per year on an average, that is, one in a little over a month each—building the ship and the machinery; these representing contracts with the South American States, Spain, and our own people.

Ship building in Chester was practically unknown until Mr. Roach established his yard there, some ten years since. And now, as we have said, he finds employment for 1,800 to 3,000 men, with all that is incidental to such employment for the benefit of a place.

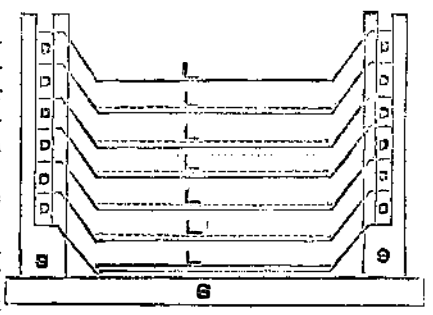
The story of the career of this man, who is the father of American iron ship-building, has that simplicity which attaches to the lives of most eminent men, an oft told tale, but in his case one of almost unparalleled success. He commenced business life as a boy in the foundry of the Allaire Iron Works, in New York, as a moulder, at a time when the best workmen received a precarious compensation of one dollar per day, and it may be easily conjectured what a poor boy must have received. He there learned his trade, passing through the daily experience of young men in that capacity.

Subsequently, when he had acquired sufficient knowledge and saved up sufficient capital, say, fifty dollars, he established a foundry of his own, "ridiculously small," as some one has said. But it grew, though at first no one would have believed it to be a foundry, until it became to be the celebrated "Etna Iron Works." Commencing with small castings, the contracts grew to large castings, then a machine shop, and boiler shop. During his early days it is not recorded that he was one of the strikers, but after he started his little foundry he continued to be one of the hard workers. It is pleasant to know that since then he has bought out some of the tools, machinery, and appliances of the Allaire works, in which he was employed as a boy. About the year 1868 he came into occupation of what is known as the "Morgan Iron Works," and about 1872 purchased most of his property at Chester. It has often been predicted by companies, in his line of business, that he must fail, because one man *could not* succeed where a corporation could not prosper and often has failed. But he has prospered, and the beginner with fifty dollars now has a property representing millions. The secret lies within the man. Extraordinary physical and mental energy, at work night and day from year to year, frugal in habits and democratic in feeling, practical, strictly reliable in all his engagements, he is a representative man of a thrifty and enterprising age. And with it all he is kindly and charitable. No one complains of his being rough and coarse, and many can testify to his considerateness. One who has known him for years remarked, and the figures prove it, "If Mr. Roach should die to-day it would be a *calamity* to New York and to Chester." Many things have been said about him in reference to "monopoly" and "protection," but it would seem that a man who has been able to build up as he has builded, and to represent an industry such as this is, is qualified to judge of the needs of the country in ship-building, and to give "protection" to the hundreds for whom he finds employment. The portrait of Mr. Roach that accompanies our sketches gives an idea of his personal appearance.

Mr. Roach is known to be a man of decided opinions in respect to the promotion of American industries, and our sketch would be quite incomplete did we not give our readers some notion of his ideas relating thereto; these, naturally, form the second branch of our subject, and are so extensive and interesting that we present them in a special article printed in this week's SCIENTIFIC AMERICAN SUPPLEMENT.

A SIMPLE FORM OF STORAGE OR SECONDARY BATTERY.

It consists of a series of shallow thin lead trays, L, about one-fortieth of an inch thick, pressed and hammered into shape in a wooden mould. These trays are arranged one over another in a wooden frame, S. The trays are kept at an equal distance from each other by pieces of wood, which slide up and down in the stand, the ends of the slides being shown at D. The dotted lines in the bottom of the tray represent layers of red lead, or oxide or reduced lead. On this is poured an acid solution of sulphate of copper, just deep enough to immerse the bottom of the tray above. The trays should be varnished all around the edges with Brunswick black, or some other acid-resisting varnish. Wires for poles are soldered to the bottom of the bottom tray, and to the top of the top tray. The battery may, of course, consist of a greater number of trays, and a series of batteries may be connected together.



The advantages of this form of battery are, the oxide of lead can always be kept at the most advantageous thickness. The plates or trays can also be arranged at the most advantageous distance from each other. No diaphragm of any kind is required, and therefore, however long in action, no reduced lead can weaken its action. The battery must always be kept level. Of course, it could not be used in tramcars, etc.

In making batteries on a large scale it would be well, perhaps, to cas the trays in an iron mould, and then it would be well to have one corner of each cell cut off; and let this be done on alternate sides, to facilitate the inspection and supply of liquid. It would be well then to mix antimony with the lead to harden it. Possibly the trays may be made of carbon.—W. *Symons, F.C.S., in English Mechanic.*

The Census of Canada.

The first volume of the Canadian Census Statistics of 1881 have just been submitted to the Dominion Parliament by the Hon. J. H. Pope, the Minister of Agriculture, and contains various interesting schedules, among which are those relating to the religions and nationalities of the population. With regard to the former the particulars are as follows: Roman Catholics, 1,791,982; Presbyterians, 676,155; Adventists, 7,211; Baptists, 225,236; Free Will Baptists, 50,055; Mennonites, 21,234; Brethren, 8,831; Church of England, 574,818; Congregationalists, 26,900; Disciples, 20,193; Episcopal (Reformed), 2,596; Jews, 2,393; Lutherans, 46,350; Methodists, of all classes, 742,981; Pagans, 4,478; Protestants, 6,519; Quakers, 6,533; Unitarians, 2,126; Universalist, 4,517; no religion, 2,634; other denominations, 14,269; not given, 86,769. Total, 4,324,810. The population of Canada includes the following nationalities: Africans, 21,394; Chinese, 4,383; Dutch, 30,412; English, 881,301; French, 1,298,929; German, 255,319; Icelanders, 1,009; Indians, 108,547; Irish, 957,403, Italians, 1,849; Jews, 667; Russians, 1,227; Scandinavians, 4,214; Scotch, 699,863; Spanish and Portuguese, 1,172; Swiss, 4,588; Welsh, 9,947; all others, 43,587. According to nativity, the population of the Dominion stands thus: Natives of England, 169,504; Ireland, 185,526; Scotland, 115,062; Ontario, 1,467,988; Quebec, 1,227,809; Prince Edward Island, 101,047; Nova Scotia, 420,038; New Brunswick, 288,265; British Columbia, 32,775; Manitoba, 19,599; Territories, 58,430; other British possessions, 10,368; France, 4,389; Germany, 25,328; Italy, 777; Russia, 6,376; Spain, 215; Sweden and Norway, 2,076; United States, 77,753; other countries, 14,169. The male population of Canada number 2,188,854, and the females, 2,135,956; married, 1,380,084; widowed, 160,330; unmarried, 2,784,396. Canada was divided for census purposes into 192 districts, and 2,139 sub-districts.

Train Brakes for Freight Cars.

The committee on train brakes for freight cars, appointed by the Master Car Builders' Association, reported at the late meeting that very satisfactory progress has been made in the last three years.

The Reed train brake has been considerably simplified in construction during the past year, and is doing good work on the Harlem Division, where it has been in operation for nearly two years.

The American Brake Company report having their train brake in successful operation on 500 cars on the St. Louis and San Francisco Railway, and that for cheapness, efficiency, and durability it is all they claim for it. Reports from the above railroad company give some 500 cars equipped with this brake running over a period of some fifteen months, and in that time several bad wrecks have been avoided by its use. The weight of the brake applied to one truck is 140 pounds per car, and the first cost $11.75, while the annual cost of repair is very small.

The Tallman train brake, which has been working successfully on the Harlem Division for nearly two years, is also running on ten cars of the New York Live Stock Express Company between Chicago and New York. At two trials of this brake in February, on the Central Railroad of New Jersey, excellent stops were made, some of them as follows:

Speed 20 miles per hour, down grade, stopped in 360 feet in 18 seconds; speed 25 miles per hour, down grade, stopped in 450 feet in 22 seconds; speed 35 miles per hour, down grade, 23 feet to the mile, stopped in 1,080 feet. A trial of this brake on the Chicago, Rock Island, and Pacific Railroad proved quite satisfactory. Exact data not given.

The Pennsylvania Railroad has some 75 stock cars equipped with the Westingbouse air brake, but are not yet satisfied in regard to its practicability for freight service.

There have been two new brakes brought out since the last annual meeting of the association, which the committee think worthy of mention. The Fuller and Salvadge brake is in successful operation on a construction train on the Grand Trunk, Georgian Bay, and Lake Erie Railway. This brake is independent on each car, being operated by compression of draw-bar. The cost is about $20 per car.

Also the Stowe brake, which is of peculiar construction, requiring neither air, steam, compression, nor electricity to operate it, for which the following is claimed: A short chain between the cars sets the brake automatically on all cars equipped with it, which are connected together. Where a train breaks in two, and should the brake be out of order on one or more cars, it does not affect the efficiency of the others, each car taking care of its own slack chain while transmitting the power unimpaired to its neighbor, and when the brake is applied, and the train brought to a stop, the power is automatically stored up on each car ready for the next stop.

A Novel Balloon.

A NEW steerable balloon, the invention of Herr Baumgarten and Dr. Wälfert, was recently tried at Charlottenburg. It is of huge size, having a capacity of about 473 cubic yards, and is ellipsoid in form, the longer diameter being about 58 feet. It differs in principle from all other aerostats in that, although inflated with hydrogen, it has no ascensional force; its total weight is about 2 1-5 lb. above that of the air it displaces. The means of displacement in the horizontal or the vertical direction are a helical system of vanes actuated by machinery in the car. Hence, in making land, the balloon does not require to be partly emptied, and on reaching the ground it has nearly the same quantity of gas as when it rose.

Another novelty consists in the mode of connection of the car. This is rigid. Thus the dangerous bounds or jerks to which the ordinary balloon-car is liable in landing are to some extent avoided. The car being usually suspended by ropes, the system is suddenly relieved of its weight when it touches the ground, so that the balloon shoots up again, giving a series of violent shocks. With a rigid connection the total weight cannot be thus temporarily diminished. The mechanism has a double action, one helix of vanes, or screw propeller, driven in one direction or the opposite, produces ascent or descent, while a couple of screws give horizontal propulsion; in a pretty calm atmosphere the horizontal direction may be modified by working one of the couple alone. The first experiments, it appears, were quite successful. The weather was exceptionally calm. In a second trial a slight accident ruptured the envelope of the balloon, and the car mechanism was also injured. The experiments are soon to be resumed. The motor, it may be mentioned, has a force of 4 horse power and weighs 80 lb. The cost of charging each time the balloon is filled anew is about $100.

Fast Speed from China to London.

The new steamship Stirling Castle, from Hankow, China, lately reached London, after a run of 29 days 22 hours, the fastest on record. The distance from Hankow to London is 11,250 miles, so that the Stirling Castle made an average of more than 375 miles a day, making no allowance for detention at coaling ports and time occupied in passing through the Suez Canal.

Origin and Evolution of French Heels.

It has generally been assumed the high heels seen on the boots worn by Parisian ladies are the invention of some enemy of the human race who delights in inflicting torture upon the fair sex in the name of fashion. It would seem, however, from recent researches that what is now worn merely as an object of beauty was originally adopted for practical purpose and were then articles of use instead of beauty. A medical writer of the olden times, before French ladies had invented, or more properly adopted, the heel, says: "In Paris, where the streets have no side pavements, the ladies are obliged to walk almost constantly on tiptoe." Although the author used this statement to illustrate a different subject, it goes to prove that the habit of walking on tiptoe was forced upon the ladies by wet streets (Paris streets are still kept wet in winter and summer alike) and thin soled shoes. It is easy to see that this gave them a peculiar gait that was at once light and airy, as well as graceful. It requires some exertion to maintain this tiptoe walk for long distances, although this exertion is rewarded, as this same writer tells us, by an enlargement of the calf of the leg to such an extent that it has given them a conformation of the leg and foot to match which the Parisian belles proudly challenge the world. "Nevertheless some lazy belle (?) probably thought to accomplish the feat of walking on tiptoe with less exertion by a support placed under the heel of the foot, and this gave rise to the French heel. That it must be placed farther under the foot than a flat heel will be evident on a momentary consideration. A plumb line let fall from the heel of the foot (the *os calcis*) when standing on tiptoe will fall nearer the toe in proportion as the heel is raised, until, in the extreme case of dancers who actually stand on their toes, the two coincide. The mathematician expresses this by saying that the base of a right angled triangle is less than its hypothenuse. The length of the foot, which is the hypothenuse, remaining constant, the distance from the toe to the heel of the boot, where it touches the ground, must, by the inflexible laws of mechanics and mathematics, decrease as the height of the heel increases. It is true that this makes the foot look shorter and thus favors the vanity of the wearer, but this is an incidental and unavoidable consequence, not a cause.

The French heel has been blamed for much that it does not deserve because its object is not understood and hence it is improperly used. The wearer of a Fench heel should bear in mind the fact that such heels are only intended as a slight assistance in walking on tiptoe and to make the carriage more steady and uniform than walking on tiptoe ordinarily is, instead of supposing that they are to bear the weight of the body as flat heels are.

The square "heel and toe" walk of the pedestrian should never be attempted on French heels. The force with which the wearers strike their heels is shown by the fact that they are generally iron clad or shod with brass, and that on old boots they are invariably worn off or "run over." This should never be. A lady that would walk gracefully and properly on French heels should be able to walk as well on glass heels as on iron or wooden ones. Worn in this way real French heels (not the base imitations sold as such in this country) would develop the calf and improve the shape of the leg instead of injuring it as high heels now have the reputation of doing, and the serious charge that surgeons make of their throwing the whole weight of the body on the arch of the foot would vanish at once.

Ladies (and gentlemen too) if they wish to walk gracefully on French heels may practice indoors by taking a pair of slippers or lace boots *without heels*, and fastening to each, at the point where the heel should be, a small rubber ball with a whistle in it that makes a noise when it is squeezed. The size of the ball will correspond to the height of heel to be worn. When the wearer gets so she, or he, can walk without pressing on the balls hard enough to make them squeal, they will be able to walk *lightly* and gracefully on French heels without any danger to the arch of the foot, and without any need of brass heel plates.

It is evident that pointed toed boots are not so well adapted to use with French heels as square toed ones, for in all tiptoe walking the toes *must* have plenty of room. Short steps are also preferable to long strides.

It is not the part of science to discuss the relative *beauty* of high and low heels, but merely to state the underlying principles of mathematics and anatomy, and to show how they may be made conducive to health instead of as now the reverse. Hitherto scientific observers have held themselves aloof from all matters of fashion, treating her with contempt. Hygienic reformers content themselves with abusing fashion, which goes on totally indifferent to all they say. No one has ever attempted to study the science of fashion, and yet Herbert Spencer says that wherever there are facts which can be collated and compared, we have the basis for forming a science.

If there is a science of history there must be a science of fashion, absurd as this may sound. Facts are abundant, and we have every reason to believe that the principles of evolution and development will be found to hold good there as elsewhere. The above sketch of the origin of French heels will serve to show that, when properly interpreted, some of the most absurd fashions teach a useful lesson, and if properly directed they may lead to benefit instead of injury. It is safe to assume that 25 per cent of our people are bound by the chains of fashion. Is not a subject so intimately associated with the welfare of humanity worthy the study of scientific men?

A Perpetual Motion Clock.

Mr. Dardenne's self-winding perpetual clock may now be considered to have had a fair trial. A specimen clock was fixed at the Gare du Nord Terminus, Brussels, last September, all due precautions being taken to avoid tampering with it by affixing the government seal. After six months' trial it was found in perfect time with the Observatory clock, and had not varied in the slightest degree during that time. The clock is wound by a small anemometer or windmill, which is placed in a ventilation pipe, chimney, or any other place where a tolerably constant current of air can be relied on. This windmill is, by a reversed train of multiplying wheels, continually drawing over a wheel an endless chain, in one loop of which the clock weight is supported. As the loop hangs between the clock and the winding machine the weight is continually drawing through the clock the slack chain drawn up by the wind motor, and thus a constant motion is maintained. A ratchet wheel prevents the motor from turning the wrong way, and, by a simple arrangement, whenever the weight is wound right up to the top, the motion is checked by a friction brake automatically applied to the anemometer by the raised weight lifting a lever. When the weight is thus raised to the top, the clock has a sufficient store of energy to go for twenty-four hours, so that it is not by any means dependent on a regular current of air. As this clock receives such a liberal supply of winding, it does not require so long a train of wheels as an ordinary clock. The works of the clock are only connected with the winding arrangement by means of the loop of chain, so that no injurious matters can reach the former from the chimney.

Rice vs. Maize in Brewing.

According to published analyses, perfectly dry maize contains 67½ per cent of starch and 4 per cent of intermediate carbohydrates, or a total of 71½ per cent of sugar producing constituents; but dry rice contains 89 per cent of starch and 1 per cent of intermediate bodies, making a total of 90 per cent. For the purpose of our present argument we may ignore the other constituents of the two materials, for they have either to be removed prior to mashing or they are insoluble, or have to be rendered insoluble during the mashing process; incidentally we may mention that the existence of large percentages of fatty and albuminoid substances in maize constitute an objection to this material for brewing purposes, for these constituents having to be removed there is a danger of some portion remaining, and thus deteriorating the wort. Now, taking the present market price of maize at 6s. 6d. per cental, and rice at 7s. 6d. per cwt., excluding the moisture, maize now costs 7s. 4d. per 100 pounds, and rice 8s. 5d. per cwt., or 7s. 6d. per 100 pounds; we then find by simple calculation that every pound of available saccharine extract from maize costs 1·23 of a penny, or about 1¼d., while a pound of available extract from rice costs one penny, that is, about 20 per cent less. The cost of working the two materials is as nearly as possible the same, for the expense separating the fatty and albuminous constituents of maize is just about covered by the value of these constituents for other purposes. Our calculations are, of course, based upon the present relative prices of the two materials, and the tendency of the market is toward a still further increase in the price of maize. As to the quality of the extract, we consider there is nothing to choose between rice and maize, provided the latter is submitted to the necessary preliminary treatment for the separation of the objectionable constituents.—*Brewer's Guardian.*

Spiders' Threads.

The Rev. H. C. McCook has been studying the mode of constructing webs prevailing among the orb-weaving spiders, and he seems to have confirmed his previous opinions that the silk line framework or foundation of their webs is laid in the first instance by the help of a current of air carrying the thread. In a great number of cases Mr. McCook observed the spiders passing from point to point by means of lines emitted from their spinnerets and entangled upon adjacent foliage. These mimic "wire bridges" were of various lengths, owing to the direction of the wind and the relative positions of the spider and the fixed objects around it. Lines of 2 feet to 4 feet were frequent; lines of from 7 feet to 10 feet occurred pretty often; one line had been measured for a length of 26 feet, and in several instances they had been observed stretching across country roads of from 30 feet to 40 feet width. He had also observed some of these carried by the wind directly from the spider's spinnerets; had watched the entanglement; had seen the spider then draw the threads taut, and finally cross upon them. These air-laid bridge lines were often used for the frames of the orb, though undoubtedly the foundations for these were also very frequently made as described by the Rev. O. Pickard (Cambridge), by the spider fixing its line to one spot, then traversing the distance to some other spot, and then hauling in the slack. The observations of Mr. McCook show nothing like a deliberate purpose in connecting the point of occupancy with any special opposite point. The spiders seem to act in the matter very much at haphazard, but with a special instinct of the fact that such behavior would secure available attachments. Many of the bridge lines were evidently tentative, and were chiefly at the mercy of the breeze, although some observations seemed to indicate a limited control of the thread by manipulation. As a generalization from many observations Mr. McCook concludes that webs built in large open spaces are perhaps always laid out by bridge lines, while in more contracted spaces the frame lines are generally carried around, and often a foundation is the result of both methods.

A New Jersey Mastodon.

The discovery of a mastodon skeleton near Freehold, N. J., adds to the evidence that some of those huge creatures must have survived until a period geologically quite recent. The bones were found by a farmer while digging a trench for draining a swampy meadow, and examined by Dr. Samuel Lockwood. The tusks were nearly eight feet long, but too much decayed to be preserved. The bones of the head, which were lying within two feet of the surface, were so soft as to be easily cut with a spade. They were nearly the color of the black vegetable mould of the meadow, and therefore almost indistinguishable But a careful inspection showed that the front part of the head was greatly similar to that of the elephant of the present day, except that the forehead was abnormally high. By a close investigation of the skull, numerous air cells, some of them an inch in diameter, were found. The bone of the skull was of an immense thickness, but completely honeycombed with these air cells. These cells had become filled with the fibrous roots of plants which extended through the entire skull. After digging through the skull and coming to the lower part of the head, three or four more teeth, similar in shape, size, and weight to that already described, were found. The teeth, unlike the tusks and bones, were in a remarkably good state of preservation. The exploration was continued until the entire body was laid bare. Beneath the bones was found a bed of sand, upon which the animal had evidently lain down to die. The bones of the body, though greatly decomposed, were plainly distinguishable, and the position of the animal was ascertained. It was lying with its head to the north-east, and its legs stretched out at length at right angles to its body, and its head inclined toward its chest.

The region about Freehold is believed by geologists to have been recently raised above the surface of the ocean.

Fresh Meat from New Zealand.

The sailing vessel Dunedin, belonging to the Albion Shipping Company, lately arrived in the East India Docks, London, with the first consignment of frozen meat which has been sent to England from New Zealand. This shipment differs from all other importations of frozen meat, from the fact of having been made in a sailing vessel, which has been 98 days on the passage, during which time the holds of the ship containing the meat have been kept at about 20° below freezing point. The vessel has on board 5,000 sheep, and the apparatus for freezing was fitted up by the Bell-Coleman Mechanical Refrigerating Company.

The meat was in fine condition, and the shipment has been managed by the New Zealand and Australian Land Company (limited).

The success of this refrigerating sailing vessel ought to lead to a great extension of the trade in tropical fruits between New York and the West Indies. By the use of a refrigerating machine the immense losses now experienced by our fruit ships may be wholly overcome, and the finest fruits may be delivered here in prime condition. Vegetables may also be brought from the south without loss. For engravings of the above refrigerating machinery see SCIENTIFIC AMERICAN SUPPLEMENT, No. 314.

Chinese Stock Farming.

An interesting account of the establishment of a stock farm by the viceroy of the province of Chihle, in China, has been given by the American Consul-General at Shanghai. In one of his previous reports he had pointed out that the Mongolian herds could be greatly increased in value by the establishment of a farm at some convenient locality, at which fine stock, horses, cattle, and sheep could be bred. This report came under the cognizance of his Excellency Li, with the result that an interview between the Consul-General, a breeder from New York, and Li was brought about. The New York breeder urged the advantages of a good stock farm very strongly, and his Excellency took up the matter warmly. Through his active interest and influence, Mr. Tang King Sing, an active and progressive mandarin, was convinced of the superiority of Western ideas, and at once declared his willingness to give them a trial. His farm consists of about 5,000 acres, near the Kaiping coal mines, now being opened by foreign engineers under his superintendence, situated about 80 miles to the north of Tientsin. He has obtained some United States cattle, which will be used with the native stock for the purpose of testing the practicability of the suggestions which have been made. Mr. Tang King Sing announces that in the promotion of this enterprise his object is to afford his countrymen an opportunity to become possessed of at least a portion of the science already attained by Western nations in the improvement of their breeds of cattle. The result of this movement will be watched with no little interest.

A Moving Bog.

An Ennis telegram reports that some hundreds of acres of bog on the estate of Mr. Ralph Wistropp, in East Clare, Ireland, on the afternoon of May 26, commenced moving to the southeastward, carrying before it several patches of reclaimed land under cultivation for potatoes. Part of the main road to Limerick was also destroyed. Emergency men have been telegraphed for to repair the damage. According to the latest accounts the bog was still moving.