HAUNTED.

A sweet face follows me where'er I go,
And will not be put by—
A face with heavenly beauty so aglow,
I cannot wonder why—
Not I, my heart, not I!
It makes for me the heaviest burdens light,
When griefs beset my breast,
It comes to me and will not take its flight,
But soothes me into rest.
This vision bright and blest.

It goes with me through all the thorny ways
Wherein my footsteps wend,
It brings me sunlight in the darkest days,
And will unto the end
Be an all-helpful friend.

It haunts me in the city's careless crowd;
With peace its eyes are rife;
It calls to me above the tumult loud—
Above the petty strife
Of this poor little life.

Its white hands beckon me by night and day,
Fain would I follow on;
But wedded is my soul to its dull clay,
And I am weak and worn—
A bruised reed forlorn.

O'Connellana.

The secret of O'Connell's power with his countrymen was his consummate knowledge of their idiosyncrasies, and his natural capacity for reflecting on a glorified scale their aspirations, their vanity, their follies, their conceits. He was an epitome of all that is most brilliant in the Irish character, and as such his fascination and his influence for an Irish crowd never failed. He knew when to flatter and to wheedle, when to cajole and to coax, when to terrify and alarm, when to rouse to indignation, and when to quell to submission. He made his hearers feel that they had only to gaze upon his person and to hear his words to witness an apotheosis of all those qualities and characteristics which were the chief ground of their patriotic pride. "Nobody," said one who knew him well, and who hated him as well as he knew him, "can deny to him the praise of inimitable dexterity, versatility and even prudence in the employment of the means which he makes conducive to his ends. He is thoroughly acquainted with the audiences which he addresses and the people upon whom he practices, and he operates upon their passions with the precision of a dexterous anatomist who knows the direction of every muscle and every fibre of the human frame." And in miscellaneous society, in London as well as in Dublin, the Liberator could make himself highly agreeable. He was a visitor at Holland House, and he would not be too much astonished that the recognition extended to him had something to do with his temporary abandonment of Repeal. When Mr. Greville met him at William Ponsonby's in 1829, the year of Emancipation, he said: "There is nothing remarkable in his manner, appearance, or conversation, but he seems lively, well-bred, and at his ease." In the House of Commons O'Connell was a failure, as every man must be who has lived the best years of his life and has grown quite incapable of readily adapting himself to a new and a peculiar atmosphere. He could never catch its tone, and therefore he could never for long hold its ear. His quotations and his adaptations of poetry were sometimes exceedingly happy. Nothing could be better than his parody on Cols. Sibthorp, Percival and Verney:

"Three Colonels, in three distant counties born,
Lincoln, Armagh, and Sligo, did adorn;
The first in manliness impudence possessed,
The next in bigotry; in both the last,
The force of nature could no further go—
To board the third she shaved the other two."

Of these gentlemen, two were *imberbis* and the third *intonsus*. He was also decidedly happy when, on being called to order by the Speaker for having characterized the interruptions with which he was assailed on all sides of the House as "beastly bellowings," he retracted the obnoxious epithet, but added that he had never heard of any bellowings that were not beastly. "Perhaps," writes his friend Mr. Phillips, "personality was his most besetting sin. He had a nickname for every one who presumed to thwart him—curt, stinging, and vulgar, suiting the rabble taste and easily retained in the rabble memory." The personally aggressive instinct, which in the House of Commons found its gratification in such a *jeu d'esprit* as that just quoted apropos of the three Colonels, assumed a far more vehement aspect on popular reforms. "A man," writes Mr. Lecky, the staunch admirer of O'Connell, "who did not hesitate to describe the Duke of Wellington as 'a stunted corporal,' and who applied to other opponents such terms as 'a mighty big liar,' or 'a liberal description of the impenitent thief,' or 'a contumelious cur,' or 'a scorpion,' (as he called the late Lord Derby,) place him beyond the pale of courtesy." But there were force, point and sting in O'Connell's vituperative phrases. They stood the test of all excellence—they stuck. His description of Peel's smile, that it was "like the silver plate on a coffin," has only been of late forgotten; and his characterization of the *Times*, "it lies like a false-numbered milestone, which cannot by any possibility tell the truth," is said to have amused no one more than the editor of the *Times*.—Barnes.—*Temple Bar.*

Basket Making.

Basket making is one of the oldest and earliest arts. Expeditions which have circumnavigated the globe discovered mats and baskets among every tribe, no matter how rude and barbarous. The necessity of providing some means by which to carry provisions needed for future use seems to have preceded the necessity for making clothes.

This crude art grew into a gorgeous one under the Romans, and extravagant sums were paid for luxurious baskets, and the skill of the finest artists was brought into use in the construction and decoration of baskets.

We know of no occupation which would be more pleasant to ladies in the country than the making of willow baskets. Anyone, by carefully examining a basket of any pattern, can soon learn to make one like it. The ordinary willow answers every purpose, though the true osier would be somewhat better.

The long twigs are cut and peeled or barked, while green. The peeling may be easily done by sawing off a small sapling at convenient height and splitting down the stump an inch or two. Put a thin wedge in the bottom of the split so as to keep it open. The twigs should then be taken by the small end and drawn sharply through the slit, when the bark will peel off clean. The willow switches may then be laid away for future use, kept of course in the shade and under shelter.

A little patience and practice will soon enable any lady to make beautiful baskets of any size or shape. The twigs may be used whole or split, used white or dyed any color.

Such little home industries are not only useful accomplishments but add a social charm to country life, and may in some day of disaster, such as too many of us have witnessed, prove a means of support.

The Luscious Bivalve.

While owing to lavish consumption and neglect of protection or provision for reproduction the oyster-beds of England are seriously diminishing in their yield, ostreaculture in France is making such strides that in a few years that country will stand at the head of the oyster market. As well as individuals the government, imperial and republican alike, has given capital, experience and science to the task. It is twenty-two years since the first experiments were made, and sixteen since the artificial breeding of oysters, having been proved successful and profitable, obtained a recognized footing both on the Atlantic and Mediterranean coasts. Beds were stocked by the government and numerous concessions made in aid of private enterprises, but in 1865, owing to a want of experience and intelligence on the part of those who had entered enthusiatically upon the business, it was found that all the private beds had proved rapid and complete failures though the government experiments had met with success. Resulted naturally a season of depression and caution, but at the conclusion of the war in 1871 renewed attention was given to the subject, especially in the districts of Arcachon and Lorient. In the former, where, before 1871 government had granted 724 beds, covering 1,452 acres, there were in 1872 occupied 2,630 acres; in 1874, by 1,706 beds, 4,300 acres; in 1875, by 2,424 beds, 6,570 acres, and the number of beds will be increased by the new year to 3,000. In Brittany there are some 500 plantations, and fresh applications for concessions are daily made, while at many other points artificial breeding has engaged attention though the experiments are of too recent date for their success to be estimated. The capital invested is about $600 an acre, or, in the district of Arcachon, $4,000,000. The return per cent, on the investment is not stated in the official reports, but it is certain that by careful husbanding and an intelligent working of a system which is now nearly complete, the natural beds have not only been preserved from impending destruction, but enriched almost beyond belief. For instance, beds which were considered exhausted in 1870 in the Arcachon district, yielded within the few hours of last November during which they were allowed to be dredged or fished, the incredible number of 40,361,000 oysters of remarkable size. So, also, at Granville, outside the fortunate dredgers, who had a few free tides granted them last year over old natural beds, earned $140,000 by their catch. Financially speaking, results are described as very promising for the 1875 campaign.

The Russian Gypsy Singers.

The Russians are passionately fond of the Tziganí, with their homesick, foreign singing, which makes you dream of a free life amid primitive nature, outside of all restraint and all law, divine or human. This passion I share myself, and it drives me almost to madness. So I made good play with my elbows to reach a place near the platform where the musicians stood. They were five or six haggard, wild-looking young girls, with that half-bewildered air which strong light causes to nocturnal, furtive, vagabond creatures of every race. They made one think of deer brought suddenly from a forest glade into a drawing-room. There was nothing remarkable about their costume; it seemed they had felt bound, in coming to sing at this ball, to lay aside their characteristic attire and make a fashionable toilette. In consequence their appearance was like that of ill-dressed maid-servants. But one quiver of the eyelashes, one black, untamed glance wandering vaguely over the audience, was enough to give back all their native character. The music began. They were strange melodies of pensive sweetness or of wild gayety, broidered with infinite *fioritura*, like the singing of a bird that listens to himself, and grows wild with his own warbling—sighs of regret over some brilliant past existence, with careless outbreaks of a free and joyous humor, which mocks at all things, even at its own lost happiness, if so be that liberty remains; choruses with stamping of the feet and outcries designed to accompany those nocturnal dances which form upon the turf of forest glades what we call "fairy rings;" something like a Weber, a Chopin, a Liszt in the savage state. At times the theme was borrowed from some popular melody which has been the rounds of all the pianos, but its commonplace character vanished utterly under the runs and trills, the ornaments and caprices; the originality of the variations made you quite forget how trivial was the *motif*. Paganini's marvelous fantasies upon the Carnival of Venice give an idea of these delicate musical arabesques—silk, gold, and pearls embroidered upon the coarse material. A gypsy man, a kind of clown with fierce aspect, brown as an Indian, recalling the Bohemian types so characteristically represented by Valario in his ethnographic water-color sketches, accompanied the singing with chords from a rebeck which he held between his knees, playing in the manner of the Oriental musicians; another big fellow exerted himself upon the platform, dancing, striking the floor with his feet, thrumming a guitar, while he marked the rhythm upon the wood of the instrument with the palm of his hand, making strange grimaces, and occasionally uttering an unexpected cry. This was the joker, the buffoon, the merry-andrew of the troupe. It is impossible to describe the enthusiasm of the audience immediately about the platform. They applauded and called out to the singers, they kept time with their heads, they repeated over the refrains. These songs, with their mysterious extravagance, have the power of an incantation; they make you dizzy and mad, and throw you into the most incomprehensible moods. You listen, and a mortal longing comes over you to disappear from civilized life forever—to go off and range the forests accompanied by one of these sorceresses with cigar-colored complexion and eyes like lighted coals.—*Theophile Gautier's Russia.*

Delaine Wools.

Delaine is the generic French word for wool, though it has become used to designate a fabric composed of cotton and worsted, which is known in market by the formation of colored patterns similar to calico on two or more fabrics composed of cotton, worsted or silk. The fabric originated mainly in the effort of the French to rival the English in the production of combing wool from the Rambouilet flock, which originated from the Spanish merino. The Rambouilets produced a wool which worked well under the comb, and was too fine for ordinary hosiery and stuff goods, for which the English wools were so admirably suited. The French struck out a new industry from their own wool which the English could not imitate because they did not have a supply of combing wool of merino blood. A good delaine wool must contain merino blood, and length and strength of staple. In New Zealand the English manufacturers are stimulating the wool growers to develop a new industry, and they are now producing a very desirable delaine wool by crossing the Cotswold or Leicester ram on the merino ewe. The result is a heavy carcass, heavier fleece, a longer staple, and altogether a more profitable sheep. A good deal of that kind of wool has been imported into New York from New Zealand during the past year, and has commanded prices superior to the best Australian wools.

Musical Mice.

Mr. Frank Buckland adds a few notes to our information concerning that interesting little rodent, the singing mouse. A caged specimen was presented to him, which at first was too frightened to sing, but, overcoming its alarm, it suddenly put its little paws against the bars of its prison, and poured out a very flood of melody. Of the wonderful musical gift of this mouse Mr. Buckland says: "The song is a little sharp note, uttered continually. Translated into words, the song was something like this, 'Twit a twitter, twit a twitter." Sometimes the mouse would sing *dolce piano* and then *forte*. The little beast appeared to me to have two octaves, i. e., it could sing its song in a low key and in a high key, and change quickly from one to the other. During the performance the chest was palpitating violently, and the little cleft nose moving about, but there seemed to be no forced exertion at all. The real secret of these musical powers in the mouse is not, I believe, known. Dr. Crisp, of Chelsea, informed me that he thought the singing was caused by the presence of a parasite in the liver. I have a specimen, in spirits, of a singing mouse, in which this parasite is certainly plainly visible, but I am not at all sure that other mice also, who are not musical, have not this parasite. The song is a genuine song—as good and as musical as that of a lark on a fine summer morning.

The Iliad.

As the figures in a bas-relief are variously wrought, some projecting like independent statues in sharp light and shadow, while others are but half detached, and a third sort offer mere outlined profiles scarcely embossed upon the marble background; even so the poet has obeyed a law of relative proportion in his treatment of character. The subordinate heroes, for example, in the *Iliad* fall away from the central figure of Achilles into more or less of slightness. This does not mean that we can trace the least indecision in Homer's touch, or that he has slurred his work by haste or incapacity. On the contrary, there is no poet from whom deeper lessons in the art of subordinating accessories to the main subject without impairing their real value, can be learned. A sculptor like Phidias knows how to give significance to the least indication of a form which he has placed upon the second plane in his bas-relief. Just so Homer inspires his minor characters with personality. To detach this personality in each case is the task of the critic; yet his labor is no light one for the Homeric characters draw their life from incidents, motives, actions. To the singer's fancy they appeared, not as products of the self-conscious imagination, but as living creatures; and to separate them from their environment of circumstances is almost to destroy them. This is the specific beauty of the art of Homer. In its origin it must have been the outcome, not of reflection, but of instinct; for in the Homeric age psychological analysis was unknown, and the very nomenclature of criticism had yet to be invented. We can draw inexhaustible lessons in practical wisdom from the Homeric poems; but we cannot with impunity subject those delicate creations to the critical crucible. They delight both intellect and senses with a many-toned harmony of exquisitely modulated parts; but the instant we begin to dissect and theorize we run a risk of attributing far more method and deliberation than was natural to a poet in the early age of Hellas. It is almost impossible to set forth the persons of Homer except in his own way, and in close connection with the incidents through which they are revealed; whereas the characters of a more self-conscious artist, the *Medea*, for example, or the *Phædra* of Euripides, can be described without repetition of their speeches or reconstruction of the dramas in which they play their parts.—*Cornhill Magazine.*

Animal Life in the Ocean Depths.

It was, for years, thought that, beyond the depth of 300 fathoms, organic life ceased to exist in the ocean. Forbes reached this zero of life in the Ægean Sea, and the fact ascertained for the Mediterranean was inferred for all other seas. The transmutation of inorganic into organic matter is only performed by vegetables, and then only under the controlling power light. The distinction made by naturalists between the lowest forms of animal and vegetable life lies just here: vegetables convert the inorganic elements of earth, air, and water, into organized matter; animals rearrange this organized matter into animal tissue. It was well known, as no light penetrates the profounder oceanic depths, that no vegetation can exist there; an absence of animal life was therefore inferred. Certain exceptions to this definition of vegetable life, as being exhaustless, are found in the fungi, which germinate and grow in darkness, and it is believed are nourished in great measure by organic matter, as well as in the curious carnivorous plants, which have of late attracted so much attention. This, however, does not invalidate the truth that all nutriment in order to be fit for the maintenance of animal life, must pass, at least once, through the transmutation effected only by vegetation.

The non-existence of life below 300 fathoms, in all the oceans of our globe, was strongly supported by Forbes' investigations in the Mediterranean. The abyssal depths of the sea were thus determined by logic to be the universal empire over which reigned darkness, desolation, and death. No investigations were made as to the facts of the case. Logic and a hasty generalization from inadequate knowledge were made, once again in the history of science, to do duty for the more laborious method of patient observation. Commerce at last gave the impulse to deep-sea exploration, which had before been lacking. The commercial world demanded a more speedy mode of communication from continent to continent, and the response came in the form of the submarine telegraph. Thousands of soundings were made to determine the best position in the ocean's bed for its successful laying, and thousands, again, to secure the broken end after the first failure. These soundings and grapplings brought from the sea depths unmistakable proof that life in many varied and exquisite forms existed there, far away from light and vegetation, under an enormous pressure of superincumbent waters; and logic retired discomfited.

The Pantheon.

Directly up from the river toward new Rome and you come upon the skeleton of a mighty round structure, which the people there call the rotunda. You pass around to the front, and you stand under the temple that has been handed down to us from the heathen. The mighty granite columns that support the Greek porch are too heavy for any modern machinery to move. They are too large for any modern designs of architecture, and being monoliths, they, unlike the stones of the Coliseum, will probably remain there, just as they are, for cycles to come. You wish to enter the Pantheon, to see the tomb of Raphael. Good. You push the iron gate between the great columns. It creaks; a priest comes out (as they always do come out in every place you go into in Rome), and he stands before you. Hand him a franc. You cannot better introduce yourself. It does not matter much whether you can talk a word of Italian or not. They all know just what you want; and you can have it, if you pay for it, just as well without a speech as with it.

In Italy they are willing to do all the talking themselves. They are a race of women there. In Italy you are not expected to talk, but to pay. All around the round, wigwam shaped Pantheon you see only shrines and tombs. Priests are moving about in their black gowns and white bowls, candles are burning before the altars; mass is being said for the dead. It is cold, damp and dismal. You feel the chill and the fevers in your bones. It is dangerous even to sit down here in this vault. The priests know this, and they keep constantly on their feet when not on their knees. The earth upon theon has sunk down into the earth; or, rather, the earth has grown up around the Pantheon. Ages have washed and worn the Alps away; the Tiber has borne the debris to the streets of Rome; and now the "temple to all the gods," which was once reached by ascending long and lofty steps, is reached by descending through the mud.

If you come here when the Tiber is full you will come in a boat. Many times during the year all this part of Rome is under water, and you have a sort of Venice without the gondola. At such times the priests enter the Pantheon in boats. You see them pass the great iron gates, row through the open iron doors which have been put up in place of the copper ones torn away and plundered to ornament St. Peters, and then go all around the altars and say their prayers, and light their candles and count their beads, while the awful Pantheon stands up to its knees in the dark and dirty waters of the Tiber. These priests paddle their own boats at such times. They are silent men. Their cowls are about their faces; ropes are around their waists. They look like birds of evil omen, angels of the devil, Charon on his solemn voyage of the Styx.—*Joaquin Miller, in Independent.*

The Earth's Danger.

In the preface to his recent excellent book, "The abode of Snow," Mr. Andrew Wilson, well known as the author of one of the most interesting works on the Chinese empire, revives the old theory of M. Adhemar that the earth will topple over one of these days and send the oceans sweeping over the continents. The theory is that owing to the greater preponderance of water in the Southern hemisphere, the greatest accumulation of water is round the South Pole; when the accumulation has reached a certain point the balance of the earth must be suddenly destroyed—the center of sphericity abruptly change far from the center of gravity, and the whole earth almost instantaneously must turn transversely on its axis, move the great oceans, and so produce one of those grand cataclysms which have before now altered the whole face of the globe. Some very good physicians and mathematicians have believed in this theory, which is not easily controverted, even if it be a false one.

Variegated Gourds.

A French journal describes some experiments made by M. Gaillard in the cultivation of gourds. These results have been reached by grafting different fruits upon one another. It is found that perfect union takes place and the growth continues without interruption. One instance is mentioned of a green Spanish gourd upon the side of which another variety was grafted. Another was a yellow gourd, into the side of which was inserted the stalk of a pear-shaped green gourd. A large slice of this was cut off and replaced by a white one, and in all cases perfect adhesion took place. This playing tricks with gourds is no new thing, though we do not remember having seen it so extensively practiced as seems to have been the case as described here. Of course it is merely a pastime to produce these curiosities of growth, but some of the results are very pretty and interesting.

AGRICULTURAL.

Hints about Work.—Wheat requires a better soil than rye, and where the soil is not good enough to yield at least fifteen bushels of wheat to the acre, it would be better to sow rye, which might bring twenty-five or thirty bushels. It is useless to sow the more delicate white wheats, except in the very best soils. The amber and red wheats are safer to sow on medium and light soils. The past has been a wet summer, and there will be few complaints of a soil too dry for sowing. Fields not yet plowed should be turned over at once, and harrowed thoroughly until the soil is well settled. A firm mellow soil is needed for wheat or rye. Sowing by drill is the safest method. The saving of seed will nearly pay for the use of the drill. Drills may be hired for fifty cents an acre or less. The next best manner of sowing, is to broadcast the seed, and cover with a cultivator. If the seed is sown broadcast, the ground should be rolled thoroughly after being harrowed. Drill sowing saves the labor of harrowing afterwards. Where the fly is not feared early sowing is to be preferrd. It is a choice of evils between the dangers of the fly on the one hand, and of winter killing on the other. If the soil is in good condition, the time of sowing is a matter to be decided according to circumstances, locality, and the judgment of the individual.

The small cost and labor of steeping the seed is well repaid by the security it affords against rust and smut, and the quickening of germination. A steep that is very effective against smut is a solution of four ounces of sulphate of copper (blue vitrol), to a gallon of water. This is poured over the wheat, heaped on the barn floor, and the grain is rapidly shoveled over and mixed, until every seed is moistened with the solution. It is left in a heap for twenty four hours, after which it may be sown. A solution of one pound of guano to a pail of rain water, or stale chamber lye is an excellent steep, not only preventing the smut, but hastening the sprouting of the seed. Ground gypsum (plaster) should be used to dry the grain previous to sowing, if anything is needed, but lime should not be used with guano water, or lye. Strong salt and water is frequently used as a steep, with good effect; after which the seed is mixed with finely slaked lime until dry, and sown immediately.

It has been found by experiments that at one inch below the surface every seed of wheat grew, if the ground was moist, while at two inches seven-eighths of the seed grew, and at three inches three-quarters grew. Notwithstanding this we would rather sow two inches deep than one.

If timothy seed is sown with the wheat now, and clover is to be sown in the spring, from four to six quarts per acre may be used. If no clover is to be sown, a peck of grass seed is not too much. We prefer to go over the ground as soon as the wheat is drilled, and sow with a broadcast sower, or by hand, rather than drill in with the seed. It is easy to measure the proper distance for the land by the foot marks in the soft soil. The seed will find its way into the mellow soil, and be sufficiently covered. A quarter of an inch is the proper depth for grass seed. The fine manure from the poultry house will make a valuable top-dressing for timothy, and will help the wheat. In place of it one hundred pounds of guano to the acre may be used.—*Agriculturist.*

Mellow Soil Around Trees.—Unless the surface of the ground is mulched around young trees over an area of six to ten feet in diameter, the ground should be kept clean and mellow. Every farmer knows that a hill of corn or potatoes will not amount to much unless cultivated, and yet there are many who will neglect to give the same care to a tree which is worth a hundred hills of either of the former. In rich soil, trees may grow rapidly without cultivation, and no amount of grass or weeds will retard them; but there are other things besides growth to be looked after. If the weeds and grass are allowed to grow up around the stems of apple, peach or quince trees, the bark will become soft near their base by being shaded, and thereby be in a suitable condition for the reception of the eggs which will eventually become peach or apple borers. Take any dozen young apple trees in the section where the apple-borer is abundant and allow a portion to be choked with weeds and the remainder well cultivated, and then watch the result. From our own experience, we believe that the chances are nine to one in favor of those cultivated being exempt from this pest.—*Western Farmer.*

How to Bury Roots.—There is one way of burying roots so that frost will not get at them, and that is the placing of layers of roots between the layers of earth with which they are covered. It is necessary to be more careful with potatoes than with other roots, as they will not stand the slightest frost without being injured. Potatoes should be laid in compact heaps and covered carefully with straw. Over the straw put about eight inches of earth, and over the earth a good thick layer of straw. Over all, put six or eight inches of earth. Frost will go through almost any thickness of earth alone, but it will not penetrate far below the nonconducting straw. The earth should not be packed any harder than will suffice to keep it in place. By using straw and earth combined, time is saved in uncovering when the roots are wanted to be got at. If the snow is blown from the heaps during the winter, and the cold is very intense, it will be well to cover them with a coating of coarse manure.

Cleaning Up.—The rubbish which is left in the fields, in the orchards, gardens, and around the yards at the close of the season, furnishes hiding places for a vast number of vermin. Eggs and larvæ of destructive insects, chinch bugs and other pests find a safe refuge, wherein to pass the winter in cornhusks, stalks, and stubs, left upon the fields, and upon or beneath pieces of bark, chips, weeds, loose boards, and in corners of out-buildings. If the rubbish is gathered, raked up with horse or hand-rakes, and burned, and buildings whitewashed, myriads of vermin would be destroyed and prevented from propagating. As soon as the fields are cleared from crops, and work in the gardens and orchards ceases, a general clearing up should be made, and no quarter given to vermin of any kind or anywhere.

Farmers and Rheumatism.—Why are farmers so liable to rheumatism? Answer:—Because they wear wet clothing, heat and suddenly chill the body, over-eat after hard work, and because they do not keep the skin in a vigorous, clean, healthy condition. If farmers would avoid suddenly cooling the body after great exertion, if they would be careful not to go with wet clothing and wet feet, and if they would not overeat when in an exhausted condition and bathe daily, using much friction, they would have less rheumatism. The same rules applies to others than farmers.—The Turkish bath is the best remedy for rheumatism.—*Science of Health.*

Rules for Grading Oats.—The directors of the Detroit Board of Trade have adopted the following new rules for grading oats:

1. White oats, which include all white oats, whether State or Western, that come up to the standard of merchantable oats.
2. Mixed oats without regard to State.
3. No. 2, which includes all good, clean oats below the standard of white and mixed.
4. Rejected, to which class are consigned all musty oats, or those not properly screened.

Buying a Harness.—When you think of buying a harness, examine the leather of the hame-strap and the near tuck of the throat-latch, and likewise of the crouper. If these ends are of slazy stuff, calculated to squash and plague you while trying to make them enter the loops, don't buy. The man who cut the harness did not have the interest of the purchaser in his mind. At three separate and distinct scowls for each buckling, the harness would be dear as a gift. And most likely faults and oversights run through the entire rig.

The woman lives in Massachusetts who can be carried over a revolving shaft 600 times, dropped into a race, pulled out and go home and have supper at the usual hour.

SCIENTIFIC.

New Life-Preserving Mattress.—Interesting trials of the Gay safety mattress were lately made at the Maratime Exhibition, Paris. This mattress folds in two, longitudinally, forming a double belt, with attachments to fasten it to the person in such a way that it cannot possibly be displaced. It is formed of a double row of *boudins*, or "sausages," made of cork cuttings tightly compressed by machinery within a waterproof impermeable case, and the whole covered and incased in No. 7 canvas. The cork ribs are about 8 or 9 inches wide, and half that in thickness. The whole forms a mattress, one like which is intended to be placed in each sailor's hammock, cot, or berth. It makes a bed which, contrary to what might be expected, is elastic and easy to lie on. Its weight is about 6½ lbs., and it suffices to sustain in water the weight of four men, so as to save their lives, as was conclusively shown by the experiments on this occasion.

The celerity with which this valuable aid can be rendered available was shown by the fact that a man lying thereon in the hammock, on a given signal, drew out the safety mattress, arranged and put it on, fastening it perfectly, and jumped into the water, all within the space of three quarters of a minute. Thus every one on board a ship may have at immediate command, in case of accident, the means of enabling him or her to float without other aid in the water, even assisting others, and so to wait the arrival of further aid, by ships or boats; thus materially multiplying the chances of safety, which, after all, is the utmost that can certainly be attained, be the life-saving apparatus what it will.

Another important point in this appliance is that, as was also shown, the motion of the limbs, as in swimming, are entirely free and unfettered by the mattress, when thus used as a cincture; moreover, in cases of wreck and being cast ashore, this appliance is calculated to afford great protection to the body, and mitigate the shock if the wearer be thrown by the waves against a rock or beach; or should any one or more of the separate cork ribs be cut or damaged in any way by such collision, being independent, the cincture as a whole retains its buoyancy and life saving power unimpaired.

Coral Formations.—The admirable researches of Mr. Darwin have shown us that although the reef-building corals seem unable to live and grow at depths greater than twenty fathoms, (one hundred and twenty feet,) yet that if their base gradually subsides, at a rate not greater than that of coral growth, the reef or island will be kept up to the surface by such growth; so that if we could bore down into it we might find the coral structure to have a depth of many hundreds or even thousands of feet. The recent soundings of the Challenger around the Bermuda islands, which are entirely composed of coral, indicate that they form the summit of a pillar rising from a depth of 12,000 feet, and as we have no instance of a mountain having such a shape, it seems probable that the upper part of this pillar, at any rate, must have been formed of coral, which kept growing upward in the manner indicated by Mr. Darwin, while the bottom was slowly subsiding. It is commonly supposed by geologists that the limestone beds of which I have been speaking are the result of the metamorphosis of ancient coral formations, which attained growth at their living surface, as their base gradually subsided. But it appears to me that all we know of existing coral formations renders it unlikely that there should have been such a continuity of area in ancient coral formations, as would be required to account for the continuity in the area of our great beds of carboniferous limestone; and that this continuity is far better accounted for by supposing them to have been formed by the Foraminiferal life which recent researches have shown to be even now forming a calcareous deposit over vast areas of the ocean bottom.—*W. B. Carpenter.*

Magnetic Phenomena.—It appears from the scientific report of the Austro-Hungarian expedition to the North Pole recently, that magnetic disturbances are closely connected with the aurora—that, while in temperate zones they are the exception, they form the rule in arctic regions; at least, the instruments are in almost constant action, this being the case for the inclination, declination, and intensity needles. The magnetic disturbances in the region visited are represented as of extraordinary frequence and magnitude. They were closely connected with the aurora borealis, the disturbances being the greater, the quicker and the more convulsive the motion of the rays of the aurora, and the more intense the prismatic colors. Quiet and regular arcs, without motion of light or radiation, exercised almost no influence upon the needles. With all disturbances, the declination needle is reported to have moved toward the East, and the horizontal intensity decreased, while the inclination increased.

Rajewsky, working under Hoppe-Seyler's directions, has attempted to determine the length of time which must elapse between the ingestion of a dose of alcohol, and the disappearance of all traces of it from the brain. He finds that the method of analaysis employed furnishes positive indications even when no alcohol has been previously administered. Following up this clue, he is led to the conclusion that the brain and other viscera normally contain a minute quantity of alcohol, or else that alcohol is invariably generated from some of their constituents when they are subjected to distillation in carefully closed vessels.

Molasses Manure.—We learn from *La Sucrerie Indigene* that, in consequence of the low price of beet molasses, attempts are being made in France to introduce it in the place of manure. It is used either in a liquid form diluted with seven parts of water, or as a powder; and just at this moment it is cheaper than ordinary manure, while it contains all its essential elements in equal abundance. As soon, however, as the cold weather comes on, the molasses will again be required for cattle-feeding purposes, and will probably rise to a price at which it would be useless for manure.

L. Bechstein reports that he was required to turn with the greatest possible precision a piece of work twenty-six centimeters in diameter, composed of a very hard alloy of seven parts of copper, four parts of zinc and one part of tin. Every ordinary mode was tried, without success, when M. Bechstein had the idea of trying the effect of petroleum constantly applied to the cutting tools, and the alloy was then turned with about the same ease as steel tempered to straw color; the latter, says M. Bechstein, turns with the greatest ease when the cutters are kept moistened with a mixture of petroleum and turpentine.

The Force of Expansion.—The boiler stack (60 feet in height) of the Ohio Iron Company, of Zanesville, recently fell with a sudden and heavy crash, killing one of the furnace men instantly. The boiler had just been heated up, after having been cold, when the stack gave way. It appears that the gas flame had destroyed the inside lining of the stack, and had partly destroyed some of the brick and weakened the brickwork, so that, when the stack became suddenly heated again, the expansion resulted in the demolition of the whole structure.

New Oil Car.—A. P. O'Dell of Oil City, Pa., is the inventor of a new oil tank car, which, if it fulfils the expectations of the inventor when put to a practical test, will greatly lessen the cost of transporting oil to the seaboard. The tank is swung underneath a platform, which can be used as an ordinary gondola car for carrying freight on the return trip. At present the tank cars have to be returned empty, which is a dead loss in freight.

In photography the simple device of local heating of the plate during development is announced as producing better definition. In the case of children and other restless sitters a lighted wax match held under the face brings out that part of the picture into greater distinctness.—*Scribner for November.*

Sizing—R. K. Whitehead renders materials employed for sizing yarn, woven fabrics, &c., proof against mildew by the addition of a little mustard oil, or other vegetable oil possessing antiseptic properties. About ½ ounces of oil to one gallon of size is usually sufficient.

DOMESTIC.

A Fruit-Dryer.—For drying fruit and vegetables in considerable quantities, says the *American Agriculturist*, a regular dryer, or drying house is necessary, but those who have no regular apparatus can dry quite a large supply by using the heat from the stove when that is not otherwise occupied. An open oven, or the warm closet with which the better stoves are furnished, may be turned to good account, and by the use of a frame the drying capacity of a stove may be greatly increased. The size of the frame will be governed by that of the stove, perhaps about four feet square will meet most cases; it should be of 1½ inch stuff; the legs four feet long, or sufficient to lift the frame well above the stove, and so arranged that they may be folded up and put away when out of use. The frame may be covered by stretching common wool twine from side to side to make a net-work to hold the fruit, but it is much better to cover the bottom of the frame with a piece of wire cloth, which may be had at most hardware stores. The capacity of the dryer may be increased by suspending a second and smaller frame below the first. The fruit or other material to be dried should be so far above the stove, or the fire should be so low, that there is no danger of cooking or scorching. With a very slight fire the drying will go on with surprising rapidity. Fruit dried by artificial heat is much better than when dried by the sun, as there is no risk of partial fermentation, and it is kept out of the way of flies and other insects.

Effect of Food on the Character.—The whole nature and character of an animal may be changed by the quality of his food. If you feed a tomato worm upon tomato leaves, it will grow up a great, coarse, clumsy worm, and, passing through its chrysalis state, come out a butterfly, with little beauty or attraction; but if you feed the same worm upon different food, the leaves of roses and the petals of beautiful flowers, when it passes through its chrysalis state and comes out a butterfly, it will be of surpassing brilliancy and beauty in its plumage and its armature. And so of the silkworm. Feed it upon inferior diet—the leaves of the forest—and it will sicken and perish; but feed it upon the leaves of the mulberry, and it thrives and grows until finally it wears its life away spinning its gossamer silken thread. The same is true of the hog. Feed one upon hard corn, another upon swill, another upon distillers' slops and another upon nuts and mast in the forest, and their flesh will be totally different, as any butcher will tell you. In fact, the diet any animal lives upon will modify its constitution and character, for better or worse, as the case may be. Feed a human being upon pork and garbage and he will be inferior in health, constitution and endurance; feed him upon beef and bread and in constitution, health, endurance and disposition he will be superior.—*Western Rural.*

Infants are sometimes very restless at night, and it is generally owing either to cramming them with a heavy supper, tight night-clothes, or being overheated by too many blankets. It may result from putting them to sleep too early. They should be kept awake until the family are going to rest and the house is free from noise. Undressing and bathing will weary and dispose them for sleep, and the universal stillness will promote it. This habit, and all others, depend on the course pursued at first. Accustom them to regular hours. If they have a good sleep in the forenoon and afternoon it will be easy to keep them awake during the evening. It is right to offer them drink on going to bed, when young infants, and more solid, though simple food, after they are two or three months old; but they should never be forced to receive it. Never let anything but the prescription of a physician, in sickness, tempt the nurses to give them wine, spirits, or any drug to make them sleep. Milk and water, whey, or thin gruel is the only fit liquor for little ones, even when they can run about. The more simple and light their food and drink, the more they will thrive.

Night Dresses for Children.—A mother writing in the Household says that she made her little one's night dresses of cotton flannel, with legs to them, so that if he got uncovered he should not take cold. Observing that he lost flesh and grew cold toward morning, she called in a physician. She continues:

"He said that cotton flannel was not the material for children, for when it gets wet it clings to them and is cold as ice. He also denounced the idea of making legs to the dresses, said that the limbs should not be separated, but should come together. His directions were to make a night dress of flannel long enough to lay on the floor half a yard, just like a big bag; run a string in the bottom of this, and when the child goes to bed tie it up. In this way the legs can not get out, and there is perfect freedom of motion. We did so at once, and it worked like a charm. No more lying awake nights and wondering what the trouble is. The little fellow sleeps soundly, and wakes in the morning refreshed and with a good appetite."

Oatmeal as Food.—A powerful competitor for the patronage of the dyspeptic is oatmeal. This, however, is popular with classes not likely to be afflicted with indigestion. It is, and has been for years used extensively by the Scotch and Irish. Laborers drink it freely with water in the Summer. But of late years the use of this food has greatly increased among families reasonably wealthy, and many a breakfast table of this class of people would be incomplete without a steaming mess of this humble but wholesome article. The advantages of oatmeal as an article of food are getting to be tolerably well understood, and all persons who have commenced its regular use will agree that its nutritious and health-giving properties have not been overrated. Chemical analysis shows that oatmeal is richer than wheat in starch and the nitrogenous compounds, the first being fat-forming and the latter flesh-forming constituents. As compared with barley and corn, oatmeal is found to be still richer in these elements.

Strengthening Blanc Mange.—Dissolve in a pint of new milk half an ounce of isinglass, strain it through a muslin sieve, put it again on the fire, with the rind of half a small lemon, pared very thin, and two ounces of sugar, broken small; let it simmer gently until well flavored, then take out the lemon peel, and stir the milk to the beaten yolks of three fresh eggs; pour the mixture back into the saucepan, and hold it over the fire, keeping it stirred until it begins to thicken; put it into a deep basin, and keep it moved with a spoon, until it is nearly cold; then pour it into moulds which have been laid in water, and set it in a cool place till firm. This we can recommend for invalids as well as for the table generally.

A child's bed should slope a little from the head to the foot, so that the head may be a little higher than the feet; but never bend the neck to get the head on the pillow. This makes the child round-shouldred, cramps the veins and arteries and interferes with the free circulation of the blood. Even when a child is several years old the pillow should be thin and made of hair, not feathers.

Nutriment in Beans.—Dr. Bellows says that one pound of beans will support life in action as long as four pounds of rice. Two pounds of beans will help do more muscular work than three pounds of wheat, and more brain work than three and one-half pounds. The reason why beans require stronger powers of digestion than wheat, is that they contain casein instead of gluten.

Lamb's Kidneys.—Cut the kidneys in small pieces, for a half dozen put in a stew pan a piece of butter as large as an egg, enough water to keep from burning, a tablespoonful of flour, salt and pepper, and a glass of wine, stew for five minutes, or till done, and serve, or you may make an omelette and before folding over lay a few spoonfuls inside with the rich gravy.

To Prepare an Egg for an Invalid.—Beat an egg until very light, add seasoning to the taste; then steam until thoroughly warmed through, but not hardened; this will take about two minutes. An egg prepared in this way will not distress very sensitive stomach