

Mrs C B Cary

June, 1880.

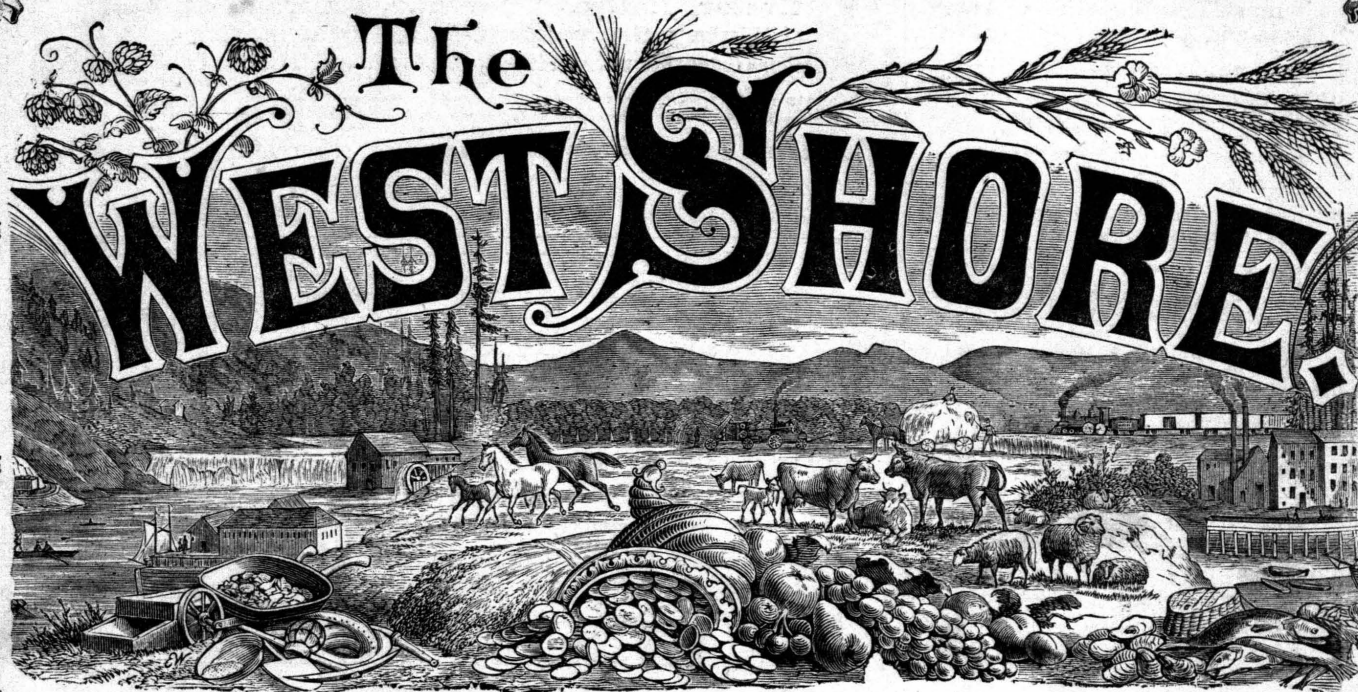
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THE WEST SHORE.

VOL. 6—No. 6. { L. Samuel, Publisher,
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Portland, Oregon, June, 1880.

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Portland Public Schools.

For the age of this city and taking into account that in the inauguration of measures for the general welfare of the city, many heavy expenses have been incurred, Portland may well be proud of her schools and school buildings.

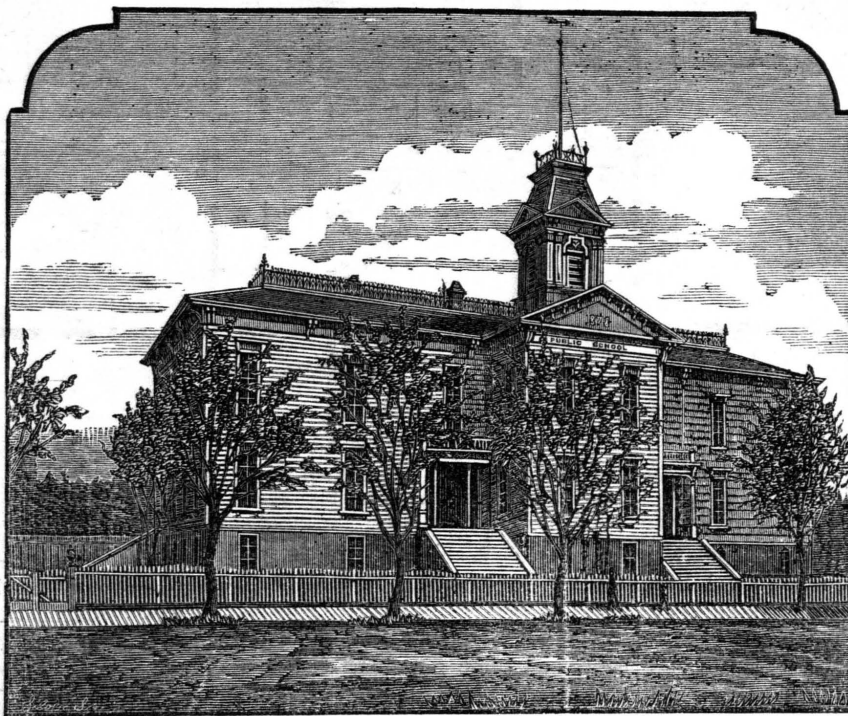
To be sure, in the earlier years, so little anticipation was had concerning the growth of the city that such buildings as the Harrison-st. (old) and the North were poorly adapted to the wants of the department in a very few years.

CENTRAL SCHOOL.

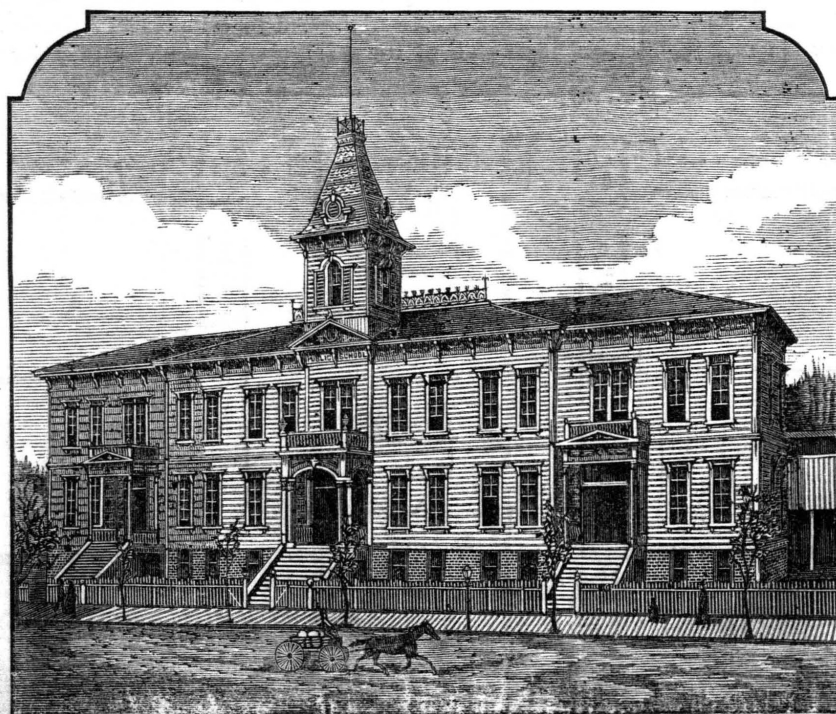
May 29th, 1856, at a school meeting, a tax of \$4,000 was levied for a site and a building. Block 171 was bought for \$1,000. E. M. Burton and R. D. Carson erected the original building, now a wing of the main building facing on Seventh-st. for \$2,993.

In 1857, \$4,000 more was voted to complete the building.

May 17, 1858, school was first opened, with L. L. Terwilliger as Principal and Mrs. Hensill and Owen Connelly as assistants.



PARK STREET SCHOOL, PORTLAND, OR.—From a Photo by I. G. Davidson.



HARRISON ST. SCHOOL, PORTLAND, OR.—From a Photo by I. G. Davidson.

There were 111 pupils present the first day.

In 1872-73, the old building was turned and the new structure, shown in the engraving, was built on the old site. This cost something over \$30,000. How much more has never been definitely ascertained.

There are twelve rooms in this building, with a seating capacity of 650.

HARRISON ST. SCHOOL.

The original building, standing on the corner of Harrison and Sixth streets, was erected in 1865, and cost \$9,941.

It was enlarged at two different times—in 1871 and 1877—making the total cost \$20,777. This building was almost totally destroyed by fire May 29, 1879.

The first school was opened January 20, 1866, with R. K. Warren as Principal, and Misses Tower, Stephens and Kelly, as assistants.

In the fall of 1879 the present new structure was erected and school opened February 9, 1880.

The cost has been about \$18,000. It has twelve rooms, with seating capacity of 600. It is well

lighted and ventilated.

A hot water apparatus furnishes heat of the most salubrious character and the combined system of ventilation is none the less perfect.

NORTH SCHOOL.

The block on which this is located, No. 80, Couch's Addition, cost \$4,522.

In '67, Messrs. Goodnough & Clarke erected the original building for \$12,816. Two wings were added in

1877 at a cost of \$4,121. School was first opened Feb. 10, 1868; G. S. Pershin as Principal and Misses Way, Northrup and Polk as assistants.

The building is now a 12-room structure, with seating capacity of 600.

PARK SCHOOL.

This is the most complete school building in the city. It is not ornate, nor specially showy, but its internal arrangement is quite perfect. It occupies a full block of ground that cost \$12,100. It was erected in 1878-79, by

J. M. Caywood, at a cost of \$29,700.

It has twelve rooms, with seating capacity of 650.

The High School occupies the upper floor, and some grammar classes the lower floor. Its light and ventilation are quite satisfactory.

Both this and the Harrison St. building are finished throughout with Oregon ash.

The growth of the schools was quite slow for some twelve or thirteen years from 1858. There were 111 present

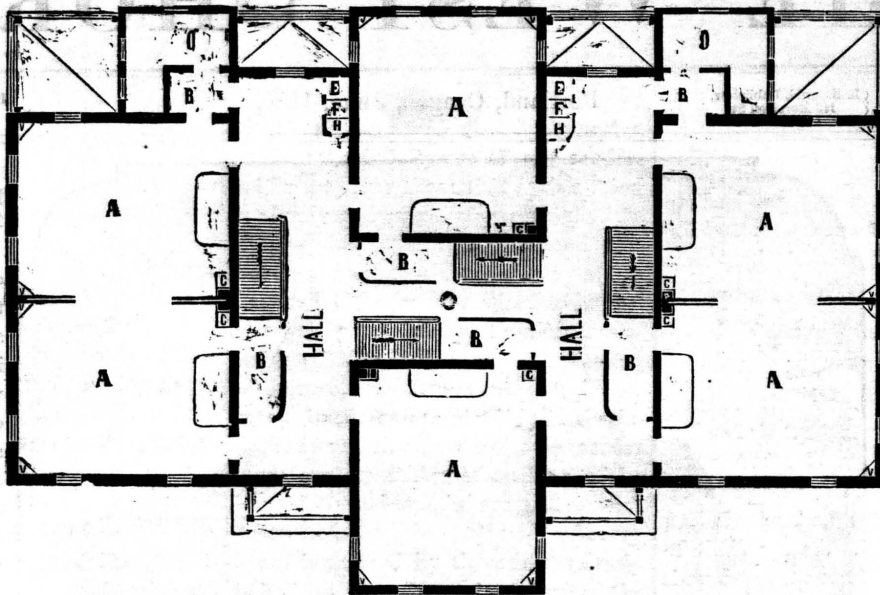
interests. We say again, we are justly proud of our school buildings.

OUR PROSPECTIVE MEN AND WOMEN.

Another census is upon us, and it has been predicted some months in advance that the grand total will show that we have a population within our borders of more than forty millions. The unprecedented tide of humanity now pouring into the Atlantic seaports from England, Ireland, Germany and France, is

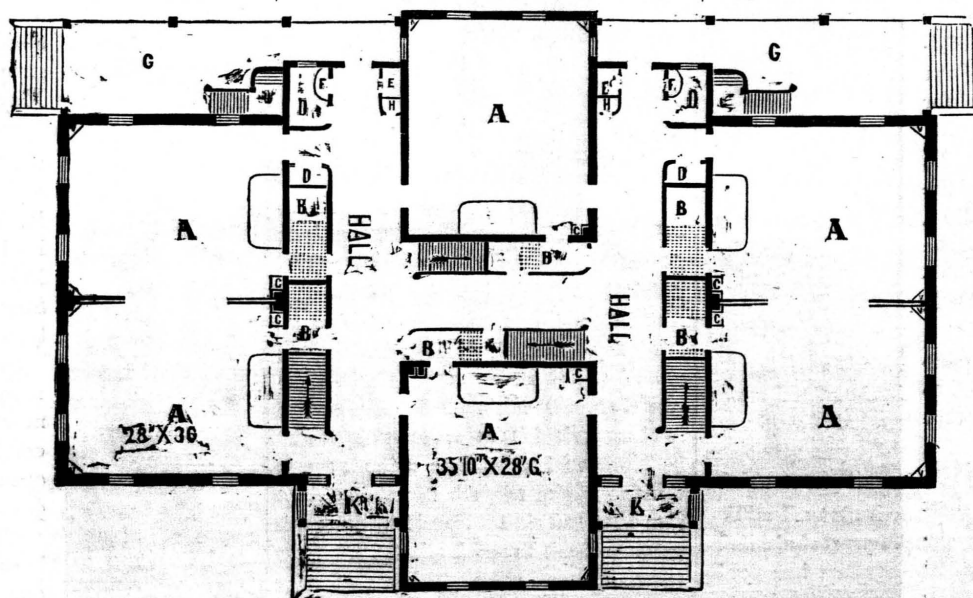
the first day 22 years ago. Today, there are about 1900. Then there were three teachers; now, 46. It is conjectured that every spare room will be occupied next year and during the year following, at farthest, (1882,) another building will be needed.

But the good judgment of the people, combined with their liberality, will, no doubt, make timely provision for these vital in-



PLAN OF SECOND FLOOR PARK SCHOOL, PORTLAND, OR.

Lettering of Rooms same as on First Floor.



PLAN OF FIRST FLOOR, PARK SCHOOL, PORTLAND, OR.

A. School Rooms. B. Hat Room. C. Teacher's Closet. D. Storage Closet. E. Hoist. F. Wash Basin. G. Rear Porch. H. Hose Closet. K. Front Porch. O. Office or Library.

in a fair way of adding another million of subjects to our great commonwealth before the expiration of the current year. It is by no means an easy matter to predict the ultimate results of this prodigious growth or portray its essential effects upon our political, social and moral economy. The Pacific States and Territories may yet be considered as sparsely settled when compared with the Atlantic seaboard and middle States. This cannot much longer be said of us, however, and the time is fast approaching when it will be no longer an idle question to ask our Eastern neighbors, "What shall we do with our boys and girls?"

It was a simple thing for Horace Greeley to tell young men to go West; but so long as the silent Pacific receives the setting sun, no such ready alternative can be ours. If such terms as the "oriental" and "occidental" ever possessed any romance or poetry, steam and the electric current have pretty thoroughly divested them of all their choicest sentimentalism. Within the memory of our children, telegraph wires and iron rails have caused the influx of a new dispensation among us. Practically speaking, old things have passed away, and all

things have become new.

In the days when it required six months for a rustling emigrant to span the continent with his family, and another three months for friendly greetings to complete the round trip by mail, this coast was practically iso-

lated from the East, and a visitor coming among us from New England or the middle States, could not fail to discover a clearly-defined provincialism in our language, our literature, our social intercourse and business relations. But we are fast parting with these peculiarities, and even now, our old pioneers are wont to look back to the days of '49 as old age looks back to the halcyon days of youth.

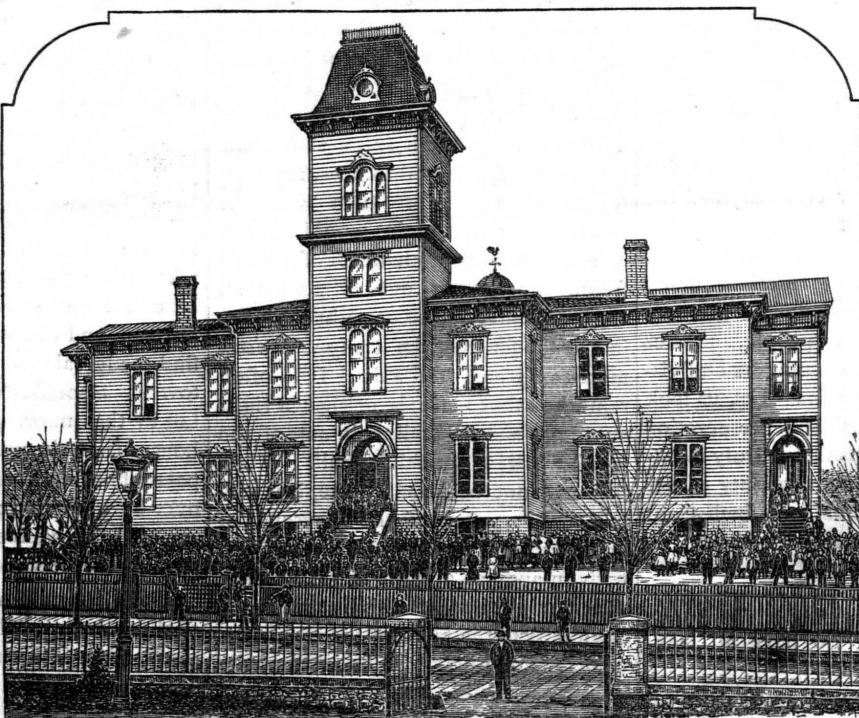
Much as many of us would desire the beautiful vista to remain intact, stern destiny decrees that changes must

needs come, and the active concerns of life leave us very little time to indulge in the dreams of fancy or sentiment. Notwithstanding the inexorable laws of progress; albeit there is a good deal of inspiration in the utterance, "Westward, the star of empire takes its way," yet do we believe that there are certain elements that go to make up our Pacific coast society which ought to be perpetuated.

There is an undefinable Western cast observable in our social structure which should, by all means, crop out in our future citizenship. We believe we are giving expression to the honest convictions of every true Pacific coaster, when we say that our untrammelled, free-and-easy ways of liv-



NORTH SCHOOL, PORTLAND, OR.—From a Photo by Joe Buchtel.



CENTRAL SCHOOL, PORTLAND, OR.—Photo by Joe Buchtel.

ing, doing business and enjoying life should never be exchanged for the straight-laced, sectarian methods that invariably obtain in the older States of our Union.

To bring about this great desideratum, and thus cause our hopes to become realities, we see but one way of proceeding. Amid the din and jostle incident to the influx of a large immigration, our own peculiar institutions must be preserved from the incursions of Eastern heterodoxy. Living as we are, in the beautiful sunset land of reality as well as romance, let us foster with due fidelity, whatever is really occidental in our physical, moral and intellectual temperament.

While our language and literature is national, in the main, there is, after all, like our forest breezes, a refreshing odor, all our own, pervading and identifying all we say or do. National integrity and unity do not necessarily imply strict homogeneity of constituents; nor do they preclude the existence of those pleasing varieties which Nature herself observes and maintains in the economy of the human race. Our *fauna* and *flora* differ very widely from those of the Atlantic States. Our charming landscapes and mountain scenery surpass the power of ordinary language to describe. Our climatic peculiarities have more than once provoked the dreams of Paradise in the minds and souls of our poets. Even in the various departments of inorganic nature, such strange departures are presented that geologists have regarded our land as a newer creation than the Atlantic coast. Is it strange, then, that amid all these scenes, through the processes of action and reaction, many pleasing innovations should discover themselves among our people, and thus lend their charms to strangers and visitors from other lands? Let us look well, then, to the faithful preservation of our local patriotism, our truly Western institutions, the sovereignty of our manners and customs, and finally, our occidental language and literature.

"I have a great ear, a wonderful ear," said a conceited musician, in the course of conversation. "So have all jackasses," replied a by-stander.

To remove rust from steel, rub well with sweet oil. In forty-eight hours, use slacked lime, powdered very fine; rub until the rust disappears.

MULTUM IN PARVO.

To the uninitiated, hewing money out of fir and cedar stumps may appear to be a rather paradoxical business, but we beg the indulgence of our readers while we show them that such a thing is clearly and practically possible. In a sea-going craft of a thousand tons burthen, there are from three to five hundred ship knees utilized to impart strength and rigidity to the framework of the hull. A double-decker, of course, requires nearly twice as many knees as are used in a single-decked vessel. The general reader may form something of an idea of the immense number of these pieces used, when he is told that each end of every beam is secured by three knees firmly bolted to the ribs and girders of the ship. In fact, wherever an angle offers the opportunity, there a knee is fitted and bolted.

These rugged and ugly-looking pieces of gnarled timber are the thews of the ship, being somewhat analogous to the braces in the frame of a strong house, and yet far superior in strength, since they are so fashioned as to become solid angles themselves. The size of a ship-knee is rated according to the width of its vertex, or "elbow," and priced at so much per inch for this dimension. Thus a knee which would square, or "face," as the carpenters say, ten inches, would be worth, at fifty cents per inch, five dollars. Hence, it will be seen that the intrinsic value of a tree sending forth spurs at its base large enough for ship-knees, amounts to considerably more than what the clear lumber it contains would sell for.

These important elements of a ship's frame are gotten out at nearly all angles—acute, obtuse or right angled—just as the fangs of the stump will work most easily and profitably. It is often remarked that there is neither a right angle nor a straight line in any of the wood-work of a ship's hull. While this may not be strictly true, it is certain that very few of the thousands of knees used in a ship-yard are finished with an apex at a right angle, or their sides straight lines. This fact redounds essentially to the favor of the contractor who saws and hews the knees from the stumps.

We are informed by woodmen who are experienced in this work, that from two to five good ship's-knees can be

taken from the base of fir and cedar trees, and that on an average, three can be safely counted on in the forests of this part of the coast.

The history of marine architecture, unlike that of house carpentry, shows a gradual increase, rather than a falling-off, in the amount of timber used in the construction of wooden ships. As deep sea-going vessels are much larger now than formerly, they would be relatively much weaker were it not for the more complete consolidation of timber consumed in the construction of the frames; and as this tendency to consolidate proceeds, there is a much greater draft upon angular sticks worked from natural crooks than upon any other kind of timber used. Again, traversing as they do, every navigable body of water on the globe, ships of all kinds are more severely tried, now, than in earlier times, and as a necessary consequence, they are proportionately much stronger.

From what has been said, farmers and woodmen will see that there is both economy and profit in the utilization of sound stumps in the way and manner we have endeavored to set forth above. But especially is this true in the neighborhood of our navigable streams and other bodies of water bearing our national commerce. No especial mechanical skill is required to carry on this industry. By cutting, sawing and cleavage, the spur or fang is separated from the base of the tree; it is then rough hewed in the usual way, and finished with the adz and broadaxe. Getting out ship's-knees is a much more lucrative employment for farmer's sons, during the winter months, than hunting and fishing. Let the sticks be taken from good, sound trees, let them be of all sizes and angles, and nicely finished, and our word for it, they will find ready sale in any of our seaport towns. Should there be a temporary lull in the market, they can be easily housed from the weather. Not a winter passes but hundreds of trees are turned over by wind storms, the roots of which are easily accessible for the prosecution of this enterprise.

The Eastern demand for ship timber of all kinds is rapidly increasing. Deck plank and spars constitute the bulk of out-going cargoes at the present day, but we believe the time is near at hand when the smaller and more rugged pieces will be shipped from Oregon and

Washington Territory to meet the requirements of Eastern builders.

While this is not an exhaustive topic, it certainly suggests to the unemployed able-bodied men of the Pacific Northwest an honorable and profitable industry worthy of their consideration.

Finally, if by penning this article we shall have conveyed valuable information to one of the hardy yeomenry of our land, and induced such an one to embark in the enterprise, we shall feel amply repaid for time and pains expended.

BRITISH COLUMBIA.

Vancouver Island is about 280 miles long and 50 broad, containing 8,900,000 acres. Its shore line is so deeply indented that the island can be crossed at several points by less than one-third of its width of land travel. This feature is, of course, a great advantage, as it brings the interior of the island, with its vast wealth of timber and minerals, within easy distance of the sea. The surface of the island is very much broken, the agricultural land being in small patches and interspersed with mountains.

In the northern division, down to a line adjoining Seymour narrows and Nootka sound, there are 4,100,000 acres. Of this, only about 77,000 acres are cultivatable. The central division, bounded on the north by the Qualicum river Alberni canal, contains 2,190,000 acres, of which 57,000 are estimated to be cultivatable. The southern division contains 2,670,000, of which 250,000 are accounted cultivatable, making a total of 389,000 acres of cultivatable land in the island.

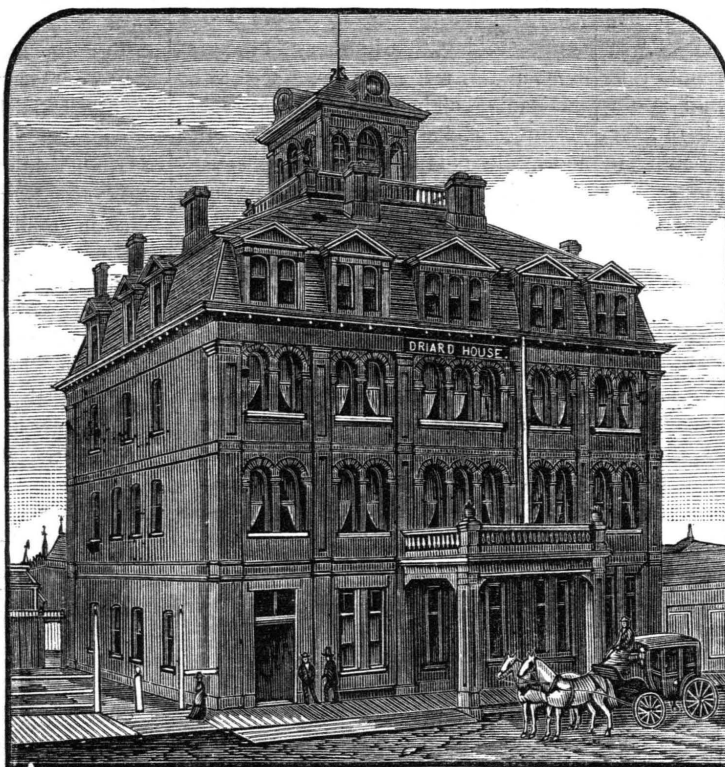
It is clear enough that Vancouver will never be agriculturally wealthy. Its varied resources of other descriptions will, however, make its agricultural land exceptionally desirable, and will give a high value to the little patches of good soil found among the hills. There are also, it appears, many small lakes and swamps which could probably be drained and turned to account at small expense.

The chief wealth of Vancouver is in its timber, but even that may hereafter be eclipsed by its production of coal and other minerals. The island is densely wooded from end to end, and the trees attain to proportions unheard

of in the East. In the order of their present commercial importance they are, the Douglas fir, red cedar, white pine and spruce fir. On the Nanaimo river there is said to be enough wood to give work to a large camp for ten years. The Chemainus river valley is densely clad with excellent fir and spruce for more than thirty miles. In the Cowichan district there is estimated to be 20,000,000 board measure of marketable lumber. The agricultural crops in the island comprise everything that is grown in Ontario. The yield of nearly everything is great; oats, 90 bushels; wheat, 40 bushels; turnips, 45 tons to the acre are spoken of. Peaches, grapes and tender vegetables

are nothing but a chain of mountains—the continuation of the Olympian range of Washington Territory, of which range the Vancouver mountains form a part. Mountains of 4,000 feet are quite common in Queen Charlotte Islands. A few peaks reach 5,000 feet. The whole of the country is covered with coniferous trees, and these are rendered easy of access by the numerous fiords which run far into the interior. The trees are chiefly the Menzies spruce, western cedar, western hemlock and yellow cypress. It is too far north for the Douglas fir. At a Hudson Bay post at Masset, on the northeast of the islands, cattle take care of themselves winter and summer. Snow

falls occasionally in the winter, but does not lie long except on the mountain tops. The quantity of rain, especially in winter, is excessive. Gold has been found on the islands, but not as yet in paying quantities. The interior, however, has not been examined. At Skidegate, a native coal, of excellent quality, crops out, and has been mined a little. Bituminous coal is also supposed, from the geological appearances, to be present. Lignites have been found at several places on the coast. Copper ore and magnetic iron ore are also found. The chief business of the natives, who are Haidas, is fishing and fur hunting. There are about 2000 natives, who would be better men if the grog-sellers of Victoria and other towns were more particular as to whom they sold liquor. The report about these islands is written by Dr.



DRIARD HOUSE, VICTORIA, B. C.—From a photo by R. Maynard.

ripen well in the Saanich peninsula, and hopes are entertained of their being successfully cultivated. About one-tenth of the available agricultural land has been taken up, and only one-quarter of that taken up is being cultivated. The chief reason given for the smallness of the quantity is that the settlers who have gone to the island have mostly resorted there for mining and other pursuits more exciting than agriculture. Mr. Joseph Hunter is the author of the report about Vancouver Island.

The Queen Charlotte Islands lie off the coast of British Columbia, between latitude 52 and 54½. The length of the islands is 150 miles, and the greatest breadth 50 miles. Agriculturally the islands are of little value, as they

G. M. Dawson.

THE DRIARD HOUSE.

Located in proximity to the business centre of the beautiful city of Victoria, British Columbia, is the Driard House of which Messrs. Redon & Hartnagel are proprietors. It is a fire-proof brick building, well furnished, and, we are happy to state, in the hands of men who know how to keep a hotel. Mr. Hartnagel, for a number of years "chief de cuisine" to the Duke of Baden Baden, is now "chief de cuisine" of the Driard, and the many dainties served in the dining-room of this popular hotel fully attest to the skill of Mr. H. The office and general management of the Driard is in the hands of Mr. Redon, one of the most pleasant hotel-men of the Pacific Coast. As a place to spend the summer vacation, and to travelers in general, the Driard is to be especially recommended.

PUGET SOUND CORRESPONDENCE.

SEATTLE, W. T., June 9, '80.
TO THE EDITOR OF THE WEST SHORE:

So here I am, just landed from that staunch steamer, the *Zephyr*, commanded by Captain W. R. Ballard, whose name is a household word from one end of the Sound to the other. In fact, like the romantic appellation affixed to the elegant craft over which he so fittingly presides, the Captain is none other than a living synonym of courtesy and suavity. The irrepressible hotel runners, with their coaches, are on hand, and after being rolled through the sawdust up to the Occidental, I prepare myself for a pleasant stroll around this, another one of those cities "by the sea," for which Puget Sound is so famous. But hold! I should apologize to the good people here; for, since the burning of Yesler's mills, in the heart of town, it is no longer considered elegant to speak of the sawdust in the streets of this little city.

Seattle has one thing, at least, in her favor. There has been enough capital already invested or "sunk," here, to insure the indefinite improvement of the adjacent and surrounding country.

This, the 9th of June, is an auspicious day for Western Washington, and the Sound country especially. By a preconcerted arrangement, the leading lumber manufacturers of the upper and lower Sound have commenced to-day to run their mills on "full time;" the late breezing up in the foreign markets fully justifying this important step. To the scores of hardy loggers and their hundreds of employes, this is, as politicians say, glory enough for one day. Six months ago there were several million feet of prime quality logs in the water, for which the owner could not realize three dollars per thousand. At present good logs are selling readily at from five to six dollars per thousand, and the price is steadily going up. From all quarters we hear the echoings of thrift and enterprise. Old settlers are just beginning to find out what this country is made of, and we are hearing less and less of emigration to the eastern sections.

The iron interest of Clallam county, the coal of Seattle and Puyallup, the dairy products of every valley and the lumber from our forests are doing more to fit this Territory for becoming a full-grown State than all other influences

combined. Every year, and we might say month by month, old prejudices are going by the board, and the startling discovery is made that this part of the Territory is eminently adapted to some enterprise heretofore held to be an impossibility. It is doubtless true that lumber will continue to be the staple commodity of export for a term of years to come. But this does not result from the fact that the country is lean in every other respect.

The people of Washington Territory are passing through a transition state, quite similar to what the people of Oregon experienced a few years ago. Many an old pioneer Oregonian would confess to-day, that lumber and the precious metals were once supposed to be the leading, and perhaps only, available resources of that now sovereign State; and in those days these things constituted the chief attraction to business men who followed in the wake of adventurers. What Oregon is to-day, Washington Territory hopes to be in less than ten years from date. Of course, it is idle to speculate as to the results of the census now being taken, so far as it relates to this Territory. Many sanguine ones who are placing their estimates at 100,000, are doomed to be disappointed. Much as the country is in need of an influx of brain and muscle to subdue and utilize its broad acres, we must be content to wait for the natural and legitimate increase of population. This growth alone will be sure and abiding.

Reports from the Skagit mines continue to be conflicting. The most favorable accounts need some qualification, but that coarse gold exists in paying quantities all along the lesser headwaters of the Skagit, there is not a question. For all practicable purposes, however, these mines are as yet inaccessible to the hundreds of explorers who are impatiently awaiting the construction of a trail suitable for pack animals and footmen. Had the business men of Seattle gone to work, nothing doubting, and prosecuted this enterprise as soon as the weather would have permitted, in the early part of the season, they would have received interest and principal on all their money expended, and their city would have become the thronged rendezvous of miners and adventurers from all parts of the coast. As the situation now is,

miners are disheartened, and many are leaving to return no more. But we are satisfied that the precious metals in our mountain fastnesses, like those in California and Oregon, will assert their value and importance in the due course of time.

There are some premonitory symptoms, unmistakeable to the observing man, clearly indicating that the eve of important developments is near at hand, tending to the lasting benefit of this Territory.

Your readers may have heard rumors of gold discoveries in Thurston county, near Olympia. As I write, word comes that several prospecting parties are fitting out at the capital city to explore the highlands known as the Black Hills, situated from ten to fifteen miles south-west from the head of Budd's inlet. It was known ten years ago that placer gold could be found in small quantities in the gulches that permeated those hills, but more distant mining excitements diverted and engrossed the public mind, and for a term of years the matter has been napping. The Skagit stampede, however, had the effect to awaken and fan into new life several old enterprises, and our own Black Hills gold fever is one of them. Responsible parties have returned after a few days sojourn thither, bringing with them valuable specimens of decomposed gold-bearing quartz, together with both coarse and fine placer gold.

The Kelsey Bros., of Centerville, Lewis county, discovered a few months ago, what they claim to be an ancient river bed, similar in all respects to the celebrated Blue lead in California. These ancient water-courses are essentially of the same geological age, and so far as they have been explored, an abundance of coarse washed gold has been found in the gravel which they contain. The Messrs. Kelsey have sent a specimen of their gold to Olympia, and a quantity of the precious metal, mixed with black sand, is now on exhibition in the show-window of the Board of Trade rooms. But more of this in another letter.

Yours, TRAVELER.

Scene, or rather heard, on a Lowland horse-car: Conductor—"There ain't no seats, ladies, unless you want to stand." One of the ladies—"Well, I won't ride if I've got to walk."

RAVAGES OF FASHION.

The world moves, and while enlightened nations are not slow to emancipate themselves from the chains of ancient thralldom, the living wonder yet obtains that men and women, intelligent and philosophical in all things else pertaining to their general well-being, will voluntarily endure the worst physical slavery that ever existed on earth. If vice is a monster, then is modern fashion a most uncompromising tyrant, verily ruling its subjects with a rod of iron.

In the personal decoration and wearing apparel of the day, a system of idolatry and bigotry is hourly exemplified, most astounding to any careful and thoughtful observer. Ridiculous as many old styles would now appear, it needs but the behest of some leading votary of fashion to exhume them from the annals of the past, reinstate them in the domain of popular favor, and make them the cynosure of admiring vulgarity. The fashionable world has yet to produce a Moses through whose expert generalship we may yet be led through the wilderness of abject folly into the promised land of common sense.

To improve upon Nature is the avowed object of many of the expensive fashions now in vogue among those who belong to the higher walks of life. No sooner does a young girl begin to ripen into womanhood than she discovers the appalling fact that there has been some miserable error committed somewhere and by somebody, about her model or complexion; and thenceforward it is the sole object of her life to correct the blunder that has been made. Wholly ignorant of the first principles of physiology or the laws of health, she goes about giving new lines to what she deems her misshapen form. She impudently questions the propriety of the beautiful exterior that the great Architect has given her innocent girlhood, and calls into requisition the villainous appliances of human ingenuity to convert her yielding body into what in the end is nothing less than a horrid deformity. By main strength and awkwardness she girds her expanding chest with plates of steel, jams her feet into abominable things that St. Crispin never invented, apes the savages by bedaubing her face with mineral poisons, and scoots up her hair into

shapes of ineffable ugliness. Thus accoutered and stuck up, she persuades herself into the silly belief that she is really beautiful and attractive.

O shades of our dear departed grandmothers! come and deliver us from this abomination of desolation.

But this is a gigantic and far-reaching topic, and in order to thoroughly investigate it, we must do as great men and books say: examine the subject *seriatim*. We will begin, then, with the cosmetic absurdity.

Few ladies know to what a fearful extent mineral poisons enter as principal ingredients into the composition of their much-esteemed face powders. It is a libel on the vegetable kingdom to say that there are no mineral products in the face powders so extensively sold throughout the length and breadth of our fair land.

Dr. Hassell, of London, is prosecuting a work for which future generations of healthy men and women will rise up and call him blessed. It may be remembered by our readers that this eminent chemist thoroughly exposed some of the principal food adulterations several years ago. But the Doctor did not weary in well doing. Horrified at his discoveries in regard to what unsuspecting people put into their stomachs under the attractive guise of food, he was subsequently led to examine what silly women put upon their faces. His explorations in the latter field justifies the ominous assertion that there is fully as much pure and unscrupulous iniquity practiced in the manufacture of the various cosmetics as in the preparation of canned and many other kinds of food. The lovely "violet powder," for example, so extensively sold at perfumery stores, was found to be a most pernicious hash of active mineral poisons. Even the popular "rice powder," which the careful mother applies to the delicate skin of her infant, was found to contain no less than twenty-five per cent. of arsenic, and it was proved that several young babes had died from the effects of this powder.

Every physician knows that a thin, delicate skin will take up large quantities of arsenic through the process of absorption, and having thus gained access to the various tissues of the body, its immediate effects are very much the same as if taken into the stomach.

The stylish wife of a physician was

one day stoutly protesting that her face powder was purely a vegetable creation. But when the sagacious physician undertook to weigh a spoonful of the powder against a similar quantity of wheaten flour, the scales would not balance, and he was obliged to treble the quantity of flour before it was equal in weight to a spoonful of the powder.

Even though a face powder is entirely free from mineral poisons, it is no less deleterious in one respect, at least. It is just as instrumental in filling up and clogging the pores of the skin as the more objectionable compounds. Prof. Helwig asserts that a stoppage of the pores of the skin in and about the face is the main cause of pimples and other cutaneous eruptions.

But the latter gentleman has made a still more unpleasant revelation. In one specimen of toilet powder prepared by a leading perfumer of Paris, he had discovered the healthy eggs of the *Demodex folliculorum*, an active little parasite that delights extremely well to burrow at the base of the irruptions on the faces of pretty young ladies.

The Professor is of the opinion that many of the volatile oils used to perfume cosmetics renders such compounds a fit abode for those living germs which so largely pervade our atmosphere. Prof. Chon, another expert of Berlin, fully coincides in this interesting matter, with the two eminent authorities already referred to above. More of this subject in a future issue.

LADIES ABOUT TO MARRY.

In marrying, make your own match. Do not marry any man to get rid of him, or to oblige him, or to save him. The man who would go to destruction without you, will be quite as likely with you, and perhaps drag you along. Do not marry in haste, lest you repent at leisure; do not marry for a home and a living, when by taking care of your health you can be strong enough to earn your own living. Do not let aunts, fathers or mothers sell you for money or a position into bondage, tears and lifelong misery, which *you alone* must endure. Do not place yourself habitually in the society of any suitor until you have decided the question of marriage; human walls are weak, and people often become bewildered, and do not know their error until it is too late. Get away from their influence, settle your head, and make up your mind alone. A promise may be made in a moment of sympathy or half-delirious ecstasy, which must be redeemed through years of sorrow, toil and pain.

DISSEMINATION OF GOLD.

We believe it to be a sound principle, that the working classes generally should have a practical knowledge of all those elements of wealth which constitute the leading resources of the country in which they live. "A little knowledge *is* a dangerous thing," in every sense of the word; while a liberal share of useful information concerning the general topics of the age in which we live, is ever an ark of safety in whatever situation we may be placed.

There is a remarkable difference between American and European craftsmen. Our mechanics come into the possession of their trades with a fund of information based upon a wide experience and observation. A blacksmith, for example, knows how to build his own forge and prepare his own charcoal. A wagon-maker not unfrequently implies such a man as is able to build the woodwork of a carriage, iron and upholster it. A machinist knows how to fashion his tools as well as he knows how to use them in the execution of a piece of work. Not so, however, with the English operative. Just as a horse knows how to turn a treadmill, so is the European mechanic generally, conversant only with those things which come within the narrow limits of the sole business to which his father apprenticed him.

With these introductory remarks, we will proceed to the subject before us.

Gold is one of the acknowledged resources of the Pacific States and Territories, and, as such, it becomes our people to understand something about its geological history and the most approved methods of extracting the metal from the various earths wherein it is found deposited. Old miners and prospecting experts are, as a rule, averse to the study of elaborate works on mineralogy and metallurgy. They require but few theoretical principles, and will tolerate those only which they can reduce to practice on the spur of the moment when most in need. Hence, we conclude that a newspaper or magazine article, written in an easy and popular style, will be read and treasured up when unwieldy tomes would grow musty upon their shelves.

It may not be generally understood that gold is one of the most universally disseminated of all the metals. Iron,

in fact, is the only exception. It is only a few years ago that the auriferous belts of the earth were supposed, by the leading geologists, to be extremely limited. But few isolated gold-producing regions were known to the ancients. These were doubled in number during the mediæval ages, while they have been more than quadrupled by the explorations of modern times.

The gold regions of the United States, the only ones of which we shall treat in the present article, may be divided into two principal sections—the Appalachian and the Californian. The first named section comprises all those auriferous rocks, alluvia and diluvia, extending from Georgia to the Canadas; gold having been found to a greater or less extent in portions of Georgia, North and South Carolina, Virginia, Maryland, Pennsylvania, Massachusetts, Vermont, New Hampshire and Maine. Gold, in small quantities, has also been discovered in portions of Tennessee, Alabama and Michigan.

The California section comprehends an auriferous system of mountains and hills extending from Lower California to British Columbia, and eastward to the Sierra Nevada and Cascade mountains. Latterly, the precious metal has also been found in New Mexico, Colorado, Arizona, Utah and Idaho. The gold-producing areas of Oregon and Washington are daily widening as adventurers push their way into the heretofore unexplored sections. It is getting to be a matter of common occurrence to find gold indications in all our river-beds and gravelly drifts. Nay, we are persuaded to believe that there are but few of our old pioneers throughout this, the Pacific Northwest, who would be afraid to wager that they could find the "color" in the bars of the streams that water their farms.

This wonderful dissemination of auriferous particles is yet an unsolved problem among mineralogists. That the crests of metal-bearing ridges were abraded and torn by the convulsions of the glacial and drift periods there is no question. Hence, it is not difficult to conceive how these severed crags and masses of earth were precipitated and washed into the valleys below, by the united action of avalanches, land-slides, and the annual floods of past ages. This is the rendering of one of the most commonly received and plausible theories. The disintegration of mineral rocks and the further attrition of their particles, is a process which still

continues in our own day, though with far less violence and activity than in former times. Let not any of our readers be startled when we tell them that in many instances placer gold is none other than an actual *crop* of annual renewal. This is conclusively shown by the restoration of many of the California river bars, which have become a second and third time impregnated with auriferous particles since they were first worked out in the early days of their discovery.

It is but reasonable to suppose that, by the melting of enormous masses of snow and ice, annual mountain torrents are formed in the Nevada and Cascade ranges, of whose violence we can form no adequate conception. Thus, through the instrumentality of these streams, various mineraliferous ledges are broken down and their mingled debris carried headlong into the canyons below, and thence, by slower and less active processes, their smaller particles are transported by purling brooklets to the table-lands and plains, where they are finally ensconced in the all-pervading alluvial deposits.

It is only about fifteen years ago, or, at the longest, within the last two decades, that geologists have boldly and confidently predicted the finding of gold in certain definite formations. While it is, to a certain extent, true that quartz rock is the natural matrix of gold, it is a conceded principle that where the main geological formation largely comprises *talcose slate*, with here and there *intrusive rocks*, there gold, theoretically and actually, exists. We believe it was Tyson who originally announced this coincidence as a natural law in geology, while a few years later, Dana first made a practical application of the principle on the Pacific coast.

By far the greater amount of gold taken from the earth must needs come from alluvial deposits, and in these drifts the metal is more extensively distributed than in any other localities.

From what has been said, it will thus appear that the so-called "placer diggings" will continue to be the most profitable deposits for solitary miners and small corporations. "Panning" and "rocking" are, perhaps, the most primitive methods of separating the gold from the containing earths, and they require no special outlay. sluicing needs some little ready capital to inaugurate efficient operations; while the hydraulic process necessitates a large expenditure for apparatus. The reduction of gold-bearing rocks and the extraction of the metal is only accomplished by the most costly machinery coupled with elaborate manipulation.

Finally, and in conclusion, a few "colors" to the pan, found in his own immediate neighborhood, will justify any industrious man, not otherwise employed, in making extended explorations in search of the precious metal.

THE HAMPSHIRE DOWNS.

We give on this page a portrait of a handsome ram of the Hampshire family of Downs. The Hampshire sheep are excellent illustrations of what can be accomplished by skillful breeding for a certain style of animal. The Hampshires were brought out upon the idea of more meat in a shorter period of time—the same which originated the Leicester—by admirers of the Southdown style, who saw in the size and the early maturity of the Wiltshire horned sheep and the Berkshire Nott, qualities forming an admirable foundation for a breed upon which the fine form and superior quality of flesh of the Down could be ingrafted. It is worthy of notice that a breed which has long displaced the original Sussex Down and other breeds in Berkshire, Hants, Wilts and Dorset, has been made

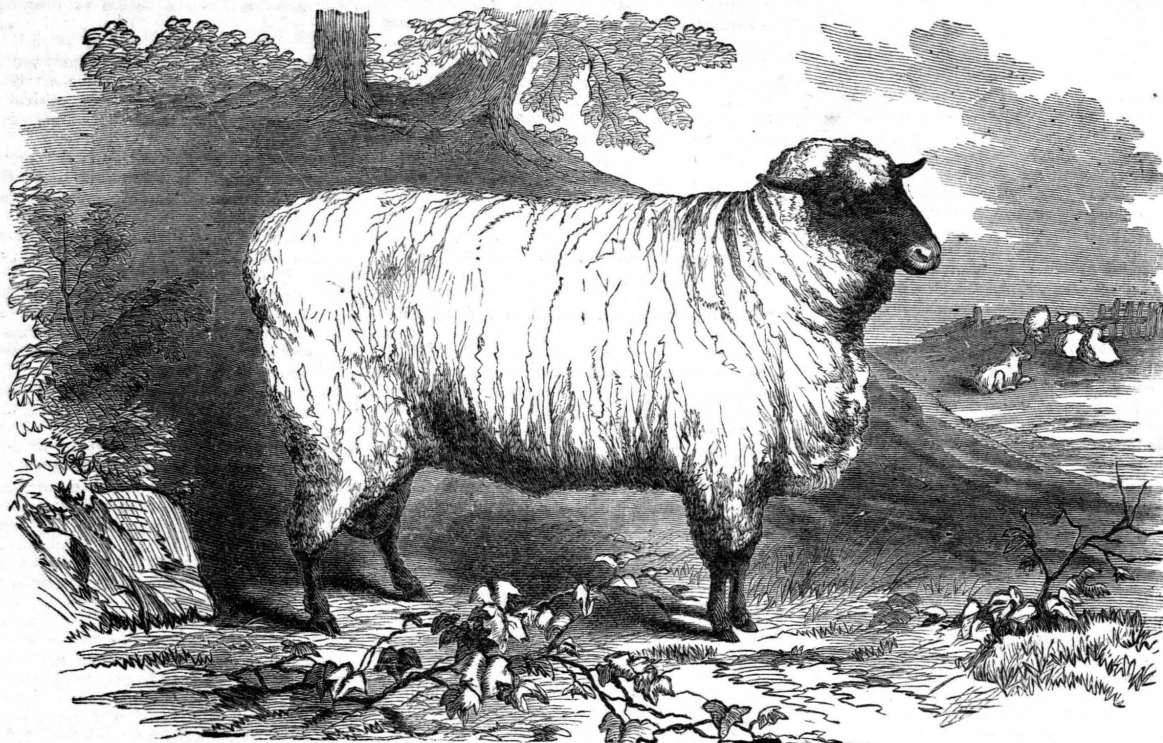
WHERE DOES COAL OIL COME FROM?

This is one of the questions that has long agitated the scientific world, and upon the answer to it more depends than seems to at first sight. If we know its source we can fairly determine as to the nature and extent of the supplies, and as to where to look for them. The *Scientific American* says: Some have thought that the oils have been produced by a slow distillation during the process of coal formation. A fatal objection, however, to this theory is found in the fact that Great Britain, which has immense coal beds, contains nothing of the kind, though supposed traces have been found here and there.

The silurian and devonian rocks, which contain the sources of most of the oil wells now in existence, have great quantities of fossil remains, and this has suggested the theory that the oils have resulted from their decomposition.

The subject is one well worthy the attention of all interested in oil wells.

NEW METHOD OF CONSUMING SMOKE.—It is well known that the cause of smoke is that the fresh air, entering the incandescent coal from below through the grate, has often all its oxygen consumed before it has passed half way through the layer of coal, so that the upper part of the layer cannot burn, but is simply heated by the underlying incandescent coal, while the products of the combustion of the lower layer of burning coal pass through the upper heated but not burning layer, and carry with them the combustible gases evolved by the heat, but which cannot take fire from the want of free oxygen. In order to furnish these combustible gases ascending through the upper layer of coal with the necessary oxygen to burn, Mr. Benjamin F. Sherman, of Ballston, Spa., N. Y., has devised a means of introducing air in the furnace with a downward injection upon the fire by a



RAM OF THE HAMPSHIRE FAMILY OF DOWNS SHEEP.

what it is, in the hands of skillful breeders, by the blood of the finest specimens of the race which they now dominate in all that section. This change is a natural result of the inclosure of the commons, the introduction of artificial manures, and the production of such crops as turnips, rape, vetches, trifolium, rye and Italian rye-grass. This is one of the facts with which the history of British sheep-husbandry teems, illustrating the necessity of change in breeds, with changed conditions of production or consumption. It is estimated that the weight, both of mutton and wool, has been increased in that region 50%. The statistics of 10,000 Hampshires for three successive years showed the average yield of lambs to be 91%, the mortality of ewes 5½%, and of tugs 3%, per annum. The wool is of fine quality, but short staple, averaging 4½ pounds per fleece.

EFFECT OF WATER PRESSURE.—The pressure of water on the main reservoir pipe in Lansingburg, N. Y., was recently so great that it forced off the main valve, which weighed a ton, and threw it 50 ft. The water that followed rose 150 ft., struck the embankment of the Troy & Boston railroad, and washed away 25 ft.

Prof. Mendeljeff thinks that on the first formation of the earth vast reservoirs of inorganic iron and carbon existed in the interior of the globe. These were reached by the water condensing on the newly formed land and percolating beneath its surface. The heat decomposed the water into its component parts, oxygen and hydrogen, the first forming with the iron oxide of iron, the latter with the carbon petroleum and other hydro-carbons. If this theory be the correct one, there still exist in the center of the earth reservoirs of petroleum that are to the sources as yet known as the ocean is to the spring, whose waters finally find a resting place in its bosom.

Dr. T. Sterry Hunt, of Massachusetts, propounded in 1861 a theory to which he still adheres. He thinks that many of the animated beings of early ages were half vegetable, half animal, and that the decomposition of their tissues produced what is known as mineral oil. Certain magnetic oliferous limestones have been found to contain 4½% of their bulk of petroleum. A square mile of these 35 ft. thick would yield nearly 8,000,000 barrels, and as the area of these rocks is very great, they may contain supplies calculated to last an indefinite period of time.

vertically adjustable arrangement of pipes, which may be placed close to the coals or further from them, according to the requirement of the case.

LAUNCHING A BRIDGE.—In constructing a railroad bridge over the river Ranee, at Dinard, in France, the engineer decided to build the bridge on the shore and launch it over the river. The bridge weighed, when it was complete, 2,600,000 pounds, its height above the river was 100 ft., and the span 314 ft. Twelve windlasses were used to draw the bridge into its place. It was supposed that four or five days would be sufficient for the work, but, in consequence of the breaking of a chain, two weeks were required.

"BONSILATE."—A new industry is reported to be growing up in Newark, N. J., which yields a product suitable for a great many purposes. "Bonsilate" is the name given to this substance, which it is claimed, will take the place of ivory, rubber, celluloid and similar materials. It is said to be composed chiefly of finely ground bone, agglutinated by some cementing compound, which, when in its plastic state, can be molded into shape.

THE ANTIPATHIES OF GREAT PEOPLE.

A writer in *Land and Water*, through an inflection, was confined much to his house, and found great delight in being surrounded by domestic pets. Some of his friends took a great aversion to many of these, and could not be quieted until they were removed. This seemed so strange to him that he resolved to look up the literature on the subject. In a work on the "Affections and Imaginations of the Mind," M. Chevreux, a celebrated French writer, gives the following interesting facts: "How exceedingly whimsical some antipathies appear! I have known people faint upon smelling the delicious fragrance of a rose, and yet experience pleasure in smelling a jonquil or a hyacinth. A certain governor of one of the frontier towns could not bear the sight of fish-spawn, and a lady whom I knew went into convulsions on seeing a craw-fish. Erasmus, who was a native of Rotterdam, had so great an aversion to fish that he could not even smell it without being in a fever. If we may credit Ambrose Pare, a man of some celebrity, he says that he could never sit at a table where eels were served up without fainting. Joseph Scaliger never drank milk. Carden could not bear eggs. Julius Caesar Scaliger had an antipathy to cresses; Uladistas Jagellon, a Polish king, hated apples; and when Du Chesne, secretary to Francis the First, smelt them, they occasioned his nose to bleed. Henry the Third could not remain in a room where there was a cat; the same aversion was observed in Marshal Shomberg, Governor of Languedoc. The Emperor Ferdinand introduced a gentleman to the Cardinal de Lorraine at Inspruck, whose fear of cats was so powerful that when he heard them mew at a distance blood spurted from his nose. M. de Lauree says that he knew a gentleman whose fear of the hedgehog was excessive, and who believed that that animal had actually been preying upon his entrails for more than two years."

He also relates another story equally singular of a gentleman whose bravery none disputed, but who was so nervous when a mouse appeared that he could not take out his sword to destroy it. M. Vaughneim, the king's huntsman in Hanover, fainted whenever he saw a roasted pig. The philosopher Chrysippus hated bows so much that when he was saluted he fell down. There are persons who cannot tolerate the sight of spiders, and there are those who eat them for amusement. A friend of mine, a gentleman, brave as the best, fainted when vaccinated a few months ago. He could not account for it, he said, as of course there was no pain, neither did he feel any repugnance.

HOW TO KEEP COOL.—On going once into the Medical Museum in Edinburg, on a summer's day, we felt chilly, and on looking at the thermometer we found it at 68, while out of doors it was oppressively warm. Sixty-eight degrees in summer there, is quite cool enough for a sitting apartment; but if you go into a room of that temperature in mid-winter, a feeling of suffocation, of oppressiveness, comes over you. The noon of a day whose morning is 68 will give over 90 in the sun. If on getting up in the morning, every window and door of "a floor" are thrown open and thus remain until about sun up, and are then closed, shutters and all, it will be nearly night before the thermometer is materially raised, and persons coming into our office, often exclaim, "how delightfully cool your office is, how do you manage it." If we close our doors in mid-winter to keep the warmth in, may we not do the same thing in summer to keep it out?—*Journal of Health.*

PHOSPHORESCENCE.—A tube of "Canton's phosphorus," or sulphide of calcium, prepared more than a century ago, is found to be still capable of phosphorescence. As it is to this substance that the phosphorescent properties of the new luminous paints are due, the durability of the latter seem to be thus assured.

EVENTFUL HISTORY OF A REMARKABLE RAILROAD.

Mr. Coleman Sellers, Jr., M. E., recently read a paper before the Engineers' Club of Philadelphia, on the history of the construction of the Mexico and Vera Cruz railroad, and illustrated his remarks with numerous photographs and maps obtained during a recent trip to the country of the Montezumas. As early as 1837, the project was broached; and from that time until it was finally opened in 1873, by Pres. Lerdo, the road suffered an alternation of successes and defeats. During its progress, 40 different presidents and one emperor governed our unfortunate neighbor, and each government had, in turn, to be won over to the plans of the friends of this enterprise, and that in spite of a powerful opposition from various classes of the community. Not only were these difficulties surmounted, but those offered by the climate and the natural obstacles of the route were likewise overcome. At length after years of labor and the expenditure of millions of money, the road is now an established success, and is to-day one of the grandest specimens of engineering the world can show. The road is 260 miles long; is laid with steel rails; is thoroughly equipped with engines and rolling stock; has fine iron bridges; substantial stone stations, and all tunnels, masonry, etc., are of the best character. The grades and curves are numerous and excessive. The highest point of the road is 8,200 ft. above the sea. It ascends 6,500 ft. in 60 miles, and in one case climbs 2,000 ft. in 15 miles. The City of Mexico itself is 7,600 ft. above the level of the sea, or nearly one and a half times as high as Mt. Washington. The road was built principally by English capital, but is granted a concession by the Mexican government, which, however, is now much in arrears. All the foreign commerce of the most thickly settled parts of the republic pass over the road, and the proper development of the country under a stable government would enable the road to do an enormous business. The state of the country is shown by the fact that each train carries a guard of 30 soldiers of the Mexican regular army.—*Engineering and Mining Journal.*

GLYCERINE IN DIPHTHERIA.—According to *Medizin Zeitung*, of Vienna, Prof. Clar's success with the use of glycerine in diphtheria admits of no doubt. He first prescribes a gentle aperient, either in the form of a manna draft, or of a few grains of calomel, which last he holds to be a powerful antiphlogistic remedy, and when properly used, of great value. Coincidentally he directs cold compresses or cloths to the neck and head, or even to the chest, carefully renovated according to the elevation or depression of the temperature, cold or iced water being at the same time given as a drink, and then commences at once the use of iron-glycerine, which consists of two ounces of anhydrous glycerine and 20 drops of the liquor sesqui-chloride of iron. Of this mixture, half a teaspoonful is given every half hour throughout the day and night. As soon as the symptoms appear to be mitigated, the quantity is diminished to a teaspoonful every second hour, and in the intermediate period, a mixture composed of glycerine two ounces, borax two grains, is similarly given by a teaspoonful at a time. The iron-glycerine is progressively given at longer periods, and is gradually replaced by the borax-glycerine.

FROM reliable sources of information it is estimated that the immigration from Europe to the United States this year will approximate, if it does not exceed, 400,000 in number of persons, making by far the greatest immigration the country has ever had in a single year. The immigration is largely composed of families who come with means to acquire small farms where cheap lands are to be obtained; and nearly all start directly for the West and Southwest after landing. It is estimated that these immigrants will bring not less than \$25,000,000 of actual money with them into the country this season.

WHY THE NEEDLE POINTS IN A NORTHERLY DIRECTION.

Prof. Patterson, Superintendent of the United States Coast Survey, writes as follows in answer to an inquiry by a gentleman as to the reason why the needle points in a northerly direction:

DEAR SIR:—Your note is duly received, and in answer I beg to state that the reason why the needle points in the northerly direction is that the earth in itself is a magnet, attracting the magnetic needle as the ordinary magnets do; and the earth is a magnet as the result of certain cosmical facts; much affected by the action of the sun. These laws have periodicities, all of which have not as yet been determined.

The inherent and ultimate reason of the existence of any fact in nature, as gravity, light, heat, etc., is not known further than that it is in harmony with all facts in nature. Even an earthquake is in perfect harmony with, and the direct resultant of the action of forces acting under general laws.

A condensed explanation in regard to the needle pointing to the northward and southward is as follows: The magnetic poles of the earth do not coincide with the geographical poles. The axis of rotation makes an angle of about 23°, with a line joining the former.

The northern magnetic pole is at present near the Arctic circle, on the meridian of Omaha. Hence the needle does not everywhere point to the astronomical north, and is constantly variable within certain limits. At San Francisco it points about 17° to the east of north, and at Calais, Maine, as much to the west.

At the northern magnetic pole a balanced needle points with its north end downwards in a plumb line. At San Francisco it dips about 63°, and at the southern magnetic pole the south end points directly down.

The action of the earth upon a magnetic needle at its surface is of about the same force as that of a hard steel magnet, 40 inches long, strongly magnetized, at a distance of one foot.

The foregoing is the accepted explanation of the fact that the needle points to the northward and southward. Of course no ultimate reason can be given for this natural fact any more than for any other observed fact in nature.

C. T. PATTERSON,
Supt. U. S. Coast Survey.

DISTRIBUTION OF ATMOSPHERIC PRESSURE.—L. T. de Bort calls attention to the fact that in two columns of air, which have the same pressure at the surface of the ground, if the temperatures are different the decrease of pressure in the higher levels is slower in the warmer column. Hence results a tendency of the air to pass from the warmer to the colder column, accompanied by a falling barometer in the former and a rising barometer in the latter. The effects of difference of temperature being generally opposite to those of barometer pressure, the transfer of air may be effected in the upper atmosphere, even when the pressure is lower at the bottom of the column. The ocean currents, in winter, augment the energy of the atmospheric disturbances by increasing the opposition which already exists between the continental and oceanic temperatures.—*Comptes Rendus.*

NEW METHOD OF REFINING IRON.—It is reported that Mr. Krupp, of Essen fame, has obtained a patent for refining pig by means of iron oxide. The action takes place in a cupola lined with basic bricks in graphite. By this method, it is claimed, the greater part of the silicon, sulphur and phosphorus are removed, without at all interfering with the carbon.

A LIGHT LOCOMOTIVE.—H. K. Porter & Co., of New York, have completed a locomotive which is said to be the lightest ever made for actual service. The cylinders are but six inches in diameter. It is to haul ore, on a 20-inch track, from the mines of Friendenstrow & Co., of Arizona. Its capacity on a level track is 150 tons.

RUNNING TO THE FIRE.

A warm, sultry day in August; papa was taking his after-dinner nap in the library with a big red handkerchief spread over his head to keep the flies away from the bald place; for flies like bald places, you know, and how they can bite!—mamma was down stairs reading, puss lay comfortably stretched out on the rug where the sunshine fell warm upon her fur, and even Dick, the canary, sat drowsily upon his perch: everything was still when suddenly the front door slammed, a pair of little boots clattered on the stairs, and in burst eight-year-old Fred, all perspiration and excitement.

"O, papa! may I, can I, O, please, mayn't I run to the fire!"

The red handkerchief was whisked away in an instant leaving the poor bare place to care for itself, for Mr. Maynard owned a block of stores down town, and fires he dreaded more than even flies. "Where is it, my son?"

"O, they ain't none now; but maybe they will be, and Tommy Herrick he runs to 'em and his pa lets him and it's lots of fun! May I? Please, papa, I want to awful!" and the boy paused for very lack of breath, and waited with great anxiety for his father's answer.

"Certainly, certainly; but don't bother any more," and with a sigh of relief the tired gentleman threw himself back upon the sofa, and stretched the red covering over his head again, while Fred, delighted beyond thanks, rushed out to tell Tommy Herrick of his success, and to listen with longing ears for the sound of the bells.

But no bells rang. That day passed and many others, yet the city was not visited by the dreadful scourge. Fall came, and amid apples, melons, grapes, and all the lesser fruits of the season, Fred found pleasures on every hand, and forgot his wish so that even when the great bells did send their warning notes abroad they did not call it back to him. The matter had passed from papa's memory the very moment the boy's question was answered. Mamma never knew of it, and so time went on and winter came, overcoats and mittens, sleds and snow-balls took up the little boy's attention, and he had no thought of ever running to the fires that so often rage by night and day in that time of year.

It was December. The chill northeast wind had blown all day, bringing with it the flying snow-flakes, and as night settled down the storm grew more and more furious, and the great drifts blockaded paths and doorways up and down the town. The street-lamps threw but faint and fitful gleams through the darkness, and solitary pedestrians fought their way homeward with aching fingers and frost-chilled forms.

Fred sat by the open grate and gazed at the glowing embers. Suddenly out of the brilliant coals there came a memory back to him, a memory of the permission which papa had given so long, long ago—and he had never yet taken advantage of it: he had never been to a fire.

The longer he meditated, the stronger the desire grew. "O, if there was only a fire to-night!" and the boy's eyes danced in anticipation of the fun it would be to plunge into the deep snow and face the flying storm! How grand, too, in this fierce wind! O, a fire would be jolly if it could only come to-night! But his reverie was broken by mamma's call, "Fred, come! It's bed-time!" and away he went to be tucked warm and cosy in his nest, there to dream out the fancies that filled his little brain.

The hours slipped by. Twelve, one, half-past one. A distant clangor sounds through the night air. Nearer and nearer it comes; louder and louder until the boy's chamber is filled with the wild crash of the frightened bells, and Fred springs from his bed to see the snow all aglow with the strange red light, to see the flying sparks drifting away overhead, to hear the uproar outside and to know that there is really a fire.

How quick he dressed! had it been the breakfast-bell which called the boy from his bed, an hour would hardly have been time enough to make his toilet, with mamma's help, too; but

now, within ten minutes, he was creeping from his room in overcoat and tippet, pants tucked in boots, and a warm cap tied tight over his ears.

Down the broad stairway, through the dim hall, and with a turn of the key the front door opened and closed, and Fred was running to a fire.

The wind whistled around the corners and tossed the drifting, blinding snow in his eyes; the cold pierced through overcoat and coat, chilling his body; the strange, weird light flared up and down in the night, but he kept on. Men passed him, great rough men, swearing as they ran; the engines plowed their way through the deserted roads; he heard the distant cries of the firemen, but still he kept on. More than a mile in and out of the winding streets he ran, until, at a sudden turn, the burning building burst upon the sight in all its wild and fearful beauty!

It was a wooden tenement house, six stories high, and ere Fred reached the spot the flames had wrapped it in a blazing robe. How the fire leaped from open window to window, or crept along the trembling roof! How the wind sucked in and out the dooways, and then rushed roaring away as in terrible pain, carrying great clouds of sparks riding on the dun-colored smoke! How the engines rattled, the water hissed; and the firemen yelled! O, it was a wild storm and a wild fire, but little Fred enjoyed it all.

Notwithstanding the efforts made to overcome it the devouring element was conqueror, and within an hour the great roof fell with a mighty noise, sending a blaze of light to the very sky; and then the fire died down, the crowd moved noiselessly away, and soon Fred found that he was almost the only one left in the street. One good look at the ruins and he would go too.

Crossing the street, he pushed his way toward where the house had been. Dull red coals, a great smoke and charred timbers was all that remained. As the boy gazed upon the desolate scene, a cry came to his ear, a child's cry. He started and turned about; there it was again! What could it be? Moving cautiously along the sound became more and more distinct, until, close under an old shed and wrapped in a rough blanket, that smelled strongly of smoke, Fred found a little baby; left there to die, or forgotten by some half-crazed mother whose shelter had that night been destroyed! The great heart of the boy grew tender as he lifted the ragged bundle in his arms, and with soothing words to the little waif he turned at once and started for home.

It had been hard work coming to the fire through the deep snow, the storm and the darkness; it was doubly hard returning; yet Fred floundered bravely along. Once or twice he fell, but with unwavering courage rose up and pushed on again. At last the corner was reached; which way should he turn, up or down? He debated the matter for some time, but at length, growing cold and worried, started hurriedly off in what he thought was the right direction. Was it right? On, on, turning here and there, following, as nearly as he could remember it, the course that he had come, the little boy waded through the night and the snow. But the streets all looked strange; the great houses loomed up gloomily on either hand; the storm grew thicker, and only the wild wind answered when he called. He had really lost his way.

Crying with terror, staggering through the drifts, and half frozen with the cold, Fred kept in motion; he must find some one or he might die! How the snow whirled, and the tall trees swayed and groaned in the gale! Would he never get home, must he stop here? Faster and faster came his breath, and the little legs trembled as the drifts grew deeper and the piercing cold more intense. The baby did not cry now, but he hugged the bundle closer to him to keep it warm, and tried to struggle on; yet the battle was almost over, and his eyes were growing dim, when suddenly a form appeared before him, a heavy hand fell upon his shoulder, a gruff voice said "Whose boy is this, out so late

at night?" and with a cry of joy Fred cast himself upon the friendly breast and sobbed out his story in the policeman's ear.

When the tale was told next morning to papa and mamma around the cozy breakfast-table and before a blazing fire, it seemed almost a dream; but the fair baby stranger who drank so greedily of the fresh milk was proof that it had been a reality.

The child was never claimed; but to-day Fred calls a beautiful girl "Sister," and "Snow-flake," and sometimes tells the story of how he found her that wild night when first he ran to a fire.—*Christian Union.*

JETTY.

A STORY FOR THE WEE ONES.

Jetty was our big black cat. He and Bessie were the very best of friends; he always sat up beside her at the table and had a share of her milk—and as B. was very generous, she sometimes let him drink first.

But one sad day a big white cat named Mr. Hound called on Mr. J. and he found the latter had such a nice home, he believed he would live with him. But H. was a very bad cat, and would always take J.'s supper, and poor J. often went to bed very hungry. B.'s papa tried to make H. go away, but the hateful cat would always come back. One night with his naughty claw he scratched one of poor J.'s eyes out! This was too much for the poor cat; he resolved to leave his home and go out in the wide world to seek a refuge. And then how sad poor B. was! She could not be comforted. Poor J. had a hard time when he went away, for he had to sleep out in the woods at night, and sometimes it rained very hard and he was nearly drowned. After he had been away three weeks, a great snow storm came. The trees were all covered with ice and snow and J.'s toes were frozen nearly off; there were no more mice for him to catch now; he had taken a dreadful cold, and it had settled on his lungs. He felt if he could only see B. once more, he could die happy, or may be H. would take pity on him now when he was so poor, sick and blind, and half dead with diphtheria. So one night when B.'s papa was down at the spring house, he saw J. coming slowly up the railroad. He ran to meet him, lifted him in his arms and took him to the house, and after he had had a saucer of good sweet milk, papa took him in to B. And oh! how happy they were that night! B. was fairly wild with delight, and poor J. could only go around, too overjoyed to know what to do. Old H. was driven away, and as B.'s papa was a doctor, he soon cured J. and made him the happiest of cats; and if it had not been for his poor blind eye you never would know that anything had happened to him.—*N. Y. Tribune, Jr.*

JEFFERSON'S ADVICE TO HIS YOUNG DAUGHTER.—I do not wish you to be gayly clothed at this time of life, but above all things and at all times let your clothes be neat, whole and properly put on. Some ladies think they may, under the privileges of the *deshabille*, be loose and negligent of their dress in the morning. But be you from the moment you rise till you go to bed as clean and properly dressed as at the hours of dinner or tea. A lady who has been seen as a sloven in the morning will never efface the impression she has made with all the dress and pageantry she can afterward involve herself in. I hope, therefore, the moment you rise from bed your first work will be to dress yourself in such style that no circumstance of neatness be wanting.

ANTHRACITE IN EUROPE.—Recent analysis of the anthracite coal of Valais, Switzerland, show a very close resemblance to that of Pennsylvania. Trials with American heaters show that it can replace the Pennsylvania coal. It has also been successfully tried on locomotives.

MOTHERS AND DAUGHTERS.

Among the great mistakes that many of our girls are making, and that their mothers are either encouraging or allowing them to make, is that of spending their time out of school in idleness or in frivolous amusements, doing no work to speak of, and learning nothing about the practical duties and the serious cares of life. It is not only in the wealthier families that the girls are growing up indolent and unpracticed in the household work; indeed, I think that more attention is paid to the industrial training of girls in the wealthier families than in the families of mechanics and people in moderate circumstances, where the mothers are compelled to work hard all the while.

"Within the last week," says one of my correspondents, "I have heard two mothers, worthy women in most respects, say, the first, that her daughter never did any sweeping. Why, if she wants to say to her companions, 'I never swept a room in my life,' and takes any comfort in it, let her say it; and yet that mother is sorrowing much over the shortcomings of that very daughter. The other said she would not let her daughter do anything in the kitchen. Poor deluded woman! She did it all herself, instead!" The habits of indolence and helplessness that are thus formed are not the greatest evils resulting from this bad practice—the selfishness that it fosters is the worst thing about it. How devoid of conscience, how lacking in all true sense of tenderness, or even justice, a girl must be who will thus consent to devote all her time out of school to pleasuring, while her mother is bearing all the heavy burdens of the household. And the foolish way in which mothers themselves sometimes talk about this, even in the presence of their children is mischievous in the extreme. "O, Hattie is so absorbed with her books, or her crayons, or her embroidery, that she takes no interest in household matters, and I do not like to call upon her," as if the daughter belonged to a superior order of beings, and must not soil her hands or ruffle her temper with necessary housework. The mother is the drudge, the daughter is the fine lady for whom she toils. No mother who suffers such a state of things as this can preserve the respect of her daughter, and the respect of her daughter no mother can afford to lose. The result of all this is to form in the minds of many girls not only a distaste for labor, but a contempt for it, and a purpose to avoid it as long as they live, by some means or other.—*Graphic*.

A SHARP VOICE.—There is no power of love so hard to get and keep as a kind voice. A kind hand is deaf and dumb. It may be rough in flesh and blood, yet do the work of a soft heart, and do it with a soft touch. But there is no one thing that love so much needs as a sweet voice to tell what it means and feels; and it is hard to get and keep it in the right tone. One must start in youth, and be on the watch night and day, at work and play, to get and keep a voice that shall speak at all times the thoughts of a kind heart. But this is the time when a sharp voice is most apt to be got. You often hear boys and girls say words at play with a quick, sharp tone, as if it were the snap of the whip. When one of them gets vexed, you will hear a voice that sounds as if it were made up of a snarl, a whine and a bark. It is often in mirth that one gets a voice or tone that is sharp, and sticks to him through life, and stirs up ill-will and grief, and falls like a drop of gall on the sweet joys of home. I would say to all boys and girls: "Use your guest voice at home. Watch it day by day, as a pearl of great price, for it will be worth more to you in days to come than the best pearl hid in the sea. A kind voice is a joy like a lark's song to a hearth and home. It is a light that sings as well as shines. Train it to sweet ones now, and it will keep in tune through life."—*Elihu Burritt*.

POINTS OF EXCELLENCE IN A ROSE.

Rev. O. Fisher, of England, has written a book on rose growing, and in it he gives the following description of the points of a good rose: "The character of a rose depends upon the substance, form, arrangement and color of its petals. To take these in order. The petals should be thick and fleshy, not flimsy. This enables it to keep its freshness under adverse circumstances, such as rain, sunshine, or when gathered, besides imparting a richness to the flower which nothing else can give. The form of the petal should be deep, the edge not jagged, but smooth and well rounded.

"The arrangement of the petals should be regular and geometrical, not confused. The outer petals should form a cup-shaped wall around the flower, and whatever the arrangement of the central petals is, they should, by their fullness, conceal the eye of the flower until it attains the last stage of expansion. Perhaps the most beautiful form is that which may be called 'turbinated,' and is exemplified in a well-shaped blossom of *Senateur Vaisse*. Flat blossoms are no longer valued. The color should be bright and pure and lasting, or else delicate. A large pure white Perpetual was a great desideratum, said to be now attained in Mabel Morrison. Sweetness is likewise an important element of excellence. Size is not so valuable as to make up for the absence of any of the above-named requisites, though, *ceteris paribus*, it is not to be overlooked.

"Lastly, the foliage should not diminish too rapidly in size as the leaves approach the blossom, but should so surround it that, when cut and placed in a vase, they should form a furniture around the flower, to set it off to full advantage. This is described by saying that 'the foliage comes up well.'"

WAXING FLOORS.—The following is a good recipe for waxing floors and the method of application. Stir 25 parts of shredded yellow wax into a hot solution of 12 parts of pearlash in soft water. Keep the mixture well stirred until the effervescence ceases; then remove it from the fire and stir in 12 parts of finely ground yellow ochre. It may now be poured into cans to cool. When wanted for use one part of it is dissolved in five parts of boiling water. Apply warm with a paint brush. It dries in a few hours, when the floor is polished with a floor brush and afterward wiped with a woolen cloth. It is said this wax coating will last for six months with ordinary use.

FERNS AS FOOD.—Most of the ferns found in our woods contain more or less starch, and when properly prepared are extremely palatable and nutritious. An attempt was recently made in France to popularize them as an article of food. The young shoots of the common brake fern, when exposed above the soil to the air and sunlight, become exceedingly fleshy, white and tender. A famous French painter is known to pride himself on his fern omelets, and the hill tribes of Japan live on fern all the year round. In spring they eat the tender leaflets, and later in the season they eat the starch extracted from the roots.

MAGNETIC WRITING.—Prof. Thompson, of Bristol, has lately made an interesting observation in regard to an application of magnetism. He takes a thin plate of hardened steel and writes upon it with a magnetized iron style, thus communicating a tolerably permanent magnetism to the parts of the plate which are covered by the writing. If fine iron filings are sprinkled upon the plate and the plate is then held perpendicular, so as to remove the loose filings, the writing becomes visible upon the magnetized portion. The experiment may be repeated at pleasure for an indefinite period.

SEVEN LETTERS.

But the indignities that poor music suffers at the hands of those whom she has divinely gifted are not her only wrongs. There is a large class of human beings by whom she is despised and ignored. Of such is John Stuart Mill. I fancy that he expressed the opinion of many wise, and learned, and narrow men—narrow, because they shut off and refuse to cultivate one side of their nature, and so deprive themselves of a means of recreation and refinement that would develop them, who can say how many fold?—when he said that he had examined music and discovered that it was based on only seven letters or notes, and the combinations must manifestly be so few and so monotonous that he decided to waste no time over such trivialities. I think the poor, weary, repressed economist forgot, or did not accept the theory of the evolution of great things out of small. From those seven letters has sprung a whole literature of the emotions; and in an infinite variety of tones, from the faintest pressure of the violin bow on the strings to the sublime swell of the organ, is found expression for all the joy and grief, the pathos, passion, despair, the consolation and religion of suffering humanity. Lord Brougham, who roared out "Stop that nuisance!" to the crestfallen amateur pianist, would have been comforted and sustained by Mill's enunciation of his convictions on this subject, as well as the amiable hostess who said to the young lady waiting for the gentlemen to finish knocking about the billiard balls before she began her song, "Go right on, dear, I don't think they will mind," with a fine unconsciousness of sarcasm.

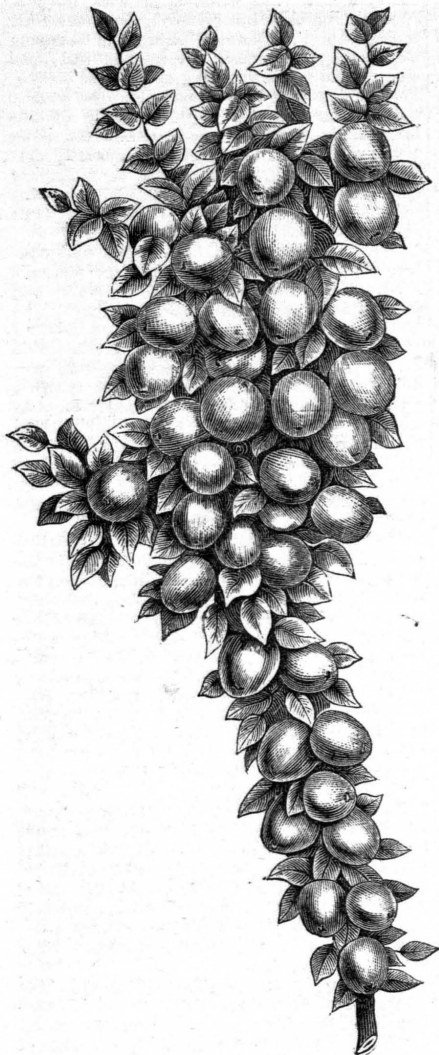
What is to be done with these Philistines? They cause the artistic to writhe with anguish; yet they are really not much worse than those who profess an intense scorn for what they call "classical" music, heaping together under one indiscriminate head incongruous authors like Bach, Hadyn, Beethoven, Mendelssohn, Chopin and Schumann, while they listen with delight to such worthless proofs of time and talent wasted as a "Silvery Shower," or a "Cascade of Pearls," compositions of about as much value in music as the poems of the "Sweet Singer of Michigan" possess in literature. We must perforce regard these unfortunates with the same regretful pity that we bestow upon the benighted being who glories in his preference for the jokes of the end man in a minstrel show, declaring that Booth's "Iago" puts him to sleep.—*Helen Morse Lake in July Californian*.

GROWTH OF THE FLORAL INTEREST.—In a recent address, Peter Henderson, the veteran florist, said: In 1844 I was an assistant in one of the then largest floral establishments in New York city. Our sales of flowers at that establishment on New Year's day in 1844 hardly amounted to \$200, and probably for the whole city of New York it did not exceed \$1,000. Now it would probably be no exaggeration to say that New York pays \$50,000 for its flowers on that day, and that the annual amount paid for these perishable commodities runs into the millions. It is estimated that there 500 florists established within a radius of 10 miles of the City Hall, New York, and that the capital invested in land, structures and stock is not less than \$8,000,000, the product of which is mainly for New York city alone; and when we consider that New York contains only about one-fortieth part of the population of the United States, and that horticultural taste is certainly not higher here than the average of the country, it will be seen that the business of floriculture alone, without taking into consideration that of fruit and vegetables, is one of imposing dimensions.

BEWARE OF OVERWORK IN HARVEST TIME. Beware of cold drafts—both of air and liquids—when perspiring freely. Work steadily and sleep well.

TWO APPLES.

We give in this issue engravings of two varieties of the apple which are not generally known, but have points of excellence in some respects. The engravings are from specimens



THE "STUMP" APPLE.

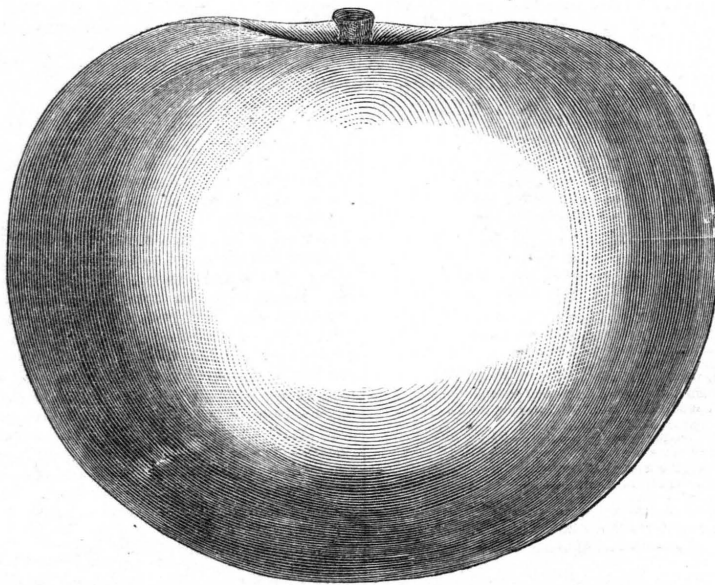
grown by Ellwanger & Barry, the well-known nurserymen and fruit growers of Rochester, New York.

The remarkable productiveness shown in the laden branch is a characteristic of the "Stump" apple. No wise fruit grower would let apples ripen in such a mass except as a matter of curiosity; but it is well enough to know that a tree has such a bearing disposition. It is easier to pull off apples than to put them on. The "Stump" apple originated near Rochester, New York, and is described by Ellwanger & Barry as follows: "Fruit medium size, conical, skin yellow striped and shaded with light red, resembles Sherwood's favorite; flesh firm, crisp, juicy, tender, sprightly, sub-acid. The fruit, from its uniform size, fine appearance and mild pleasant flavor commands a ready sale at a good price. A decided acquisition to the list of profitable market and good garden varieties. Tree of handsome, stocky growth and very prolific. Fruit ripens at the East in September and October."

The handsome apple shown in the other engraving is the "Red Bietigheimer," which is described by the growers as a rare and valuable German variety. It is an early fall apple and as its picture shows is one of the largest

and handsomest apples in regions adapted to its growth. The description of the Red Bietigheimer is as follows: "Fruit large to very round; roundish to conical; stalk short, stout, in a deep cavity, calyx closed in large deep basin; skin pale cream colored ground, mostly covered with purplish crimson; flesh white, firm, sub-acid, with a brisk, pleasant flavor. Tree a free grower and abundant bearer."

OLEOMARGARINE appears to be coming largely into use in many parts of the East and in Europe, and, so closely is it made to imitate butter, that a loud demand is being made to prevent, by legal enactment, the growing disposition to palm off this compound for the genuine product of the dairy. It is claimed that, while the fullest liberty should be given to every one to smear his bread with whatever he may choose to put thereon, some law should be devised to protect people from even the chance of ignorantly swallowing that which, knowingly, they would not take into their stomachs; that when hog, and dog, and cat are thrown upon the market in such minute division that their anatomy cannot be plainly made out, their proper place in nature shall be plainly made known by labels. Let oleomargarine go from factory to mouth as oleomargarine, and not let it be passed off for its country cousin. Make it slander, if desired, to call it "bull-butter," but make it



THE RED BIETIGHEIMER APPLE.

felony to say that it is Alderney. Many ways have been suggested for the detection of oleomargarine, one of the best of which is the microscopic test. Under the glass, milk-butter shows a mass of globules similar in size and appearance, with intermediate layers of salt and water. Oleomargarine shows a mass of what appears to be fan-shaped and fibrous crystallizations entirely different in character and appearance from butter.

SPONTANEOUS GENERATION. — Bastian has again visited Paris in order to try to demonstrate his views with regard to spontaneous generation. Being unable to come to any agreement with Pasteur as to the manner of conducting his experiments, he decided to return to London. But before setting out he described his operation in detail, and Pasteur asked him how he cleansed his retorts. He replied "by rinsing them with very pure water." Pasteur assured him that there were bacteria even in the purest water, and advised him to repeat his experiments after having heated all the apparatus thoroughly in the fire. Nothing has since been heard of spontaneous generation—*Les Mondes*.

PREMIUM FOR SCIENTIFIC RESEARCH.

Uriah A. Boyden, Esq., of Boston, Mass., has deposited with the managers of the Franklin Institute of Philadelphia, the sum of \$1,000 to be awarded as a premium to "Any resident of North America who shall determine by experiment whether all rays of light, and other physical phenomena, are or are not transmitted with the same velocity."

Among the conditions is the requirement that each competitor must transmit to the Secretary of the Franklin Institute a memoir, describing in detail the apparatus, the mode of experimenting, and the results; and all memoirs received by him before the first day of January, 1881, will, as soon as possible after that date, be transmitted to the Committee of Judges.

The Board of Managers of the Institute shall, before the first day of January, 1882, select three citizens of the United States, of competent scientific ability, to whom the memoirs shall be referred; and the said Judges shall examine the memoirs and report to the Franklin Institute whether, in their opinion, and, if so, which of their memoirs is worthy of the premium. And, on their report, the Institute shall decide whether the premium shall be awarded as recommended by the Judges.

Every memoir shall be anonymous, but shall

contain some sign by which it can be recognized and designated, and shall be accompanied by a sealed envelope, endorsed on outside with same sign, and containing the name and address of the author of the memoir. The memoirs presented for the premium shall become the property of the Franklin Institute, and shall be published as it may direct.

VORACIOUS BIRDS.—Ostriches are known to be very voracious. They will snatch a bright button off one's coat or swallow pipe, tobacco, fire and all, if you approach too near to them whilst smoking. Ostrich breeders have an unlimited stock of stories as to the thieving and digestive faculties of the ostrich. An ostrich that died recently at Rome was a fair sample of this kind. It had been long on exhibition, and suffocated itself a day or two ago by thrusting its neck between the bars of its enclosure. A post-mortem examination took place, and there were found in its stomach four large stones, 11 smaller ones, 7 nails, a needle pin, an envelope, 13 copper coins, 14 beads, 1 French franc, two small keys, a piece of a handkerchief, a silver medal of the Pope, and the cross of an Italian order.

AN OLD ROMAN FARMER.

The following admirable translation of one of Horace's most charming epodes is from Mr. T. Thornton's "Word for Word from Horace," published by *Macmillan*:

Happy is he, who, far from broil
Of traffic, like the earliest race
Of mortals through ancestral soil,
Unmortgaged, guides his oxen's pace.
He starts, not at the trumpet's call,
Nor shudders at the angry sea:
The law court and patrician's hall
Alike he shuns,—no suits has he,
But, to the poplar tall, for spouse,
He yokes the marriageable vine,
And, pruning off the useless boughs,
Grafts in their place a fruitage fine:
Or, in secluded valley watches
The lowing herd their pasture choose;
Or, in clean jars, squeezed honey catches,
Or shears the unresisting ewes,
And when, in the right fields, appear,
With brow fruit-laden, Autumn's shape,
How he delights to pluck the pears
Of his own growth, or purple grape,
Gifts for thee, Sylvan, thee, Priape.
Sometimes, beneath an old oak's shade,
Sometimes, on the thick grass, he lies,
And, while the clink of the cascade
Joins with the grove's bird melodies,
And tune by purring brooklet played,
Slumber lights gently on his eyes.
But when the stormy months arrive,
Full fraught with wintry snow and sleet,
He and his dogs fierce wild boars drive
Upon strong nets laid opposite;
Or, on light twigs, a meshy snare
He hangs, the greedy thrushes' bane,
And traps, beside, the timid hare,
Choice prize—and migratory crane.
Who does not, leading such a life,
Set Love's anxiety at naught?
But if withal, he have a wife
Who for the house and bairns take thought—
A faithful Sabine mate, suppose,
Or one embrowned by Daunian sun,—
Who, on the fire, dry billets throws
To cheer him, when the day's work done.
He comes in tired, and milks the kine,
First penning them in watted ward
And, drawing forth last season's wine,
With unbought viands deck the board:
Not oysters, then, from Lucrine meer,
Nor turbot, no, nor sturgeon rare,
If Euxine storms drive any here,
Should I regard as daintier fare.
Not Afric's bird would then, into
My stomach glide more gratefully,
Nor Lydian partridge, than what due
Of fruit, fat olive trees supply,
Or sorrel, meadow-loving weed,
Or wholesome mallows, or the lamb
Ordained at Terminal feast to bleed,
Of wolf-saved kid. Ah! pleased I am
At such repasts to sit, and see
The pastured sheep returning home,
And weary steers, that o'er the lea,
Dragging the inverted plowshare, come,
While the farm-servants, at the board
In order placed, and just degrees,
Around the fire, below their lord
Are clustered like a swarm of bees.

A VALUABLE SECRET.—It is related of Franklin that from the window of his office in Philadelphia, he noticed a mechanic, among a number of others at work on a house being erected close by, who always appeared to be in a merry humor, and who had a kind and cheerful smile for every one he met. Let the day be ever so cold, gloomy or sunless, the happy smile danced like a sunbeam on his cheerful countenance. Meeting him one day, Franklin requested to know the secret of his constant happy flow of spirits. "It's no secret, Doctor," the man replied; "I've got one of the best wives, and when I go to work she always gives me a kind word of encouragement and a blessing with her parting kiss; and when I go home she is sure to meet me with a smile and a kiss of welcome; and then the tea is sure to be ready; and as we chat in the evening, I find that she has been doing so many little things through the day to please me, that I can not find it in my heart to speak an unkind word, or give an unkind look to anybody." And Franklin adds: "What an influence, then, hath woman over the heart of man, to soften it, and make it the fountain of cheerful and pure emotions. Speak gently, then: a happy smile and a kind word of greeting after the toils of the day are over, cost nothing, and go far toward making a home happy and peaceful.

THE DEACON WOULD A WOOLING GO.

The sun had disappeared behind the hills of New Bethany, and the lingering light on the mountain tops was changing from rose to purple, when Deacon Pinch stopped his melancholy old mare in front of the village post-office. It was Saturday night, the only time when New Bethany roused itself from its lethargy and showed any signs of life and energy. The rest of the week it droused and languished after the fashion of small country towns remote from the railway and manufacturing centers.

"Whoa, Mary Jane!" said the deacon with unnecessary emphasis, throwing the reins on the mare's broad back and springing to the ground.

But the despondent Mary Jane had already ceased her shambling gait from sheer force of habit. A ten years' service with the deacon had made her perfectly familiar with the accustomed round of stopping places. Wednesday night it was the prayer meeting; Sunday, the church service; and Saturday night invariably the post-office, and as a late variation, an after pause at the house of Mrs. Betsey Hill, the town milliner, who for a quarter of a century had supplied the women of New Bethany with head-gear fearfully and wonderfully made.

The moment the deacon stepped inside the office he knew, from the unusual buzz of conversation, that something extraordinary had happened.

"Heard the news—eh, deacon?" asked one of the village loungers.

The deacon looked up inquiringly.

"Miss Kezia's had an amazin' streak of luck."

"It's been nothin' but an amazin' streak of luck ever since she was born," returned the deacon. "If ownin' the best farm in town and hev'n' money at interest isn't luck, I'd like to know what is."

"Yes, but this is something out of common. You used to know her brother, who died years ago and left his only child for Miss Kezia to bring up? Wa'al, when old man Mead died Miss Kezia took the farm as her share of the property, and her brother, bein' of a rovin' turn of mind, took the few thousands of personal property as his'n and invested 'em in western lands, which turned out wuthless, and he lost every cent he put in. Folks always had blamed him for bein' foolish and hasty, and they say grief and mortification like hastened his death. Wa'al it turns out now they hev' put a railroad square thro' the lands, and it's sent real estate 'way up, nobody knows where. Miss Kezia's bin offered nigh onto eight thousand dollars for the lands, and they say she'll get ever so much more if she only holds out."

"You don't mean it?"

"I dew; it's true as scripiter."

"She'll hold out, never fear," said the deacon; "and I hold it to be our bounden duty as neighbors to advise her to that end."

Instead of lingering as usual for the village gossip—for the New Bethany post-office on Saturday night answered the purpose of a weekly paper—the deacon seemed in a great hurry to get home.

It was the night of the choir rehearsal and in driving by the church he saw Mary Mead, Miss Kezia's niece, going up the steps. He suddenly whipped up his sleepy old mare and drove home at a breakneck rate of speed.

"Now's yer time Solomon Pinch," he muttered to himself; "It mebbe a long while afore ye'll hev' sich a good chance ag'in. She'll be sure to be alone for a couple o' hours or so—Hi, old lady! no stoppin' here to-night," he added giving the lines a sudden twist as Mary Jane showed an inclination to stop before Mrs. Betsy Hill's house, "we've other fish to fry now, old girl."

When he reached home he drove the mare under the horse-shed and tied her there, instead of unharnessing her as usual. Then he entered the house, and hastily swallowing the scanty supper which the hired woman placed before him, donned his best clothes and drove off again at a rapid pace.

"Law sakes alive!" exclaimed the woman,

amazed. "The deacon's got suthin' on his kind, sure! It's the first time I ever knew him to disremember to ask a blessing."

Ever since the death of his wife Deacon Pinch had looked on Miss Kezia as her probable successor. For years he had gazed with covetous eyes on the fine Mead farm with its substantial buildings, but he never could screw his courage up to the point of facing the snapping black eyes of its owner. Of late he had been seen several times knocking at the door of Mrs. Betsy Hill's little brown house, and the worthy milliner was overjoyed at the opening of this brilliant prospect before her. But the news of the sudden rise in western lands caused Mrs. Hill, with her small possessions, to sink into insignificance by the side of this rich woman with her well-tilled acres, her overflowing barns and her prospective thousands of dollars.

The idea of failure in his matrimonial venture never for an instant entered the deacon's head. "The way afore ye is as plain and straight as a pipe-stem, Solomon Pinch," he murmured, rubbing the palms of his hands together as he walked towards Miss Kezia's side door. "Women is mostly alike—eager an' willin' to embrace matrimonial opportunities. 'They'll snap at an offer like a hungry trout at a worm. She has got the money, and I hev' got the prominence and the influence; that's a pin't not to be overlooked: and deacons isn't to be had every day. Put her money and influence together, and I rayther guess we'll stand about top o' the heap in New Bethany."

Miss Kezia was sitting by the table, knitting as usual. She had just begun to narrow for the toe of the stocking, when a step sounded on the walk. She threw down the stocking and opened the door, and, holding the lamp high above her head, her eyes rested on the amazing spectacle of the deacon in all the Sunday magnificence of white shirt and shiny black broadcloth. "Well I never!" she ejaculated; and then, feeling that her reception had been hardly hospitable, she lowered the lamp and said kindly, "Come in, deacon—come in."

"Thank ye; I don't mind if I dew."

"Take a seat, deacon."

The deacon surveyed the attractive room, which, with its cheery fire and comfortable cushioned chairs, seemed a veritable paradise in comparison with his untidy, ill-kept home. He placed his hat on the floor beside his chair, displaying his scant gray locks ingeniously plastered over the top of his head so as to cover as much of the bald surface as possible. Then there was a long pause.

"Anything going on, deacon?" asked Miss Kezia, resuming her knitting. She was greatly puzzled to account for those Sunday clothes.

"Nothin' within the range of my observation. There won't be much agoin' on now till 'lection time; things'll be pretty lively then."

"Want to buy any hay this year?" chirped Miss Kezia. "Mine is extra good this season; my hired man says it's the heaviest yield in town."

"I rayther guess I'll hev' enough to carry me thro' the winter. If I don't I shall know where to come for hay as is hay. I declare your farm does beat all! I feel kind o' rigged-like when I think that the best farm in town is managed by a woman."

Miss Kezia smiled graciously, and the deacon drew his chair a little nearer his hostess:

"It must be a great load for ye to carry alone. Such a large farm is a tre-men-jous responsibility for a lone woman."

"Oh, I don't mind it; it keeps me proper busy."

The deacon hitched his chair along a few inches farther; "Ye'd oughter hev a brother or cousin, or some relative like, to share the burden with ye."

"My shoulders are plenty strong," returned Miss Kezia good-naturedly. "I'm glad to show folks that there are women who are good for something besides giddy-gadding and tattling."

"Yis, yis," answered the deacon, "we can all testify to your vally and worth. You're a real honor to your sex. You're—you're a bright and shinin' beacon light to the triffin' and

vain-minded women of the world;" and the speaker waved his hand at the conclusion of this little oratorical flourish.

Then, hitch, hitch, hitch went the chair Miss Kezia-ward. "Don't ye feel sort o'lonely at spells," he asked insinuatingly.

Miss Kezia glanced suspiciously at the rapidly advancing chair. She dropped her knitting and went to the fire and piled up the blazing sticks of wood. Then she came back to the table and set her chair on the farther side of it, thus putting a barrier between her and her visitor. "I'm never lonely, deacon; plenty to do is the best medicine for loneliness."

"But woman's a tender, dependent creatur'. Woman's a vine" (here the deacon assumed his weekly prayer meeting drawl), "and needs suthin' to cling to when the troublous desolatin' waves and winds of affliction and sorrier roll over her."

"Stuff and nonsense!" exclaimed Miss Kezia with a contemptuous sniff. I shouldn't have expected that a man of your sense, deacon, would repeat such silly trash. I have no patience with the people who are always talking as if a woman couldn't stand alone, and needed propping up, like a rag doll that hadn't any backbone. I'm no vine—no such creeping, helpless thing, I can tell you. I can stand alone as well as anybody, if the Lord so will it, altho' I admit, deacon, that its pleasanter to have some one keep you company."

"That's jest it; ye hev' hit the nail squar' on the head! It's pleasanter to hev' company in our sojourn on this mortal earth."

The deacon seized his chair with both hands and by a circuitous line of hitching, placed it within three feet of Miss Kezia's table. "You're a forehanded woman, Miss Kezia; I'm a man of promise and influence in the community; it seems to me that it would be a good thing if we could walk hand-in-hand thro' this vale of tears. Providence seems to pint its finger that way." The deacon was thinking at that very moment of the money he would save by putting a thrifty manager like Miss Kezia in the place of his inefficient wasteful hired woman.

Miss Kezia was dumbfounded. She dropped her knitting and the ball of yarn rolled across the floor. "Mercy!" she finally gasped.

"I'll make ye a first-rate husband, and ye'll make me a good wife. We've been members of the same church for 30 years or more, and as we've been members of the *spiritooal* family, we'll now be members of the same *human* family."

Miss Kezia straightened herself up in her high-backed chair and drew in her chin, while her voice rang out shrill and clear: "I rather guess it'll take two to make that bargain."

A second look at her aged admirer, who was edging up to her with a sheepish simper, exasperated the good woman beyond control. "The old fool!" she said wrathfully.

The color came into the deacon's thin cheeks, and he started to his feet, looking anxiously towards the door, as if meditating a hasty retreat. But the yarn was wound around his boots and he was forced to remain.

Miss Kezia likewise rose, and folding her hands primly in front of her, remarked grimly: "When you first began your talking I hadn't the least idea what you were driving at. I thought that you were hinting about Betsy Hill, and wanted to take me into your confidence. I never dreamed that you meant *me*. Why, I supposed that every one in the town knew that I wouldn't give up my freedom for the best man living. Betsy Hill is a pious, likely woman; she'll make a good home for you, and she needs a home herself."

The deacon looked completely withered, and Miss Kezia continued: "If you step around a little livelier, deacon, and pick up the stones on your lots and put them into good fences, and mow down some of those pesky weeds, there's no earthly reason why your farm shouldn't look as well as mine. If I've said anything to hurt your feelings, deacon, I hope you'll overlook it. Why you are all twisted up in that yarn: I'll untangle it."

The delay in unwinding the yarn from the deacon's feet gave Miss Kezia a chance for further remark. "One word more, deacon: have you heard about those western lands?"

The deacon wished he was anywhere out of the sight of those merciless black eyes. "I—I think I've heern tell suthin' about em," he replied meekly.

"I thought so! I thought so!" exclaimed Miss Kezia savagely. "Well, deacon, those lands rightfully belong to my niece Mary; I only hold them as her guardian."

The deacon began to look upon his rejection as a blessing in disguise, for without the western lands Miss Kezia's attractions seemed tame compared with those mild blue eyes of Widow Hill. "I can trust to ye never to mention this!" he asked timidly.

"I shall never speak of it. Now, follow my advice, deacon; make sure of Betsy Hill before another week goes by. You have my good wishes. See to this at once."

"Thank ye, thank ye; I don't mind if I dew." The good woman followed her crestfallen visitor to the door. As a sudden gust of cold night air put out the light she said: "The air is snapping to-night; have a frost, eh deacon?"

And the discomfited deacon felt that he had been nipped by something sharper than a frost. *Emma H. Demeritt, in Lippincott's.*

THE HUMAN EAR.—Imagine two harps in a room, with the same number of strings, and each string perfectly attuned to a corresponding string in the other. Touch a string in one, and the corresponding string in the other will give out the same sound. Try another string, and its corresponding tone will be sounded. So with all the strings. So with any combination of the strings. It would not matter how you played the one harp, the other would respond. No doubt the response would be weaker. That is what one would expect; but the response, as regards pitch and quality, would be almost perfect. Now, substitute for one harp a human ear, and the conditions would, according to theory, be the same, except that the responsive mechanism of the ear is much smaller than that of the responsive harp. In the ear there are minute chords, rods, or something, in such a state of tension as to be tuned to tones of various pitch; sound a tone, its corresponding rod or chord in the ear will respond, perhaps feebly, but still with energy sufficient to excite the nerve-filament connected with it; the result is a nervous current to the brain, and a sensation of a tone a particular pitch.—*Good Words.*

CAUSES OF FATIGUE IN READING.—An important study has been made of this subject by Dr. Javal, Director of the Laboratory of Ophthalmology of the Sorbonne, published in the *Annales d'Oculistique*. The fatigue of the eyes which is so often complained of by literary men he believes due to a permanent tension of accommodation. Reading requires constant, steady strain of the eyes, while many other occupations demanding close attention, do not need constant sight. His researches extend to the question of great economical importance: Given a surface of paper and a number of words to print upon it, what rule will secure the maximum of legibility? The answer is: Other things being equal, the legibility of a printed page does not depend on the height of the letters, but on their breadth. This fact is of special importance in the preparation of school books, and Dr. Javal's suggestions should receive the attention of publishers, type foundries and school boards.

A MILL-OWNER SAYS:—Eelskins make the best possible strings for lacing belts. One lace will outlast any belt, and will stand wear and hard usage where hooks or any other fastenings fail. Our mill being on the bank of the river, we keep a net set for eels, which, when wanted, are taken out in the morning and skinned, and the skins are stuck on a smooth board. When dry, we cut them in two strings, making the eelskin, in three hours from the time the fish is taken from the water, travel in a belt.

BAD HABITS.

The young man who starts out in life with bad habits is handicapped from the start. They will cling to him as the leach does to the skin, and suck the very vitality from all his endeavors to better his condition. Think you, young man, that any of those men who have risen from the very humblest ranks of society, would have reached the position they occupy if they had contracted habits dangerous to their moral or physical welfare? They most certainly would not. They would never have risen from the level in which they were originally placed. They would reap as they had sown.

Many a young man desires to be classed as a "good fellow." It is very pleasant, no doubt, to be told that one is so very liberal with his money. It tickles his feeling of self-love. But is it not pursuing a very dangerous course in thus being classed? Are we not laying the foundation of a course of extravagance that will cling to us all our lives? We do not advocate the other extreme of miserliness. The golden mean in all things should be our endeavor. Then in the pursuit of his extravagant desires, he contracts debts he can never pay. He lives beyond his means, borrows from his friends to keep up appearances, and when asked to pay his debts is unable to do so. Thus he goes on through life, a burden to himself and all with whom he has dealings.

The vice of drunkenness is one of the pitfalls which has sent many a noble heart down to perdition. It may start in with a social glass with a friend, but the end will, if we allow it to control us, be both moral and physical ruin. How many are the brave and manly hearts, with high and noble aspirations, who have been utterly ruined by giving way to the demon of intemperance. Contact with the world reveals them on every hand. With intellect clouded and mind dwarfed, when they should be strong and self-reliant, they rapidly sink into an obscurity and social ostracism, which would not be the case if they did not give way to their evil habits. Instead of perhaps taking rank among the world's great and good, they are found in the circle of the low and depraved.

Another vice that is utterly demoralizing is gambling. The corner-grocery or cigar-store, where dice are shaken for drinks or cigars, may be the first step in the downward course. If it be necessary that one should have a smoke or drink, let him pay for it like a man, and not try to make another do so by shaking dice for it. It is the first step that may lead to the faro-bank, and then when one's salary is not sufficient to minister to the gambling fiend, forgery and other crimes will follow in its wake. And the end! Do you realize it, young men, who so deftly throw the dice on the counter. The prison door closes, and you are lost to the world.

We might enumerate other vices that beset the path of young men who desire to make their way in the world. We have selected these because they seem to be of the most moment. Every young man who desires to succeed in life, has need to have all his faculties in full play. Some of the brightest names in the history of the world's progress have risen from the humblest surroundings. But they did not have any bad habits. They worked early and late for the attainment of their desires. They eschewed all surroundings that tended to dwarf their mental faculties. For the realization of their cherished aim and the goal of their ambition, they willingly sacrificed the passing moment's pleasures. No one can ever hope to succeed without thus doing so. When we have reached the object of our life, although it may not be the full realization of it, the hard and thorny road we have passed over will recur to us with pleasant memories, and cause an inner feeling of pleasure no pen can describe.

HONEY used in moderation is wholesome. Very old honey, however, should be eschewed.

THE FARMER'S DAUGHTER.

There is a world of beauty flourishing in the shades of the country that people in the town never dream of. Farm houses are dangerous places for such fellows as cheerful Tom, Bachelor Bob, and Orphan Boy. As you are thinking only of sheep or herds of cattle, you may be shot through by a pair of bright eyes, and melted away by a bewitching smile that you never dreamed of till the mischief is done. In towns and theaters, and thronged assemblies of titled fair, you are on your guard, you know what you are exposed to, and put on your breastplate, and pass on through the most terrible onslaught of beauty, safe and sound. But in the sylvan retreats, dreaming of nightingales and blue-birds and all such, and hearing only the lowing of cattle, you are taken by surprise. Out steps a fair, blue-eyed creature, crosses a brook, leaps a style. You start, you stand lost in wonder and admiration! You take out your memorandum to write a sonnet on the return of the nymphs and Dryads to earth, when up comes John Tompkins and says; "it's only the farmer's daughter who lives on yonder hill." What! have farmers such daughters now-a-days? Those farm houses are dangerous places, so keep away from them. Let no man with a poetical imagination, which is only another name for a tender heart, flatter himself with the fancies of the calm delights of the country; with the serene idea of sitting with the farmer in his old-fashioned chimney-corner, and hearing him talk of corn and mutton, pork and potatoes, and all such things; of joining him in the pensive pleasures of pipe and jug; of listening to the gossip of the comfortable farmer's wife, of the parson and his family, of his sermons, and his pigs, over a fragrant cup of young hyson or wrapped in the delicious luxuries of custards and whipped creams. In walks a fairy vision of wondrous witchery, and with a bow and smile takes her seat just opposite. It is the farmer's daughter, a living creature of eighteen; fair as the lily, sweet as the violet, lovely as the rose, modest as the early morn, and nimble as your own imagination of Desdemona or Gertrude of Wyoming. You're lost—it's all over with you, and that comes of going in the country out of the way of vanity and temptation, and fancying farm houses to be the nice old-fashioned places of established contentment.—*St. Louis Journal of Agriculture.*

COMPRESSION OF GASEOUS MIXTURES.—If five volumes of carbonic acid and one volume of air are compressed in a proper apparatus the carbonic acid readily liquefies. If the pressure is carried to 150 or 200 atmospheres the meniscus of liquefied acid is gradually effaced, and the liquid finally disappears. The tube then appears filled with a homogeneous matter, which resists all further compression, as a liquid would do. If the pressure is then gradually diminished the liquid suddenly reappears, at a pressure which is constant for fixed temperatures; a thick mist arises, vanishes in a moment, and marks the level of the liquid which has reappeared. The phenomenon cannot be explained by the heat of compression, for the tube is plunged in water which keeps it at a constant temperature, and the compression is made slowly enough for the cooling to be always complete. Cailletet thinks that the gas and liquid are mutually dissolved, so as to form a homogeneous compound. He has extended the experiments to a pressure of 450 atmospheres without varying the result.—*Compt. Rend.*

IRON SHIP BUILDING IN CHINA.—A significant sign of the times is the progress which iron shipbuilding is making in China. A Scotch firm who began by establishing ship repairing yards at Shanghai, several years ago, now employ 1,100 Chinese workmen.

CREMATION appears to be making rapid progress in Germany. During the year 1879 15 cremations were performed at Gotha. The Cremation Society of Milan has burned 48 bodies in the last three years.

THE MILKY WAY—CHARACTER OF THE PHENOMENON.

The phenomenon of a milky sea has been known to occur in certain parts, but has not been very thoroughly scrutinized. Some have considered the luminous appearance in question an electric effect in thunderstorms; others have attributed it to cadaveric decomposition of marine animal and plants; others to abundant spawn, with fishes moving about in it. But the truth appears to be that it results from an accumulation of animalcule capable of becoming phosphorescent, spontaneously or by friction. Some interesting information on the subject (of an exact character) has been recently published by Lieut. Poornaim, of the French iron-clad *L'Armide*, which in February met with a milky sea in the passage from Point de Galla to Aden. The nights of February 9, 10, 12 and 13 were characterized by the phenomenon in all its splendor, the ship during this time traversing 660 miles (1,100 kilometers) in a mean latitude of 12° north between the meridians of 61° and 51° east longitude. There was no thunderstorm, the sky was clear, the moon new, the barometer, the thermometer and hydrometer were regular, and a gentle northeast monsoon was blowing. The temperature of the surface of the water was constant at 25°. The sea was like a snow-covered field in a clear night, and all trace of undulations was lost to sight. The milky look was hardly disturbed by the motion of the ship and working of the screw (which shows that the layer had considerable thickness. By day all disappeared; but the hue of the sea was somewhat altered. Looked at attentively over the ship's side at night the water was seen to contain an enormous number of luminous particles pressed closely together, and more brilliant close to the side where disturbed. Some 400 of these corpuscles, one or two centimeters long, could be counted in a bucket holding 10 liters of the water. Drawn out, these were seen to be of gelatinous substance, which dried quickly and disappeared, leaving a dark globule one millimeter in diameter, which, in the microscope, presented a transparent ovoid animalcule filled with eggs, and moving its fins and tentacles incessantly. A drop of water added to the dark globule brought back its luminosity, and when the creature was bruised in the hand it gave a bright mark which was quickly extinguished and which had no smell. The milky water kept till day and looked at in the dark, showed no luminosity even though agitated; nor does the water procured by day and brought into darkness. It remains to be determined what causes the luminosity of these animalcule, and the information is also desirable as to the position of the various milky seas on the globe, the times of their appearance, whether they persist or not in the same place, etc. Several of the officers on board *L'Armide* had witnessed the phenomenon before, but never so brilliant or continuous. The *L'Armide*, in going out, had passed 30 leagues further north in Feb., 1878, without encountering anything of the kind.—*London Times.*

GEORGIA SENDS THE EARLIEST FLOUR TO ENGLAND.—The *Mark Lane Express* of May 24th, states that the first barrel of American flour made from the crop of 1880, has arrived in England, consigned to the London *Miller* to be sold for the benefit of an Episcopal church in Georgia. The wheat was sown on the plantation of Mr. J. L. Larramore, of Lee county, Georgia, on the 24th of November, 1879, and reaped on the 10th of April last. It was, therefore, only four and one-half months in coming to maturity. The harvesting was unusually early even for Georgia.

MICA.—A deposit of mica has been discovered about three miles south of Skull valley, Arizona, which promises to be valuable. At a depth of seven ft., sheets of clear mica, four inches square, are being taken out, and the vein is increasing in size as depth is attained.

DOMESTIC RECIPES.

THE IDEAL LEMON PIE.—I submit the following extract from the letter of a friend: "I have at last reduced lemon pie to a science. I take my biscuit-cutter and cut from puff paste very thinly rolled, around the edge I curl a narrow strip of the paste, and bake these shells. While they are baking I prepare the following filling, which 'is very fillin' at the price.' I take my lemon and do not roll it—cause why? it grates better when it is firm. After the yellow rind is all grated into a bowl, I squeeze in the juice, and if any little cells go in I do not say them nay. I then put in a cup of sugar and the yolk of one egg, stir well together. Upon this I pour a large cup of cold water (no milk), into which has been stirred a dessertspoonful of corn starch. I put all into a sauce-pan and stir until it is cooked into a rich, clear, straw-colored jelly. My shells now being baked to look as much possible as if they had come from Rogers', I fill them, and from the white of the egg make a meringue, to softly cover each. I pop them into the oven one brief instant, and bear them in triumph to the pantry to cool. The crust being baked separately, it never soaks."—*N. Y. Tribune.*

PICCALILLI.—To one gallon strong vinegar add four ounces curry powder, four ounces good flour of mustard, three ounces bruised ginger, two ounces turmeric, eight ounces skinned shallots, two ounces garlic (the last two slightly baked), one-fourth lb. salt, and two drams cayenne pepper; put these in a jar, cover them with a bladder, wetted with the pickle, and over this a piece of leather; set the jar near the fire for three days, shaking it three times a day, when it is ready for use. Put gherkins, sliced cucumbers, sliced onions, button onions, cauliflower, celery, French beans, nasturtiums, capsciums, large cucumbers and small melons in jar. All but the capsciums must be parboiled in salt and water, drained and dried on a cloth before a fire. The large cucumbers, or small melons, are split so that a narrow spoon may be introduced, and the seeds scooped out; they are then parboiled in brine strong enough to float an egg, and dried on a cloth before the fire; pour over all these vegetables the above pickle.

A RECIPE.—The editor of an American family paper started a domestic column recently, and a few days afterward a female came into the office, carefully concealing something behind her apron. "Are you the man that published that new and improved way to make currant cake?" He said he was. "You said to mix washing soda with the flour, and stir in a little oatmeal and a little sweet oil to give it consistency?" "I—I—believe so." "And to add 15 eggs and some treacle, and 2 ounces of gum arabic, and set it in a cool place to bake?" "I think that was it." "Well, take that, then!" and the indignant housewife floored him with a weapon that felt like a sand-club, but which he knew in his heart must have been a half-baked chunk of cake constructed on his new plan.

STRAWBERRY SHORT-CAKE.—Make a crust sufficient to cover the bottom of two pie-dishes, rolled thin, of the ingredients which would make raised biscuits; bake both at once; have two boxes or two quarts of strawberries thoroughly cleansed and well sweetened; as soon as the paste is baked, while hot, spread with good butter, cover with half of the berries, sprinkling more sugar on top; cover with the other baked biscuit, butter as before, add the other half of the berries, with more sugar, and wrap well with a clean towel and cover with a blanket, to remain to steam until cold.

A NOVEL RIDDANCE FOR RATS.—An inventive genius filled a small tarleton sack with a spoonful of cayenne pepper, and tacked it over the rat-hole. When the rat bounced out, his eyes were peppered by the sifting from the shaken sack. He squealed like a pig, and escaped. The whole tribe have since migrated.

ARTIFICIAL AMBER.—Articles made of imitation amber are now produced in immense quantities and of beautiful appearance, and sold for the natural material. The resembling substance thus employed is principally colophony—a resin obtained by the decomposition of turpentine—though many other ingredients are also made

stance becomes liquid at a much lower temperature. Again, while the true article is only slightly attacked, after a very long time, by ether and alcohol, the imitation rapidly loses its polish in contact with such liquids, and soon becomes soft. True amber pieces of small size may be formed into a lump of much greater

TEXAS MILLET.

We give on this page an engraving of Texas millet, a forage plant which has gained some prominence in the Southern States, and is put forth as worthy of attention by the Commissioner of Agriculture in his report for 1878. It is represented to be a grass of vigorous, rapid growth. It is very leafy, the leaves broad, rather thin, sprinkled with soft hairs. It grows two to three feet high, but the spreading stalks are often four feet or more in length, growing very close and thick at the base, and yielding a large amount of food.

This grass has been brought to the attention of the department during several years past. Mr. Pryor Lea, of Goliad, Texas, has had it in cultivation for a number of years, and writes respecting it as follows: "I consider it far superior to any grass that I ever saw for hay. It is a much more certain crop than millet, and cultivated with less labor, and all kinds of stock prefer it. I expect to report a good second crop on the same ground this year. In this region this grass, in the condition of well-cultured hay, is regarded as more nutritious than any other grass. It grows only in cultivated land; it prospers best in the warmest fourth of the year; its luxurious growth subdues other grasses and some weeds, with the result of leaving the ground in an ameliorated condition."

The following is the technical description of the plant: Branches of the panicle rough, the pedicels with scattered hairs, especially near the flowers; spikelets oblong, somewhat pointed, 2 to 2½ lines long, sparsely hairy; lower glume half or two-thirds the length of the upper, acute, 5-nerved, the lateral nerves uniting with the midnerve below the apex; upper glume prominently 5 to 7 nerved, pointed; sterile flower with 2 paleas, the lower 5 to 7 nerved, much like the upper glume, the upper palea thin and transparent, as long as the lower; perfect flower ovate or oblong-ovate, acutish, transversely wrinkled with fine reticulated striae.

An annual grass two to four feet high, sparingly branched, at first erect, becoming decumbent and widely spreading, very leafy, sheaths and leaves finely soft-hairy; margin of the leaves rough; leaf blades 6 to 8 inches long and ½ to 1 inch wide, upper leaves reaching to the base of the panicle, or nearly so; panicle 6 to 8 inches long, strict, the branches alternate, erect, simple, 3 to 4 inches long, with somewhat scattered sessile spikelets.

A PECULIAR case in relation to weighing scales has recently been decided in an English court, which may be of great interest to scale makers and users in this country. It seems that there is a scale known as Salter's Family Scale, which consists of a bowl-shaped scale on an upright pillar and a finger and dial register underneath. It is said that 40,000 of these scales are made every year, and thousands of them are in use in the government departments. It was alleged by the prosecutor in this case, that by placing the goods to be weighed on one side of the scale, and not exactly in the center, the weight was erroneously registered, sometimes to the extent of several ounces. The defendants, being a Manchester firm who had sold one of these scales, were found guilty of the charge of having sold a false or unjust balance, and were sentenced to pay a fine of 20 shillings and costs. As might be expected, the case is to be taken to a higher court.

GREAT INCREASE OF TONNAGE.—The shipping of the world is now estimated at 20,000,000 tons, which is 10-fold greater than the figures of two centuries ago. It is especially noteworthy that it has doubled within the last 25 years. Accompanying the increase in tonnage, there has also been a vast increase in speed, so that the amount of maritime commerce now is at least 40 times greater than in the year 1680.



TEXAS MILLET.—*Panicum Texanum*.

use of to give it the requisite qualities. So perfect is the imitation said to be, that the false substance has the electrical properties of the true, and some ingenious fabricators have even managed to introduce into the substance foreign bodies, insects, etc., to render the similarity more striking. The means of detection are simple. Genuine amber requires a heat of 545° to 550° Fah., to melt it, while the spurious sub-

stance, by moistening the surfaces to be united with caustic potash, and pressing them together while warm.

HOW SNAKES MOVE.—Snakes creep; they have a series of muscular rings along the body, by the contraction of which, in rapid succession, they move over the ground. Watch the next one you come across.

JUDGING ABOUT SIZES, DISTANCES AND HEIGHTS.

Every observing person must have noticed that our judgment in regard to the size, distance or height of objects is often erroneous, in case we are not familiar with either of them. Usually it is an under-estimate—that means, we think the object smaller, nearer, or lower than it really is, and this fact explains a great many peculiarities which have been the subject of dispute. Such as why the moon looks larger when near the horizon than when high up in the sky. The reasons of this and many other illusions about size and distance are as follows:

Man is accustomed to move on the earth's surface, and in this way trained to judge about distances and sizes as long as they are seen in a horizontal or nearly horizontal direction. But as soon as they are seen far above or deep below, he is at a loss to judge, and more so if no intermediate object furnishes him a scale to judge by.

A man of ordinary height, say 5½ feet, is, at a distance of 315 feet, seen under an angle of one degree; and when he is on the ground, in a horizontal direction from us, so that we can judge of his distance according to our experience, he will appear of ordinary size; but if he is seen under such surroundings as to make him appear farther off, he will appear taller, as experience has taught us that when a man is farther off than 400 feet and seen under an angle of one degree, he must be above the ordinary size. We judge, as it were, instinctively about this, without thinking about actual distances or angles of one or more degrees. Place this same man high up on a tower or other elevation, without changing his distance of 315 feet from us, and we will no more realize the distance he is at, but under-estimate it by the absence of intermediate objects; and having the impression that he is nearer than he really is, he appears to us quite small, as experience has impressed us that a man must be uncommonly small when he is so near and seen under so small an angle. We do not think, and much less calculate about it, but judge by the mere superficial impressions, because when we investigate and begin to reason about it the illusion disappears in most cases.

It is easy to give illustrations of this general principle. A flag, wind-vane or other ornament on a tower or other very high building, is always much larger than it appears from below. Very few people believe that the arrow serving for a wind-vane on the postoffice, New York, is 16 feet long; the men working at the suspension bridge over East river look surprisingly small to such persons as are unaccustomed to see very elevated objects. The Palisades along the Hudson river are always under-estimated in regard to their height by those who see them from a distance and do not realize the great width of that river; they therefore judge them to be, say, about 100 to 150 feet high, but when their attention is called to the two and three-story houses at their base, and which they at first think to be dog kennels, they have a base of comparison, and at last recognize that the height must be 400 or 500, and in some places 600 feet, a height which is only fully recognized when ascending one of the pathways leading to the top. Some of the most striking illustrations of this illusion are found along the banks of the river Rhine, in Germany, where in some of the colossal quarries, the men at work look like mere pigmies, for the simple reason that the distance of the mountain is under-estimated, and consequently its height, and also that of the men.

INDIA-RUBBER HOSE FOR HIGH STEAM PRESSURE.—At a late meeting of the Edinburgh Association of Science and Arts, held recently, a short communication was made by Mr. Wm. Firth on the use of india-rubber hose for steam and high-pressure purposes. He exhibited a piece of canvas and rubber hose capable of withstanding a pressure of 4,000 pounds to the square inch, and also several other pieces of canvas and rubber packing, which, he said, were most useful for engineers.

HOW THE SUPPLY OF "FRENCH WINES" IS MAINTAINED.—We read in an English exchange a report by English wine merchants who have lately made a close study of the wine production in France. They say:—"To judge of the effect of the phylloxera it is necessary to do as we have done lately—to go through the wine-growing districts of France and there to see the fabulous prices asked for the most inferior wines; and also to see how France is obliged to buy from her neighbors anything she can get as wine to supply her own consumers. France is actually draining the Spanish market, and we regret to say, some considerable quantities are bought by the leading Bordeaux merchants, who doubtless will send them to this market as clarets, thus destroy their reputation and that of Bordeaux wine. A more mischievous policy could not be followed, and if our readers find it necessary to have a wine at 5½ a hogshead, we would recommend them to buy it direct from Spain at less money than the same wine from Bordeaux merchants at a higher price. No genuine claret can be bought in Bordeaux under 5½ net cash by the merchants there, and at that price the quality is very bad; it, therefore, stands to reason that if they supply a wine at or under that price, it must come from other districts, and not be genuine French wine."

NEW METHOD OF MAKING BELTS.—A firm in Paris has devised a new method for manufacturing belts or bands for machinery, which is applicable to rubber, leather, woven tissues or gutta-percha, and consists in making the belt with longitudinal ribs or grooves, the main object of which is to increase the capacity of the belt of the same cross-section, say twelve inches, by the extra strength put in the same place, and also to prevent so much stretching and variation. Another modification of the same invention is grooving one side of the belt

RAINFALL WEST OF THE SIERRA NEVADA AND CASCADE MOUNTAINS.

At first sight, we might suppose that as all the great belt of country lying west of the Sierra Nevada and Cascade mountains, is exposed to the full influence of the vapor-bearing west winds coming from the vast water surface of the Pacific ocean, it would receive an unfailing and bountiful supply of rain. The interposition of the comparatively low coast ranges, between the great valleys of California and of Oregon, and the vapor-bearing winds from the Pacific, could hardly be expected to produce any very great diminution in the supply of moisture reaching these valleys. Yet the fact is far otherwise. Indeed west of the coast ranges, no less than on the great California valley, the rainfall, although usually sufficient to assure a remunerative return to the farmer, is frequently very scanty, especially the southern portions. Considering the comparative proximity to the great water-surface, and the direction of the prevailing winds, it is astonishing how little rain falls on the Pacific coast between San Diego and Cape Mendocino. Not only is the amount of rainfall smaller than might be expected, but it is quite irregular, and thus involves the element of uncertainty. For example we have the following extreme fluctuations in the annual rainfall at San Francisco and at Sacramento:

SAN FRANCISCO.		SACRAMENTO.	
Season.	Rainfall.	Season.	Rainfall.
1850-51.....	7.40 in.	1850-51.....	4.71 in.
1861-62.....	49.27 in.	1861-62.....	55.55 in.

TABLE OF RAINFALL.

The following table exhibits in a striking manner the increase of rainfall as we advance northward along the Pacific coast.

Rainfall West of Sierra Nevada Mountains.

Stations.	North Latitude.	Coast or Valley.	Average Rainfall in Inches.					Extent of Record in Years.
			Spring.	Summer.	Autumn.	Winter.	Year.	
Fort Yuma.....	32° 44'	0.25	0.68	1.49	1.04	3.46	9½
San Diego.....	32° 42'	Coast.	2.02	0.45	1.48	5.21	9.16	13
Drum Barracks.....	32° 40'	Coast.	2.93	0.60	8.00	11.33	21	2
Monterey.....	36° 36'	Coast.	5.23	0.25	2.42	7.39	15.29	4
Fort Miller.....	37° 00'	Valley.	7.25	0.00	2.93	8.81	18.99	6½
San Francisco.....	37° 48'	Coast.	5.48	0.07	3.58	14.91	24.04	23
Stockton.....	37° 57'	Valley.	3.83	0.32	1.21	8.33	13.69	3½
Sacramento.....	38° 34'	Valley.	5.75	0.10	2.68	11.03	19.56	18
Camp Far West.....	39° 07'	Valley.	9.01	0.00	3.18	8.41	20.60	2½
Fort Humboldt.....	40° 45'	Coast.	9.36	0.73	6.50	19.33	35.92	11½
Camp Gaston.....	41° 10'	Coast.	13.17	1.21	12.18	35.64	62.20	4½
Fort Terwah.....	41° 49'	Coast.	14.20	3.30	22.16	30.27	69.93	2½
Camp Lincoln.....	41° 55'	Coast.	15.25	1.17	12.26	52.91	81.59	1½
Fort Orford.....	42° 44'	Coast.	18.26	3.11	19.92	29.30	70.59	3
Fort Umpqua.....	43° 42'	Coast.	16.83	2.86	15.64	32.08	67.41	6
Blockhouse.....	44° 25'	Coast.	26.28	2.53	31.15	36.33	96.29	1½
Fort Haskins.....	45° 02'	Coast.	14.69	2.65	14.88	34.49	66.71	6½
Fort Yamhill.....	45° 21'	Valley.	13.10	2.39	13.20	26.90	55.59	9½
Astoria.....	46° 11'	Coast.	19.62	5.63	18.44	34.91	78.60	18
Fort Stevens.....	46° 12'	Coast.	9.14	6.54	19.12	51.02	85.82	1
Cape Disappointment.....	46° 17'	Coast.	14.37	7.20	23.88	29.45	74.90	2
Fort Steilacoom.....	47° 10'	Coast.	9.97	3.42	11.76	18.83	43.98	16
Neah Bay.....	48° 22'	Coast.	28.13	11.62	36.73	46.87	123.35	3½
Sitka.....	57° 03'	Coast.	14.51	15.66	30.99	22.23	83.39	16½

the same as saw teeth, then putting these two pieces together, leaving a plain bearing surface for contact besides, thus making a double belt which is less liable to stretch or to warp. Especial machinery is built for the purpose, and the claim for it is that better contact is given. The pores are closed during this grooving process, the belts have a higher resisting power, do not twist on the pulleys, the pressure and friction of the grooving process smooths and polishes the surface so that better contact and adherence is had. The grooves may be made regular, irregular, spiral or crossed.

TO REMOVE FRECKLES.—No very sure remedy can be given for the removal of these unsightly discolorations, but the following has been recommended, and we publish it for what it is worth: Take 1 drachm of citric acid, and 4 ounces each of glycerine and rose water; mix and wash the face each night before retiring. Another wash is made of 3 grains of borax and 5 drachms each of orange flower and rose water. Apply every night, and allow to dry on the face.

ABNORMAL DISTRIBUTION OF RAIN ON THE PACIFIC COAST.

A glance at the foregoing table reveals several remarkable and seemingly abnormal results in relation to the distribution of the rainfall along the Pacific coast. (1.) The annual rainfall augments with increase of latitude. Thus, the annual amount of rain varies from less than four inches in the Yuma and Gila deserts, at the head of the Gulf of California, to eighty inches on the coast of Washington Territory. Now it is well known, that the general law is that the average fall of rain is greatest near the equator, and diminishes as we proceed towards the poles. This law evidently depends upon the relation which the tension of the vapor at the water surfaces usually bears to the efficiency of the solar radiation incident in different latitudes. Under normal conditions, the greater perpendicularity of the solar rays, incident in lower latitudes, imparts a higher temperature to the oceanic surfaces, consequently a higher tension to the aqueous vapors contained in the superjacent air; so that an equal reduction of

temperature must precipitate a larger amount of moisture in a warm than in a cold climate. Thus the following table shows the average annual rainfall in different latitudes, according to the estimates of Prof. Loomis and Guyot; to which are added two columns, likewise indicating the decrease of rainfall with increase of latitude:

Lat.	Loomis. Rainfall in ins.	Lat.	Guyot. Rainfall in ins.	Annual Rainfall in inches.	Annual Rainfall in inches.
0°	104	0°	100	Tropics....	102 Tropics... 96
10°	85	20°	80	Temperate	Italy... 45
20°	70	30°	60	zone....	36 England... 37
30°	40	40°	40	Frigid zone	12 N. Ger-
40°	30	50°	30		many... 22
50°	25	60°	20		St. Peters-
60°	20	70°	10		burg... 17
		80°	5		

It is evident that on the Pacific coast this general law is completely reversed, and it is equally obvious that there must exist some active physical cause adequate to produce this anomalous result.

(2.) The second abnormal result indicated by our table of rainfall on the Pacific coast is that at Cape Mendocino (or about latitude 40° to 41°) there is a sudden increase of the annual rainfall from about 20 inches to 44 inches, or more; with a more gradual augmentation from this latitude in advancing northward along the coast. (3.) The third abnormal result, indicated by the same table, is that between San Diego and Cape Mendocino (from latitude 32° 42' to latitude 40° 26') scarcely any rain falls during the three summer months; but that north of the latter point the rains are more uniformly distributed throughout the different seasons, although the winter still continues to be the period of greatest precipitation. The contrast in this respect between the distribution of the rainfall according to seasons on this coast and that on the Atlantic coast of the United States is strikingly exhibited by the following table of the average rainfall, according to seasons, at various points along the latter:

Table of the Rainfall Along the Atlantic Coast of the United States.

STATIONS.	North Lat.	Average Rainfall in Inches.				Extent of Record in Years.	
		Spring.	Summer.	Autumn.	Winter.		Year.
37° 30' Fort Pierce.....	37° 30'	9.86	22.52	14.74	10.80	58.02	63
37° 30' Jacksonville.....	37° 30'	10.91	21.07	12.04	8.70	52.73	6
37° 30' Savannah.....	37° 30'	10.65	20.62	8.63	8.42	48.32	234
37° 47' Charleston.....	37° 47'	8	17.97	10.87	8.27	45.11	22
38° 16' Fort Morris Monroe.....	38° 16'	10.17	16.32	10.88	10.67	47.04	194
39° 16' Fort McHenry.....	39° 16'	10.79	10.83	9.97	9.51	41.10	234
39° 57' Philadelphia.....	39° 57'	11.10	12.58	10.46	9.91	44.06	43
40° 45' Fort Columbus.....	40° 45'	11.36	11.84	10.87	9.37	43.25	293
40° 45' New York.....	40° 45'	11.89	11.84	10.84	9.74	44.38	213
41° 18' New Haven.....	41° 18'	10.84	11.71	11.53	10.70	44.72	213
41° 39' New Bedford.....	41° 39'	10.73	9.75	10.32	10.42	41.42	54
41° 50' Providence.....	41° 50'	10.54	10.14	10.48	10.22	41.35	35
42° 22' Boston.....	42° 22'	10.40	9.81	9.48	9.85	39.54	290
43° 12' Concord.....	43° 12'	9.84	10.57	11.81	9.27	40.99	83
43° 42' Hanover.....	43° 42'	9.57	11.09	10.53	9.08	40.32	19
43° 54' Brunswick.....	43° 54'	11.71	11.71	11.42	9.84	44.68	32
44° 11' Gardiner.....	44° 11'	10.87	10.46	10.49	10.27	42.09	27
45° 57' New Bedford.....	45° 57'	8.57	8.60	8.60	10.32	39.41	5
48° 53' Washington.....	48° 53'	10.16	12.77	8.10	10.92	41.66	6

(4.) The fourth fact shown by the table of rainfall on this coast is not anomalous, being in conformity with the general laws of rain. It is that the amount of annual rainfall in the great California and Oregon valleys is considerably less than it is on the sea-coast west of the Coast ranges. This is much more conspicuously true

in latitudes north of 41°, where it is surprising how quickly the atmosphere becomes drained of its vapors as we leave the coast and proceed inland. The Coast Range mountains along this portion of the coast being cooler, act more powerfully as condensers as the vapor-bearing winds are forced up the western slopes.—Prof. John Le Conte, in *Minnag and Scientific Press*.

POULTRY FATTENING BY THE FRENCH METHOD.

We have frequent inquiries as to the method of fattening employed at the large poultry establishments of France. It seems that the French system, after several failures, has taken root in Massachusetts, and our poultry growers will be interested to read of the methods employed. The following statements, from the pen of our occasional correspondent Mr. W. D. Philbrick, appeared some weeks ago in the *Boston Cultivator*:

It is probably well known that the process of fattening poultry for market is much better understood in France than in this country. A well-fattened chicken or turkey, according to the fashion of our market, is a bird that shows plenty of yellow fat, under the skin, along the back and sides, while with chickens, to be salable, the-skin and legs should have a bright yellow color.

In France such poultry would be classed only as ordinary, and would be utterly rejected by the epicures who pay the highest prices for luxuries. The best poultry, according to the French standard, should show little fat under the skin, and this should be of a whitish color. The finest birds should be heavy in muscle, and tender, the skin white and delicate. These conditions are only attained by a system of forcing, which has been developed through years of patient experiment in France, and is now, for the first time, successfully imitated in this country.

Many previous attempts at imitating the French system have proved failures, but the persevering character of several parties who have recently established an enterprise for fattening poultry after the French system at Medfield, Mass., gives promise of success. One of their number spent considerable time in France working in establishments of this kind as a laborer, in order to master every detail of the business. At present the Medfield concern is killing daily about eighty fowls for the use of some of the best hotels in Boston.

The birds are purchased by agents in various parts of the State, and are placed temporarily in the "reception rooms" on arrival at the yards. These are simply well-ventilated sheds of ordinary character, where the fowls are fed and allowed to run at will until they are wanted for forcing. They are then placed in the fattening house, a warm, well-ventilated building, provided with coops for the purpose. For ten days they are subjected to a system calculated to remove the yellow fat, and then for ten days subsequent are crammed with a porridge of milk and meal (barley and rice being largely used, with some corn), and at the end of 20 days are immediately killed, their room being daily replaced by freshly purchased birds.

The building has accommodations for 1,700 birds; 84 are killed daily, and 84 more take their place from outside. The temperature of this building is kept at about 60° by steam pipes. The coops are daily cleaned out, the bottom boards being washed and steamed, to remove all taint. The coops are so small that only one bird can be kept in each. This attention to cleanliness, the labor of preparing food, and the dressing of fowls for market, gives constant employment to eight or ten men. Thirty cans of milk daily are required to mix the food. This milk is at present purchased of the neighboring farmers. The manure from this style of feeding is of a thick, pasty consistency, difficult to handle, but very rich, and highly esteemed by the farmers in the neighborhood, who willingly pay one dollar per barrel for it.

The poultry produced by this process is already highly esteemed by those who have

tested, and seems likely to come into greater favor as it is better known. It sells for about 10 to 15 cents per pound above the price of ordinary poultry, while it is claimed such poultry is worth this difference, since there is very little waste in the shape of the gross and indigestible yellow grease which encumbers the ordinary fat fowl.

Their arrangements are not yet fully completed, since they only began to build in July last. This spring they contemplate erecting several additional buildings and fixtures.

EUROPEAN INFLUENCE ON AMERICAN CURRENCY.

One of the strangest spectacles of modern times is that of a great country, known throughout the civilized world by the products of her skill and industry and the aggressive and tireless enterprise of her inhabitants—a country that has made her influence felt in every trade-center of the world, and can control the prices of production everywhere—meekly asking every morning of the money loaners of a city 3,000 miles away, and on the other side of the ocean, what her own coins are worth, the ore for which was dug out of her own mines, and stamped with the seal and pledge of her government.

Here is a country with inexhaustible stores of precious metals, easily mined, that are needed to develop the untouched resources of its broad prairies and teeming forests, practically locking up its vast treasures, and allowing its broad expanse of territory to lie unimproved, for no object in the world but the benefit of the money lenders in Europe and their agents here. Many papers are in the habit of quoting the price of silver in London, with the remark that this makes our dollars worth 87 or 97, or some other number of cents. Our country is in a position to-day to state, and her people to demand, the fact that here an American dollar is worth a dollar, whether the price of silver among the brokers of London be more or less. The best interest of our country imperatively demands that the money it may need should come out of our mines instead of the coffers of the money lenders of Europe. The interest that we have paid them would have peopled our territories, built railroads and schoolhouses, and covered our wildernesses and plains with cities and towns and manufactories, and made us the producing nation of the world. The future greatness of our people and nation depends largely upon the wisdom of its legislators and financiers in regard to the great question of mining. The bleeding artery of interest money that enriches the old country so that they are fattened as upon blood, and impoverishes us, can be closed by a proper encouragement of our mining industries. Our own mines can supply us with all the money that the industries of the country require. The mineral deposits already discovered are sufficient to guarantee a supply of precious metal for more than one generation, and we have as yet by no means begun to comprehend the extent of our mineral resources. The individual or nation is most unwise and foolish that borrows money and pays interest when they have in their possession resources that would bring the money and save the interest. The spectacle is presented to the world to-day of a great nation locking up her own treasures of gold and silver and precious metals, and paying interest for the gold.

Our people are patient and long-suffering, but we shall be surprised if there is not soon sent a petition that must be heard from the mining interest, against the injustice of a legislation, or want of legislation, that is doing it a positive injury. When that voice comes it will demand attention and action, for mining has almost in a day become an interest vast and important.—*Chicago Mining Review.*

VALENTINITE.—The mineral valentinite, Sb_2O_3 , hitherto unreported from the United States, occurs on antimonial ore at the Bagdad mine, Tempiute, Nevada, in radiated tufts of white fibers four m. m. in length.

GRANDPA'S BARN.

Oh, a jolly old place is grandpa's barn,
Where the doors stand open throughout the day,
And the cooing doves fly in and out,
And the air is sweet with the fragrant hay;

Where the grain lies over the slippery floor,
And the hens are busily looking around,
And the sunbeams flicker, now here, now there,
And the breeze blows through with a merry sound.

The swallows twitter and chirp all day
With fluttering wings, in the old brown eaves.
And the robins sing in the trees which lean
To brush the roof with their rustling leaves.

O, for the glad vacation time,
When grandpa's barn will echo the shout
Of merry children, who romp and play
In the new-born freedom of "school let out."

Such scaring of doves from their cosy nests,
Such hunting for eggs in the lofts so high,
Till the frightened hens, with a cackle shrill,
From their hidden treasures are fain to fly.

Oh, the dear old barn, so cool, so wide!
Its doors will open again ere long
To the summer sunshine, the new mown hay,
And the merry ring of vacation song.

For grandpa's barn is the jolliest place
For frolic and fun on a summer's day;
And e'en old Time, as the years slip by,
Its memory can never steal away.

—Harper's Young People.

THE JINERS.

She was forty-five years old, well-dressed had black hair rather thin and tinged with gray, and eyes in which gleamed the fires of a determination not to be easily balked. She walked into Major Huse's office in Patten's block, and requested a private interview, and having obtained it, and satisfied herself that the law students were not listening at the key-hole, said slowly, solemnly and impressively:

"I want a divorce."

"What for? I supposed you had one of the best of husbands," said the Major.

"I s'pose that's what everybody thinks, but if they knew what I've suffered in ten years, they'd wonder I hadn't scalded him long ago. I ought to, but for the sake of the young ones, I've borne it and said nothing. I've told him though, what he might depend on, and now the time has come, I won't stand it, young ones or no young ones; I'll have a divorce, and if the neighbors want to blab themselves hoarse about it, they can, for I won't stand it another day."

"But what's the matter? Don't your husband provide for you? Don't he treat you kindly?" pursued the lawyer.

"We get victuals enough, and I don't know but he's as true and kind as men in general; and he's never knocked none of us down. I wish he had, then I'd get him in jail and know where he was at night," retorted the woman.

"Then, what is your complaint against him?"

"Well, if you must know, he's one of those plaguey jiners."

"A what?"

"A jiner; one of them pesky fools that's all ways jining something. There can't nothing come along that's dark, and sly, and hidden but he'll jine it. If anybody should get up a society to burn his house down, he'd jine it just as soon as he could get in; and if he'd have to pay to get in he'd go all the sooner. We hadn't been married more'n two months before he jined the Know Nothings. We lived on a farm then, and every Saturday night he'd come tearin' in before supper, and grab a fistful of nutcases and go off knowing them, and that's the last I'd see of him till morning. And every other night in the week he'd roll and tumble in his sleep, and holler, 'Put none but Americans on guard—George Washington; and rainy days he'd go out in the corn barn and jab at a picture of the Pope with an old bayonet that was there; I ought to have put my foot down then; but he fooled me with so many hints about the Pope's coming to make all the Yankee girls marry Irishmen, and to eat up all the babies that wasn't born with a cross on their foreheads, that I let him go on and encouraged him in it.

Then he jined the Masons. P'raps you know what they be, but I don't 'cept they're the same kind of critters that built Solomon's temple, and took care of his concubines, and all of that darned nonsense and gab about worshipful masters, and squares and compasses and sich like, that we had in the house for the next six months you never see the beat. And he's never outgrown it nuther. What do you think of a man, 'Squire, that'll dress himself up in a white apron, about big enough for a monkey's bid, and go marching up and down making motions and talking the foolishlest lingo at a picture of George Washington in a green jacket, and a truss on his stomach? Ain't he a loony-tick? Well that's my Sam, an' I stood it as long I'm going to.

"The next lunge the fool made was into the Odd Fellows. I made it warm for him when he came home and told me he had jined them; but he kinder pacified me by saying they had sort of a side show that took in women, and he'd get me in when he found out how to do it. Well, one night he came home and said I'd been proposed, and somebody had blackballed me. Did it hisself, of course. Didn't want me round knowing to his goings on. Of course he didn't, and I told him so.

"Then he jined the Sons of Malta. Didn't say anything to me about it, but sneaked off one night, pretending he'd got to sit up with a sick Odd Feller, and I'd never found it out only he came home looking like a man that had been through a threshing machine, and I wouldn't do a thing for him till he owned up. And so it's gone from bad to wus, and from wus to wusser, jinin this that and 'tother, till he's a Worshipful Minister of the Masons, and Goddess of Hope for the Odd Fellows, and Sword Swallower of the Finngans, and Virgin Cereus of the Grange, and Grand Mogul of the Sons of Indolence, and Two-Edged Tomahawk of the United Order of Black Men, and Tale Bearer of the Merciful Manikins, and Skipper of the Guild of Catherine Columbus, and Big Wizard of the Arabian Knights, Pledge passer of the Reform Club, Chief Bugler of the Irish Machinists, and Purse-Keeper of the Canadian Conscience, and Double-Barreled Dictator of the Knights of the Brass Circle, and Standard-Bearer of the Royal Archangels, and Sublime Port of Onion League, and Chambermaid of the Celestial Cherubs, and Puissant Potentate of the Petrified Pig-Stickers, and the Lord only knows what else. I've borne it, and borne it, hoping he'd get 'em all jined after a while, but 'tain't no use, and when he come home last night and told me he'd got into a new one, and been made Grand Guide of the Nights of Horror, I told him I'd git, and I will."

Here the Major interrupted saying:

"Well, your husband is pretty well initiated, that's a fact; but the court will hardly call that good cause for a divorce. The most of the someties you mention are composed of honorable cien and have excellent reputations. Many jo them, though called Lodges are relief associations, and mutual insurance companies, which, if your husband should die, would take care of you, and would not see you or him suffer if you were sick."

"Se me suffer when I'm sick! Take care of me when he's dead! Well I guess not; I can take care of myself when he's dead; and if I can't, I can get another. There's plenty of 'em. And they needn't bother themselves when I'm sick, either. If I want to be sick and suffer, it's none of their business; especially after all the suffering I've had when I ain't sick, because of their carryings-on. And you needn't try and make me believe it's all right to do so. I know what it is to live with a man who jines so many lodges that he don't never lodge at home, and signs his name, 'Yours truly, Sam Smith, M. M., I. O. O. F., K. O. B., K. of P., P. of H., R. A. H., I. P., K. of X., N. C., L. E. T., H. E., R. I. P., X. Y. Z., etc.'"

"Oh, that's a harmless amusement," remarked Mr. Huse.

She looked at him square in the eye and said:

"I believe you're a jiner yourself."

He admitted that he was to a certain extent.

And she rose and said, I wouldn't have thought it. A man like you, chairman of a Sabbath school and Superintendent of the Republicans! It's enough to make a woman take pizen. I don't want anything of you. I want a lawyer who belongs to nobody or nothin'." And she bolted out of the office, and inquired where Capt. Patten kept.

CHINESE STEEL.—A considerable steel-making industry exists in the present day in China, on the Upper Yangtze, whence the steel is sent to Tient-sin for shipment and distribution. It fetches much higher prices than the Swedish steel imported into the country. The Chinese metallurgists recognize three kinds of steel—namely, that which is produced by adding unwrought to wrought iron while the mass is subject to the action of fire; pure iron many times subjected to fire; and native steel, which is produced in the southwest. The different names for steel are twan kang, or ball steel, from its rounded form; kwan kang, or sprinkled steel; wei tee, or false steel. The Chinese, apparently have known how to manufacture steel from the very earliest ages, and in the time of the Han dynasty ironmasters were appointed in several districts of the old Leangchou to superintend the ironworks.

DISEASE FROM WOOL.—The *Lancet* call attention to a recent death from what is known as "Wool Sorter's Disease," which is still an obscure affection. It has been made known for some time that workers in alpaca, mohair camel's hair, and wools generally are subject to sudden and often fatal attacks. In the case lately reported the man had complained for several days of the noxious character of the wool, and was finally taken with what was thought to be a severe cold; evidences of congestion of the lungs followed, and in four days he died. Dr. Bell, of Bradford, England, who has had considerable experience in the disease, believes it due to living organisms from the fleeces of animals, and that myriads of bacteria (*Bacillus anthracis*) may be found in a drop of blood after death. The disease can be prevented by sufficiently heating or steaming the wool so as to destroy the living organisms which infest it.

EFFECT OF USE UPON THE QUALITY OF IRON. In the summer of 1878 Prof. Bauschinger superintended some repairs upon a chain bridge which had been built in 1829. He examined several of the links by various tests, and found that there was no evidence of any diminution in the strength of the iron, nor of any change in its structure or its elasticity during the use of nearly half a century to which it had been subjected. In 1852 von Pauli tested several bars for another bridge, which was repaired in 1878, when Bauschinger subjected some of the same bars to new tests. He found that the mean strength was still the same, after 25 years' use, and that no change of structure appeared to have occurred since the time of von Pauli's original tests.—*Dingler's Journal*.

DIMPLES TO ORDER.—A New York paper heralds a manufacturer of dimples, who comes from Paris, of course, and whose *modus operandi* is described as follows: "I make a puncture in the skin at the point where the dimple is required that cannot be noticed when it has healed, and with a very delicate instrument I remove a slight portion of the muscle. Then I excite a slight inflammation, which attaches the skin to the subcutaneous hollow I have formed. In a few days the wound—if wound it can be called—has healed, and a charming dimple is the result."

THE MOTHER'S LOVE is a true and absorbing delight, blunting all other sensibilities; it is an expansion of existence; it enlarges the imagined range for self to move in. But in after-years it can continue to be joy only on the same terms as other long-lived love—that is, by much suppression of self and power of living in the experience of another.

A NATIONAL CAT SHOW.

We learn from a letter in an Eastern exchange that they have just had a national pussy fair at Boston, and our young folks would, no doubt, like to read the following account of it. It was held in Music Hall where 300 cats of all colors and sizes were exhibited in large cages on tables that reached from end to end of this great room, while on the platform under the organ were some of the handsomest cats in the prettiest cat houses you ever saw.

"Peerless" and "Daisy" two lovely Angora cats with silken hair 5 or 6 inches long, occupied a cage covered with roses, heliotrope, carnations, smilax, etc., with lace curtains looped back with flowers. These cats had been brought up in a greenhouse; so their mistress thought it would feel more like home if they could see and smell the sweet flowers they loved so well. In a cage near by, lying in her blue-lined basket on a blue cushion, was "Topsy," a splendid Maltese, 20 lbs. in weight; and by the side of her in a satin-lined case, was the prize she had won—a handsome silver fish-slice! Wasn't that a suitable present for a pussy?

But I must tell you about silver-tabby "Gonie," and what she got for a prize. She was so beautifully marked! Jet black bars and dashes on a silvery tabby color, and her fur was soft as velvet. Over her cage was her photograph, she was lying in a large fluted shell; and then another picture in a muslin ruffled cap—looking sweet and motherly! Hanging up in her cage was an elegant silver cream pitcher—that was "Gonie's" prize, and I think it was a very nice present for a cat too, for I'll warrant "Gonie" loves cream.

There were a great many handsome silver prizes given, but I couldn't begin to tell you all about them, or the 300 cats I saw—some so big that they weighed 25 lbs., and some so long that they measured 42 and 44 inches! Then there were all kinds of cats you ever heard of. The "Manx" cats that haven't got a bit of a tail; and the beautiful "Persian" and "Angora" that have long large tails almost like an ostrich plume; and "Tortoise-shell" cats and "tiger" and "Tabby" cats; and white cats with blue eyes; and white cats with brown eyes; and cats with double paws like mittens, and cats with ever so many toes on their feet; and cats that could jump 15 ft.; and cats without a bit of hair, and never had any; and some with silky, golden hair six inches long! Then there was such a cunning, sociable little fellow—a "Monkey" cat from Madagascar; his tail and little hands and fingers were like a monkey's, but he had a sharp, intelligent fat face, which he would hide between his fore paws when he wanted to take a nap bringing his tail all up over it—as much as to say—"Now please don't disturb me." I came to a large cage where tumbling over each other and having royal fun were "ten assorted kittens," and beauties they were! In the next aisle was a snow-white beautiful family—"Tinker," the mother decorated with red ribbons; her two eldest sons (twins) the "Corsican brothers," in blue ornaments; and the babes, the "Pinafore twins," three weeks old, dressed in pink. "What cunning little darlings!" the children would exclaim. "Oh, mamma! lift me up please. I must see pussy's babies!"

HEALTH IN GREENHOUSES.—Dr. J. M. Anders in a paper in the *Medical Times* on the hygienic and therapeutic relations of house plants, asserts that plants are not injurious, but quite the contrary, and that persons accustomed to the moist air of greenhouses, are not, as a general rule, short-lived or consumptive.

THE GREATEST MAN is he who troubles himself the least about the verdict that may be passed upon him by his posterity, but who finds doing good honest work to the best of his ability, under existing conditions, "its own exceeding great reward."

THE LITTLE AFRICAN WHO WANTED AN EDUCATION.

The little black boy stands holding out two little leopards. What does he want? Let Edward S. Morris, of Philadelphia, the friend of the benighted dwellers in the "dark continent," tell the story: It was at sunset one beautiful Sabbath day, as I stood for the last time on the beach at Monrovia, waiting for my boat to take me out to the anchored vessel at sea. A little native boy, from the jungles of Africa in the immediate rear of the negro republic of Liberia, came to me, bowing low, but with his eyes firmly fixed upon me. I told him to stand up and never bow to man. Understanding my actions more than words, he stood up. I then said, "What do you want?" In broken, disjointed English—the best the little



THE NEGRO BOY OFFERING LEOPARDS FOR LEARNING.

fellow could utter—and pointing out to the ship, said: "You God-man take me big America, big ship." "What for?" I asked. He answered, "I learn big English you." I was forced to say "No" to the little fellow. I said it not harshly, but in mild and gentle accents; whereupon he immediately drew forth from the folds of a cloth around him, two little leopards, alive with unopened eyes, and presenting them said: "Me give him; you take me big America, big ship, learn big English." Think of it, the mother leopard must, to his knowledge, have been near when he captured her kittens; still, that hungry, thirsting child risked his life to earn a passage to America solely to gain an education.

This little boy could have obtained as his passage-money—without any such risk of life—a parrot or a beautiful gazelle, the tusk of an elephant, or large ear-rings of pure African gold; but no, he wanted to convince me at the beginning, not only of his bravery, but of his burning desire for education—for "big English," as he called it. I have no words to tell you of my feelings so suddenly and unexpectedly brought into action. I only know that there

and then I resolved myself into a life-long committee of one, with power to act, promising to leave nothing undone to practically answer the cry of that little boy. One-half the sum of money required to build a school-house for 50 boys in Liberia, and properly conduct it for five continuous years, it is fully believed will be contributed by Christian men and women in England. The other half I hope to receive in my own land, from the good and benevolent of America. Only \$2,100 are now wanted to inaugurate the school-house in Christian Liberia—the open door to heathen Africa.

CAPITAL AND COMMERCE.—What are the forces that keep thousands from starving in England to-day? Are they not the forces of capital and commerce? Who are the men that thus feed the hungry? Are they only the philanthropists, the reformers, the advocates of this or

that panacea for the ills that afflict humanity! Far from it. They are the Garretts, the Scotts and the Vanderbilts, the Cunards, the Allans and the Leylands, and all the less-known members of the unlearned profession, who, perhaps aware of, or more or less ignorant of, their true function, are yet the agents by whose work nations are sustained. No benevolence, no almsgiving, could possibly reach the need; and if it could, it would pauperize those who received, and ruin those who gave—it would work both moral, mental and material degradation. It is by the use of capital that the vast crops of the great West are produced; it is by the use of capital that they are moved; and it is the work of commerce, conducted by business men seeking wealth for themselves only, that distributes the vast stores over wider and wider areas, and thus renders the struggle for existence less arduous for each succeeding generation of men. We are more nearly a nation of shop-keepers than any other, and we may well be thankful for the distinction.—*Atlantic Monthly* for June.

WHEN ships are on speaking terms, they lie to.

STEEL MAKING IN CHINA.

In the manufacture and use of steel, as in other symbols and aspects of civilization, the Chinese appear to have attained a very early and remarkable proficiency. Mr. Jeans, in his recent work on steel, says that unfortunately Chinese records do not enlighten us as to the precise period at which the art of reducing metals from their ores became known in that country, but it is evident that it must have been some centuries before the Christian era. It is not, indeed, unreasonable to conclude that this knowledge was at any rate concurrent with, if not antecedent to, the discovery of the attractive power of the loadstone, which seems to have been used by the Chinese in the reign of the Emperor Hoangti, about 2600 B. C. Mention made of steel in the most ancient of the Chinese writings, and Leih-tze, an author who flourished about 400 B. C., describes the process by which it was made. In the Yu Kung section of the Shoo King, Book I., it is stated, that among the articles forming the tribute of Yu., were nautical gem stones, iron, silver, steel, stones for arrow heads, etc. Legge points out the difference of soft iron, and hard iron or steel, as distinguished by the Chinese, and remarks that in the time of the Hau dynasty, ironmasters were appointed in several districts of the old Leangchou to superintend the iron works. With the exception of this passage, however, it is considered probable that there is no distinct allusion to iron in Chinese writings older than 1000 B. C. In describing the manufacture of steel in China, the Pi-tan, or Pencil-Talk, states that wrought iron is bent or twisted up, and unwrought iron is thrown into it. It is then covered up with mud and subjected to the action of fire, and afterward to the hammer. On this passage, Day remarks that it comes remarkably near describing the process of immersing wrought iron either into molten cast iron, or heating it with iron ore and fuel covered over with layers of mud or clay, to exclude, as much as possible, the oxidizing influence of the external atmosphere. At a subsequent period the Chinese records describe the different kinds of steel produced. That obtained by the first process they call ball steel, *Tuan Kang* (from its rounded form), or sprinkled steel, *Kwan Kang* (from the pouring of water). Another kind is spoken of as "false steel," "wei tee," and it is quaintly added that "iron has steel within it, as meal contains vermicelli." In the "Pent Saow" (a work of the Ming dynasty), again, three kinds of steel are described, thus: "1. That which is produced by the adding of unwrought to wrought iron while the mass is subject to the action of fire. 2. Pure iron many times subjected to fire produces steel. 3. Native steel, produced in the southwest, at Hai Shan, and which is like in appearance to the stone called *Tsze-shit-ying*—purple stone efflorescence." Steel continues to be manufactured in China to the present day. James Henderson, a commissioner of Li-hung-chang, the Governor-General of Chihili, and minister of the young King of China, states that "the steel which comes to Tien-tzin from the upper Yangtsee is highly prized, and bears much higher prices than the Swedish steel imported into China."

A JAPANESE INVENTION.—The Japanese have devised a new process for photo-engraving, which is described as follows: A substance is used in making Japanese lacquer which becomes as hard as stone when exposed to the action of sunlight. A slab covered with this material is exposed 12 hours to daylight, which is allowed to pass through the "negative" plate placed in front of it. By this time the slab has become hardened to different degrees, according to the intensity of the light falling on it, or in other words, according to the light and shade of the negative in front; and upon carefully scraping away the softer parts a pictorial surface in low relief is obtained similar to an engraver's block, and suitable for printing from.

SIGNALING INSTRUCTION.

Many of our readers no doubt have often seen United States officers, surveyors and others signaling or talking together at a distance by the waving of small flags. Telegraphs and telephones are well enough in their place, as when we wish to converse often over any given place; but on shipboard, or in the field, at a distance from those conveniences, we need some other device. No sailor ignorant of the ordinary signal code should be allowed to go to sea in any capacity of command. Signaling should be taught in all our schools. We give below, for the benefit and instruction of the curious, the alphabet and system in use by the U. S. army, which is claimed to be superior to any other.

The second columns are the equivalents for which the corresponding letters may serve as contractions. With four of any two kinds of things, fixed signaling can be done. Calling one's right side one, and his left side two, he can transmit any message by waving a handkerchief according to the following table:

Letters	Word Equivalent	Signal Number.	Letters	Word Equivalent	Signal Number.
A	after	22	P	put	1212
B	before	2112	Q	quiet	1211
C	can	121	R	are	211
D	did	222	S	station	212
E	of the	12	T	the	2
F	for the	2221	U	you	112
G	ground	2211	V	very	1222
H	have	122	W	wood	1121
I	if the	1	X	next	2122
J		1122	Y	why	111
K	o'clock	2121	Z		2222
L		221			1111
M		1221			2212
N	not	11			1112
O	of	21			

If we have four apples and four oranges, and we designate the apples ones, and the oranges twos, with them then we can spell out anything. Thus to spell the word *system* we would from our right to left (so that they may come in regular order for the reader) first place an orange, then an apple, then an orange (=212=S); after withdrawing the S place an apple, an apple, and an apple (=111=Y); next repeat the S (an orange, an apple, an orange), next place an orange (=2=T), next an apple and orange (=12=E), and last an apple, an orange, an orange, an apple (=1221=M).

With a small flag a sweep to the left, two to the right, and one to the left would spell *be*. A great many contractions can be made and are introduced in the code.

REFINING SPTLTER BY A NEW PROCESS.—We have lately been shown a sample of spelter, says the *Iron Age*, showing unusual sharpness of crystallization and brilliancy of fracture, which is said to be as nearly chemically pure as the metal can be made. It was made from common spelter, under a process patented by Mr. A. Harnikel, 83 Maiden Lane, New York. We also have a piece of sheet zinc rolled from it cold, which exhibits great ductility and unusual toughness. We are informed that the specific gravity of the new spelter is 7.2, and that its resistance to dilute sulphuric acid is many times greater than that of any grade of this metal hitherto experimented with. For fine brass, cartridges, German silver and artistic castings, we should presume it would have great utility. The price ranges from eight and a half to nine cents.

A NEW THERMO-ELECTRIC PILE.—M. Clamond a French electrician, is reported in *La Nature* to have devised a *thermo-electric pile* upon a novel principle, which is capable of yielding electrical currents of considerable tension. A large instrument of this kind has been successfully employed to run several electric lights.

SHAVING.

The more I reflect upon the mysteries of neurology and animal chemistry, the more confident I am that, while we are the least suspecting it, trifling errors in our daily life are producing important effects upon our corporeal systems; and I declare it as my deliberate conviction, that the habit, which may almost be styled American, of using the razor upon the face, is sufficient to cause a large proportion of the lamentable evils which affect the human race in this country.

It appears by experiment that the beard, if shaved, grows four to five times faster than if unshorn. In this calculation, an item is omitted which it is difficult to estimate, i. e., the stimulus given the beard, by the first application of the razor in adolescence, the experiments being made upon beards after they have acquired an unnaturally rapid growth. The effect of this early stimulus may be fairly counted at double the natural growth; then reckoning the difference in size and weight of the fiber, which is treble, and we find the frightful truth to be, that we raise 30 times the natural quantity of beard! Thus it is evident that the true beard is exhausted at a very early age, after which the system is forced to supply a substitute. Now nature will not submit with impunity to extraordinary demands upon her vigor, and that which requires her to produce in a lifetime 30 times as much beard as she was first inclined to, must certainly be considered as such. She is fatigued in proportion to the effort, let the particular kind be what it may; although her recuperative powers are great, she insists upon having repose, even when working at a rate chosen by herself. If that repose is denied her, she takes her revenge by breaking down the mechanism.—*Journal of Health.*

WHAT MEN NEED WIVES FOR.—It is not to sweep the house, and make the bed, and darn the socks, and cook the meals, chiefly that a man wants a wife. If this is all he wants, hired servants can do it cheaper than a wife. If this is all, when a young man calls to see a lady, send him to the pantry to taste the bread and cakes she has made, send him to inspect the needle-work and bed-making, or put the broom into her hands and send him to witness its use. Such things are important, and the wise young man will quietly look after them. But what the true man most wants of a wife is her companionship, sympathy and love. The way of life has many dreary places in it, and man needs a companion to go with him. A man is sometimes overtaken by misfortunes, and meets with failures and defeat; trials and temptations beset him, and he needs one to stand by and sympathize. He has some stern battles to fight with poverty, with enemies and with sin, and he needs a woman that, while he puts his arm around her and feels that he has something to fight for, will help him to fight; that will put her lips to his ear and whisper words of counsel, and her hand to his heart, and impart new inspiration. All through life—through storm and sunshine, conflict and victory, through adverse and favoring winds—man needs a woman's love. The heart yearns for it. A sister's or a mother's love will hardly supply the need. Yet many seek for nothing farther than success in housework. Justly enough, half of these get nothing more. The other half, surprised beyond measure, have obtained more than they sought. Their wives surprise them by bringing a nobler idea of marriage, and disclosing a treasury of courage, sympathy and love.—*London Christian Union.*

RESTORING THE BLACK COLOR OF CLOTH.—It is a very common and easy practice to restore faded black colors by simply brushing them over in succession, first with a solution of logwood extract, and then a weak solution of bichromate of potash. Another way is to take first a decoction of crushed nutgalls, and then a solution of sulphate of iron. In either case the black color is easily restored by a brush or sponge. We prefer a stiff brush.

FACTS USEFUL AND CURIOUS.

The greyhound runs by eyesight only, and this we observe as a fact. The carrier pigeon flies his 250 miles homeward by eyesight—namely, from point to point of objects which he has marked; but this is only our conjecture. The fierce dragon-fly, with 12,000 lenses in his eye, darts from angle to angle with the rapidity of a flashing sword, and as rapidly darts back, not turning in the air, but with a dash reversing the action of his four wings, and instantaneously calculating the distance of the objects, or he would dash himself to pieces. But in what conformation of the eye does this consist? No one can answer.

A cloud of 10,000 gnats dance up and down in the sun, the minutest interval between them, yet no one knocks another headlong upon the grass, or breaks a leg or wing, long and delicate as these are. Suddenly, amidst your admiration of this matchless dance, a peculiarly high shouldered, vicious gnat, with long, pendant nose, darts out of the rising and falling cloud, and, settling on your cheek, inserts a poisonous sting. What possessed the little wretch to do this? Did he smell your blood in the mazy dance? No one knows.

A carriage comes suddenly upon a flock of geese, on a narrow road, and drives straight through the middle of them. A goose was never yet fairly run over, nor a duck. They are under the very wheel and hoofs, and yet somehow they contrive to flap and waddle safely off. Habitually stupid, heavy and indolent, they are nevertheless equal to any emergency.

Why does the lonely woodpecker, when he descends his tree and goes to drink, stop several times on his way, listen and look round, before he takes his draught? No one knows. How is it that the species of ant, which is taken in battle by other ants to be made slaves, should be the black, or negro ant? No one knows.

The power of judging of actual danger, and the free and easy boldness which results from it, are by no means uncommon. Many birds seem to have a most correct notion of a gun's range, and while scrupulously careful to keep beyond it, confine their care to this caution, though the most obvious resource would be to fly right away out of sight and hearing, which they do not choose to do. And they sometimes appear to make even an ostentatious use of their power, fairly putting their wit and cleverness in antagonism to that of man, for the benefit of their fellows. We lately read an account, by a naturalist in Brazil, of an expedition he made to one of the islands of the Amazon to shoot spoon-bills, ibises and other of the magnificent grallatorial birds, which were most abundant there. His design was completely baffled, however, by a wretched little sandpiper that preceded him, continually uttering his tell-tale cry, which at once aroused all the birds within hearing. Throughout the day did this individual bird continue his self-imposed duty of sentinel to others, effectually preventing the approach of the fowler to the game, and yet managing to keep out of the range of his gun.

THE BEST VEHICLE.—An anecdote is told of a physician who was called to a foreign family to prescribe for a case of incipient consumption. He gave them a prescription for pills, and wrote the direction: "One pill to be taken three times a day in any convenient vehicle." The family looked in the dictionary to get at the meaning of the prescription. They got on well until they got to the word vehicle. They found "cart, wagon, carriage, buggy, wheelbarrow." After grave consideration they came to the conclusion that the doctor meant the patient should ride out, and while in the vehicle he should take the pill. He followed the advice to the letter, and in a few weeks the fresh air and exercise secured the advantage which otherwise might not have come.

NEW INVENTIONS.

We publish descriptions of the following new inventions, obtained through Dewey & Co., Mining and Scientific Press Patent Agency, San Francisco:

HORSE HITCHING DEVICE.—Reuben Seiders, 737 Howard St., S. F. This invention relates to an improved device for securing horses at points where it is necessary to leave them; and it consists in the employment of a rod, one end of which may be dropped upon the ground at will. The other end is hinged to a slide which moves in a hollow barrel or guide, said guide being secured beneath the vehicle in a horizontal position. A rod is secured to the slide and extends toward the front, having a loop or ring to which a line may be attached and led to the horse's bit. When a stop is made the hinged rod may be let down so that its end rests upon the ground, and any forward movement of the horse will draw the sliding rod back into the tube or guide, thus pulling upon the rein or line, and the horse's mouth. A spring in the rear of the tube forces the rod forward when the horse backs or the strain is relieved. This device has been applied to a number of vehicles, and the inventor informs us that the results are very satisfactory.

RAILROAD RAIL JOINT.—Silas Harris, 7 Liberty St., S. F. The ordinary form of rail joint is made by means of fish-plates on each side of the rail, crossing the joint, slots being formed through the fish-plates and rail, so that bolts may pass through them, these bolts being secured in place by nuts. The difficulty with this connection is that the nuts are continually being shaken loose until the bolts fall out and the plates drop off, leaving the meeting ends of the rails without proper support. This difficulty is obviated by discarding the screw bolts entirely, and using bolts which are held in place by an eccentric, which, while it can be loosened when desired, will not jar loose by the passage of trains. This device consists in binding the fish-plate against the sides of the rail by means of an eccentric horizontal bolt or fastening connected with said fish-plate through peculiarly formed bolts or plates. The eccentric joins the parts together immovably, and dispenses with all nuts or screw-bolts.

PLOWSHARE FASTENER.—Jacob P. Patery, Dunnigan, Yolo Co., Cal. Patented May 25, 1880. No. 227,991. The mold-board and land-side are fastened to the share by levers provided with cams or catches. The mold-board is secured to the curved beam and the land-side by means of braces, the lower edge of said mold-board resting on a flange on the upper edge of the land-side. On the end of the brace is a fulcrum of a compound lever, the smaller arm of said lever being pivoted on a swinging arm. On the end of this smaller arm is found a hook which grasps a stud on the under side of the share. A slot is found in the end of the brace and another in the end of the land-side, into which fit the studs found on the share, thus steadying the share.

ANIMAL TRAP.—W. J. Webber, Hollister, San Benito Co., Cal. Patented May 25, 1880. No. 227,935. This trap is intended for the capture of animals, birds, etc., and it consists in the employment of one or more needles or sharpened spears, moving in guides and provided with an elastic spring by which the needle is forced forward when released by the action of a trigger. This trigger is operated by the attempt of the animal to pass its free end, and this end is concealed by a stalk, weed, or any natural object. In combination with these devices a guard or protector is employed to be used while the trap is being set or carried about.

NATURAL LIME.

Among the recent discoveries is "natural lime," which occurs in Kansas. It is found in large beds; is of a fine, white color and very fine in texture. It is also soft, smooth and readily converted into a plastic condition by the addition of sand and water. The mortar thus made has apparently the same qualities as the best made from superior "burned lime" from the kilns. It sets and hardens quickly and turns very white.

This discovery brought out the query as to whether such a strange product as this occurs in any other section of our continent. In answer the *Scientific American* gives a letter from Wm. M. Pierson, of Fort Bayard, N. M., in which that gentleman says: "I answer, yes. From 1870 to 1874, I was U. S. Consul at Paso del Norte, Mex., and, while prospecting for silver ore, I discovered a large deposit, in what miners term pocket formation, of natural lime, located in blue limestone, in the foothills, one and one-half miles west from the city of Paso del Norte, Mex. I gave it various trials, and found it to possess all the good qualities of manufactured lime, and for whitewashing far superior to the manufactured article."

IMPROVED METHOD OF MANUFACTURING NITROGLYCERINE.—The French Academy of Science have awarded a prize of \$500 to Boubing & Foucher for an improved and less dangerous method of manufacturing nitroglycerine. This method has been for some time in actual use at Vouges, France, without meeting with any accident. The process is described as follows: In the old method, in which fuming nitric acid or a mixture of it and nitric acid is made to act on glycerine, and the mass is suddenly immersed in water, the reaction often produced heat sufficient to decompose a part of the nitroglycerine, occasioning violent explosions in spite of the refrigerating processes adopted. The principle of the new process consists in obviating the greater part of the heat by first engaging the glycerine in combination with sulphuric acid, forming sulphoglyceric acid, and then destroying slowly, by means of nitric acid, the sulphoglyceric compound. Two liquors are prepared in advanced—a sulphoglyceric and a sulphonic, the latter with equal weights of sulphuric and nitric acids. As they heat considerably they are allowed to cool, and are then combined in such proportions that the reaction takes place slowly. In the old method the nitroglycerine is separated almost instantaneously, and rises in parts to the surface, rendering washing difficult. In the new method it forms in about 20 hours, and with a regularity which prevents danger. It also goes to the bottom, and can be washed rapidly.

PAPER BOXES FROM PULP.—A late invention makes paper boxes directly from paper pulp. Boston takes the lead in the manufacture of these boxes, which are seamless, and can be made to any size or shape. The process, as described, is, that after being dried, the boxes are run through a second machine at the rate of sixty per minute, receiving, under a pressure of four thousand pounds, such embossing as may be necessary. From the time the paper stock is taken from the bales until the perfect box is turned from the machine, manual labor is entirely avoided. By the use of one set of machines, it is said, 30,000 boxes can be produced per day, at less than one-third of the lowest market price of hand-made goods, and doing the work of two hundred hands, as the process is ordinarily conducted. The paper box has come into use for an infinite variety of purposes, and this success is an important contribution to invention.

A LOCOMOTIVE working by means of compressed air has been designed by Colonel Beaumont, an English engineer, who claims that such an engine would be able to accomplish a journey of 10 miles without renewing the charge of air, and drawing two loaded carriages,

NEW TREATMENT FOR CANCER.

The London *Lancet* calls attention to an important series of investigations conducted at the Queen's hospital, Birmingham, as to a new method in the treatment of cancer, by Mr. John Clay, professor of midwifery at Queen's College. Hitherto this terrible disease has proved incurable by medical treatment; but the inquiries and experiments conducted by Mr. C. lead to the belief that by the use of Chian turpentine—which he has been the first to use—cancer can be not only arrested, but cured, without a surgical operation.

Mr. C.'s paper was published in the *Lancet* of March 27th. He recommends his treatment especially in cases of cancer of the female generative organs. He says that he had made extended trial of various remedies, both general and local, but at last concluded that if cancer could be cured it must be by medicine administered internally, and must be of such a nature that it could be taken for a long time without affecting special functions or general nutrition. A study of the pathology of cancer led him to the opinion that a carbo-hydrate of some kind might prove beneficial, and for several reasons he decided that Chian turpentine might prove the most suitable. An opportunity was soon presented. A woman aged 52, came to the hospital with cirrhus cancer of the cervix and body of the uterus. "Hemorrhage was excessive, pain of the back and abdomen agonizing and cancerous cachexia well marked. The patient evidently had not long to live. In such a case it seemed justifiable to attempt to relieve the sufferings of the patient, even if the remedy should produce unfavorable symptoms, or should prove of no avail. I therefore prescribed Chian turpentine, six grains; flowers of sulphur, four grains; to be made into two pills, to be taken every four hours. No opiates were prescribed nor lotion taken. No change was to be made in her diet or occupation. On the fourth day after taking the medicine the patient reported herself greatly relieved from pain, and was in better spirits, but she complained of a large amount of discharge. It was feared that she referred to a discharge of a sanguineous nature. On examination, however, the vagina was found to be filled with a dirty-white secretion, so tenacious as to be capable of being pulled out rope-like, and this, although she had syringed herself three hours previously. The medicine was continued for 12 weeks with excellent results and every appearance of a cure being probable. At the end of that time she suddenly left the town and left no address.

The second case was that of a younger woman, aged 31. In this instance the cancer appeared to be melted away by the turpentine in four or five weeks.

Mr. Clay reports several other cases in which remarkable benefit evidently resulted, with every prospect of permanent cure. Some cases have been cancer of the breast, abdomen, etc. In a case where the turpentine could not be digested in pills, it was made into an emulsion by Mr. Whinfield, dispenser to the hospital, as follows: An ethereal solution of Chian turpentine was prepared by dissolving 1 oz. of the turpentine in 2 oz. of pure sulphuric ether (anæsthetic). The ether dissolved the turpentine instantly. Of this solution, $\frac{1}{2}$ oz.; solution of tragacanth, 4 oz.; syrup, 1 oz.; flowers of sulphur, 40 grains; of water to 16 oz.; 1 oz. three times daily.

Mr. Clay remarks that "ordinary oil of turpentine, if it produces any effect on cancer, is inadmissible on account of the speedy production of its specific effects, even when administered in small doses. The same remark applies with less force to the Venice and Strassburg turpentine; in my hands they have not produced the same beneficial effects on cancerous growths as the Chian turpentine has done. The maximum dose of the last named drug, which can be safely and continuously given, is 25 grains daily. It is advisable to discontinue the remedy for a few days after 10 or 12 weeks' constant administration, and then to resume it

as before. The combination with sulphur was given at first, and has been continued. It is doubtful whether much benefit is derived from the combination, but the effects have been so uniformly good with it, that it was thought advisable to continue its use. There is every reason to believe, from the trials made with other substances in combination with the turpentine, such as carbonate of lime, iodide of calcium, ammoniated copper, quinine, bebeerine, hydrastin, etc., that the turpentine is best administered simply, as the most marked and rapid effects have always been manifested when it has been given alone.

"The turpentine appears to act upon the periphery of the growth with great vigor, causing the speedy disappearance of what is usually termed the cancerous infiltration, and thereby arresting the further development of the tumor. It produces equally efficient results on the whole mass, seemingly destroying its vitality, but more slowly. It appears to dissolve all the cancer cells, leaving the vessel to become subsequently atrophied, and the firmer structures to gradually gain a comparatively normal condition.

"It is a most efficient anodyne, causing an entire cessation of pain in a few days, and far more effectually than any sedative that I have ever given. In the cases I have described no sedative was employed in any instance, although in some cases where great pain had existed previously to commencing the treatment, large doses had been given. Whether this arrest of pain arises from the death of the tumor, or, as my son suggests, is due to there being no longer irritation of the sentient nerves (in consequence of tension being withdrawn by the removal of the cells), the fact is the same."

PERNOT STEEL.—A correspondent in Johnstown writes as follows: Pernot steel, until lately, has been known in this country only by name, but its manufacture has been commenced this year, on a large scale, at Johnstown, Penn. As is well known, the Siemens gas regenerators have been utilized for making open-hearth or Siemens-Martin steel, and also for melting crucible steel, but their application to this new improvement threatens to supersede both grades. The quality is fully equal if not superior to crucible steel for most purposes for which that has been used, and the expense of manufacturing decidedly less. In each furnace is a pan that can contain 20 tons of steel, which is revolved by a connection with the engine employed for that purpose. After the pan is charged, the gas flames playing over and around it bring the contents to the desired state of fusion, while the revolving of the pan causes the most intimate intermixture of the ingredients; thus overcoming the objection to melting steel in larger receptacles than crucibles. The operation is completed in a little more than five hours. The only concern that furnishes merchant steel made by this process in the United States, is the Gautier Steel Co. Limited. They are preparing to furnish 40,000 tons per annum of this grade, which will be almost entirely additional to their present production.—*American Manufacturer, Philadelphia.*

TO DISCOVER FLAWS IN SHAFTS OR DEFECTS IN WELDS.—The *Blacksmith and Wheelwright* in referring to this subject says that if a piece of iron appears to have an unsound weld, or if it has a crack apparent upon the surface and it is desired to know how deep it penetrates, heat the part to be tested to a red heat and pour a fine stream of water upon the faulty spot, but mainly on one side of it, and the iron on that side will lose its redness more rapidly than the other side, and plainly indicate how deeply the defect extends.

SCIENCE AWARD.—The French Academy of Sciences has awarded an extraordinary prize of 3,000 francs to Dr. William Crookes, in recognition of his distinguished services to science by his studies in molecular physics, and his contribution to our knowledge of the properties of radiant matter.

FOSSIL BUTTER.—At a late scientific meeting in London, Prof. Church read a paper on a sample of butter, which must have lain for many centuries, buried in an Irish bog. Its probable age was judged to be about one thousand years. The sample contained nearly four per cent. of curd, which consisted partly of vegetable matter derived from the bog, but contained quite enough animal matter to prove that the butter had been originally made from animal milk, and was not a mere artificial fat. Its fatty character had, however, been entirely changed, and the glycerides of which the fat had originally consisted had been decomposed so as to leave simply a mixture of the fatty acids, which constitute the acid portion of animal fats. The butter had, in fact, become changed into a substance closely resembling in character and composition the substance of which good composite candles are composed. The result is singular, as showing that length of time, combined with exposure to moisture, will effect the decomposition which the manufacturer of stearine has to effect by the agency of heat and acids. At the same meeting another paper was read on a sample of still older butter, which had been taken from an alabaster vase in an Egyptian tomb. It had evidently been melted and poured into the vase, and carefully sealed over. This sample was probably about 2,500 years old, but the preservation had been so perfect that it was only slightly rancid, and had fully retained the chemical properties of genuine butter, the fats not having been decomposed to any sensible extent. This sample possessed a decided taste and smell of butter, while the sample from the bog was cheesy rather than buttery in smell.

A SHEEP-WORRYING DOG BURYING ITS PREY ALIVE.—Many sheep and lambs have recently been worried on sheep farms in the neighborhood of Dundee, Scotland. An unusual method of sheep worrying was recently perpetrated on the farm of Pickstone, tenanted by Mr. Campbell. One morning a lamb was heard bleating in one of the fields on the farm, and, as no lamb could be seen on a casual inspection, a more careful search was made, when it was found that the bleating proceeded from a lamb that was buried in the land, the only part left exposed being the head. It was at once evident that this had been the work of a dog. The lamb was taken out, and was, strange to say, little the worse of its burial. A diligent watch was instituted, with the result that the depredator—a collie dog—was captured in the act of burying another lamb, which was also alive.

A NEW PHENOMENON OF MAGNETISM.—It is well known that the ratio between the residual and the temporary magnetism of a bar of steel enveloped by a magnetizing coil diminishes as the bar becomes shorter and thicker. Aug. Kighi was led by theoretical considerations to a conclusion which is opposed to the ordinary phenomena, but which experience has confirmed in every particular. It is this: If we take bars of the same steel and of the same diameter, but of diminishing lengths, we finally reach a length which shows no magnetization, and with still smaller lengths we obtain a residual magnetism which is opposite to that of the coil.—*Comptes Rendus.*

SLEEPING IN STORES.—The *American Grocer* sensibly objects to persons sleeping in stores. The store may be clean and well kept, yet these things combine to make an impure atmosphere, which even a tolerable ventilation will not do away with; even a tolerable ventilation most country stores don't have. "We tested the matter for several years, and don't think our health was at all improved by the experiment."

SPECTACLES BY MACHINERY.—It is said that there is but one establishment in this country for the manufacture of spectacles by machinery, and that is located at Reading, Pa. The glasses are not only ground by ingenious machinery run by steam power, but the frames and all the processes needed to complete the spectacles are wrought by mechanism.

A CHANCE FOR SETTLERS.

H. P. Isaacs, Esq., of Walla Walla, who recently visited this city, informs us that the section of country lying between the Deschutes and John Day rivers and extending from the Columbia to the Crooked river, is as yet but sparsely settled, but offers good homes for at least ten thousand families. Black loam, yellow loam and light sandy loam, are the predominating soils. A good supply of water can be got by digging 6-8 to 26 feet, according to location. Comparing this section of country with the famous Walla Walla valley, Mr. Isaacs says: "The best soil is not as good as the best of Walla Walla, neither can you find any as poor as we have in the Walla Walla valley." Summing it all up, we should consider this a very promising section to afford homes for thousands of homeless from other States.

OUR STATE FAIR.

There is no reason whatever why our State Fair this year, which begins on the 1st of July and ends on the evening of the 8th, should not prove an entire success. The weather promises well, and from what we have heard from different sections of the State and neighboring territories, we judge that the attendance will be larger than at any Fair heretofore held at Salem. The celebration of our National Holiday takes place on the Fair Grounds on Monday, July 5th, and as the programme for that day is especially attractive, all who can possibly do so should attend.

A FINE FIELD OF WHEAT.

On Saturday, June 26th, we visited Hillsboro, and were shown a field of wheat, the property of Mr. A. Finney, which is the finest we have seen this year. It stands nearly six feet in height, is pretty close and well headed, and meeting with no accident will go at least 45 bushels to the acre. Grain all over the State is looking remarkably promising, and anticipating the largest crop ever garnered in the Northwest, several additional warehouses are going up in different sections of the State to receive it.

The young man who wants to get up with the sun, must not sit up too late with the daughter.

There is a man in this city so fond of money, that whenever he pays a man a sum he may owe him, he walks home with the man for the sake of being near the money as long as possible. Please don't mention his name.

Some crusty, rusty, musty, fusty, dusty specimen of a man, proposed the following toast at a late firemen's celebration: "Our fire engines—may they be like our old maids—ever ready, but never wanted."

It is in the toy drum that two heads are worse than none.

THE photograph gallery of I. G. Davidson is located on the southwest corner of First and Yamhill streets. Mr. Davidson has a corps of fine artists, and is especially prepared to take outdoor views of scenery, buildings, animals, boats, etc. His instruments are the best in the Pacific Northwest; he is therefore enabled to furnish his patrons with lifelike pictures. Be sure to give Davidson's gallery a call when you are in this city.

First premium awarded to Abell for the best cabinets, cards, and retouched photographs, at the late State Fair.

Our readers will bear in mind that the Assay office of Lent & Jenne, has been removed to Front street, between Stark and Washington.

Buchtel, the "old stand-by" of photographers, is still on deck at his elegant gallery, corner First and Morrison streets, where he is prepared to take all kinds of pictures, in the most approved style of the art.

HENRY E. EDWARDS,

(Successor to Edwards & Birmingham.)

169 Second St., Centennial Block,

Announces a

SWEEPING REDUCTION

In the prices of his immense stock of

Elegant Carpets, Parlor & Chamber Furniture,

Patent Rockers, French and Turkish Easy Chairs, East Lake and Queen Anne Lounges; Clipper, Spring, Hair and Wool Mattresses.

Visit his establishment and be convinced of the extra inducements offered to all.

OREGON STATE FAIR.
1880.

Commencing Thursday, July 1st, and Closing Evening of July 8th.

HALF FARE

On Oregon & California Railroad, Western Oregon Railroad and Northern Pacific Railroad from Kalama to New Tacoma, and on boats of Oregon Railway and Navigation Co., on Columbia and Willamette rivers, and "Star" line of steamers from New Tacoma, W. T., to Victoria, B. C. Passengers on the Northern Pacific Railway, the Boats of the Railway & Navigation Co. and the Puget Sound steamer, must have their tickets stamped at the Secretary's office on the Fair Grounds, or they will not be good for free return.

Stocks and freight taken at full fare coming to the Fair are returned free on certificate of the undersigned that it has been on exhibition and not changed hands.

Tickets for passengers, etc., on "Star" line of steamers on Puget Sound and Railway & Navigation Co. are good until July 15th, and this rule will probably apply to Northern Pacific R. R.

Mammoth National Celebration

On the Fair Grounds, Monday, July 5th. Oration, fireworks, splendid races, etc. Everything promises the largest exhibit and attendance ever known in the history of the society.
By order of board, E. M. WAITE, Sec'y.

THE card of H. Sinsheimer, agent for the renowned Decker & Son's pianos, appears in this issue. Mr. Sinsheimer is one of the most reliable dealers in instruments, and the Decker & Son's piano is said to possess numerous advantages over all other pianos. Before purchasing, be sure to consult Mr. Sinsheimer.

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One of the oldest established Watchmakers and Jewelers on this Coast.

His stock of Fine Watches, Jewelry and Silverware is most complete.

Repairing of fine Watches a specialty.

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GOOD-BYE.

BY AUGUSTA ALLEN.

How often and under what very different circumstances we hear this word spoken! A group of merry school girls are separating for the night, and one, as she lightly turns from her companions, merrily laughs out "Good-bye!" Her eyes sparkle, her cheeks dimple and her little feet dance along the sidewalk.

This is a good-bye which gladdens the heart of the listener. The word, for the moment, is robbed of its accustomed sadness and breathes careless joy.

Again I see the same group. But how different the parting scene! I hear no laughter now. Every brow is clouded, and all eyes are filled with tears. The close of the school term has come and some of the loved members of their band are going far away. They realize that this parting may be forever; and, with clinging hands and heavy hearts, they sob "Good-bye."

A young bride is leaving her father's home. Her chosen one is by her side. She knows his love for her. She sees, in her future, a succession of glad days, each more joyful than the last. Still she cannot forget that she is leaving her girlhood's home and the parents who have given her such love as only a father and mother can bestow. The tears fall fast. The sweet lips quiver piteously, and the sad "good-bye" is spoken with a low, tremulous voice.

A son is leaving his country home to seek his fortune in the great city. His mother is aware of the temptations that await her boy, and she trembles for his safety. So with a great pain at her mother-heart she says "good-bye, God bless you, my son, and keep you from evil." Such good-byes bring tears to our eyes whenever we hear them.

A child is lying upon her little couch. Those who love her are bending over her, watching with pain unspeakable as her breath grows shorter and shorter. At last the tiny hands are lifted; the eyes, bright with a brilliancy not of earth, unclosed; a sweet smile rests upon the baby face, and she whispers, "good-bye."

All is over. Bright angels have borne her over the billows of the river and she is safe in that glorious home, where sad good-byes are never uttered.

THE CALYPSO BOREALIS.

In the *American Agriculturist* for June, 1879, under the above head, I find a description of a plant which, though indigenous to this coast, is but little known when a few miles from its native woods. The *calypso* belongs to the *orchid* family, and presents rather a more singular appearance than most of the other members of that singular family of plants. The plant has a small, hard bulb, at the base of which are two short roots about three-quarters of an inch long, with a few very short rootlets along their sides. These roots, instead of growing in the earth, grow in moss, and only penetrate deep enough to reach the soil. Early in January the bulb begins to shrink away, and a new one forms in its place, from which rises a solitary ovate leaf. In time there will shoot up a stem to the height of four to six inches, bearing at the top a solitary flower, having a lip or sac hanging from the lower side, something after the manner of the "ladies' slipper," only instead of being blunt, it terminates at the lower end in two sharp points, about one-eighth of an inch long. This sac is one of the petals, and is of an indescribable brownish color along the sides, while just below the mouth is a pale, whitish-looking spot. The other two petals and the three parts of the calyx are precisely alike in appearance, standing up long, narrow and sharp-pointed above the other portions of the flower. These five parts are of a very pretty pink color. Just in front of these, and hanging over the mouth of the sac portion, is the "hood." This "hood" is the united stamens and pistils, and is of about the same color as the five other parts just mentioned. After blooming, the leaf and stem die down, and can be kept very much like an onion; only, if they are wanted for early blossoming, they must be kept damp. In the fir woods, where it always grows, it is perfectly hardy, but when not sheltered by the timber, it is quite tender. It takes to domestication quite readily, and when massed is very pretty and quite worthy of cultivation. This description applies to the plant as it grows in Douglas county, Oregon, the writer never having seen it growing further north.

Owing to the rise in paper, kites are going up.

THE CLEAN NEWSPAPER.

There is a growing feeling in every healthy community against journals which make their special object to minister to a perverted taste, by seeking out and serving up in a seductive form disgusting and licentious revelations. There is good reason to believe that the clean newspaper is more highly prized to-day than it was four or five years ago. It is also safe to predict that as people in all ranks of life, who protect their own, at least from contamination, become more conscious of the pernicious influence of a certain class of journals, called enterprising because they are ambitious to serve up dirty scandals, they will be careful to see that the journals they permit to be read in the family circle are of the class that never forget the proprieties of life. Already both men and women of refinement and healthy morals have had their attention called to the pernicious influence of bad literature, and have made commendable efforts to counteract the same by causing sound literature to be published and sold at popular prices. These efforts are working a silent but sure revolution. The best authors are more generally read to-day than at any previous date. The sickly, sentimental story-paper, and the wild ranger and pirate story-book are slowly but surely yielding the field to worthier claimants. Let the good work go on; the sooner such literature is banished the better.

On a railway line, recently, a passenger stopped the conductor, and asked: "Why does not the train run faster?" "It runs fast enough to suit us. If you don't like the rate of speed, get out and walk," was the rejoinder. "I would," replied the passenger, settling back in the seat, "but my friends wouldn't come for me till the train arrives, and I don't want to be waiting at the station for two or three hours."

"How came those holes in your elbows?" said the Widow Smith to her irrepressible small boy. "Oh, mother, I hid behind the sofa when little Jack Horner was saying to our Jule that he'd take her, even if you had to be thrown in; and he didn't know I was there, and so I held in and laughed in my sleeves, till I burst 'em."

A correspondent who has kept sheep for the last thirty years, says he has never known a sheep to be killed or torn by dogs, where a good-sized bell was worn by one of the strongest, tamest sheep in the flock. Try it, you sheep men.

From a boy's composition on hens. "I cut my uncle William's hen's neck off with a hatchet, and it scared her to death."

Weather signs—When you see a doctor and nurse take charge of the house, look out for little squalls.



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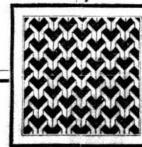
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YOUNG, BUT THRIVING.

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(One of Many.) ROSBURG, Oregon, January 23, 1880. A few bottles of your indeed valuable medicine, called **PFUNDER'S OREGON BLOOD PURIFIER** have entirely cured my Rheumatism of 10 years standing, and other acquaintances speak very highly about it, performing a cure in every instance. Such a blessing should be made known to all sufferers, hence I make the above statement.

Lyman Page, Esq., Contractor, 25 years a resident of Portland, says: For 12 years I suffered from liver complaint—tried everything. Cured with 6 bottles of **PFUNDER'S OREGON BLOOD PURIFIER**.

I read about it, tried it, and am still using it when occasion requires. What? The **OREGON BLOOD PURIFIER**! Such are the words of one of our lady lecturers. All ladies will understand what is meant.

For shame young man! Get a bottle of **PFUNDER'S OREGON BLOOD PURIFIER**. Use it; those pimples will leave your otherwise finely shaped forehead. And you, too, young lady; you also try a bottle of this really invigorating remedy, and regain that natural bloom on your sweet face, which no paint or powder can impart.

The cause of general debility removed in a short time, rapid gaining of flesh, improved complexion and good health. I sold my last bottle of **Pfunder's Oregon Blood Purifier** to Doctor Angee of this place, whose wife has been suffering from general debility for over one year, although the Doctor tried his best to cure her. After using your remedy the patient felt better, so much so that the doctor wants one dozen of this truly good medicine, which please send in my care at once. This is an extract received from Mr. Boos, Forest Grove, Oregon.

I, Frederick Ruegg, of Multnomah county, State of Oregon, certify herewith that **Wm. Pfunder's Oregon Blood Purifier** has entirely cured me of a skin disease, produced by poison oak. Although I had applied to several physicians for relief, none of these gents could do me any good, and I herewith recommend the **Oregon Blood Purifier** to all suffering with such skin diseases. Signed: F. RUEGG.

Sea Sickness—I used to dread it—a sea voyage; but now, since I take **Pfunder's Oregon Blood Purifier** I do not feel the least inconvenience. Use a dose or two before going on board and same after leaving vessel.

Look at him—that sallow sole leather face—that dull red rimmed eye—that slouching walk—yes, look at him well. He is a dyspeptic. Now look at this Elastic step, bright eye, healthy complexion—how is this? Well, he uses **Pfunder's Oregon Blood Purifier** and n thing else.

Mountain fever of years standing cured without the use of Quinine in a short time. Read and admire: I have been suffering from mountain fever for years. My physicians told me the only chance of my getting better would be a change of climate. Accidentally I came across a bottle of **Pfunder's Oregon Blood Purifier**, used it, and following directions by using a bottle of the S. S. S. Fever and Ague Mixture in addition, I am perfectly healthy now, and thus capsize the theory of my physicians. GEORGE GREEN, Mail Carrier, U. S.

Ladies in that delicate state—ever to be revered—but ever creating nausea, will find speedy relief by using **Pfunder's Oregon Blood Purifier**.

Pfunder's S. S. S. (safe, sure, speedy) Fever and Ague Mixture Certificate. I suffered some time with, what I was told, malarial fever, accompanied with pain in my head, back, in fact, felt pains all over. Not getting any better after using all kinds of medicines, I tried **PFUNDER'S FEVER AND AGUE MIXTURE**, and since gained rapidly in health. MARIE WEISER, Seventh and C streets, Portland.

The different Constitutions. The Constitution of the United States, that master piece of human brain. How is your constitution? If bilious, use **Pfunder's Oregon Blood Purifier**, the triumph of modern science.

THE PEOPLE'S CHOICE—Tonic—Bitters, sugared sarsaparilla, watered bad whiskies and pills made B. C.—hard as rock, are the cause, the reason, that to-day our people suffer more from liver complaint, poor digestion, etc., than any other nation. The idea of giving our working population such trash, and magnifying that trash by calling it ferrated (or iron containing) medicine; here, where nature's products are abundant, and very nutritious. Eat our Columbia River salmon; that splendid beef derived from cattle feeding on bunch grass; those vegetables at once healthy and within the reach of everybody, and then laugh at those puerile efforts of ignorant, inconsequent parties trying to force iron into your system. All you want—you, who constitute the mass of the people is, to get your liver into working order, and there is no other or better remedy than **PFUNDER'S OREGON BLOOD PURIFIER**. Price, per bottle, one dollar. Five dollars for half a dozen.

Your Druggist has it or will get it for you. "The Original." Insist upon having it!



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The constantly increasing demand for our goods during the last year induced us to greatly enlarge our factory, and we are now prepared, and have decided to place our Candies at such prices that we feel confident the dealers in this State, Idaho and Washington Territories will find it to their advantage to patronize 'home industry.'

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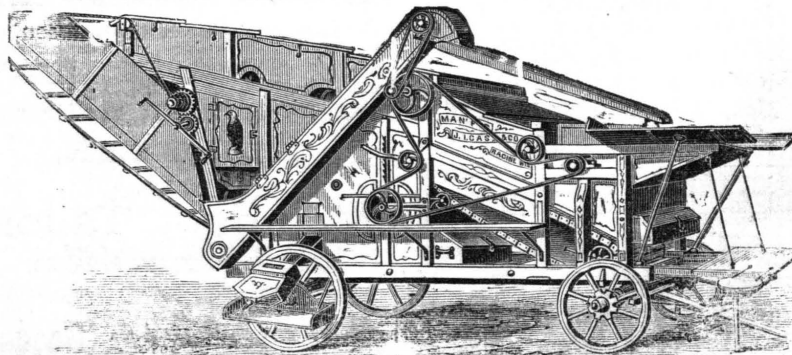
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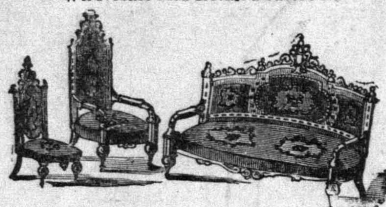
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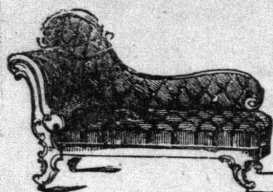
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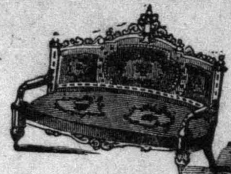
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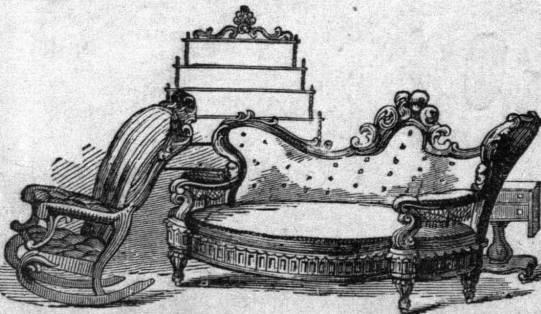
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