Mr. Howard's report was very gratifying. Finding it impracticable to jar them from the vines into sheets or other receptacles, and keep them there, he hit upon the plan of drenching the sheets with kerosene; this worked in a most satisfactory manner. The mode of procedure is as follows: Take two pieces of common cotton sheeting, each being two yards long and half as wide; fasten sticks across the ends of each piece to keep the cloth open, and then drench with kerosene. Give the sheets thus prepared to two persons, each having hold of the rods at opposite ends of the sheets. Then let these persons pass one sheet on either side of the vine, being careful to unite the cloth around the base of the vine; then let a third person give the stake to which the vine is attached a sharp blow with a heavy stick. Such a blow will in nearly every case jar the beetles into the sheets, where the kerosene kills them almost instantly.

This process, after a little experience, can be performed almost as rapidly as the persons employed can walk from one vine to another. The expense necessary is very trifling, and boys can do the work quite as well as men. Warm bright afternoons are the proper times for this work to be done, and it should be performed faithfully every sunny day until the vines are out of danger. This mode of combating the beetle promises to be much more effectual than any other which has been hitherto suggested; for it can be used early in the season before the vines are seriously injured and before the insects have begun to multiply. In connection with the above, the remedies which have been recommended often should, if necessary, be used. These are as follows: First, all rubbish should be removed from the vineyard, and the stakes and trellises which support the vines be well cleaned of bark and splinters, so as to afford the beetles little chance for hibernating in the vineyard. Second, if the larvæ appear in great numbers, lime should be sifted over the vines.

Protection Against Mosquitoes and Flies.

Quassia water is, according to a correspondent of *Nature*, a protection to peach trees against insect blight. The first year the trees bore well and the new wood was elbow length or more. I next tried quassia in the vinery. Instead of lime-washing the walls to get rid of the green fly, one watering with quassia dismissed them in a day. My head gardener, who had previously much experience in nursery grounds, wondered that he had never heard of it before. He now uses it in all cases as a protection from flies and blight. The dilution goes a long way: one pound of chips of quassia wood boiled and reboiled in other water until he has eight gallons of the extract for his garden engine. He finds it inadvisable to use it stronger for some plants. This boiling makes the quassia adhesive, and being principally applied to the underleaf, because most blight settles there, it is not readily washed off by rain. Quassia is used in medicine as a powerful tonic, and the chips are sold by chemists at from sixpence to a shilling a pound. The tree is indigenous to the West Indies and to South America.

And now as to gnats and mosquitoes. A young friend of mine, severely bitten by mosquitoes and unwilling to be seen so disfigured, sent for quassia chips and had boiling water poured upon them. At night, after washing, she dipped her hands into the quassia water and left it to dry on her face. This was a perfect protection, and continued to be so whenever applied.

At the approach of winter, when flies and gnats get into houses and sometimes bite venomously, a grandchild of mine, eighteen months old, was thus attacked. I gave the nurse some of my weak solution of quassia to be left to dry on his face, and he was not bitten again. It is innocuous to children, and it may be a protection also against bed insects, which I have not had the opportunity of trying. When the solution of quassia is strong it is well known to be an active fly poison, and is mixed with sugar to attract flies, but this is not strong enough to kill at once.

ENGINEERING INVENTIONS.

Mr. Richard B. Ireland, of Trenton, N. J., has recently patented an improved railway signal, in which the sliding night signals carry corresponding day signal arms or banners of different configurations and color, the danger slide being elevated by raising either of the other slides (caution or safety), their normal condition being, of course, danger.

Mr. John R. Jones, of Clarkesville, Iowa, has recently patented an ingenious and effective device for operating car brakes. It may be operated either by hand or by means of a friction wheel fitted on the locomotive. It gives a simultaneous movement to all of the brakes on the train.

Mr. Eugene H. Angamar, of New Orleans, La., has invented a boiler adapted for application to horse cars now in use, so as to utilize such horse cars without material changes. The invention consists in a boiler made in two portions, separated by a mediate chamber, the water and steam spaces of the parts being connected by pipes.

An improved slate dressing machine, patented by Mr. Francis Shenton, of Slatington, Pa., consists of angularly set vertically moving knives for beveling and trimming the end edges of the slates, and, in connection therewith, grooves and ways and other devices for holding the slate in its proper position for the action of the knives, and an arrangement for holding the knives in position to act upon the edges at the proper moment.

THE ARMY WORM ON LONG ISLAND.—The army worm has appeared in great numbers at Islip, Long Island, and is naturally creating much alarm among the farmers.

ROOFED COUNTRY ROADS.

To a large extent in the South and Southwest the highways are of two distinct sorts—in local parlance, *turnpikes* and *mud roads*.

The former title covers the main State roads, often constructed with great care and cost, and usually macadamized. The latter includes the great majority of country roads; and for nine months or more every year the name is exactly descriptive of their character. They are emphatically mud roads, and the mud is deep and tenacious.

Plank roads are sometimes tried where lumber is cheap; but they rest under the disadvantage of being expensive, and they are neither durable nor easily kept in repair. Accordingly mud roads predominate, and the communities possessing them are little given to social or commercial intercourse with their neighbors save during the brief periods when the mud is dry and the wheeling passably good.

An exception to this rule appears in Bosier Parish, Louisiana, where an attempt has been made to keep an important earth road dry and usable by the novel device of roofing it, so as to keep off the rain. The first stretch of covered road on this plan runs from Red Chute Bridge, Louisania, four miles across Red River bottom, near Shrieveport. The idea originated with Judge J. D. Watkins, of Shrieveport, and, as is the usual fate of new ideas, it aroused no little popular ridicule. Judge Watkins was not a man to be laughed down. Obtaining a State charter for his enterprise he began to build the road. His opponents complained that he was obstructing the parish road, and attempted to stop the work; but ample and lawful room having been given for the parish road their opposition came to nothing. It is now four years since the work was begun, and Mr. John S. Williams, of Shrieveport, who has been connected with the enterprise from the beginning, informs us that the road is a complete success. At the time of his writing, in March, while the uncovered roads were axle deep in many places with stiff mud, the shed road was firm and dry.

In building the road, the bed, 18 feet wide, was thrown up just enough to keep out the surface water; and over it was put a roof of plank five-eighths inch thick, the planks being 12 inches wide and 20 feet long. Cypress from the neighboring swamp is used for posts, and roughly sawed timber for frame work. By means of an ingenious platform mounted on a common two-horse wagon and supporting a light framework, four men easily put up 20 sections, of 20 feet each, a day. The cost of the road was about $3,500 a mile, with lumber at $1 a hundred feet, labor $1 a day, posts 12½ cents each, earthwork 20 cents a cubic yard, and nails 5 cents a pound. The advantages of the road arise from its cheapness, as compared with any other style of road possible there, its durability, and its unvarying serviceableness. The native clay soil, when kept dry, makes a better roadbed than either wood or stone, and the road is easily kept in repair. The wagons do not touch the woodwork, and the roof will last five times as long as planks laid upon the damp earth. Though the sides are not enclosed the rain does not drive in enough to make the roadbed muddy, much less wash it. In short the practical test of the road, on the score of cheapness and efficiency, has been so satisfactory that the ridicule and opposition it first awakened have been overcome, and other roads on the same plan are about to be constructed.

Germination of Cotton and other Seeds.

In the opinion of General Le Duc a discovery of value has been made in relation to the planting of cotton. A question having arisen as to the situation of the oil cells in Indian corn, the matter was referred to the microscopist, Prof. Thomas Taylor. He found a series of oil cells near the outer surface, and another row immediately surrounding the chit or germinating point, evidencing the complete protection which the latter received. This fact led Prof. Taylor to experiment, with a view to ascertaining the amount of resistance offered to the attacks of agents generally supposed to be of a destructive nature to all organic life, cotton seed being used in the experiments. For the purpose of removing the cotton from the seed he used concentrated sulphuric acid, which completely removes it without visibly affecting the outer brown shell of the seed.

To test the actual effect on the germinating property he handed some cotton seed thus treated and afterward washed, to Mr. Saunders, who planted it. To the surprise of every one except Mr. Taylor, who had foreseen this result if the germ had not been destroyed, the seed came up at least five days earlier than that in its natural state. To ascertain whether this might not be owing to the soaking the seed received, some was kept for several months and then planted at the same time with seed of the same crop unprepared. The same results followed.

The advantage to planters in having five or six days start can scarcely be overestimated, whether availed of in avoiding early frosts or raising early cotton, for which premiums are offered by several cotton boards in the South. But this is not said to be the principal benefit conferred by the discovery. Hitherto cotton planting has had to be done by hand, and the seed sown broadcast, owing to the adherent cotton preventing the seed being used in the planters used for corn and other clean seed. After preparation the seed can be used in any planter, and, by the regularity of growth resulting, the subsequent cultivation greatly facilitated. The mode of preparing the seed is as follows: The seed is placed in an earthen or glass vessel and ordinary sulphuric acid poured over so as to completely cover it. It is then stirred until the brown shell is left free from cotton. The acid is poured off to be used again, and the seed washed till all acidity disappears from the water, and dried. A large quantity is to be thus prepared and distributed among cotton planters for next season. The acid, after it has become saturated or exhausted, is to be experimented with to ascertain whether the glucose cannot be recovered. Experiments are also to be instituted with a view to ascertain the practicability of the process as applied to seeds slow of germination, such as that of the palm, which takes three years to sprout.

Sugar by Diastase.

It is a curious fact that as diastase, or whatever other substance may be the transforming agent in malt, acts upon starch and converts it into maltose and dextrose, so these products in their turn exert a retarding influence upon further change. The presence of a large proportion of dextrose or maltose undoubtedly stops the transformation of starch, and this fact has been recorded by Schutzenberger and others who have studied the question. It is easy to understand, therefore, that in a very thick mash there may be an incomplete conversion; but if a portion of the dextrose or maltose be removed, and a little fresh diastase added, the action will be continued. This is, to some extent, practically done in the sparging operation in the brewery, but in consequence of the high temperatures usually employed most of the diastase is destroyed. It would appear, therefore, that beneficial results would be obtained by reserving a little of the grist for the purpose of sprinkling it over the malt just prior to sparging; this fresh malt would yield the necessary diastase or converting agent required to transform any unconverted starch or dextrine into sugar. It may be argued that there will be loss, in consequence of the last addition of malt not being completely extracted, but this might be obviated by making a small separate mash of it at a comparatively low temperature.—*Brewers' Guardian.*

Land Birds at Sea.

During a recent passage of the White Star steamer Germanic from Liverpool to New York, and when about one thousand miles from Queenstown, a strange bird was discovered in the rigging. The sailors and passengers endeavored to catch it, but without success, until Dr. C. W. Goff, of this city, one of the passengers, came on deck, when the bird at once flew into his hands. The doctor cared for it, and upon the arrival of the steamer presented the bird to the collection at the Central Park. The bird is known as the whimbrel—a peculiar land bird resembling the curlew in habits and about the size of a prairie hen, black and gray plumage, wings like a bat, with a long whalebone-like bill in shape similar to that of a woodcock. Great interest was attached to the bird by the officers of the ship from the fact of its being a land bird found so far at sea, with wings but poorly calculated to sustain it for any length of time.

The owl "Kate Field," captured under similar circumstances in mid-ocean last autumn by one of the crew of the White Star steamer Celtic, is still at the Central Park, thriving, contented, and doing honor by the wisdom of her countenance to the name she bears.

Coin in the Sub-Treasury.

The law requiring the coinage of $2,000,000 a month in silver dollars, in connection with the public aversion to handling large sums in silver when bills can be obtained, has resulted in making a serious plethora of coin in all our government depositories. Those at San Francisco, Cincinnati, and Chicago were all filled early in March, and those at Washington, Boston, Philadelphia, and St. Louis reached the limits of their capacity soon after. As a consequence nearly all the newly-coined silver is being piled up in the Sub-Treasury in this city. This inconvenient treasure, weighing over 612 tons, is stored in a huge vault, 47 feet long, 27 feet wide, and 12 feet high. In the same vault are stored 130½ tons of gold, worth over $65,000,000.

Burnt Alum.

Ordinary alum is a double sulphate of potash and alumina, containing, when crystallized, twenty-four molecules of water. When heated, it melts in its water of crystallization, and on continued heating this is expelled, leaving a dry powder, known in pharmacy as *Alumen usta*, or burnt alum. That sold at the drug stores is often imperfectly dried, and should be placed for an hour or more in a hot bake oven before use. According to C. Bernbeck the best test for a good article is, that it is nearly tasteless when put on the tongue, and takes twelve to twenty-four hours to dissolve in water. Much of the alum now in commerce contains no potash, the alkali being ammonia. Of course ammonia alum cannot be converted into burnt alum, as the ammonia is expelled at the same time, leaving only sulphate of alumina behind.

Memphis Reclaimed.

It is reported that Memphis is at last clean, and so far worthy of exemption from further epidemics of yellow fever. Twenty miles of sewer pipes have been laid already, and over 700 men are now at work for the district government. Thirty miles of sewers will be finished by June 1. This will nearly complete the sewer system. In addition, an equal number of miles of drain tile have been laid. Aside from sewerage and drainage, mention must be made of the cleaning and filling of vaults, the demolition of hundreds of old buildings, the tearing up of the Nicolson pavement, the cleaning up of cellars, and the general renovation of stores and dwellings.

Pressure in Heavy Guns.

The powder question in all its aspects is just now a matter of peculiar importance, as affecting our monster ordnance. In saying this we refer not only to the size and quality of the so-called grains, but likewise to the construction of the cartridge and the mode of firing it. In the ramming of the cartridge a very safe powder may be transformed into a very dangerous one, by the crushing of the cubes or prisms, so as to convert large grain powder into small grain. The last round fired from the rent gun on board the Duilio was subject to this peril, if we may accept the statement that the cartridge stuck in the chase and had to be rammed home with unusual force. But this is not all. When a cartridge is fired from an axial vent in the gun, it is just possible that ignition may commence at the rear of the charge, despite those internal arrangements which are intended to secure a different result. It is well known that when a long cartridge is ignited at either extremity, particularly the rear, wave pressures are set up, far exceeding the normal force of the powder, and acting locally with great violence. The term "pressure" is perhaps hardly applicable to the force thus exercised, its character being obviously dynamic, the powder chamber being subjected to actual blows occasioned by the dashing to and fro of the gases, and probably of the liquid product of combustion also.

What this force really amounts to is instructively shown by some experiments carried out at Woolwich with one of Mr. Vavasseur's steel guns, weighing 16 tons, and having a caliber of 10 inches. The projectile in each instance weighed 400 pounds. A charge of 70 pounds of service pebble powder was made up, with a cartridge 25 inches long, and the point of ignition was at the center of the charge. Under these circumstances the crusher gauge at the rear end of the charge showed a pressure of 21 tons on the square inch, and at the base of the shot 18 tons, the initial velocity of the shot being 1,412 feet per second. In the next round everything was the same, except that the powder was fired at the rear end of the charge. The pressure at that spot rose to 45·1 tons per square inch, and at the base of the shot it became 50·1 tons. Despite this enormous pressure the velocity of the projectile was only slightly raised, becoming 1,436 feet per second. With 75 pounds of powder fired in the same manner, the cartridge being 26 inches long, the pressure was practically the same as before at the rear end of the charge, but rose to 59 tons per square inch at the base of the shot. The initial velocity then became 1,497 feet per second.

In the next round the charge consisted of 80 pounds of service pebble, the cartridge being 27½ inches long. The point of ignition was continued at the rear, and the pressure at that spot became 57·6 tons per square inch, rising to 63·2 tons at the base of the shot, the initial velocity being 1,541 feet per second. A charge of 80 pounds of 1½ inch cubical powder was then fired in the same manner, the rear pressure being 25·1 tons, the forward pressure 24·8 tons, and the initial velocity 1,482 feet. Finally a charge of 88 pounds of 1½ inch powder was fired from the rear end, the pressure at the rear of the charge becoming 36·4 tons per square inch, and at the base of the shot 24·1 tons, the projectile having an initial velocity of 1,514 feet per second. We may add that there was one other round, in which the charge consisted of 70 pounds of service pebble powder, the ignition being at the rear, when the pressure at the rear end of the charge was 45 tons per square inch, and at the base of the shot 37·5 tons, the initial velocity being 1,455 feet.

The results thus obtained are peculiarly interesting at the present time, and it may be allowed that the gun was a strong one which withstood such abnormal pressures. It is obviously a matter of especial importance, where an axial vent is used, that proper means should be taken to secure the ignition of the charge at the right point. The violent ramming of a cartridge might perhaps damage its internal structure so as to bring about ignition at the rear instead of the center, with the certain result of abnormal pressures at particular spots, especially in the forepart of the powder chamber.—*The Engineer.*

American Locomotives for Japan.

The Japanese Government is completing the Poronai Railway connecting the City of Hokkaido with adjacent towns. Col. Jos. N. Crawford, an American engineer, is in charge, and has recently had shipped a pair of narrow gauge (42 inches) locomotive engines to that country. They were built by H. K. Porter, of Pittsburg, Pa., and are named the "Yoshitsune" and the "Benkei," after noted characters in ancient Japanese history. In accordance with suggestions, these engines possess peculiar features as to stacks, ash pans, and spark arresters, from the fact that the line passes through the most inflammable class of property.

The engines are of the "Mogul" pattern, with six drivers of 36 inches diameter; cylinders, 12 x 16 inches; weight, ready for service, 18 tons. The same firm have just completed an engine of novel proportions for shipment to the works of the Longfellow Mining Company of Arizona. The gauge in this engine is only 20 inches; cylinders, 6 x 10 inches; four drivers of 22 inches diameter supporting the engine, which is a compact business-like looking affair, weighing 4½ tons, and planned to overcome a gradient of 100 feet to the mile. The Longfellow Works are a New York enterprise, this little engine being ordered by J. Freudenthal of this city. After being taken apart and boxed, the "Coronado" was shipped to Los Vegos, N. M., thence to the mines by wagon.

Railway Improvements Wanted.

In offering prizes for the period of six years ending with July 15, 1881, the German Railroad Union suggests the following as especially desirable: (1) The invention of a locomotive, tender, or car wheel of simple but safe design by which the loosening of tires will be effectively prevented. (2) The invention of a simple apparatus, which can be depended upon under all circumstances, which will render it possible for trainmen on different parts of a long train to communicate with the engineman. (3) The invention of a cheap but reliable signal apparatus for the automatic blocking of trains which follow each other closely upon the open road, for regulating and rendering safe the traffic on crowded sections of road. (4) The invention of an apparatus which will make it possible for a trainman with the ordinary form of brake to apply the brakes simultaneously on two adjacent cars. This is required especially for freight cars. (5) Plans for improved statistics of the distribution and movement of cars, having regard to the administrative requirements of the separate roads, the settlement of the accounts for interchanged cars, and general statistical purposes. (6) The preparation of an exhaustive commentary on the working regulations, with special reference to the decisions of recent years. (7) A treatise based on statistical investigations of the influence and desirability of the present usual division of passengers and arrangement of cars into three or four classes, from a general standpoint as well as with regard to the profit to the roads. (8) A short abridged encyclopedia of the technics of railroads, in the sense of genuine encyclopedia, that is, a systematic grouping of the materials and their relation to each. (9) A history of the development of freight tariffs and their influence on the public welfare.

A Steep Railway.

A letter from Naples, written by one of the nine persons who made the experimental trip on the new railway to the crater of Vesuvius, gives some particulars of the line and the journey. The actual railroad is 800 meters long and terminates 200 meters short of the mouth of the crater. The inclines are tremendous: 4 in 10 for the first 135 meters; 63 in 100 for the next 330 meters; then 56, 52, and finally 48 in the 100 for the remainder. The carriages are drawn up by a steel rope of forty-nine strands, which is coated with tar as a protection against rust. An hour's drive from Naples takes the traveler to the mountain observatory. An excellent new road, nearly two miles long, has been built by the railway company from the observatory to the railway station. The ascent on the railway was made in seven minutes, but it can easily be made in five. The motion was quite smooth, but the sensation on looking out is far from pleasant, and a feeling akin to sea-sickness is said to arise. The view from the summit repays all the trouble. The writer says that at every step one feels the proximity of the great storehouse of heat. He was informed that great pillars of smoke frequently burst up from the ground, close to the spot where the railroad ends, and great chasms open, swallowing up anything which may be on the spot, so that the expedition may sometimes not be wholly free from danger. It was intended to open the line for the public at the beginning of May.

Saving is Wealth.

There is nothing new in this, but it is a subject fraught with so much importance to the young who would succeed in life, that it is well to refreshen their memories by often repeating the axiom.

Moreover, as the *American Pottery and Glassware Journal* says, waste and extravagance have been the bane of our times. Owing to these multitudes have become bankrupt, and because of them many are to-day unable to make any headway in the world. In the face of all the lessons of the past and of all the warnings of the present, there is a strong disposition to spend money recklessly in dress, equipages, entertainments, and innumerable useless ways. Stripling boys and young misses think nothing of devoting more every month to dress than clothed their fathers and mothers for a year; and yet they appear to no better advantage in society and are no more respected than were these same parents in their youthful days. Every cent they can make for themselves or wring from parents or friends is disposed of without any thought of the bad habits they are cultivating, of the demands of sickness and old age, or of the possible crimes to which they may expose themselves in the hour of temptation to meet the results of their outlays.

The great difference between those who save and those who do not in the struggle of life, consists not so much in early advantages or superior ability, other things being equal, as in the power to resist wasteful expenditure and sinful indulgences and to save something.

One evening lately, Hon. William E. Dodge, of New York, delivered an address embodying his recollections of New York for the last sixty years. Near the close he uttered these words, which should be carefully weighed by every young man and woman:

"In conclusion, permit me to say that, as I think of my early business life, I am impressed with the fact that those young men who were then known as industrious, high-minded youths, conscientious in the discharge of their duties, were those who succeeded in business on their own account; while many who had better opportunities failed, because they would indulge in pleasures which not only impaired confidence, but wasted what might have aided them in commencing for themselves. All young men should aim to save something each year, even at the expense of a limited wardrobe and many little things which they think necessities. If there were none but young men here, I would say that from the first year when I entered a store, with a salary of fifty dollars, to my last year—when as a salesman I received for those days very large pay—I never failed to save a portion; and when I started in business that sum and my experience were all my capital."

Epidemic Cycles.

Dr. Arthur Ransome, of Manchester, has been adding to his writings on epidemic diseases and allied subjects a very interesting and thoughtful paper on "Epidemic Cycles." Making use particularly of certain annual death rates which have been kept in Sweden since 1774, he finds in them, according to the *Lancet*, "internal evidence of accuracy in the characteristic peculiarities of the course of each disease," and holds that "they bear ample witness to the fact of the regular succession of epidemics in distinct cyclical periods." He has thrown the data from this source and from other sources into a series of diagrams, and from them he concludes that *whooping cough* has a cycle of about four years; *small pox*, before the introduction of vaccination, had a cycle of from four to five years; the cycle of *measles* is about seven years; while *scarlet fever* has an extended cycle of from fifteen to twenty years, when it recurs as a great visitation, fluctuations forming "less undulations," so to speak, occurring in the intervals. Dr. Ransome briefly considers the conditions which may probably determine the recurrence of these cycles, not omitting the question of possible relationship with the sun spot period. This question he illustrates by a most interesting diagram of the sun spot periods since 1775, but he is unable to trace any relationship between these periods and the epidemic cycles. He comes to the conclusion that the facts relating to the different cycles are susceptible of a simpler explanation than is commonly conceived. "A certain density of the population at susceptible ages," he says, "is necessary before a disease can spread with the vigor of an epidemic. Probably all the facts would be accounted for, if we suppose that these disorders can only become epidemic when the proximity between susceptible persons becomes sufficiently close for the infection to pass freely from one to the other. Exanthematous diseases rarely attack the same individual twice in his lifetime. When, therefore, an epidemic has, by either a fatal or non-fatal attack, cleared away nearly all the susceptible persons in a population, mostly infants and children up to a certain age, then it must necessarily wait a certain number of years before the requisite nearness of susceptible individuals has been again secured. There must in the intervals be a gradual restocking of the nation with material fit for the epidemic to feed upon, and it can only spread when the requisite proximity is attained, when meshes of the network of communication are sufficiently close for it to include all susceptible persons in one grand haul."

The Water Supply of Cities.

In a discussion in Congress, relative to the water supply of the District of Columbia, the following statement was given of the average daily *per capita* consumption of water in different cities, the figures being from official reports:

City.	Gallons.	City.	Gallons.
Providence	25	Detroit	105
Fall River	26	Chicago	119
Lowell	33	Washington	155
Lynn	34	New York	100
Rochester	35	Albany	80
Columbus	43	Jersey City	99
Lawrence	44	London (England)	29
Milwaukee	53	Liverpool (England)	23
Cambridge	55	Glasgow (Scotland)	50
St. Louis	56	Edinburgh (Scotland)	38
Cleveland	56	Dublin (Ireland)	25
Cincinnati	57	Paris (France)	28
Philadelphia	58	Tours (France)	22
Brooklyn	63	Toulouse (France)	26
Montreal	69	Lyons (France)	20
Boston	75	Leghorn (Italy)	30
Toronto	77	Berlin (Prussia)	20
Buffalo	87	Hamburg (Prussia)	33

New Industry for Petrolea.

The *Petrolea Topic* says: "It will be remembered that some time ago the enterprising refining firm of J. L. Englehart & Co. commenced the sinking of a well to the proposed depth of 2,000 feet, for the avowed purpose of testing the idea entertained that a hitherto undeveloped vein of petrolum lay far beneath the one at present worked at a depth of five hundred feet. The work on this 'deep well' has been unremittingly continued, and on Monday morning last, had reached a depth of 1,185 feet without developing anything specially novel. At this point, however, the drill plunged into a bed of pure salt, and up to the date of writing had bored through one hundred feet of this substance.

The Italian Exhibition.

At the Industrial Exhibition of Milan, in 1881, the leather industry will be especially represented by products from all parts of the country. Prof. Guido Susovy offers a prize of 600 lire ($150) for the best upper leather. The office of the executive committee of the Exhibition is located in Milan.

The leather manufacturers of Trente and Verona are considered to be at the head of the profession in Italy, the south of Italy being far behind in the tanning business. In tanning materials one firm in Monaco principally supplies the trade. Genoa is the great importing seaport for raw hides; Rome has the trade in calfskins, mostly imported from Chili; Leghorn has the African importation, and Venice that from the Orient.—*Shoe and Leather Reporter.*