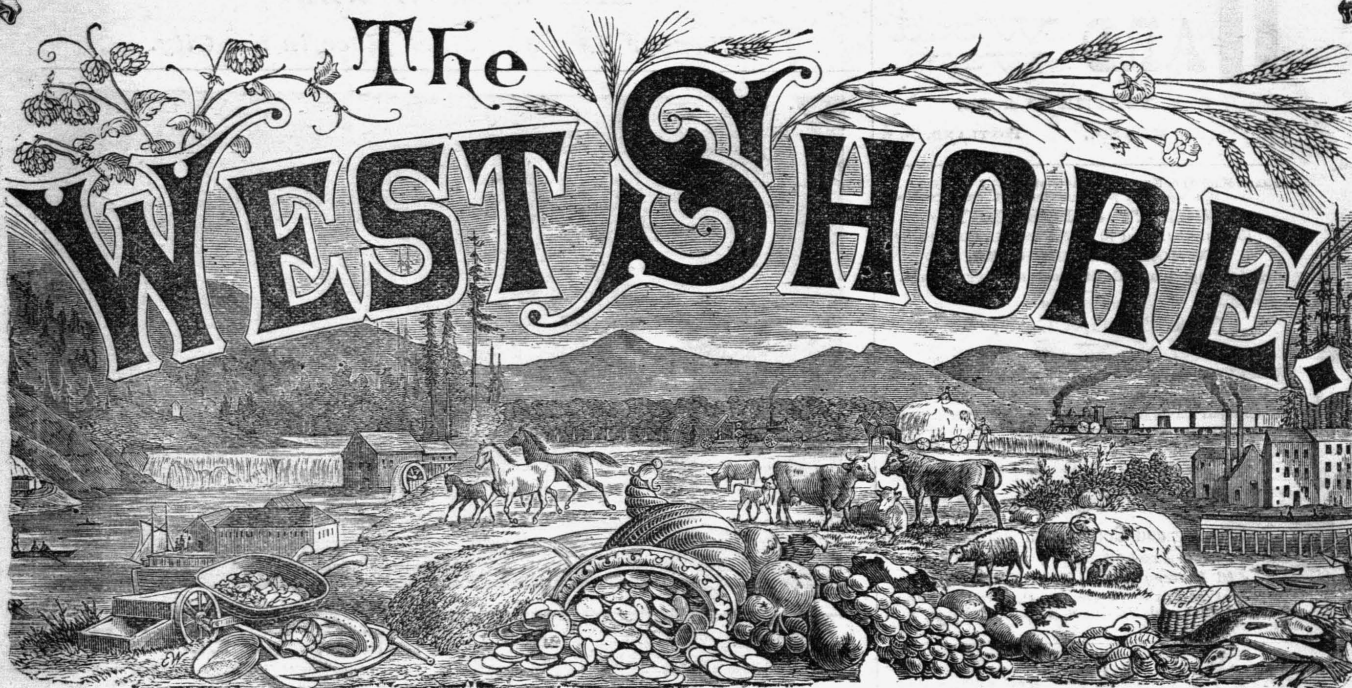


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Portland, Oregon, September, 1880.

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THE OREGON STATE UNIVERSITY.

Near Eugene City, and overlooking it from an eminence near the Oregon and California Railroad, is the handsome structure known as the Oregon State University. It is built entirely of brick and fitted with all the modern conveniences. The grounds embrace eighteen acres of fertile soil. A bayou of living water puts in from the Willamette river and affords the best of facilities for irrigating at trifling cost.

The location is at the extreme southern point of the Willamette valley,

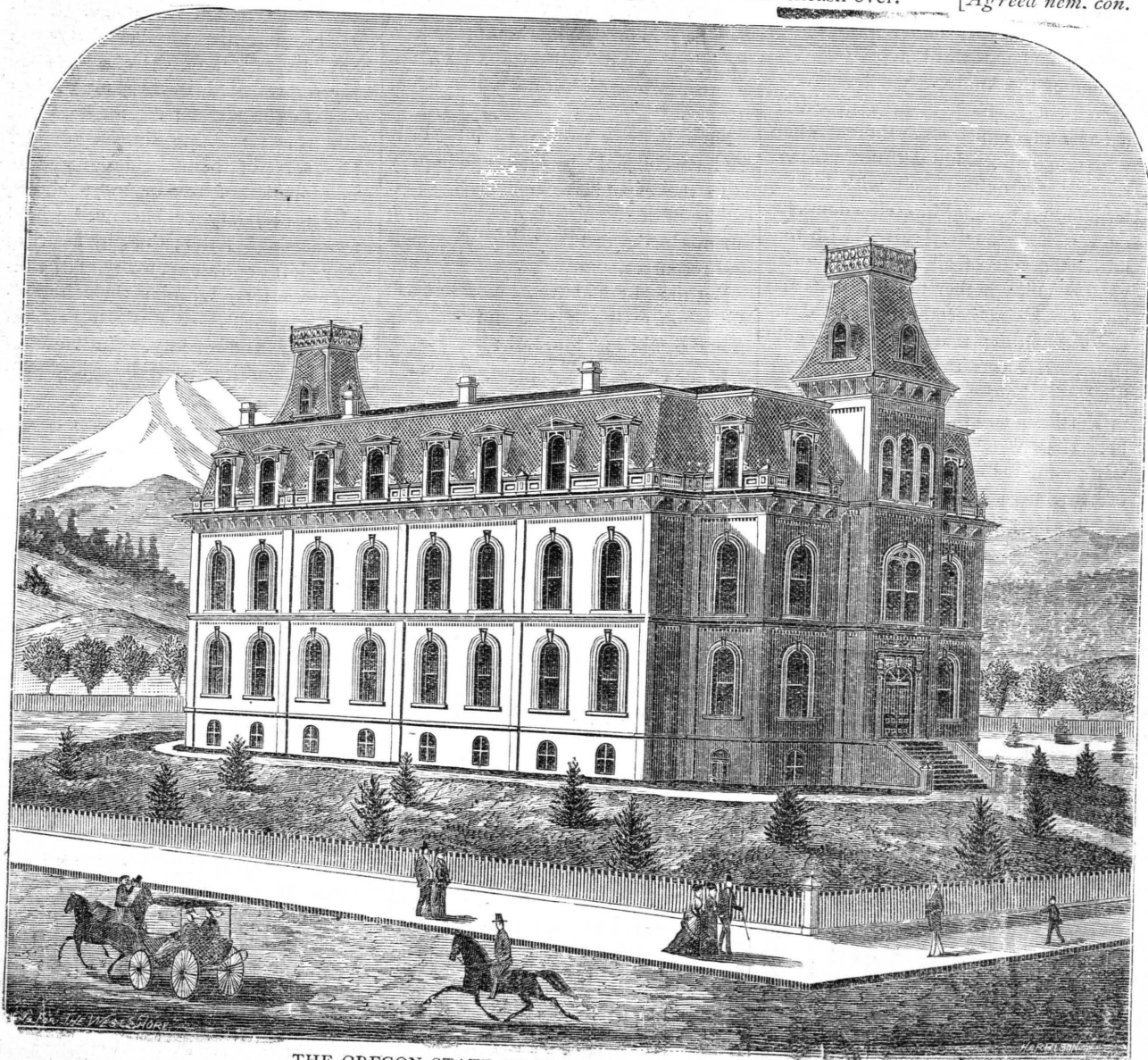
where the Cascade and Coast ranges seem to meet, thus leaving a gateway through the Calapooia mountains and out to the rest of the world.

Looking northward from the front of the University, one can see twenty miles down the valley, twenty miles of waving, beautiful ripe grain, while in the rear the symmetrical forms of three magnificent snow-peaks, the "Three Sisters," complete this peerless picture.

It is impossible to conceive of a more beautiful and appropriate situation for an institution of learning, or where the

general landscape presents a more exquisite combination of the grand and beautiful—the fir-clad mountains, exultant river, and the broad valley, territorial in its extent, and boundless in its agricultural resources.

"IN VINO VERITAS."—BAILIE VERINTOSH (*school trustee, who wished to address the children after luncheon*). "Noo, bairns, aw'll jeest tall ye, we're a' like sheps—some's en poarrt, some's awa' oot i' med-ocean, some's near the haven. Ye're jeest leaving poarrt. Ash f' me, aw thenk aw'm aboot hauf sheash over." [*Agreed nem. con.*]



THE OREGON STATE UNIVERSITY AT EUGENE CITY.

WHAT SHALL IT BE?

We are in want of an appropriate caption; some apt heading whereby we may designate the peculiar drift of the subject matter which we are about to present to our indulgent readers. Dr. Whately used to say it was a good plan for authors to write their article first, and then surmount them by the most appropriate heading which the general trend of their thoughts might suggest. The Doctor's advice is certainly expedient and practicable, and we doubt whether we can do any better than to adopt it. Then here is the tale we have to unfold, and, having read it, our friends may give it a local habitation and a name.

A palatial residence has lately been reared in this city under some rather strange and untoward auspices. The owner of the house, a well-to-do and prominent business man, has committed a blunder which a life-time of otherwise good citizenship will not suffice to remedy. Simultaneously with his determination to build himself a domicile, he was unfortunately seized with that most incurable of all maladies, human vanity; and, whether to all intents and purposes, he has become its abject slave, we are willing that the sequel would show. His was to be an uncommon kind of a house; the like of it was not in Portland, and probably never would be. He was not the man to be content with home material and the handiwork of home artisans; no, not he. To carry out this lofty determination, he imported his building materials from San Francisco; in fact nearly everything that entered into the composition of the house, from cellar to attic, was ordered from abroad. An imported architect presided over the deliberations of an imported foreman, who in turn bossed an army of imported carpenters, masons, painters and plumbers. When the time came for putting down the carpets and attending to the upholstering department, O, humiliating thought! no man was found in our city whose eyes were exact mates and who was sufficiently versed in the intricacies of determining the superficies of regular polygons to be safely trusted with the business of measuring the spacious rooms; and, consequently, a skilled artist was imported all the way from San Francisco for this special purpose. Everything, in fact, was to be exotic,

the house, with all it contained, all its surroundings, above, beneath and around, with, perhaps, one solitary exception, the ground upon which it was to stand. So much for the right flank of our story. Listen again. During a term of years, the people of Portland have been paying high rates for a poor article of domestic consumption. Simply because there was no other immediate source of supply, every household and place of business in this city have been paying tribute to one man for the necessary article in question, and that man is none other than our ingrate and grossly inflated house-builder of unenviable importing notoriety. Thus, from an impecunious beginning, he has filled his coffers with gold from the pockets of our generous citizens only to disburse it in foreign markets to the lasting injustice and insult of our own enterprising manufacturers and resident artisans.

Now, to draw a moral from the facts we have collated necessitates no inquiry as to the capabilities and business integrity of our manufacturers, the skill of our mechanics or the quality of our natural resources.

But the gist and true inwardness of this whole matter may be summoned up in one significant question:

If our city cannot depend, for future prosperity, upon the earnings of her own people and the profits of those institutions which has been built and fostered by home industry, then, in the name of all that is good and just and proper, upon whom or what is she to depend?

In conclusion, we have introduced no high-colored myth. We have merely cited the record of an individual who wields a stupendous and dangerous monopoly in this city. His memory may, indeed, grow *green* in the hearts of the people who, without immediate means of redress, minister to his gains, but such growth will continue to be only the worst form of gangrene and fester.

“Nervousness with a child is almost always a matter of the stomach. A crust of bread will usually put an end to the most obstinate perverseness. Children, for this reason, should never be allowed to go to bed after a fit of crying with an empty stomach. A bit of bread and jelly or a cup of custard will bring back smiles and happiness when all the moral law fails, and for the soundest of reasons.”

THE SPELLING REFORM.

We have never committed ourselves, as yet, either pro or con, on the proposed spelling reform question. That there is great need of a radical change in representing and combining the articulate sounds of our language, no good English scholar can reasonably deny. As the case now presents itself, the most onerous part of the whole system is borne by writers and compositors. Words should flow as freely from our pens as they do from the lips of an eloquent and polished speaker; but this can never be so while we are obliged to trace the outlines of three times as many arbitrary characters as there are sounds to express to the eye. There are about forty distinct, articulate sounds in our language. Some writers make the number forty-two. Now, twenty-six of these sounds are truly represented by as many distinct and definite characters. But how is it with the remaining sixteen sounds? Why, some of them are designated by a combination of two or more letters, or by a secondary or borrowed sound of some single letter; thus, by a sort of make-shift or strategy, many of the innocent letters, without their knowledge or consent, are made to perform double or treble duty. In view of these difficulties, somebody has proposed to increase our alphabet so its characters or letters shall be equal in number to the sounds in the language. It is clearly seen that, by such an arrangement, we should certainly and forever rid ourselves of all such ungainly combinations as *ph, th, ch, sh, sch, gm, gn, tion, ough*, etc. Having a letter for each sound, whenever it was proposed to spell or write a word, it would only be necessary to duly select the letters standing for the articulations in the word, and then utter or write them in their proper order.

Like the combinations above mentioned, ambiguous letters would go into oblivion, and we should never hear more of those insane expressions, “c hard,” “c soft,” “y hard,” “g soft,” neither their stupid cousins, “th aspirate,” and, “th sub-vocal.” Silent letters would also go by the board, leaving nothing but living characters symbolizing living sounds. It cannot be denied that this method would strike at the root of the present evil, and we see no great increment of labor in

the task of mastering an alphabet thus augmented.

But it seems to be in the nature of things that all momentous innovations should be retarded by exceptions and objections, and the spelling reform is not exempt from the rule.

The New York *Sun* discusses this question in quite an original manner. In speaking of some of the entailing evils, that journal says: "It is on behalf of the next generation of those young learners, who are just beginning to grapple with the perplexities of our written tongue, that reform in the direction of simplification is most strenuously pressed. Now, it would be easier, no doubt, for the juvenile student to read such books as might be printed in the new phonetic or partially phoneticized language; but how insignificant a portion of our literary treasures, how small a fraction of the thought and the beauty aggregated in the English libraries could we hope to see reproduced in the altered, graphic form within a generation or within a century? Yet is it not plain that each volume not thus translated would be measurably shut off from the facile and sympathetic appreciation of the young reader, and would it not be virtually buried in a dead language?" The above is certainly a candid consideration seriously and philosophically discussed. And it strikes us that another and equally fatal objection to any change in our present method of spelling would be found in the utter impossibility of tracing the derivation of words. As they now are spelled, almost all words, especially those coming from classical tongues, have as marked a nationality as the people who uttered their original forms centuries ago. Of course, by any method of reform of which we are able, now, to conceive, all words would be reduced to a common plane; even many of those richest in historic interest would be ruthlessly shorn of all those sparkling insignia by which we now so readily follow them through all their migrations from tongue to tongue down the shadowy annals of time. By the new method *phthisic* would be simply *tizik*, and nothing more.

EARACHE.—Put a little black pepper in some cotton, dip in sweet oil and insert in the ear. This is one of the quickest remedies known.

SLEEPLESSNESS.

Sleeplessness proceeds from such a variety of causes that a universal remedy that shall fit each and every case is as yet unknown. One word at the outset: except in cases of dire necessity, *avoid all opiates, as you value future health and peace of mind.*

The majority of cases of sleeplessness are traceable to some simple origin, and demand but a simple prescription. When the attack proceeds from a disordered state of the stomach, a preventive only will suffice. Eat sparingly of a light supper for two or three nights, and you will speedily perceive the need of making this a regular rule. You can then, if you chance to waken in the night, soothe yourself to slumber with a bit of cracker or plain bread without feeling that you are adding to the burden of an already overloaded stomach.

The concentrating of the mind on some monotonous formula, like a simple rhyme or a "reckoning by dozens," (I beg your pardon!) is an easy method for trial in slight attacks of wakefulness. But the unrest that comes from excitement, study, anxiety or excessive weariness, is not to be banished by so simple methods. Take the case of a nervous, excitable individual who has just come from a protracted entertainment at the house of a friend. His weary head rests thankfully on the pillow, and he commits his tired spirit to the arms of morpheus. But in vain. The experience of the evening, in manifold shapes and combinations flit before him like phantoms. Every face that so lately has met and welcomed him, now form part and portion of a ghastly company that march round and round, in and out of the recesses of his brain, in never-ending procession. He hears the confused hum of voices, the swelling strains of the orchestra, the noise and bustle of the supper room, all mingled into a medley of sights and sounds that torture his spirit to the verge of madness. He tries faithfully the "sure methods" his phlegmatic friend used with such success. Beginning with Z he climbs up the alphabet over and over again. He says the "sevens" with mathematical deliberation and precision. He counts imaginary flocks of sheep, one by one, as they jump over a visionary fence. He buttons up the seven-league boots, with no

last button. But in vain; and he tosses and tumbles and groans, and longs for the morning. It is absolute folly for such a one to remain in bed for a single moment. Let him get up and dress, if need be, read, write, or in some way try to divert his mind from its tormenting channel. A wet cloth applied to the back of the neck is an excellent remedy for a wakeful, excited brain. A brisk rubbing of the feet and limbs to promote a lower circulation of the body and draw the blood from the heated brain will serve to bring on sleep.

Should incidental causes serve to bring on wakefulness at about the same time each night, I would advise the individual to sit up one or two hours later every evening, rising at the usual time, or earlier until fatigue will enable him to sleep through the night without interruptions.

But "An ounce of prevention is worth a pound of cure." Quiet living, simple food, healthful exercise and a peaceful conscience, are excellent preservatives of mental poise and repose. Particularly is it necessary to keep the half-hour before retiring as free from excitement or mental disturbance of any kind, as possible.

Should all of these precautions prove unavailing, and the exhausted patient still fails to find in sleep that repose that is so necessary to health, he may feel just cause for alarm and should at once consult his family physician.

Granny Myers sat upright in the great arm-chair, knitting away at a long blue sock. Peter was studying his grammar lesson, and found it hard to understand. The pretty young lady who taught the district school was trying to make it plain. "Now, Peter," she said, "If I address you in this way: 'Peter Myers I wish you to send your dog Nero out of the room,' I bring all the persons into that simple request. You, being spoken to, are the second person; I, as the speaker, am the first, and Nero, being spoken of, is the third. Is not that quite easy?" Granny was listening, too. She stopped knitting, and said, with decision: "Peter, put that book away directly. Go to bed. Miss Jane, if you've got sense to teach the boy, teach him, but never let me hear you tell him again that Nero, the dog, is a person. A person is a creature with a soul, Miss Jane."

A householder in Troy, filling up his census schedule, under the column "where born," described one of his children "born in the parlor," and the other "upstairs."

IN AN OPIUM DEN.

A walk through the Chinese quarter presents one of the most entertaining and instructive phases of Pacific Coast life. It is China reproduced, with its costumes, dialect and smells. The long line of trotting "coolies," with their baskets slung on poles; the dapper merchant in silk and broadcloth; the gaudily arrayed women, vermilion-daubed and gliding along with a slipshod mincing gait; the quaint signs and swinging paper lanterns; the stores packed with foreign wares and curiosities; the Josh-House, inhabited by jolly old idols soothed with pots of steaming incense—are all suggestive of the Orient and render it difficult for one to realize that he has just stepped off from First street and rather favor the idea that by some magical power or other, he has been transported in an instant to the heart of pagan Asia.

The other night as I was very leisurely strolling through Chinadom with a friend, we noticed a crowd passing in and out of a brightly lighted shop. It required but a glance to see that they were confirmed opium smokers. The haggard features and ghastly complexion, the stooping shoulders, the glazed and expressionless eye, the halting, unsteady gait, betokened the victim of the deadly drug. Just inside the door seated at a small table, was a sleek, well-fed Chinaman busily weighing out a glutinous substance resembling tar, a very different looking article from the well-known opium of commerce. In order to make the latter fit for use, it is boiled at least three hours, then digested in water, then strained and finally boiled again until, all fibrous matter having been removed, nothing remains but the pure drug in a highly concentrated and semi-fluid state. It is then ready for smoking and is retailed in little boxes of buffalo horn hold-

ing about a thimbleful, which are refilled as occasion requires.

Being curious to know how John conducts himself while indulging in his favorite and secret luxury, we picked out an individual who had secured his evening supply, and followed him. After much wandering through dark tortuous alleys, where more than once we nearly lost sight of our unconscious guide, he knocked at the door of a dilapidated building whose darkened windows gave no sign of life within. After a slight delay the door was opened very cautiously and our pilot admitted. Before it could be closed I crowded myself into the opening and was confronted by a villainous looking Celestial, naked to the waist, holding a cup of cocoa-nut oil in which floated a lighted taper, when the following dialogue ensued:

"Hello, John!"

"Hello, Who you?"

"Me likee smooke opium, John, all same Chinaman."

"No got, me no sabbe you, you go way."

"You sabbe this, John," and a fifty cent piece found its way into the willing heathen's palm.

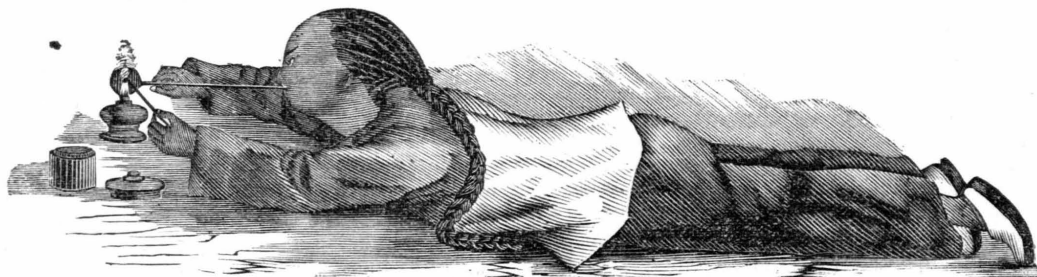
"Belly good, you come in."

The door slammed behind us and a ponderous wooden beam falling into its place effectually barred the entrance of all intruders. traversing a narrow hall we entered a room about twenty feet square, dimly lighted by a small lamp hanging from the ceiling, which looked like a nebulous star amid the thick and choking vapors that filled the apartment. Around the walls were two rows of bunks, with their stupified, half-nude occupants, while stretched upon a low platform, on a level with the lower row, were a lot of greasy pagans in all stages of narcotism. My companion, not minding his footsteps in the darkness, stumbled over an obstruction and pitched forward upon his

face. He had fallen over a prostrate Chinaman, who was so far oblivious of the material world that not even a groan escaped him. A further investigation revealed others upon the floor, and even the spaces under the tables were packed with insensible humanity. Nor were we the only Caucasian visitors there that night. In a corner side by side with a negress, lay a white woman of middle age; and with her silken garments trailing in the dirt and her head half buried in the folds of the other's dress there sat a young girl who could not have been more than seventeen years old. The nauseating pipe had fallen from her hand, her disheveled jet-black ringlets released from their fastening fell carelessly down her back, while the handsome face already seamed with the hard lines of dissipation, and covered with cosmetics which but imperfectly concealed the death-like pallor of the skin, proclaimed the unfortunate.

The air was hot and stifling, and there being no means of ventilation—the idea never entered "John's" head—the combined breath of thirty or more tenants of the filthy den rendered it nearly intolerable. The proprietor of the establishment, the only one beside ourselves who was able to move around—our *quondam* guide had long since succumbed—hastened to prepare a place for his distinguished company. One Chinaman was rolled over into a bunk which already contained two snoring debauchees, and another was accommodated with quarters on the floor, being tumbled off, neck and heels like a log of wood.

Then, not without some misgiving, however, we reclined upon the hard table resting our heads on the Chinese pillows—which conveyed no particular suggestion of luxury, for they are nothing but wooden blocks covered with coarse cloth, and shining with the contact of a thousand well oiled queues—



OPIUM SMOKING CHINAMAN.

and made arrangements for entering "Arab the blest." The opium-pipe has a long stem of reed or bamboo and a globular, metallic bowl, with a funnel-shaped orifice, in which the drug already lighted is placed. The opium is taken up on the end of a wire, held for a moment in the flame of a lamp and then inserted in the pipe. The bowl is now placed over the fire and the opium stirred till the mass is ablaze, the smoker meanwhile inhaling and swallowing the smoke. The fumes must be retained as long as possible in order to produce the desired intoxication effectually, as but little of the drug is consumed at a time, the pipe holding a lump about the size of a pea. A few whiffs generally suffice for a beginner, but old veterans can stand half a dozen pipes at a sitting and frequently repeat the dose two or three times a day. The taste was sweetish and quite pleasant, and the action of the smoke rather exhilarating than otherwise, but as we did not take enough to feel its power very perceptibly we are unable to speak concerning its full effect. Certainly it must possess a terrible fascination for its unhappy victims, for the filthy surroundings of the holes where the vice is carried on gives one every impression but those of pleasure and happiness.

"John" however, is in many respects but a degree above the brutes, and the fact that he can extract the highest enjoyment from such a debased source is anything but creditable to the civilization which he boasts as so much superior to that of the "Melican man." Handing our polite host a small fee for his luxurious accommodations and the pipeful of opium we had spoiled, we stepped down and out, glad enough to disinfect ourselves.

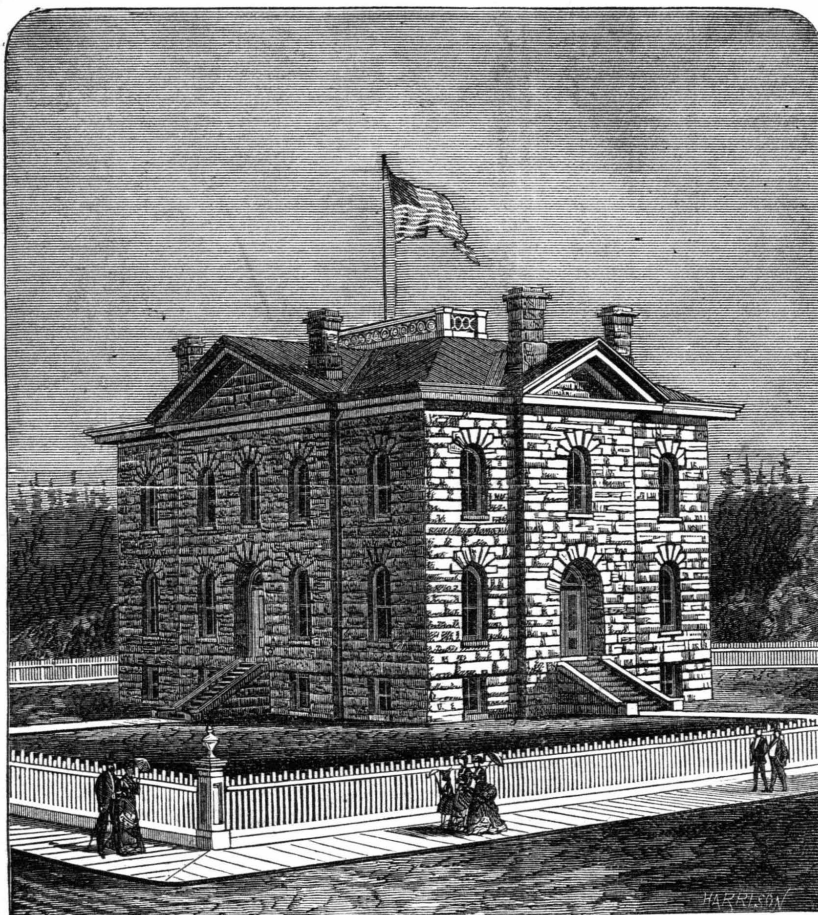
Opium-smokers always lie down, and never use the pipe in any other position. The custom is a very general

one; even ladies practice it, and young boys are to be seen in shops waiting along with their elders to have their boxes filled. In some the habit is acquired, and the drug becomes a necessity in a week; in others, a month or still longer time is required, depending of course, upon the frequency of the dose and the life and constitution of the individual. Unlike many other vices, when once fixed it is an incubus never to be shaken off, and the victim becomes its miserable and abject slave. He must smoke at regular intervals, and soon a larger quantity is needed to sustain his failing powers, while an in-

searched by the authorities before being permitted to land, and the inducements for smuggling are so great on account of the high duty that scarcely a vessel comes in without a store of contraband opium. It is found sewed up in clothes and in the soles of shoes, hidden in toys, in furniture and in bamboo canes. On the arrival of a Chinese steamer in San Francisco, a Chinaman told the officials he knew that opium was concealed in some cans of cocoanut oil standing on the lower deck—he could smell it. Upon examination sure enough each can was found to have a false bottom, a large quantity of the drug was discovered, and the in-

former received his share of the spoil. The cunning pagan had scented the familiar odor through two thicknesses of tin.

THE ASTORIA Post Office—a correct engraving of which is shown on this page—is a substantial building constructed entirely of stone, and cost nearly \$100,000.



CUSTOM HOUSE AND POSTOFFICE, ASTORIA, OREGON.

tolerable longing seizes him if deprived of his daily debauch. His eyes grow inflamed, and discharges of mucus issue from the nose and mouth. He is in a state of continual languor, without any ambition save that of procuring the terrible poison which is destroying him. Rich Chinamen have private apartments in their houses where they can enjoy a social smoke with their friends, the public dens, such as the one above described being patronized only by the *canaille*, who have no homes of their own.

Every Chinese emigrant is carefully

"This is a nice time of night for you to be coming in," said a mother to her daughter, who returned from a walk at 10 o'clock. "When I was like you," continued she, "my mother would not allow me out later than 7 o'clock." "Oh, you had a nice kind of a mother," murmured the girl. "I had, you saucy girl," said the mother, a "nicer mother than ever you had."

Fine weather.

"How did you like the new minister?" asked a lady of a little girl, when she returned from church—"O, he is splendid! I like him ever so much better than I did Mr. Edwards."—"Why?" asked her mother, amused at the little one's earnestness.—"Well," said the child, trying to think of a good reason, "he has a better complexion!"

"Help the sweeper, please, sir."
"Can't, my man. I wasn't brought up to the business; besides, I have no broom."

THE "ARM," VICTORIA HARBOR
B. C.

It would seem that, by the operation of some kind of a natural law of necessity, or the requirements of local association, every considerable town or city of this coast has its own place of rural or sylvan resort. And, as if in harmony with this principle, we present our readers, in this number, with a moonlight view of what is popularly known in Victoria, British Columbia, as the "Arm."

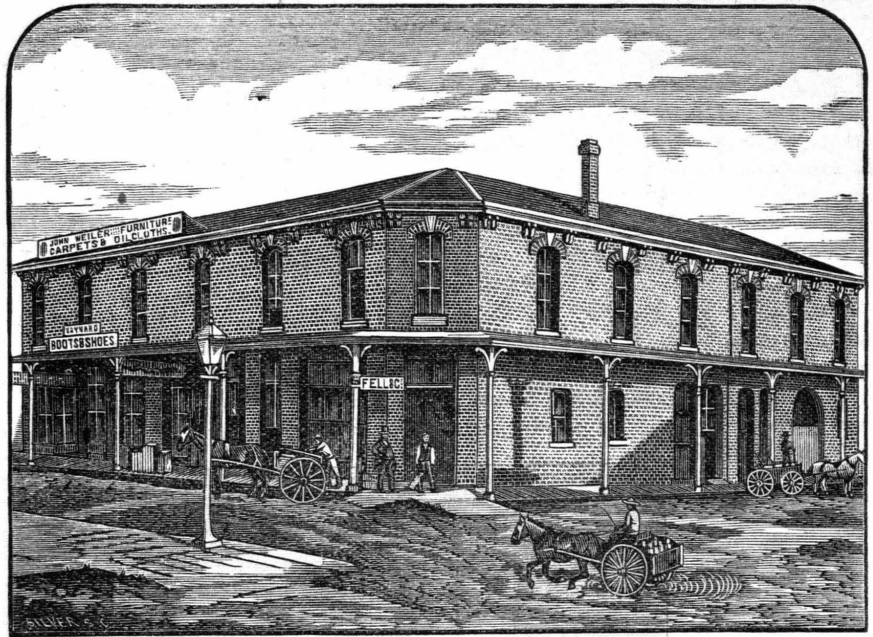
This meandering sheet of water is really nothing but an extension of Victoria Harbor; not one of those ungainly sloughs, so common on the mainland of Washington Territory, nor is it a sluggish river, freighted with muddy sediment and bearing down to its outlet the debris of animal and vegetable life; it is none of these, but, as its name indicates, a bright and crystal indentation of the ocean itself, or rather, that portion of it surrounding the Island of Vancouver designated as the Strait of Juan de Fuca. It is about six miles from the city to the extreme head of the Arm, and thus, the round trip affords the tourist an entrancing boat ride of almost twelve miles.

So beautiful is the wooded scenery along the rugged shore-line, and so secluded the winding sailing ground throughout its entire extent, that there is, by right, no special point of rendezvous. On the contrary, as a lover of nature has it, "It is all an extended resort for pleasure seekers."

This little gulf or bay offers a familiar illustration of those curious freaks of topography so often met with in and about this island. Assuming that volcanic forces were once very active along this part of the Pacific Coast, the mind's eye readily takes in a vast indentation system, made up of ancient cracks, seams and fissures now filled with salt water to the common sea level.

The Arm is well stocked with the usual varieties of excellent fish, salmon and salmon-trout, perhaps, predominating. During the heated term, the water, at the extreme head of the inlet, often indicates a temperature of seventy degrees, when a flood tide comes in upon the warm pebbly beach; thus, making the pastime of bathing one of the principal attractions during the months of July and August.

A line joining the head of the Arm and that part of the city front where boating parties usually embark, would extend in a northeasterly and south-

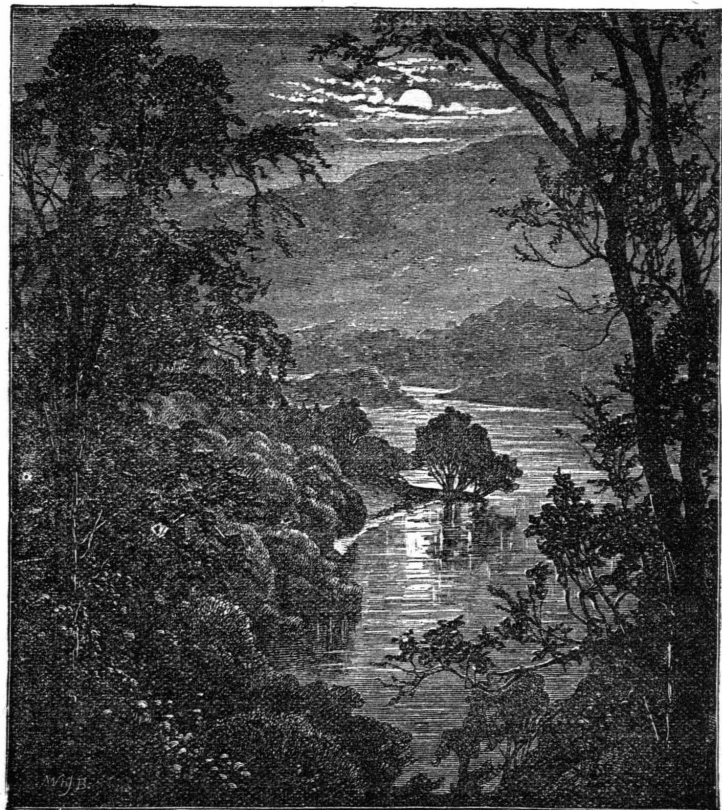


FELL'S BLOCK—VICTORIA, B. C.

easterly direction. The meander line is distinctly marked, down to the water's edge, and on either side, by a dense growth of perennial verdure.

There is something bewitchingly attractive in a moon-light excursion along the bosom of this sparkling water-course, and the romantic citizens of

Victoria, both young and old, well know how to take advantage of these seasons of pleasure. To our friends here, who contemplate visiting our northern waters for the purpose of recreation, we would cordially recommend the mossy banks and shady bars of the Arm.

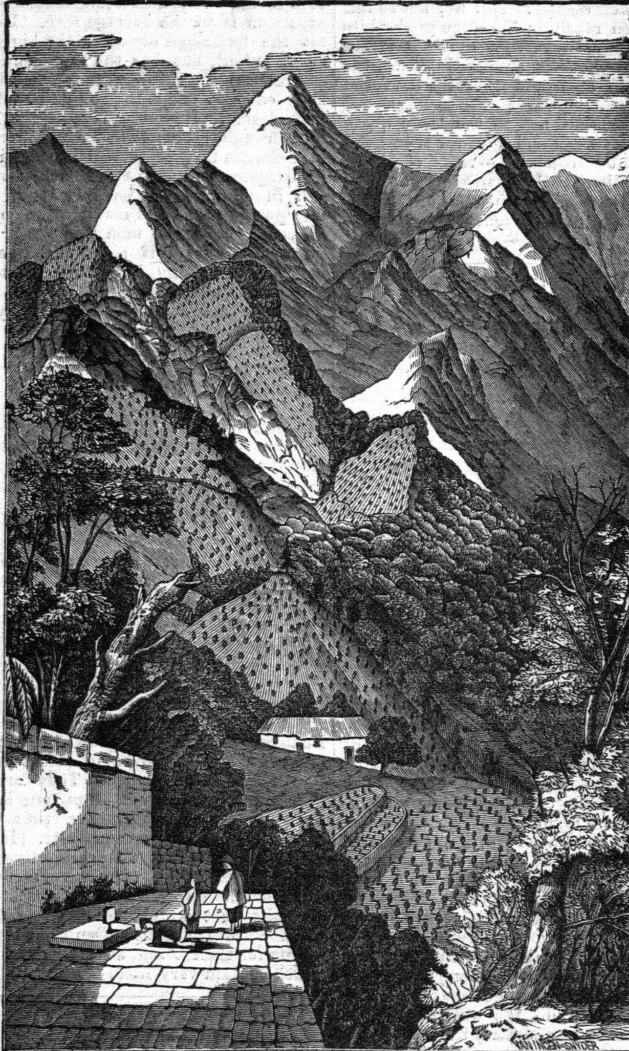


"THE ARM," VICTORIA, B. C., BY MOONLIGHT.

A HILLSIDE SCENE IN CHINA.

Our illustration presents a scene in the Bohea tea district, of China. We introduce it as illustrative of the system of hillside culture, which prevails in that part of the world. Now that the utilization of our elevated lands is being urged on the ground of their cheapness, and their adaptation to certain growths of fruit, it is interesting to note an illustration of actual work on similar elevations. All are more or less familiar with the cultivation of hillsides in Europe for the production of grapes, olives and other

THE LATEST TORPEDO BOAT.—At Saltonstall lake, says the New Haven *Palladium*, two representatives of the Lake Torpedo Company, the manufactory of which is located at Hartford, are engaged in experimenting with one of the company's torpedo boats. The boat is a comparatively recent invention, and the object of the experiments is to improve it in a variety of ways. The boat is made of sheet iron, is about 25 ft. in length and 18 inches in diameter, and is pointed at both ends. The motive power is a screw, propelled by an engine which derives its motion from the generation of gas. The course of the boat is directed from the shore or vessel from which it is sent by



SCENE IN THE BOHEA TEA DISTRICT OF CHINA.

fruits, and it is interesting to face the other way and behold hillside ranches in China. The time will doubtless come when our own hillsides, with their peerless climate and pure air, and their fitness for certain uses, will be peopled with an industrious and intelligent population. It is an end to be hoped for, and the tendency in that direction at the present time is worthy of all encouragement.

Two hundred Cherokees are assembled at Fort Gibson ready to attack the Creeks unless the latter surrender 13 Creek negroes who attacked a party of Cherokees and killed two of their number.

WHEN a school of black fish appears off a Cape Cod village, all rush to the capture, even though at church.

means of electricity, paying out wire for the transmission of the electricity as it advances. The explosive power is dynamite, of which 125 pounds are used in loading each boat. Boats of this kind have been sold to the Russian government and to the Peruvian government, and some are in course of construction for the United States government.

ODOR OF DINNER.—Most people do not care to inhale the odor of the vegetables which are being boiled for dinner; but in confined city houses it is not easy to prevent the evil. But now a scientific writer authoritatively says that a piece of bread about the size of a French billiard ball tied up in a linen bag and inserted in the pot with the greens will absorb all those gases which disseminate such insufferable odors.

COUNTRY HOUSEWIVES.

Our women on the farms often have entirely more to endure than their strength can bear. In her willingness to perform her whole duty as a housewife, woman frequently has no conception of the wear and tear of her strength and health until both are wrecked. Her work is never done, and from morning until night she labors with a steadiness and patience that make her unconscious of the flight of the moments, or of weariness, until she almost sinks from pure exhaustion. Of course there are duties and irksome duties, that must be performed, but a little thought and consideration upon the part of fathers, husbands, sons and brothers, will often make woman's work much lighter, and her heart more cheerful. Men are too apt to prove a positive nuisance about the house. They are thoughtless about little things. They increase the labors of the women without thinking that they are doing it, in a thousand ways and in things which are trivial in themselves, but which make a considerable aggregate.

Men are very liable, too, to neglect to speak words of encouragement to the women of their household. Even a horse loves to be encouraged. Men do better under praise and appreciation than under direct or indirect censure, and there is nothing that a woman loves better than to be told that her faithful efforts to please are successful. Some men seem to regard it as a weakness to speak kind words—to say that the dinner is excellent, that the wife looks nicely in her new dress, that her home is very neat, and that she is the best wife in all the world. But it is not weakness—it is one of the noblest virtues of manhood, and an analysis of the cause of the failure to do so will very likely demonstrate that the presumptuous man is silently, and perhaps unknown to himself, harboring the barbarous thought that the woman is his inferior.—*Western Rural*.

AN UNSCIENTIFIC HAT.—Miss Kate Field, discussing the fitness of hats for their purpose, has this to say of the tyranny of the "stove-pipe" in England: It is as much as a man's life is worth—in society—to wear aught but the regulation stove-pipe. There may be M. P.'s who dare to face the Speaker with billy-cock or soft-felt hat in hand, but I doubt it. The only man I ever heard of equal to such an amount of bravery is Joseph Cowen, the member for Newcastle and owner of the radical *Newcastle Chronicle*. He at all times has the courage of his opinions. Whether people agree with him or not, all admire his pluck, a pluck backed by brains. Joseph Cowen would be an orator were it not for a Northumberland burr which prevents him from being fully understood. "Very elegant speaker is Mr. Cowen," once exclaimed Lord Beaconsfield; "What a pity no one knows what he is talking about!" Cowen the Radical, wears a slouch hat, but I should no more expect to see Sir William Harcourt in such a covering than I should expect to see elephants in satin gowns. No one in England who is not a rough or a genius can afford to wear a slouch hat. Alfred Tennyson is rarely seen in anything else. Wilkie Collins and Charles Reade defy public opinion, but I firmly believe that even these men would wear stove-pipes were they daily subjected to the insinuating respectability of the House of Commons. Stove-pipes permeate the atmosphere and play an important part in the legislation. So greatly do they tyrannize over the British male that even Eton boys in jackets are swallowed up by them. Talk about woman's blind devotion to fashion! Did ever woman cling as fondly to crinoline as man clings to his stove-pipe? Never!

ON THE HALF SHELL.—Mr. K. M. Cunningham suggests a quick way of getting marine diatomaceæ: by taking a peck of fresh oysters and brushing the back of each into a basin of water, this process will give pleurosigma and eocinodisci in abundance.

DISOBEDIENCE—A FABLE FOR THE LITTLE ONES.

Away up a green, wooded ravine of one of the Coast Range mountains, on a small and secluded farm, lived a widow and her son.

Wandering idly about one day, the lad, whose name was Conrad, a bright child of some 12 summers, found a nest containing 15 pretty quail eggs. The nest was so cunningly hidden under the side of an old log in the tall grass, that Conrad would not have found it had not the mother, flying up at his approach, betrayed its hiding place. Taking the eggs up carefully, he carried them to his home, busily thinking the while what it would be best to do with so many pretty eggs. Suddenly the idea occurred to him, Why not put them under the old speckled hen, who wanted to set in the hen-house? This he did as soon as he had reached home and asked permission of his mother.

In a due course of time all the eggs but two were hatched out, and a more cunning brood of little fellows you never saw. A week passed, and the little quail were as pert as chickens twice their age. They ran so fast, and seemed so wild, that Conrad and his mother concluded it was not best to let them run at large, and that they would have to keep them shut up in the chicken-house until they became more domesticated. Another week went by, and still the little fellows were none the tamer.

One moonless night, when all the quail were hovered under the old speckled hen's wings, they suddenly heard a voice outside the hen-house, which said in croaking tones: "Come here, my pretty quail. I am thy friend, and do not wish to harm you. I have something of great importance that I wish to impart to thee. Pray, come you all to this large crevice in the wall, and listen while I speak." All the chickens in the hen-house gave vent to a cry of fear at sound of the stranger's voice, the voice of a recognized foe—a long, slim, scrawny and ravenous coyote, for he it was who had spoken.

The old speckled hen bade her young stay where they were. She knew the shrewd subtleness of Mr. Coyote, and was aware that she was obliged to be persistent and strenuously watchful to prevent his taking the life of herself and every quail. But the old hen's caution was in vain. They could not see any harm in listening to what the stranger had to say while there was a strong wall between them. So one by one they approached the crevice and listened.

"Are you all there?" quoth the stranger in a whisper.

"Yes! yes! yes!" was the answer chirped back by the disobedient quail.

"Tis well," said the stranger.

"Now, then, you all want your liberty, I know. Am I not right?" A chorus of "yes" was again the answer.

"Well, I will tell you how to get it, you have only to pretend you are tame. When the lad comes out to feed you in the morning, run around him and cry for food. Let him take you up in his hands if he wants to, and when the door is open do not try to get out. If in a few days the lad should let you out, just stay with the old hen and do not try to get away while he is around. But should he go into the house, then run in the tall grass and get away from the place as fast as you can. Come to the large white oak tree that stands in the ravine by the silvery cascade, and there you will find your parents awaiting you."

All this seemed quite possible to the little quail, so they thanked the stranger for his kindness, resolved to profit by their unknown friend's advice, despite the disapproval of their foster mother.

My little readers can best imagine how surprised but pleased was Conrad at the tameness of his little quail, when he went to feed them the following morning. They ate from his hand and played about him like little pets, never fearing him in the least. Conrad was so delighted that he ran for his mother to bring

her to witness the sudden change in the little birds. The following day effected no great change in the familiar disposition of the little creatures. They seemed to place such explicit confidence in their keeper that Conrad thought it a sin to keep them shut up in the close hen-house. So he went and asked his mother if he could not let them out for a little while. The widow thought they would not leave the hen. Accordingly old Speckle and her young were turned out about an hour before sunset, thinking they would return to roost with the rest of the fowls.

But alas! the willful little quail, in spite of the old hen's warning, made good their escape almost as soon as Conrad's back was turned.

Made good their escape? No! no! not so fair as that, for upon reaching the appointed white oak tree, they were met—not by their father and mother, but by their supposed friend, the coyote, who set upon and greedily devoured them.

Darkness came, but not so the little quail. In vain did Conrad call and hunt for them; and the old hen went sorrowfully to roost, childless. Thus 13 disobedient little quail, unmindful of their mother's warning, but heedful of the cunning and deceitful exhortations of a stranger, came to an early death.

A LITTLE LECTURE FOR BOYS.

The author of "Nuggets of Gold," writes to the boys as follows: "When a thrifty farmer's or mechanic's boy imbibes an ambition to do something other than what his father has made his money at, that ambition may be very well, and when his father strains a point to educate him for that something else, the education is surely very well, for it will qualify him for a better farmer or mechanic in case he does not succeed in the other thing. But when duly qualified for that higher calling, as he thinks it is, and when, wherever he goes for a situation, he finds a dozen applications for every vacant place that occurs, he should remember that his education has not necessarily unfitted him for the work that he has been trained to, or any other that he can get to do, and also that his life mission is to do something, and not to be wasting his time in an unavailing hunt for something that he thinks genteel and agreeable. And so of all the hordes of idle young men, who throng all the towns and cities vainly looking for certain classes of employment, I say retire from such unequal contest; start out—go somewhere and do something. There is something for you to do somewhere; go and find it. If you are not too good to do the work that you are looking for and cannot get, you are not too good to do the next best thing that you can get. There is no honest work that is not really respectable. Most of the wealthy men of this country commenced life upon work that you are in the habit of thinking too low for you to begin on. I think it is generally the case that those who are too good to do the work that comes along, and seems to be necessary for them to do, are never good for much of anything."

THE largest sheet of plate glass in the world has recently been out at the St. Gobain works in France. It measures 21.15 ft. by 13.48. It is 7-16 of an inch thick. It is white glass and weighs 1,573 lbs. The same works have turned out a silvered mirror 17.90 by 9.94 ft., weighing 770 lbs. The Jeumont works have produced a plate of white glass 17.81 by 11.51 ft., which weighs 1,100 pounds.

A LITTLE four-year-old was at one of our photograph studios having her picture taken. The artist said, "You must keep your mouth shut, my dear, and your eyes open," as the little miss showed a decided inclination to open her mouth and close her eyes. But on being instructed she braced up, and after a few minutes wonderingly asked, "Now what shall I do with my nose?"

SHOPPING.

Shopping is the art of wearying one's self in the attempt to find out what one does not want. The pleasant fiction obtains in certain fashionable circles that shopping is the labor attendant upon providing the children and madam with clothing and the house with furnishings. But no gentleman who has escorted a lady or two through a four-hour shopping tour and at the end carried as the net result six towels, a few handkerchiefs, a ribbon or two and 43 dress patterns, will care or dare to maintain that shopping is business. It is a woman's pastime. It is to her what a shooting match or a fishing excursion is to the average man. He does not hit the bull's-eye or catch the big fish to any great extent, but has the tramp, he gets tired and secures a good appetite for his dinner. In both cases it is not the result, but the pursuit that pleases. How much fun there is in ranging through a score of shops and pricing things that she has no intention of buying, in hunting for bargains that are never accepted when found and in allowing the imagination to clothe her in "purple and fine linen," at the cost of gingham and calico, no man ever has or will comprehend. A man is a nuisance to a shopping lady, and shopping is a nuisance to a man. Where the fun comes in he fails to understand. When he has occasion to buy anything he rushes into a store, asks for what he wants, inquires the price—to show that he is wide-awake—says "do it up," pays the money and is gone. She asks for the goods, feels of them in a knowing way, asks the price twice, the second time as though she felt sure she had misunderstood the first time, and immediately becomes convinced she can do better elsewhere, or begins to doubt whether it is what she wants. She rushes wildly into the next store, prices the same goods and finds them higher, goes to store after store, looking at other things that she thinks she may some time want, gets led off on false scents, and comes back to the first store, to find that all the goods she looked at in the morning are sold, and finally goes home with a few patterns and a paper of pins, without the goods that she came out in the morning fully intending to buy.—Chicago Alliance.

RESPIRATIVE POWER OF MARSH AND WATER PLANTS.—It is a well-known fact that these plants are able to thrive in media which contain little or no oxygen. They are all very poor in nitrogen, and E. Freyberg has shown, by a number of experiments, that this latter property accounts for the former. His investigations prove that the respirative power of plants varies with the amount of nitrogen they consume, and this, taken in conjunction with the fact that water plants contain large air chambers which do not often need refilling, accounts for their being able to exist in media which contain very little oxygen.

DRINKING BLOOD.—It is said that between 200 and 300 men and women of St. Louis drink daily from a half to a pint of blood piping hot from the veins of slaughtered cattle. More blood drinking by consumptives and aged persons is done in September and October than during the remainder of the year. The blood of young steers is the best, and should be caught as it comes from the animal, and should be drunk while the foam is still on and the steam rising. Consumptives are advised, in addition to drinking the blood, to sit in a slaughter-house for a couple of hours each day at killing time to inhale the "steam" of the running blood.

BONE GLASS.—After extracting phosphorus from bones, a glass can be formed from the residue which consists of lime and phosphoric acid, the ordinary kinds of glass being composed of sand and potash, soda, lime and alumina. Bone glass can be worked as readily as any other glass; it has the valuable property of not being attacked by fluorine acid.

THE IDEAL HOUSEKEEPER.

The St. Paul *Pioneer Press* gives news of industrial education that means a great deal to all whom it may concern:

"At the Iowa agricultural college every girl in the junior class has learned how to make good bread, weighing and measuring her ingredients; mixing, kneading, baking, and regulating her fire. Each has, also, been taught to make yeast, and biscuits, pies, puddings and cake of various kinds; how to cook a roast, broil a steak, and make a fragrant cup of coffee; how to stuff and roast a turkey, make oyster soup, prepare stock for other soups, steam and mash potatoes so that they will melt in the mouth, and, in short, to get up a first-class meal, combining both substantial and fancy dishes, in good style. Theory and practice have gone hand in hand. Vast stores of learning have been acquired in the arts of canning, preserving and pickling fruits, and lessons taken in all the details of household management, such as house furnishing, care of beds and bedding, washing and ironing, care of the sick, care of children, etc. The girls are also thoroughly grounded in science, mathematics and English literature; but this is of small account compared with the foregoing catalogue of virtues. If there is anything that commands the unlimited respect and devotion of the masculine mind it is ability in woman to order well her own household. Each one of these Iowa girls, it is safe to say, will marry within six weeks after graduation."

No one can blame the *Pioneer* editor for his enthusiasm about these girls, but he need not consign them to a matrimonial market quite so brisk as that, or intimate that a first-rate womanly training will lead especially to a scramble for marriage.

On the contrary, it ought to lead to a great deal of sound common sense and homely wisdom that will teach the young graduates to make haste slowly in all the great affairs of life.

But what a jolly good time they must have had learning to cook in such a place, where everything is bright, and sweet, and clean, and handy; plentiful, handsome and scientific! And not alone the joyful labor and fun of the lessons, but think of the eating! Each girl has her favorites among teachers and classmates, and to their end of the table will she smuggle her choicest dainties, and enjoy with them a "discussion" of her most perfect lessons. Professors of chemistry and hygiene will find delicious illustrations ready for each topic, and the table-talk alone ought to be almost a liberal education.

There is no doubt that these graduates in domestic science will carry reform right and left into the crude and dingy home kitchens, and "college notions" will become common property. We all want better, handier, handsomer kitchens. It is all nonsense to run a stove pipe through some forlorn old "lean-to," put in a few rusty kettles and smutty fry-pans, and wonder why the girls don't take to housework.—*Mary Mountain in Rural Press.*

SURE TO WIN.—The gentleman is sure to win, in this life of ours. If you speak the right word at the right time; if you are careful to leave people with a good impression; if you do not trespass on the rights of others; if you always think of others as well as yourself; if you do not put yourself unduly forward; if you do not forget the courtesies which belong to your position, you are quite sure to accomplish much in life which others with equal abilities will fail to do. This is where the race is not to the swift nor the battle to the strong. It is where you make people feel that you are unselfish and honorable, and truthful and sincere. This is what society is looking for in men, and it is astonishing how much men are able to win of self-respect, and success, and usefulness, who possess these qualities of good breeding.

A KANSAS weekly publishes "fourteen rules to be observed during a tornado." Only one is necessary: Be somewhere else.

PRAISE YOUR WIFE.

Praise your wife man, for pity's sake praise your wife when she deserves it. It won't injure her any, though it may frighten her some from its strangeness. If you wish to make and keep her happy, give her a loving word occasionally. If she takes pains to make you something pretty, don't take it with only:

"Yes, it is very pretty. Won't you hand me my paper?"

It will cost you only a moment's time to kiss her and tell her she is the best wife in town. You will find it to be a paying investment—one which will yield you a large return in increased care and willing labor for your comfort. Loving praise will lighten labor wonderfully, and it should be freely bestowed. A case in point:

I called on a friend one day and found her up to her eyes in work. "O dear," she said, "this is one of my days; everything goes wrong, and I haven't got a thing done."

"Let me help you," I said.

"No, no," she replied, gently pushing me into the sitting room, "I'm going to leave everything and rest a while; but I must just wipe up this slop first," pointing to an ugly spot which disfigured the pretty oil cloth.

Just as she stopped to do it her husband came in; he didn't see me, but went straight to his wife. One quick lift, and he placed her on her feet, and taking the cloth from her hand, wiped up the spot himself.

"There, busy-bee," he said, "you've done enough to-day. You tired yourself all out getting my favorite dinner. Now I think I'd leave the rest till to-morrow."

I spoke to him then, and he sat with me a few minutes before going down town. Shortly after my friend came in looking very much amused.

"I guess I was in the dumps," she said, laughing, "for I've finished; and everything has gone swimmingly since E. came in."—*Anna Edwards, in Rural New Yorker.*

PEDESTRIAN EXERCISE.—In pedestrian exercise for pleasure, sport, or health, much power may be saved by skillfully balancing the spine on the pelvis, and so adjusting and harmonizing the movements of the upper and lower extremities ("getting the swing" as it is called), that the force of gravity does a great part of the work. This is the great secret of the professional pedestrian, whose object is to economize strength, not to expend it. This art is easily acquired, and even a delicate lady, with a week's practice, can cover a distance which at first would seem impossible. But one of the first essentials of true exercise is resistance. There must be some obstacle to overcome, some weight to be lifted, if we would break down muscular tissue and build up with new material. This resistance, a moderate walk will never give. One must needs walk ten or twelve miles a day in order to get exercise enough to keep the body in a healthy condition. To accomplish this task requires from two to three hours. Aside from the benefit to be derived from the inhalation of fresh air, the same amount of exercise may be taken in twenty or thirty minutes by lowering and raising the body, alternately, flexing and extending the legs, by taking a short run, or by making a few excursions to the top of a seven-story building.

FIREPROOF PAPER.—To make a fire and water-proof paper, *Les Mondes* says: Mix one-third of ground asbestos fiber with two-thirds of paper paste in a solution of common salt and alum. Pass the mixture into a machine, plunge the paper thus made into a bath of dissolved gum lac and send it through the finishing rolls, when it may be cut into sheets. The salt and alum increase the strength of the paper and its resistance to the action of fire. The lac renders it impermeable to moisture, without interfering with its fitness for the reception of ink.

HOUSEKEEPERS' DRESSES.

"Such pieces as that do discourage me so," said Lynda, laying down the paper with an air which was a cross between a pout and a cry.

"What is the piece about?" asked Cousin Jane.

"Oh, it tells us young wives how sweetly and nicely we should dress from morning till night if we would keep our husbands' respect and love. Our hair must be arranged as it used to be on those evenings when he used to visit us before we were married. We must not forget the pretty ornaments we were so careful about then. He must never see us in soiled, rumpled dresses. Now, Jane, how can a woman keep herself so fine, hurrying as I do from one piece of hard work to another, from house to barn, now washing greasy kettles and pans, now churning and mixing bread and feeding chickens, digging potatoes and cleaning things for dinner. Do you suppose I can wear pink cambrics about such work, as I used to when I was a teacher, or that I can wear fine lace at my wrists, or can keep my hands as white and soft as they used to be?" and she looked rather regretfully on the brown fingers which were kept so busy all day.

"Of course, Lynda, you cannot carry out these directions in all particulars, with your line of work, as another woman might who had none of the drudgery of housework to attend to. But the idea holds good still. There are certain possibilities of neatness even with housework, which are a wonderful comfort to a woman and a pleasure to her household. For one item, always have something snow white about your neck, and don't think your gold pin too nice to fasten it with. This is very simple in itself, and it will not be much trouble to do up a half dozen every week, giving you a fresh one every morning. Get a neat print and trim it with a bright contrasting color. This gives a freshness and cheeriness to a dress that is always pleasant to the eye, and is no harder to iron than a dingy brown. A woman may look pretty even over the wash-tub, Lynda, if she will only stand before the glass five minutes when she dresses herself in the morning. Looking-glasses are a great blessing in a house, Lynda, you may depend upon it."—*Aunt Eva, in Farm and Fireside.*

WELCOME HOME.—In the mountains of Tyrol it is the custom of the women and children to come out when it is bed-time, sing their national songs until they hear their husbands, fathers and brothers answer them from the hills on their return home. On the shores of the Adriatic such a custom prevails. There the wives of the fishermen come down about sunset, and, singing the first stanza, they will listen awhile for answering melody from off the water, and continue to sing and listen till the well-known voice comes borne on the waters telling that the loved one is almost home. How sweet to the weary fisherman, as the shadows gather around him, must be the songs of the loved ones at home, that sing to cheer him; and how they strengthen and tighten the links that bind those humble dwellers by the sea.

PERFECT LOVE.—Holy and beautiful is the smile of fathomless and perfect love. Too seldom does it live; too seldom lighten heavy cares and earthly sorrows. Too seldom does it gladden hardened hearts, give refreshing dews to thirsty souls. Too seldom, indeed, does it have a birth. Too often does it soon leave life's pathway, even if fairly born and dearly welcomed there. On the other hand, as the preacher would say, the house of a man happily married is a paradise. He never leaves it without regret, never returns to it but with gladness. The friend of his soul, the wife of his bosom, welcomes his approach with a smile and a word that sends joy to his heart; and the longer he lingers in the atmosphere of her love, the more he desires to dwell there forever.

MRS. GASTON'S "DAY."

Mrs. Gaston was one of the cheeriest, liveliest, most hopeful little women that ever lived. But on this particular morning her brow was shaded by something that resembled a frown, her voice had lost its cheerful ring, and there was a mopishness about her movements that did not agree with her usual briskness. To tell the truth, Mrs. Gaston had an attack of the blues.

As soon as her daughter Maud, a bright girl of 12, had given her a good-bye kiss and started to school, and Mr. Gaston and their son were safely out of the way, Mrs. Gaston sat down on the edge of the bed, drew a letter from her pocket, and began to read. But the shade on her brow deepened, and the lines about the pleasant mouth increased, as her eye ran over the page. Then she folded the letter and said aloud: "It's too bad, anyway. I'm not envious, but it is hard to think that Ellen can have everything, while I must drudge and drudge, and have nothing after all. If we had only stayed in Boston, I believe we might have been well off to-day. Just to think of her presents on New Year's—a diamond ring and a silver tea set, and a piano for Mary! I don't want a silver set nor a diamond ring, but I do care for the children. What will they ever be, brought up in the society about here? And as for myself, I am just rusting out."

She sat for a long time with her hands folded in her lap and her countenance the picture of discontent, until, glancing at the clock, she saw it was time to prepare dinner. Getting up in a listless sort of way, she put the room in order and went to work at the dinner, all the while contrasting her humble three-roomed house, with its humble furniture, to her sister's stately mansion in Boston. True, that mansion stood on a very poor foundation, for Henry Graham, her sister's husband, was a wholesale liquor dealer, and by no means an abstainer himself. A very different man from John Gaston, for he was "almost a fanatic about temperance," the neighbors said.

Then, as she thought of the diamond ring, she glanced down at her own hard, stumpy, brown hands, and thought of Ellen's soft, white ones, and sighed again. But her eyes caught sight of the gold band on her finger. It was worn thin, but it was as bright as on the day when John had slipped it there and called her his queen. It was just like John—plain, and honest, and pure; and the sight of it led her back to the days when she and John were first wed.

He was then a book-keeper in the same store where Harry Graham was clerk. But the confinement of his position was wearing on his health. The doctor had said that a change must be made or he would soon be a consumptive. She remembered distinctly how she had urged him to sell out their stock of worldly goods and seek a home on the free wild prairie. John had objected at first to going. He knew what it meant to be a farmer in a new country, and was loth to take her away from kindred and society to bear the toils and privations of a poor farmer's wife. But the subject of his health was dearest to her heart, and she overruled every objection, and hopefully, bravely urged the change.

But somehow even this failed to comfort her this morning, and time after time she found herself sighing and wishing they were back in Boston.

A loud knock at the door startled her. She opened it quickly, and saw her nearest neighbor.

"Good morning, Mis. Gas'on."

"Good morning, Mr. Thomas. Walk in."

"I can't; I reckon my feet's too muddy," he replied, glancing down at his number tens in a questioning way. "I come over, Mis. Gas'on, to git ye to come over to our house a spell this afternoon."

"Is Mrs. Thomas or the children sick?" inquired Mrs. Gaston.

"Waal, no. You see the ole woman's kind o' down in the mouth.—Got discouraged like, and wants cheerin' up a bit; and you're just the one can do it," and a wan smile lit up the man's face as he glanced at Mrs. Gaston, whose heart palpitated faster as she thought what a poor condition of mind was hers to think of cheering up any one.

But she answered: "Well, I'll come over a while after dinner, Mr. Thomas."

"All right. Thankee. Pears like she's got onsatisfied or sumthin'."

"Oh, no, she hasn't," said Mrs. Gaston, cheerily. "She just wants to talk to some woman. We'll have a good chat. I'll go over as soon as I can, after dinner."

"That's the blesseddest little body that ever got into this yer country," soliloquized Mr. Thomas, as he trotted his angular nag over the smooth prairie road. "She never gits down in the mouth, I know she don't, 'cause there's never a wrinkle in her face, and her hair is never tumbled lookin', and she's allers got a collar on, and John Gaston allers looks like a 'squire instead of a farmer. Mighty high folks fur this country."

Somehow the idea of cheering up poor Mrs. Thomas, and the pleasant intercourse of the family while at dinner, went much towards restoring Mrs. Gaston's spirits, and setting things to rights again.

It was not the first time she had gone to Mrs. Thomas on a similar errand. They had been neighbors for some years, and to Mrs. Gaston's friendly counsel and helping hands they owed many of their comforts. Formerly, they had had no ambition beyond bare floors and dusty windows. Mrs. Gaston had suggested rag carpet, and even helped to make one. Then they had taken pattern from her own neat home, and had put forth an effort to make their own more attractive. Hanging baskets, winter bouquets and rustic frames, had found their way to these rude homes, and now adorned the once dingy, cobwebby walls.

It was like a gleam of sunshine crossing the threshold when Mrs. Gaston appeared before Mrs. Thomas that day. The sad look vanished as she said: "I'd rather see you comin' in than my mother. The sight of your face always does me good."

"Then I am glad I came. How nice your curtains look!" said Mrs. Gaston, glancing at the windows.

"Yes. I took your plan, and made them out of old sheets and things.—They look a heap better'n paper ones; but I reckon they'll need washin' 'bout every week," replied the woman, a flash of gratification lighting up her eyes.

"Oh, they're very little trouble to do up," said Mrs. Gaston. "Then they always look as nice as new when they're clean."

Then sitting down, Mrs. Gaston drew her knitting out of her pocket and commenced knitting away vigorously while she told Mrs. Thomas about the temperance society the young folks and old folks, too, were talking about forming. Then of Mrs. Tucker's new baby; and when everything else was exhausted, she told her about her sister's letter. Told in a way that made her listener think how wonderfully Mrs. Gaston was blessed in receiving such pleasant letters.

"You have given me a world of comfort," said Mrs. Thomas, as her visitor at length rose to go. "Somehow I always feel stronger after having talked with you."

"Do you? Well then we'll have many a good chat, won't we?"

As she walked briskly homeward, she wondered why her heart felt so full of joy, and how even the sunset clouds, which had grown purple and dark in the short twilight, were seemingly tinged with a soft beauty.

"It must be because spring is so near," she said half aloud, as she glanced over the wide prairie, which was already covered with greenish gray, a token that vegetation was beginning to spring up under the warm March sun.

That evening, as the family were all gathered around the cheerful fire, Mr. Gaston said:

"Mother, what do you think I heard neighbor Stines say to-day?"

"What was it?" asked Mrs. Gaston, while the children looked up from their books in questioning surprise.

"He said John Gaston's wife was the bravest, cheeriest, helpfulest woman in the neighborhood. That his wife would have been discouraged and gone back East long ago only for her. She was always on the bright side and never got the blues."

"We all knew that before, didn't we, mother?" said Maude, laying her head in her mother's lap.

But Mrs. Gaston did not reply. She was thinking of her "spell" of the morning, so she only stroked the bright young head and inwardly rejoiced that she had not betrayed herself to them.

"I believe mother's secret lies in this, she is always counting her blessings," said Mr. Gaston, smilingly.

But that night, in the quiet of their own room, Mrs. Gaston told her husband her experience of the morning.

"I was wishing myself back, John. I was envious of my sister's comforts, and in cherishing my envy, lost sight of you, of myself and God. I could not see any Providence in our being out here, deprived of society and friends. But I see now, and am satisfied to fill my appointed place, and God will see to it that our children fill theirs also."

COLOR CHANGING COMPOUNDS.

The double iodides of silver and mercury and of copper and mercury are perhaps the most remarkable known to chemists in respect to their color sensitiveness when exposed to moderate changes of temperature. They were first described and their peculiar properties pointed out by Meusel, a German chemist. The first is prepared by adding a solution of nitrate of silver to one of iodide of mercury, dissolved in iodide of potassium. The resulting precipitate has a lemon-yellow color, which becomes at once a deep orange when gently warmed, returning again to a bright yellow on cooling.

The copper-mercury iodide, which is still more remarkable, is prepared by adding to a warm solution of iodide of mercury in iodide of potassium some sulphate of copper and then sulphurous acid. The precipitate is a brilliant carmine-red salt which turns brown, and finally an intense black on being gently heated—returning again to carmine on cooling. These changes occur within the limits of 60° and 212° Fahr., and may be easily and strikingly exhibited as a lecture experiment, by mixing the precipitates with a little water (to which some mucilage may be added) and attaching a thin coating of each to a piece of card-board. A number of instructive experiments may be performed with them. A piece of slightly-heated metal, held for an instant in contact with the card, or close to it, will at once bring out an image of itself—a veritable heat-photograph. Many other striking experiments will suggest themselves to our chemical readers.

Messrs. Mayer and Barker have prepared the carmine salt as an application to pillow blocks and other parts of machinery liable to injurious heating, where it will exhibit its characteristic color changes to the eye should any excessive heating take place.

VASELINE.—Vaseline, or petroleum jelly, is one of the most useful substances for external use ever brought to the attention of the medical profession. Being neutral, bland and unchangeable, as a mere lubricant, or as a basis in the preparation of ointments and liniments, it deserves to supplant all animal fats and oils. And for the toilet, whether alone or in combination with aromatics, for the choicest pomades and soaps, it excels all other substances in elegance and exemption from injurious properties. —Sanitarian.

THE "RIGHT" SORT.—Opposition incites the ambitious man to new efforts. Large birds rise against the wind, not with it. A fine ship makes little progress in a dead calm. A stiff breeze purifies the atmosphere, supplying life-giving principles. Man never shows his latent force until opposition faces his darling schemes. Hardship is the native soil of manhood and self-reliance. He who cannot abide the storm with-

OFFICIAL STATISTICS OF U. S. RAILROADS.—According to the statistics issued under the direction of the Secretary of the Treasury there have been constructed in the United States since 1830, railroads that at the end of 1878 amounted to 81,818 miles of aggregate length. At the end of 1830 there were 23 miles of railroad in the country; at the end of 1878 there were 81,841 miles. The greatest number of miles con-

BERMUDA GRASS.

In order that those who have never seen the plant may learn its appearance and manner of growth, we reproduce from the Report of the Department of Agriculture an engraving and descriptive notes:

Bermuda grass (*Cynodon dactylon*) is a low, creeping, perennial grass, with abundant short leaves at the base, sparingly sending up slender, nearly leafless flower stalks, with three to five slender, diverging spikes at the summit. The flowers are arranged in a close row along one side of these spikes. The spikelets are one-flowered, with a short pedicelled rudiment of a second flower. The glumes are pointed, but without awns; the lower palea boat-shaped.

This grass is a native of Europe, and is abundantly naturalized in many other countries. It is said to be a common pasture grass in the West Indies. In the Southern States it has long been the chief reliance for pasture, and has been extravagantly praised by some, and cursed by others, who find it difficult to eradicate it when once established. Its properties have been very fully discussed in Southern journals, particularly in the "Manual of Grasses," by Mr. C. W. Howard, and in the "Grasses of Tennessee," by Prof. Killebrew. Mr. C. Mohr says: "It thrives in the arid, barren drift sands of the sea-shore, covering them by its long, creeping stems, whose deeply penetrating roots impart firmness to a soil which else would remain devoid of vegetation. It is esteemed one of the most valuable of our grasses, either in the pasture or cured as hay." Col. T. C. Howard, of Georgia, says: "The desideratum to the South is a grass that is perennial, nutritious, and adapted to the climate. While we have grasses and forage plants that do well when nursed, we have few that live and thrive here as in their native habitat. The Bermuda and Crab grasses are at home in the South. They not only live, but live in spite of neglect, and when petted and encouraged they make such grateful returns as astonish the benefactor."

It seems that it rarely ripens any seed, and the usual method of reproduction is to chop up the roots with a cutting-knife, sow them broadcast, and plow under shallow. Col. Lane says: "Upon our ordinary upland I have found no difficulty in destroying it by close cultivation in cotton for two years. It requires a few extra plowings to get the sod thoroughly broken to pieces." Prof. Killebrew writes: "In Louisiana, Texas, and the South generally, it is, and has been, the chief reliance for pasture for a long time, and the immense herds of cattle on the Southern prairies subsist principally on this food. It revels on sandy soils, and has been grown extensively on the sandy hills of Virginia and North and South Carolina. It is used extensively on the Southern rivers to hold the levees and the embankments of the roads. It will throw its runners over a rock six feet across, and soon hide it from view, or it will run down the sides of the steepest gully, and stop its washing. Hogs thrive upon its succulent roots, and horses and cattle upon its foliage. It has the capacity to withstand any amount of heat and drouth, and months that are so dry as to check the growth of Blue grass will only make the Bermuda greener and more thrifty."

A LADY once requested Rowland Hill to examine her son as a candidate for the ministry, remarking, "I am sure he has a talent, but it is hid in a napkin." At the close of the interview with the young man, Mr. Hill said, "Well, madam, I have shaken the napkin, and I cannot find the talent."

TO CLEAN VELVET.—When velvet has been wet and becomes spotted, hold the wrong side oversteam, and while damp draw the wrong side quickly over a warm iron. It takes two to do this—one to hold the bottom of the iron upward, and the second to draw the velvet across.



BERMUDA GRASS.—*Cynodon dactylon*.

out flinching, or fight for the right against the legions in opposition, is not made of the stuff that commands success. Fair weather men (those who prosper only in the sunshine and under a cloudless sky) must resign the leadership to those of sterner qualities, whom opposition strengthens, and whom the sight of the foe only nerves to brave and heroic deeds.

Bermuda grass is valuable to bind ditch banks and levees against the force of a current.

structed in any one year was in 1871, when 7,379 miles were added to the railroad system of the country. No year since 1865 has seen less than 1,000 miles built, and no year since 1849, with the exception of 1861, 1862 and 1864, whose contributions were respectively 651 miles, 834 miles and 738 miles. The only year in which more than 3,000 miles have been built were 1856, 3,642 miles; 1869, 4,615 miles; 1870, 6,070 miles; 1871, 7,379 miles; 1872, 5,878 miles; 1873, 4,107 miles.

THE OTHER SIDE.

"The words are good," I said; "I cannot doubt," I took my scissors then to cut them out. My darling seized my hand. "Take care!" she cried; "There is a picture on the other side!"

I fell to musing. We are too intent On gaining that to which our minds are bent: We choose, then fling the fragments far and wide, But spoil the picture on the other side.

A prize is offered. Others seek it too; But on we press, with only self in view. We gain our point and pause well satisfied: But, ah! the picture on the other side!

On this, a sound of revelry we hear; On that, a wail of mourning strikes the ear. On this, a carriage sounds, with groom and bride; A hearse is waiting on the other side.

We call it trash, we tread it roughly down, The thing which others might have deemed a crown; An infant's eye, anointed, sees the gold Where we, world-blinded, only brass behold.

We pluck a weed and fling it to the breeze; A flower of fairest hue another sees. We strike a chord with careless smile and jest, And break a heart-string in another's breast.

Tread soft and softer still as on you go, With eyes washed clear in Love's anointing glow; Life's page, well finished, turn it, satisfied, And lo! heaven's picture on the other side.

WAITING FOR THE COWS TO COME.

The farm-house wears a modest mien,
The dormer windows quaint and brown;
And through a tangled web of green
The spring-house roof goes sloping down.
A fragrance on the air sweeps by,
Of new-mown hay, all wet with dew;
And on the barn-roof, thatched with rye,
The pigeons softly light and coo.

The lambs upon the upland play.
The sunset spreads its rose-red glare;
The mountain ranges stretch away
Through dreamy paths of purple air.
Beside the bars, beyond the wood,
Within the mellow twilight gloam,
How oft, a bare-foot boy, I stood,
To wait until the cows came home!

The battle of my life I fought,
Far from the scenes of boyhood's time—
Yet even in my sleep I sought
To clasp a stronger hand than mine!
I heard again the thresher's flail,
And well remember sounds of home,
And watched the evening sunlight pale
While waiting for the cows to come.

RAGS, SACKS AND BOTTLES.

He wore a broad-rimmed hat, and his hair was long and his whiskers bushy. He was a small man, and drove a mule that was also small, and so old that the memory of its youth must have been the merest shadow. The wheels of the little old cart were so loose on the axles that they would get themselves into the most unaccountable positions, sometimes lurching so far to one side or the other that wreck seemed inevitable. On such occasions, which were always unexpected, the little man had to lean the other way.

"Rags, sacks, an' bot-tels!"

Whoa, Beauty! Wonder what this gentleman wants. Want to sell some rags, sir? No? Could I ride with him? No use stoppin' a fellow—a business man—fer sech a question ez thet. In dead earnest? Well, well, well! Ef thet didn't beat him all holler. A fine, dressed-up gentleman a-ridin' through the streets in sich a fake ez thet there cyart—why, the boys 'ud guy me me out'n my senses.

"Rags, sacks, an' bot-tels!"

Well, jump in, then, ef I would like to hev a lift. Mebbe I was tired o' walking.

"Rags, sacks, an' bot-tels!"

He had a curious assortment of wares in the cart; under his feet, under the board that served for a seat, everywhere, mixed and mingled; gunny-sacks filled with strange things; a box for bottles, and cups with the handles knocked off; fragments of looking-glass; dainty old shoes run back at the heels and burst at the toes (he imparted to me in strict confidence the name of the young lady who had worn them—a great society belle); riff-raff and scum of finery, flimsiness and poverty—a very curiosity

shop of exhausted economy and impatient extravagance gone to waste.

"Rags, sacks, an' bot-tels!"

It was the most doleful chant I ever heard. It employed but two notes, which he always struck with exact precision. There was no reference to a tuning-fork, nor clearing the throat, nor testing the vocal organs by running up and down the scale. The burden of the chant was on the key-note, the only variation being the dropping to the fourth on the first syllable of "bottles," and then resuming the old position in the scale on the last syllable. This gave the word a strange sound, and I did not recognize it; so I inquired its meaning.

"Bottles," he replied, looking surprised and somewhat contemptuous.

There were ale bottles and whisky bottles, a bottle the baby had used, bottles from the Rhine and Bordeaux, square bottles and round bottles, long bottles and short bottles, bottles of every nationality and pedigree, lean bottles and fat bottles, bottles with druggists' labels and bottles without labels, dirty bottles and clean bottles—a ragged and hungry army of bottles that had been through many struggles, and that were destined for many more; bottles of strong principles, and bottles whose characters were so frail that they would crumble under the least touch of calumny or adversity—the fag end of all the disreputable bottles in creation.

"Rags, sacks, an' bot-tels!"

I noticed his keen little eyes carefully and rapidly scanning upper-story windows, throwing a quick glance into alleys leading into back yards; and the comprehensive look with which he regarded a clothes-line, with its burden fluttering in the wind, conveyed whole volumes of analytical discrimination.

Whoa, Beauty! He had caught a signal from a back stair, given by an untidily dressed, though good-looking matron. Beauty came so suddenly to a dead halt that the cart wheels, which had been running peacefully along at a considerable inclination to one side, lurched over to the other, as if they wanted to rest themselves by standing on the other leg, and threw me violently against the little man.

"The streets," he said, in an apologetic tone, "is skimpy like, an' yer can't jess calkilate when you're a-runnin' a-foul of a rut."

The good soul! It was the crazy old cart that was at fault; but he would hide its infirmities, even at the expense of truth.

"Will yer set in the cyart," he said, "an' hol' Beauty 'gainst I come back? She's mostly purty gentle, an' moun't run away; but she gets lively'n strong at times, an' hez notions of her own, jess like a woman."

Beauty run away! Why, I have no idea such a thought had found place under her thick old skull for a quarter of a century.

As I awaited the return of the little man, my attention fell upon the patient and decrepit disguise of anatomy that stood so quiet in the patched and spliced shafts of the cart; and I could not help thinking that Beauty was made entirely of rags, sacks and bottles. Her brown hide, patched and torn, and covered with the filth of the stable where she had lain, looked more like a sack than anything I had seen before. I was sure her ears were the dilapidated shoes of some broken down song-and-dance man, whose trumphy had gone to the rag-picker. I speculated considerably on what the old sack was stuffed with, and was forced to the conclusion that the great prominences all over her emaciated body were bottles; that the jagged ridge along the back was propped up by soda-water bottles, with the necks broken off; and there was no doubt in my mind that the lumps at the hips were Dutch bottles that were cracked, and fit for no other use. What kind of rags was Beauty stuffed with? A problem. But I thought the poor old stomach contained only rags that the junk dealer had refused—such as half-wool stockings, worn out at the heels and toes; old red-flannel rags, and rags that were mildewed and rotten; rags that had been rags for three generations, and sold because a stitch would no longer hold them together. Ah! but what kind of a soul had Beauty? Was it, too,

made of rags, sacks and bottles?—or was it woven of fine white thread? I think not the latter, but rather that it was composed of rags that had served for blisters, poultices and ointments; rags from which all life and color had faded, leaving them blank, but white, for all that; rags that had felt all the privations to which rags can be subjected, that had been torn and tattered by the winds, left uncleaned all their natural lives, and that the rats and mice had eventually stuffed away in damp and dismal places to make nests of; rags that had served as handkerchiefs to conceal a sigh, or brush away a tear. There were sacks in the soul, too—empty dreams of emptier oat-sacks; and bottles in which flowers had been put and left to wither when the water dried up.

"Rags, sacks an' bot-tels!"

The little man came out of the gate, lugging a sack full of rags and bottles. He deposited his burden in the cart, opened the sack, peered into it, buried his arm in its contents, and fetched up an empty bottle. This he deposited in the box, and repeated the operation until he had taken out all the bottles, leaving only the rags.

"Are rags dear?" I asked.

"Oh," he replied, with a shrug, "a business man can't growl about trifles, you know. Them rags'll weigh 'bout 10 pounds."

"How much did they cost you?"

"Well, yer see, people wants all the money they kin git. Them people in there's mighty close." And he added, with a knowing look, "There's queer stories about 'em. An' then, times is purty close. They wanted 25 cents for 'em, an' kinder stuck to it like; but I warn't on the buy thet strong, an' when I got 'em down to 15 cents, I tuck 'em."

As we jogged down the street, he continued his cry:

"Rags, sacks an' bot-tels!"

The house from which we had just made the purchase was apparently that of well-to-do people. There was neatly trimmed shrubbery in the garden, a smooth grass-plat and flowers. The handle of the door-bell was silver-plated. My fancy clung to that house, with its slovenly matron, stood upon the door-step, on which was a mat bearing the word "Welcome," turned the handle and entered. Then I found a rug at every door, but they were all woven of rags. There were rag carpets everywhere. Underneath the spotless white bed-spreads were quilts made of odd bits of cloth and rags from unimaginable sources. I was so disheartened in the search for something new and fresh and whole, that was hidden from outer sight, that I went down into the hearts of these people to find, perchance, a single thing that was not torn and tattered and empty; but a great night-mare there confronted me. It was a scare-crow, dressed in rags that it had worn so long they were falling off by piecemeal, exposing a frame that was warped and awry; that was split where the nails had been driven into it, and that was tied up with odds and ends of strings and leather thongs cut from old boot legs. Terrified with the spectacle, I hid myself in the innermost closet of that slovenly matron's (the mother's) heart, and there I was blinded by cobwebs and choked by dust. I stumbled upon a heap of ashes in a very dark corner. They enveloped me in a cloud. I was suffocating and gasping for breath, when I was borne down into the ashes by a heap of rags, sacks and bottles that fell from above and crushed me with the weight of a mountain. Struggling madly, I fought my way out. I gained the top of the mountain and clambered down the side. I fell over something as I turned to leave. The darkness was oppressive, the dust suffocating. I felt at my feet in the utter blackness, and found, grinning, and ghastly, all dry, and parched, and shriveled, and whitened—a skeleton.

"Rags, sacks an' bot-tels!"

We did a driving trade that day. All the rags, sacks, and bottles in the town seemed to flock to us as to a haven of rest; for they must have known that a great future was opening up before them, in which purified and transformed,

they would come to occupy higher positions in life, and serve nobler purposes. But we drove terribly hard bargains, and sometimes exhibited a meagerness of soul that was contemptible. It must be understood that we could not avoid this; for did we not have at home five or six little empty, tow-head bottles, that had to be filled so often? Did we not have five or six little bundles of rags that would shiver, and that had to be kept warm? And we loved them, even if people did say we were mean and hard-hearted; even if dogs did growl at us; even if we were cursed, and kicked, and driven out of back yards, drenched with dirty water the kitchen-maid had thrown upon us. But this occurred only once, and then there happened to be a silver spoon in the bottom of the dish-pan. It struck us scornfully, and fell to the ground, and we very slyly and very quietly put it in our pocket.

"Rags, sacks, an' bot-tels!"

The day's work was finally done, and the little man turned Beauty's head homeward. His business-like look went out, giving place to one of sadness and anxiety.

"My little girl is very sick," he said.

"Ah!"

"Yes, very sick. Most afeared she won't live long."

I accompanied him home. His house was a miserable hovel, with neither floor nor chimney. The furniture consisted of a broken table, an old chair, and a quantity of rags spread in the corner for a bed. The little man approached the bed, and, with womanly tenderness, stooped down and kissed a little bundle of rags almost buried in the pile.

"How is my little Mag?"

A wan, thin face smiled and a weak voice replied, as two emaciated little arms sought his neck:

"Oh, papa, I'm so glad you've come. Give me some water, papa."

The little man held up her head, and she eagerly swallowed some water from a broken bottle.

"I've been so lonesome, papa—so lonesome. They all went away and left me, and a great big rat got on the bed."

"Where is the mother?" I asked.

"Dead," he replied.

I approached the little sufferer, took her tiny hands in mine, and found them cold. I kissed her forehead and lips, and found them hot. An indefinable horror was stealing over me, as if I stood in the presence of something invisible that was repulsive to nature.

"Papa," she said, "did you bring me any pretty rags?"

"Lots of 'em, Mag, lots of 'em. Whole heaps of 'em."

"Let me see 'em, papa. And—and will you make me a pretty rag doll?" she asked me, tantalizingly. "Papa can't make 'em as pretty as I can, and I am so weak I can't make 'em any more."

Her poor eyes sparkled as I rummaged the sacks for the finest and brightest rags, and made them into a very princess of rag dolls. She clasped it to her breast and kissed it again and again, and laughed some, and cried some, and called it pet names, and said it was the prettiest doll she ever saw. Then she kissed me, and laughed and cried again. I asked her if she wanted something nice to eat, for I was prompted to this by the dreadful feeling that I could not understand. She shook her little flaxen head slowly, but sadly.

"Wouldn't you like a nice, big, round orange?"

A great, hungry eagerness came into her eyes, and the pale little face slightly colored.

"Oh!" she said, "an orange; I never tasted but one."

Somehow my eyes became so dim that I turned away, and discovered the rag-picker quietly crying. Then the truth came upon me, and overpowered me. There lay before me, on the bed of rags, a human being, drifting away. While church spires pointed proudly to heaven; while there were people in the world with generous but ignorant impulses; in the broad light

of day, when the birds were singing, and the sun shining brightly; in the fullness of time, and by the grace of God; at the very footstool of the throne in heaven, lay that little mortal dying—of what? *Starvation.*

Was I already too late? I rushed from the hovel, stunned and staggering, looking for life; and, ringing in my ears, rousing every energy, was the solemn, funeral, heart-breaking cry:

"Rags, sacks, an' bot-tels!"

That was 10 years ago. The little man and Beauty have long since passed away. My ward has just grown into lovely womanhood, pale, thoughtful, beautiful. I cannot imagine why the other boarders look at each other and smile when I kiss Mag "good night," and when she turns at the door and throws me a kiss, with her eyes full of pure affection. But, somehow, the world is brighter than it used to be. I am greatly mortified to find a few gray hairs in my head, for I am afraid people will think I am getting old. I am told that I am much more careful with my dress than I was a few years ago. I am sure I feel younger than I did 10 years ago. Those are very meddlesome boarders, and, comparing them with Mag, I care no more for them than for so many rags, sacks and bottles.—*W. C. Morrow in Californian for August.*

A WIFE'S MESSENGER.—Joseph Stewart, of Cohoes, is convivial by nature and occasionally so in practice. Joseph is married and has a wife whom he loves, but she has a rival in Joseph's affections in the shape of a beautiful mare that Joseph owns, and of which he has made a great pet. Now the mare is never easy unless when in company with her lord and master, and, from long companionship, is acquainted with Joseph's haunts, and if left alone will follow him like a dog. Now, last night Joseph was out with some friends canvassing the probable result of the Chicago convention, and the party were enjoying themselves in a saloon. Joseph, knowing his favorite mare was safely housed in her stall, and fancying his wife in bed and asleep, did not dream of any interruption to his pleasure. When midnight came, however, the party were astounded by the appearance of the mare in the open doorway, and the animal, stretching her head forward in the direction of her master, whinnied in a manner which seemed to say plainly, "Joe, it is time you were at home." An instant later the knowing animal repeated the summons, and was about to step inside, when Joe said, "Boys, it is my mare and I have got to go; but I would like to know how she got out," saying which he departed, the faithful beast following, with her nose over her master's shoulder. Mrs. Stewart, who jumped into bed just as her husband opened the front door, and who was chuckling inwardly, might have explained how the mare got loose; and Joe guesses, but he don't say much.—*Troy Times.*

A BAREFOOT BRIDEGROOM.—About 20 years ago a young fellow named Johnson, in the wilds of the Cheat mountains, in West Virginia, made up his mind to get married. "But you have not a penny," remonstrated his friends. "I have two hands. A man was given two hands—one to scratch for himself, and the other for his wife," he said. On the day of the wedding Johnson appeared in a whole coat and trousers, but barefooted. "This is hardly decent," said the clergyman. "I will lend you a pair of shoes." "No," said Johnson. "When I can buy shoes I will wear them—not before." And he stood up to be married without any thought of his feet.

A COLORED banker, much alarmed by the failure of several other banks in his neighborhood, closed his own establishment. A man knocked at the barred door. "Who's dar?" cried the banker. "Open the door!" called the man. "Dis bank's closed," remarked the banker. "Don't care whether the bank's closed or not," cried the stranger. "I left a pair of new boots here yesterday and I want them." Presently the door was thrust partly open and one boot pushed out, with the remark: "We is only payin' 50 cents on the dollar to-day."

DOMESTIC RECIPES.

CHICKEN RISsoles.—Mince or chop very finely some remnants of roast or boiled fowl free from skin; add an equal quantity of ham or tongue, as well as a small quantity of truffles all finely minced; toss the whole in a saucepan with a piece of butter, mixed with a pinch of flour; add pepper, salt and nutmeg to taste, as well as a little minced parsley; stir in off the fire the yolks of one or two eggs beaten up with a few drops of lemon juice, and lay the mixture on a plate to cool. Make a paste with some flour, a little water, two eggs, a pinch of salt, and two or three of sugar; roll it out to the thickness of a penny piece, stamp it out in round pieces three inches in diameter; put a piece of the above mince on each, then fold them up, fastening the edges by moistening them with water. Trim the rissoles neatly with a fluted cutter, dip each one in beaten-up egg, and fry a golden color in hot lard.

CURRENT JELLY.—Now that the jelly season is at hand, I will offer my way of making it, which at least saves the hands and makes the work easier. I look over my currants the same as usual, and put them on to boil. When ready for squeezing, I put them in a bag and let them hang over an earthen dish (do not use tin, as it discolors the juice) over night. The next morning, if your bag is not made of too thick material, you will find your juice all dripped out and ready for your sugar, etc. You will find it a little nicer to point your bag at the bottom, as then the juice will only run out of one portion of the bag. I have only tried this with currants, but have no doubt but it would work well with any fruit that jells.—*G. H. F., in Rural Press.*

RASPBERRY VINEGAR.—Mash three quarts of ripe raspberries and put them in a stone jar with a quart of good, pure cider vinegar; place in the sun all day and in the cellar all night; stir occasionally, and in the morning strain off the juice and add to it as many freshly mashed berries as there were at first; place again in the sun; in 24 hours strain off the juice a second time; mix this liquid with four lbs. of loaf sugar and boil for 15 minutes; skim, and strain, and bottle while hot; soak new corks in hot water, drive them well into the bottles and cut off even; dip the tops of the bottles in hot cement, lay them on their sides in sawdust, and keep in a dark place; mix the vinegar with ice water to form a cool and refreshing drink.

REMOVING HARD PUTTY.—Hard putty, it is said, can be removed from a window-sash with great readiness by simply applying a piece of heated metal, such as a soldering iron or other similar instrument. When heated—but not red-hot—the iron is to be passed slowly over the putty, which is thereby rendered so soft as to be easily parted from the wood.

PICKLING CUCUMBERS.—To make them keep firm and brittle through the year, steep in strong brine for a week; then pour it off, heat it to boiling, and pour it over the cucumbers. In 24 hours drain on a cloth, pack in wide-mouth bottles, fill these with strong hot pickling vinegar, and seal at once. Various spices are added in the bottles.

TO TAKE MARKING INK OUT OF LINEN.—A saturated solution of cyanuret of potassium, applied with a camel's-hair brush. After the marking ink disappears, the linen should be well washed in cold water. It must be remembered that this compound of potassium is rank poison, and must be handled with great care.

ALMOND PASTRY.—Pound three ounces of almonds, one-quarter lb. of butter, two ounces of loaf sugar, with a little rose-water until it becomes a thick paste. Spread it on a buttered tin, bake it in a slow oven. When cold divide into eight pieces, put a spoonful of preserves on each piece and cover with whipped cream.

LITTLE LAME JIMMY.

"All the children can soon be earning money enough for themselves but poor, little lame Jimmy," said the widow Wickly, wiping the tears from her eyes with the corner of her apron, as she sat talking to a neighbor, some three weeks after the funeral of her poor husband, who was killed by falling from a building on which he was working one hot day. "Every one of them are strong but Jimmy, but he'll never be able to help himself."

Jimmy was sitting outside of his window, feeding his big black billy-goat.

"Mammy is mistaken there," he said to himself. "You won't catch me sitting down idle because one of my legs is shorter than the other. I'll show them. I'll make as much money as any of them before I'm done. 'Where there's a will there's a way,' poor daddy used to say, and I've got the will."

And Jimmy set his little brains to work without saying a word to any one.

Tom was apprenticed to a carpenter. Sam went to learn the hatter's trade. Benny was taken into Mr. G——'s office to mind the fires, run of errands, and clean the windows. And when they were all settled, little Jimmy went poking about the house and cellar, hunting up all sorts of old pots and kettles, and soon surprised his mother by asking her to give him the big silver half-dollar that she had saved up for him ever since it was given to him a year before.

"It's not for nothing, mammy," he said. "Indeed it isn't. I'm going into business with it."

And, indeed, half an hour from that time, Jimmy, with a tin kettle in his little goat-cart, was going from door to door, not selling, but buying something. And what do you think that something was? A very queer thing, you will say. Fat!

"Fat!" he kept calling. "Soap fat! soap fat!"

People looked out of their basement windows and said to themselves, "What a little soap-fat boy;" and Jimmy was very careful to give a good price for what they sold him. He had watched the old soap-fat man, and knew what he ought to pay. And when his little kettle was full he went home, stopping at the drug-gist's to buy some potash with the money he had left. Jimmy, as you may suppose, was going to make soft soap. He had seen it done, and knew how very well.

And now he went to work in the yard at the back of the house, and certainly the smell that arose was not pleasant, and soap-making is dirty work. But at last Jimmy crowed with joy, for there was a great kettle full of the nicest soft soap you ever saw in your life. He gave some to his mother, who said it was "splendid."

On the next day out came the little goat-cart again, and what the little fellow cried this time was "Soft soap." Everybody bought of him. He sold his soap very soon, and he made a little profit on it. It wasn't much, but it encouraged him. Day after day he made his soap and sold it, and after a while he tried some hard soap. By this time his mother had begun to think her lame Jimmy the smartest boy she had; and the children in the neighborhood were all interested in his work, and he had plenty of help with his kettles, if he wanted it.

The hard soap was a success—there could be no doubt of that—and more profitable than the soft soap, and it was not long before he really made \$2 every week, which was not bad for a little lame boy only 12 years old.

For six months Jimmy kept at his hard work, and was all the better for his long walk every day, and at the end of this time a great piece of good luck happened to him. A nice old lady, who had often watched him from the window, called him in and asked him all about his work, and when he had told her who he was and all about himself, she patted him on the

head, and said that her son was a large manufacturer of soap, candles and perfumes, and that he should teach him how to do everything in that line.

"My son does whatever I ask him," said the old lady. "He was a good boy to me, as you are to your mother, and we are rich enough to do a kindness."

The next day a stout, middle-aged gentleman came to the poor widow's cabin and talked to her. He promised to teach Jimmy his trade, and said he would be useful enough from the first to earn \$3 a week; and you may imagine that the widow was pleased. Jimmy was delighted. He went regularly to the factory, and learnt his trade very fast. Before long he made good wages, and at 18 he began business for himself on a larger scale than before, and prospered so well that to-day he is one of the richest men in his town.

Old Mrs. Wickly is not obliged to work for her own living now. She dresses as well as any one, and is mistress of a fine, substantial house, and she often says to her friends when they call to see her:

"My boys are all good boys, and have all prospered, but none has been so smart, or got along so well, as little lame Jimmy, that I never thought would be able to earn a penny for himself in all his life."

THE JAMIN ELECTRIC LAMP.—Lately one of the most interesting of the many recent trials of the electric light, says the *Universal Engineer*, took place at the laboratory of the French Electric Lighting Company in Paris, the object being to test the efficiency of the improved apparatus designed by Prof. Jamin. A large and distinguished gathering of ministers and notables connected with science, industry and public works were present on the occasion. After having described his new lamp, and explained its method of working, the inventor proceeded to show, by various experiments, that by its means the following results could be obtained: The whole of the lamps placed on the same circuit may be lighted and extinguished as often as required. Each lamp contains three or more candles, each formed by two rods of carbon 12-100 in. thick, one of which, were it not retained by means of a brass clip, would be pressed back by a spring, so as to interrupt the electric current which forms the arc. When the candle has burnt to the end, the current consumes the brass clip, the carbon rods are separated by the spring, and the arc is transferred to one of the adjoining candles. By this means the light can be kept up for an almost unlimited time. The lighting and relighting of the lamps is effected instantaneously by means of automatic mechanism, and if one of them should by any accident become extinguished, the others are not in any way affected thereby, but continue to burn with undiminished brilliancy. The light, which is well divided, is capable of being regulated at will, from the soft light of a chamber lamp or night light to that of the full power of the lamp. The electric current can be conducted to a distance of 2½ miles from the electric source by means of a copper wire 1-25 of an in. in diameter, and as far as 10 miles by a wire double that thickness. The experiments made at the trial referred to satisfactorily proved the steadiness of the light obtainable with the Jamin lamp. With respect to the cost of working, it was stated by the inventor that each lamp would require only one-half the power which is necessary to maintain the electric candles extending from the Place de l'Opera to the Place du Theater Francais, in Paris, and careful experiments have demonstrated that this system is capable of effecting a saving of one-third, or at least a quarter, as compared with illumination by means of gas. The results of the experiments were eminently satisfactory, and it is proposed to submit to public trial a system which seems to promise to solve the important problem of furnishing a really cheap and manageable method of illumination suitable for factories and other large establishments and towns.

TEA CULTURE IN THE UNITED STATES.

By the efforts of Gen. Le Duc, Commissioner of Agriculture, tea culture in this country is coming upon a more promising commercial basis than ever before. The distribution of tea-plants from Washington has proceeded for a number of years and small samples of tea have been made in California and in some of the Southern States. There has been so much talk about tea and so little sewing-circle timber really produced that tea culture as an industry for this country has been looked upon by many as a sort of an industrial chimera. Since Gen. Le Duc has taken the subject in hand it must be acknowledged that tea growing has assumed more features of practicality.

We have just received from the East reports of an interview between a newspaper writer and the Commissioner of Agriculture upon the return of the latter from a visit to the tea plantations in the Southern States; and to illustrate the interesting statements which we have to make, we give an engraving of a young plant, leaf, stem and roots.

In his review of the history of tea growing in this country, Gen. Le Duc said that probably the largest number of plants collected by any one person are those collected by a Dr. Jones in Liberty county, Georgia, near Savannah, who some time before the rebellion undertook to raise a number of plants with a view of making tea. His plantation was practically abandoned, and after the war his daughter, Mrs. Scraven, prepared tea in a rude way from leaves picked from the old trees, of which there were at the beginning of this year 300 or 400 growing wild in the edge of a forest, the seeds falling from which, scattered through the brush, had grown into quite an extended thicket, from which Mrs. Scraven was in the habit of selling plants and seed to those persons who wished to purchase. When, as Commissioner of Agriculture, I wished to promote the cultivation and manufacture of tea in this country, with a view of supplying our people with home-raised tea, and thus decreasing the importation of the article, I purchased from Mrs. Scraven plants and seeds for distribution, and I scattered these throughout the South, and we are now reaping the reward of this effort by learning from the growth and condition of these plants the soils and climates best fitted for the production of this necessary article. It is unnecessary to go into details at this time, and I will simply say that by great good fortune a Mr. John Jackson, who had for 15 years been cultivating tea in Assam, India, traveling in this country last spring, had his attention drawn to my efforts tending to encourage the cultivation of tea, and entered into correspondence with the department and visited me at Washington. The result was that Mr. Jackson took a trip through the South, visiting the various localities in which the tea-plant was growing, and was so entirely satisfied with the prospect of successful and profitable cultivation that he purchased the plantation of Mrs. Scraven, and commenced to establish a tea garden with the assurance that the department would aid him by all proper means. Mr. Jackson employed a large force of negro labor, put up some necessary houses, and has already 160,000 plants growing in 50 acres, which he proposes to increase to several hundred acres as rapidly as he can obtain proper seeds or plants. After some earnest solicitation, and with the untiring effort of Hon. D. Wyatt Aiken, member of the House for South Carolina, a small appropriation was obtained from Congress in aid of this industry. I have but a short time since returned from an examination, assisted by Mr. Jackson, of a large area of South Carolina, in which are found many locations in which the soil and climate were pronounced by Mr. Jackson as exceedingly favorable for the production of the tea plant. This preliminary examination showed more land suitable for tea culture in the belt of country about 40 or 50 miles back from the

coast, the best land being mostly situated in that portion which is regarded unhealthy for white people during the summer months, but not particularly unhealthy for the negro, who seems to live and thrive unharmed by the malarial atmosphere of the rich lands of that section. Mr. Jackson assures me that there is no better soil for the plant in those parts of India with which he is familiar, and which has

department of a little treatise upon tea culture and manufacture. But no tea has been made of a commercial character until Mr. Jackson this spring commenced to manufacture tea in proper form, and sent it to the department as an evidence of what could be done, even with the old and neglected plants he had purchased with the Jones plantation. These teas are undistinguishable from the finest qualities of Indian teas on

tion of seeds and plants to capitalists who are willing to undertake this new industry.

The cost of producing tea in the South, according to the testimony of Mr. Jackson, will be from 15 to 20 cents per lb., and the wholesale price offered in New York is 40 to 50 cents, and in London from 50 to 70 cents per lb. The teas heretofore manufactured and submitted to New York and London houses to ascertain their value were of the English breakfast sort, which are not so much used in this country as in London, where they are largely used for mixing with inferior teas to raise the grade. Mr. Jackson assures me that one negro in the South is worth more than two of the best coolies in India. When you reflect that the Indian laborer uses only the hoe for cultivating the ground, and that in America the work is quicker and better done by the improved machinery everywhere in use with us, it can be readily understood that we have but little to fear when we come into competition with the cheap labor of Asia or any other country.



TEA PLANT ONE YEAR FROM SEED, AS GROWN IN JAPAN.

proved so great a source of profit to the English and Scotch tea companies.

For a number of years persons throughout the South owning one or more tea plants have made tea as best they knew how, but in a very crude fashion, bruising the leaves and drying them in a Dutch oven or even in the sun, and storing them away as a family supply of the fragrant herb, which they pronounced better than any they could purchase at the stores. Notably, this has been done in the last two years, or since the publication and circulation by the

the market, and have been pronounced by the best tea-experts in this country and in London to be of superior quality and flavor. The prices offered for them are eminently satisfactory to the producer. There would seem to be nothing wanting now to secure a fair start toward the accomplishment of the object I have had in view, namely, the production of our own tea, but the continuation of well-directed efforts on the part of our Government to show our people a model tea-farm and to offer such encouragement as the Government can properly give by the distribu-

EXPLOSION OF TOUGHENED GLASS.—A correspondent of the London *Nature* writes from Sonninghill, Eng., under date of July 7th, as follows: The night before last a lady of my family emptied a paper powder composed of seven and one-half grains of carbonate of potash and seven and one-half grains of carbonate of soda into a tumbler of what is called toughened glass less than half full of cold water. After stirring the mixture she drank the contents, leaving a silver teaspoon in the tumbler, and then placed the empty tumbler on the table by her side, within perhaps a foot of a burning duplex lamp. About five minutes afterwards a sharp explosion occurred, which startled all in the room. We found the tumbler shattered into fragments, the body of the glass ripped up, as it were, into several large, irregular-curved pieces, and the bottom of the tumbler broken into small pieces more resembling thick rough ice than anything else. Query: Was the explosion caused by the inherent properties of the toughened glass, or by the contact of potash, soda, the silver spoon and proximity to a lamp, the heat from which was very slight, indeed scarcely perceptible to the hand at the spot where the tumbler stood? The accident might have been very serious, for pieces of the glass flew to within a very few inches of the lady's face. A solution of the cause of the explosion is therefore of considerable importance to all who may have occasion to use vessels of this peculiar glass.

THE HUMAN FIGURE.—The proportions of the human figure are six times the length of the feet, whether the form is slender or plump, the rule holds good, any deviation from it is a department from the highest beauty in proportion. The Greeks make all their statues according to this rule. The face, from the highest point of the forehead, where the hair begins, to the chin is one-tenth of the whole stature. The hand, from the wrist to the middle finger is the same. From the top of the chest to the highest point of the forehead, is a seventh. If the face, from the roots of the chin, be divided into three equal parts, the first division determines the place where the eye-brows meet, and the second the nostrils. The height, from the feet to the top of the head, is the distance from the extremity of the fingers when the arms are extended.

SCHOOL teacher to little boy whose father is a grocer.—"Now Johnny, if your father has a barrel of whisky containing 40 gallons and $\frac{1}{4}$ of it leaks out, how many gallons does he lose?" Johnny—"He don't lose none. He fills it up again right off."

"SIR," said an astonished landlady to a traveler who had sent his cup forward for the seventh time, "you must be very fond of coffee." "Yes madam, I am," he replied, "or I should never have drank so much water to get a little."

BREAD-MAKING IN SPAIN.

The bread in the south of Spain is delicious; it is as white as snow, close as cake, and yet very light; the flour is most admirable, for the wheat is good and pure, and the bread well kneaded. The way they make this bread is as follows: From large, long panniers filled with wheat, they take out a handful at a time, sorting it most carefully and expeditiously, and throwing every defective grain into another basket. This done, the wheat is ground between two circular stones, as it was ground in Egypt 2,000 years ago, the requisite rotary motion being given by a blindfolded mule, which passes around and around with untiring patience, a bell being attached to his neck, which, as long as he is in movement, tinkles on; and when it stops he is urged to his duty by the shout of "arra mula" from some one within hearing. When ground, the wheat is sifted through three sieves, the last of these being so fine that only the pure flour can pass through it; this is of a pale apricot color. The bread is made in the evening. It is mixed with sufficient water, with a little salt in it, to make into dough; a very small quantity of leaven or yeast in one batch of household bread as in Spain, would last a week for the six or eight donkey loads of bread they send every day from their oven. The dough made, it is put into sacks and carried on the donkeys' backs to the oven in the center of the village, to bake it immediately after kneading. On arriving there the dough is divided into portions weighing three lbs. each. Two long, narrow wooden tables on trestles are then placed down the room, and a curious sight may be seen. About 20 men, bakers, come in and range themselves on one side of the table. A lump of dough is handed to the nearest, which he begins kneading and knocking about with all his might for about three or four minutes, and then passes it on to his neighbor, who does the same, and so on successively until all have kneaded it, when it becomes as soft as new putty and ready for the oven. Of course, as soon as the first baker has handed the first lump to his neighbor, another lump is given to him, and so on until the whole quantity of dough is kneaded by them all. The bakers' wives and daughters shape the loaves for the oven, and some of them are very small. They are baked immediately.—*Colorado Farmer*.

QUICK-SPEED CIRCULAR SAWS.—Soft-iron discs running at a circumferential speed of 12,000 ft. per minute will cut hard steel, but 5,000 ft. per minute will not cut iron. This fact is taken advantage of in rolling-mills to cut large bars and beams to exact lengths. At the L. & N. Western railway works at Crewe, the circular saws for cutting hot steel have a velocity of 13,000 ft. per minute at the periphery, equal to a speed of about 150 miles per hour. The saws are 7 ft. diameter, and 5-16 inch thick, driven through gearing in one case by a pair of locomotive cylinders 17 inches diameter and 2 ft. stroke; in another instance the saw is driven direct by a three-cylinder engine, 14 inches diameter and 8-inch stroke. At another works a saw of 4 ft. 6 inches diameter is run at 1,200 revolutions per minute, equal to 17,000 ft. per minute. A jet of water plays on circumference of saws to keep them cool.

TO WELD HORN OR TORTOISE SHELL.—The worker should be supplied with pincers or tongs of different sizes and forms, so that when applied to the joints to be made, the tool will reach three or four inches beyond the joint. The edges to be joined are filed to a bevel or lap-joint, care being taken to have them quite clean and free from grease. The edges are joined after being wet with water, the pincers applied hot, and followed with water. By this procedure, the shell will be found to be joined as if it was one piece.

IN PARIS three francs are given to poor people for each child brought to the dispensary to be vaccinated, in order to induce parents to permit the operation.

BEES AND FLOWERS.—A writer in the *Midland Naturalist* says: "Bees, when gathering honey, seem to me (and I make the remark after many observations) to confine themselves during any given excursion to flowers of the same family. Thus, when I have watched a bee or butterfly gathering honey from a rose, I have found that when it next alights it is invariably on another rose, and on no other flower." To this the editor adds the following notes from Kerner: "Flying insects in their search for nectar frequently confine themselves during their rapid visitation of successive flowers to the blossoms of one and the same species. For example, in a meadow at Trins, in the Gschnitz valley, I saw *Bombus montanus* visiting only the inconspicuous flowers of *Anthyllis alpestris*, whilst the numerous and far more striking nectar-bearing flowers of *Pedicularis Jacquinii* and *P. incarnata* were passed over. Contrariwise in another place, in a meadow in the Padail valley, I saw this same species of bee buzzing from one *Pedicularis* flower to another, whilst passing over the intermixed *Anthyllis alpestris*." On this passage Dr. Ogle, the English editor of Kerner's work, remarks that a similar observation as to the habits of bees was made by Aristotle. "A bee," he says, "on any one expedition does not pass from one kind of plant to another, but confines itself to a single species, for instance to violets, and does not change until it has first returned to the hive."

A NEEDED REFORM.—The manner of furnishing meals to immigrants while on the way to their Western destinations, says the *New York Times*, having caused much inconvenience and suffering to this class of travelers, the New York, Lake Erie & Western Railroad Company has determined to take the matter under its own management, so far as the immigrants traveling by its route are concerned. The right of furnishing meals has heretofore been let to restaurant keepers. General passenger agent Abbott recently devised a new arrangement for Erie immigrants, which was first tried at Buffalo a few days since. It resulted in such great satisfaction and convenience to the travelers that it will be introduced wherever refreshment stops are made. The immigrants are now allowed the entire freedom of the inclosures at the Buffalo depot, and all outsiders are prohibited from interfering with them in any way. The company furnishes them wheat bread, rye bread, Swedish bread, pies, cheese, bologna sausage, milk, coffee, cigars and tobacco, all of the best quality, at merely the cost of the articles. The immigrants are given comfortable places and abundant time to take their meals in.

RAILWAY ALARM WHISTLE.—To prevent the chance of a train running past the danger signal during a fog or snow-storm, without the engine-driver seeing it, the Northern Railway Company of France have recently adopted the plan of having a steam-whistle on the locomotive, worked by a current of electricity controlled by the signal. The whistle is connected with an insulated metallic brush placed under the engine; and between the rails there is fixed a projecting contact-bar faced with copper and 7 ft. long, which is swept by the brush when the train passes. This contact-piece is connected to the positive pole of a voltaic battery, the negative pole of which is in communication with a commutator on the signal-post, from which a wire leads to the ground. So long as the signal is at a "line clear," the passage of the brush over fixed contact produces no result; but when the signal is set to "danger," the commutator brings the negative pole of the battery in direct communication with the ground, and on the brush passing over the contact, completes the electric circuit, and causes the whistle to be sounded, thereby alarming the driver.—*Universal Engineer*.

A DELICATE INSTRUMENT.—One of the most delicate instruments known to science is Edison's tasimeter, or heat measure. The rapid passage of the hand before it at a distance of 34 feet causes a deflection of the needle of 200°.

AN ANTIQUATED CITY.—A correspondent of the *Boston Traveller* makes this interesting mention of Cordova, once the capital city of the Mahomedan empire in Spain, and at one time the favorite shelter of learning when Europe was sunk in darkness and barbarism, is located on the river Guadalquivir, and has a population of 43,000. The wall surrounding the old Moorish town is flanked with square, round and octagonal towers; however ancient, it is all kept in excellent repair. Seldom is a city found having a finer location, encompassed by a magnificent plain, with lofty blue mountains in the distance, and at one side, not many miles away, are luxuriant hills, whose precipitous sides are dotted with abbeys and monasteries. Their massive white walls and domes reflect imposingly in the sun, as seen from the promenades lined with magnolias, that are outside the city walls. No other city in Spain, to my mind, presents so singularly decayed an appearance as Cordova. There is a charming quietude in wandering through its narrow, winding and clean streets, mostly paved with small round stones. But few carriages are in the city, which evidently from the first was not intended for such, most of the streets being too narrow to admit them. Saddled horses and donkeys can, however, pass almost anywhere, but only occasionally are they seen in other than the market places and broader thoroughfares near the limits of the town. The houses are two stories in height, of stone or brick, and mostly white; some are painted blue or yellow, all having small inner courts with neat little fountains in the center. These fountains are of different designs, with constantly-playing water, and present a most cheering appearance, surrounded as they are by small orange and lemon trees, and seen by the passers-by through the iron-latticed doors and windows.

IMPORTANT AFRICAN EXPLORATION.—The irrepressible Stanley was on the Congo at last advices, with the view of opening to commerce the very heart of the African continent. His expedition is very strong, comprising 20 white men of different nationalities, and about 100 negroes of Zanzibar, Sierra Leone and the Congo. He has five small steamers and a number of smaller boats, with which he has taken his party and supplies up the river as far as the first of the series of 32 falls on the river. From this point the task of cutting a road through the wild coast range of mountains has been begun, when the boats and supplies will be transported overland past these obstructions to navigation, and then the great river and its tributaries will be navigable to the very heart of Africa. This expedition promises to be the most important undertaking in its practical results, that has ever been attempted in African exploration.

EDUCATIONAL DRESS REFORM.—Some time ago, says the *Record-Union*, we called attention to the fact that the education of girls in seminaries and collegiate institutions costs disproportionately far more than the education of boys in similar schools. It was there shown that the matter of dress alone made all the disparity. It is now to be noted that in colleges and high schools for girls there has been recently shown a great improvement in this matter, and dress is now being subordinated to the higher interests. Finery, and the attention it demands, has been found incompatible with devotion to studies. So it is, that now, in the leading colleges for women, the "uniform" is being adopted, and all pupils, rich and poor alike, are required to wear it, and the members of the faculty also. The reform is a wise one, and should extend to every educational institution in the land. Dress is an infinite source of trouble everywhere, but in schools it is an agent that cripples the best efforts of the most conscientious teachers.

A GENTLEMAN in Ulster county was married without knowing it. At least he is claimed by a young lady as her husband, and she shows a certificate confirming her statement.

MAKING THINGS BEAUTIFUL.

"Dear me, but she's a fright of a doll; just look, Marsie Bernard, just look at her face," and Bell Stevens held the "fright" quite out at arm's length, with a contemptuous toss of her frizzled head and a contemptuous look in her eyes.

Marsie looked up for an instant and then down at the ribbons she was twining through her fingers, wondering as she twined, how a doll with wax cheeks and flossy hair that would comb, could be a fright, and wondering if she would ever have a doll with such wonderful dresses, all flounced and frilled, such cunning hats and stockings and shoes, and thinking of the homely rag baby, Jessamine, which she had so fondly sung asleep before she came away and tucked snugly in the cradle in the corner.

"The girls have such sweet dolls," continued Bell partly to herself, "and as to clothes, deary me, I am just ashamed for any body to see these frights," and she threw the abused doll down at her side, greatly risking her head altogether, and turned again to Marsie.

"What kind of dolls are yours at home? Are they very fine?"

"I only have one," said Marsie softly.

"It is a grand one then, I suppose. I'd rather have one and have it just the nicest kind, you know, than to have all these frights."

"Jessamine is only made of rags, and her clothes are not fine at all, but I love her and she is pretty to me."

"Made of rags! I don't know what you mean, but then she has some kind of a fine face?"

"Not nice like your doll's, for it is only of rags."

"Now Marsie Bernard, I most don't believe you!"

"Mamma made her and I love her," said Marsie, thinking regretfully of having been ashamed of her.

Bell came and knelt down quite close to Marsie as she sat on the floor, and twining back the long golden curl that had fallen over her face, stooped to look in the black eyes and see if they were "telling true."

"Hasn't she any hats?" continued Bell, "nor any shoes to take off?" and has she nothing but rag cheeks, and no wax at all?"

She leaned over and picking up the fright she had cast down, began smoothing the rumpled hair as she asked:

"Why hasn't Jessamine fine clothes?"

"Mamma hasn't time to spare: she sews and sews everybody's things to get money for me and Bobbie, and then she is too pale and tired to sew for dolls."

"But Flaxy is a fright—now don't you think so, Marsie?" Bell began, again coming back to the original point.

"You have spoiled her a little, but she is sweet, I think."

"Prettier than Jessamine?"

"Jessamine is only rags, you know, so she cannot be pretty only to me."

"How can she be pretty to you?"

"Because I love her, and mamma made her for me."

"That don't make her pretty."

"Mamma says it is our own eyes and hearts that makes things ugly or beautiful."

"I don't believe I know what you mean."

"Why, don't you know when you look at Flaxy if you think about the ugly things she will be ugly, but if you think how blue her eyes are and how pretty her hair and try to find the pretty things about her, she will be pretty to you? That is what mamma means when she says things are beautiful or ugly as we make them so by our own eyes and hearts."

DRAWING paper of any thickness may be made perfectly transparent, so that it may be used for tracing, by dampening with benzine. As the benzine evaporates the paper again becomes opaque. The tracing may be done with India ink or water colors.

A LONDON lady had \$4,000 worth of flowers at a party.

EYE-SIGHT.

Milton's blindness was the result of over-work and dyspepsia.

One of the most eminent American divines having, for some time, been compelled to forego the pleasure of reading, has spent thousands of dollars in value, and lost years of time, in consequence of getting up several hours before day and studying by artificial light. His eyes never got well.

Multitudes of men or women have made their eyes weak for life by too free use of the eye-sight, reading small print and doing fine sewing. In view of these things, it is well to observe the following rules in the use of the eyes:

Avoid all sudden changes between light and darkness.

Never begin to read, or write, or sew for several minutes after coming from darkness to a bright light.

Never read by twilight, or moonlight, or of a very cloudy day.

Never read or sew directly in front of the light, or window, or door.

It is best to have the light fall from above, obliquely over the left shoulder.

Never sleep so that, on the first waking, the eyes shall open on the light of a window.

Too much light creates a glare, and pains and confuses the sight. The moment you are sensible of an effort to distinguish, that moment cease, and take a walk or ride.

As the sky is blue and the earth green, it would seem that the ceiling should be a blueish tinge, and the carpet green, and the walls of some mellow tint.

The moment you are prompted to rub the eyes, that moment cease using them.

If the eyelids are glued together on waking up, do not forcibly open them, but apply the saliva with the fingers—it is the speediest diluent in the world—then wash your face and eyes in warm water.—*Exchange*.

This has been going around for about 10 years, and its ownership, we guess, is lost; but it is good enough to go on indefinitely.

LIQUID GLUE.—You cannot use mucilage as glue, because it is not glue and does not possess the sticking qualities of good glue. It is made of starch, dextrine or gum arabic, with some acetic acid, or some equally preservative substance in it to make it stick on tin cans or on metal. You must mix a few drops of nitric acid with the mucilage just before you are about to use it, otherwise it will come off. This acid acts on the metal and destroys the polish, which prevents the sticking. It is the same with varnished objects. In order to make labels stick where they have a tendency to come off, mix a little alcohol with the mucilage. This partially dissolves some of the varnish, takes the gloss away under the label and causes adhesion. Or you can rub the varnish with a little alcohol at the place where the label is to be put on; or you may stick the label on with varnish instead of mucilage. Some kinds of varnishes are good for this purpose, others not. In order to make a better sticking mucilage, you must not use starch or gum at all, but the best quality of glue. Soak it over night in plenty of water; in the morning pour the excess of water off and put on a gentle fire, so as to melt the glue in the water it has absorbed during the night; but thin it with strong vinegar, or with acetic acid, when you want it thick, and you will have mucilage with which you can glue wood together, but you must not expect that it will be as strong as if you had used hot glue, as cabinet-makers always do.

CHINA MOSS.—The curious substance known as China moss has a peculiar constituent called gelose, which has the property of absorbing and solidifying into a colorless and diaphanous jelly, 500 times its weight of water, and is capable of forming 10 times as much jelly by weight as the best animal gelatine.

AN OVERWORKED PEOPLE.

At a recent meeting of American physicians and surgeons, William Walter Phelps made the following remarks, which will bear careful and repeated reading: We are a nation without contentment, without rest, without happiness. In a feverish race we pass from the cradle to the grave—successful men, to whom life is a failure. Our boys leave the university when English boys leave their school. Our merchants leave their trade, retiring to some more dignified or honorable work, as they believe it, at an age when the German merchant first feels the master of his trade. We are always anticipating the future, forcing the task of a whole life into part. Worse, we are not content with doing a year's work in a month in our calling, but we must do enough in all other callings to win distinction there. In other lands it is enough to be a lawyer, physician, clergyman, merchant. Here we are nobodies unless we fill the sphere of all human occupations. One must be a statesman and know political science as if already in office. He must be an orator, and ready to persuade and instruct; a wit to shine at the dinner table, a *litterateur*, a critic! There is too much human nature in man for this to mean anything except a discontented life and a premature death. And the remedy? Correct public opinion. We must honor the man who faithfully does his task, whatever it is. Not the task, but the faithfulness with which it is done, must be the measure of the honor. Then men will be content with their father's trade. This will give us that family association which is a sure pledge of good conduct and patriotic love. This will give us, too, that traditional aptitude which alone gives great mechanical excellence. It will not be a bad time for American manufactures when we find stamped on them what Mr. Griggs finds on Japanese bronzes, "Done by the ninth bronzer in this family." Then men will keep the occupation of their youth for their age, and, having leisure, will build the foundations broad enough to withstand bankruptcy. Then men will seek excellence in their callings. Then men will alternate labor with rest, and obey the demand of nature.

MAXIMS.

The late Baron Rothschild had the following maxims framed on his bank walls:

Attend carefully to details of your business!
Be prompt in all things!
Consider well, then decide positively!
Dare to do right! Fear to do wrong!
Endure trials patiently!
Fight life's battle bravely, manfully!
Go not into the society of the vicious!
Hold integrity sacred!
Injure not another's reputation or business!
Join hands only with the virtuous!
Keep your mind from evil thoughts!
Lie not for any consideration!
Make few acquaintances!
Never try to appear what you are not!
Observe good manners!
Pay your debts promptly!
Question not the veracity of a friend!
Respect the counsel of your parents!
Sacrifice money rather than principle!
Use your leisure time for improvement!
Venture not upon the threshold of a wrong!
Watch carefully over your passions!
Xtend to every one a kindly salutation!
Yield not to discouragement!
Zealously labor for the right!
And success is certain!

AN UNFORTUNATE REPLY.—A young gentleman somewhat numerous in social circles took his sister, a wee miss, the other day, to see a family in which he is a regular caller. The little girl made herself quite at home, and exhibited great fondness for one of the young ladies, hugging her heartily. "How very affectionate she is," said the lady of the house. "Yes, just like her brother," responded the young lady, unthinkingly. Paterfamilias looked up sternly over his spectacles, the young man blushed, and there was consternation in the family.

THERE has been a general increase in farm wages all over the country during the past year.

HEART AFFECTIONS.

There is not a pin's point surface of the external portion of the body which does not give instantaneous warning of the slightest invasion from without: It is our guard against external dangers. But the more important internal organs are so well protected by the casings which surround them, that they do not require such sensitiveness; hence it is not thrown away upon them. For example: It is generally supposed that if the heart is touched we would die instantly. So far from this being true, bayonets and bullets have been driven into the heart of men and animals without causing death. The bullet which caused the death of William Poole was found imbedded in the solid substance of the heart, and yet he lived 11 days after he was shot.

The great Harvey brought Charles II. to a British nobleman who had an opening in his chest, through which the heart could be seen and felt. The king touched it with his finger, but the nobleman was not aware of it, unless he saw the fingers in the cavity. And yet this same heart responds to every emotion of joy, or grief, or passion, or alarm.

Persons often trouble themselves uselessly, about having disease of the heart or lungs, because they have pain thereabouts. These are good signs, generally, as showing that the pains are external to these organs, for there can be no pain where there are no nerves. The fact is, the most certainly fatal affections of these organs give no note of warning by pain, until within the last brief hours of life. The very substance of the lungs and heart are often eaten through, eaten away, without a remote suspicion on the part of the patient that such was the case. The celebrated clerical orator, John Newland Maffitt, died of a literally broken heart—not an emotional breaking, but a structural rupture; it had slowly decayed, rotted away, until so near through that its functions could not be performed, when pains came on, and he died in a few hours; on examination, it was found that this destruction of parts had been going on for months, most probably.

But another result follows the closing of the pores of the skin, and more immediately dangerous. A main outlet for the waste of the body is closed, it remingles with the blood, which in a few hours becomes impure, and begins to generate disease in every fiber of the system. The whole machinery of the man becomes at once disordered, and he expresses himself as "feeling miserable." The terrible effects of checked perspiration on a dog, who sweats only by his tongue, is evinced by his becoming "mad." The water runs in streams from a dog's mouth in summer, if exercising freely. If it ceases to run, that is hydrophobia. It has been asserted by a French physician that if a person suffering under hydrophobia can be only made to perspire freely he is cured at once. It is familiar to the commonest observer that in all ordinary forms of disease the patient begins to get better the moment he begins to perspire, simply because the internal heat is passing off, and there is an outlet for the waste of the system. Thus it is that one of the most important means for curing all sickness is bodily cleanliness, which is simply removing from the mouths of these little pores that gum, and dust, and oil which clog them up. Thus it is, also, that personal cleanliness is one of the main elements of health—thus it is that filth and disease habitate together the world over.

The great practical lesson which we wish to impress upon the mind of the reader is this: When you are perspiring freely, keep in motion until you get to a good fire, or to some place where you are perfectly sheltered from any draft of air whatever.—*Hall's Journal of Health.*

"Do, do keep away from that window," said he. "But I'm not afraid of the lightning," replied she. "Ah! dear," continued the youth frantically, "little do you realize how attractive you are." And having made this appeal, he was able to conduct 'er away.

ABOUT PRESSED GLASS.

One of the features in connection with the glass trade not generally known is that the first article of pressed glass made was manufactured in this country. The way in which this branch of the manufacture came to be discovered was rather peculiar. In fact it owed its origin to a Massachusetts carpenter. The discovery came about in this wise: A carpenter who lived in the town of Sandwich, Mass., wanted an article of glassware made for some purpose not known now, and went to Deming Jarvis, who had a glass factory in Sandwich in 1827, and asked him if he could make the article desired. Mr. Jarvis told him that he could not make it, as it would be impossible for the glass-blowers to make such an article. This did not satisfy the carpenter, who was of a mechanical turn of mind, and he wanted to know if a machine could not be made to press glass into any shape. This idea was scouted at first, but, upon second thought, Mr. Jarvis and the carpenter got together and fashioned a rude press, and made their first experiment. This machine was intended to make tumblers, and when the hot molten glass was poured into the mold, which was to determine whether glass could be pressed, the experiment was witnessed by many glass-makers of that time. They were nearly all of the opinion that the experiment would come to naught, and were greatly amazed when the result of the experiment demonstrated that it was possible to press glass. From that time the manufacture of articles of glass by the use of pressing machines gradually developed until to-day the bulk of the glass manufactured in this country is made with presses. The first tumbler manufactured in the rough improvised press alluded to above, remained in Mr. Deming's possession for many years, and then passed into the hands of John A. Dobson, a well-known glass dealer in Baltimore, and at the Centennial exhibition the tumbler was broken by Mr. John H. Hobbs, and the fragments are now on exhibition in Philadelphia. The pressed ware manufacturers in America lead the world to-day in that class of goods, while the French and Belgian manufacturers exceed in blown ware. Nineteenth of the glass beer mugs used in Germany to-day in the beer halls and gardens are made in this country. The glass presses have been applied to almost all departments of the manufacture, and every day brings forth some improvements, which are gradually raising pressed glass up to the highest standards.

BOILER COVERING.—A correspondent of the *American Machinist* describes a tin boiler covering which has been tried with good effect on marine boilers to lessen the loss of heat by radiation from the surface of the boiler. The tin is supported by bands made of $\frac{3}{4}$ -in. band iron. Toes riveted to these bands keep them far enough from the boiler to insure an air space of from two to four inches and are placed close enough together to keep the band in shape. The bands are placed in position and IX charcoal tin put on in strips 22 inches wide by long enough to go around the boiler outside the bands with two lugs or clips to screw them together with. The end of the boiler has a cover like a mammoth teapot cover made in halves the rim of which is slipped over the first band and covered by the first section of tin. Where the mud ports come, a hole is cut in the tin and provided with a rim with a flange extending to the boiler. At the front the tin covering is closed in against the boiler. The air inclosed by the covering is kept sufficiently humid by "fizzing" to make it a poor conductor and the tin throws back a large part of the heat which is radiated from the boiler.

"Goods at half price," said the sign. "How much is that teapot?" asked the old lady who had been attracted by the announcement. "Fifty cents, mum." "I guess I'll take it then," she said, throwing down a quarter. The dealer let her have the teapot, but took in his sign before another customer could come in.

ONE HUNDRED YEARS UNDER WATER.

Mr. J. W. Dutton, the constructing engineer of the celebrated Dufferin Palace in Quebec, recently presented a journalist with a cane and a penholder made of the wood of the vessel *L'Original*, which was sunk before Quebec in the year 1756. In a letter accompanying his gifts Mr Dutton says:

L'Original was built just below the Citadel, scarcely a quarter of a mile from where Montgomery fell 19 years later. For those days she was a large vessel, but in this age a 1,000-ton vessel is not much to tell of. She was built of oak timber, which must have been brought from France; as none of the Western oak forests had been cut into, it being impossible then to bring the timber down. The vessel was built of the best timber and iron, but she was fated never to do much execution for her country, as shortly after being launched she was sunk, just opposite where she was built.

There she lay until last summer, when she was raised and towed to shore. She sank in September, 1756, so that she had lain under the waters of the St. Lawrence about 123 years. In spite of her long immersion, when they first attempted to raise her it was found impossible, on account of her being sunk in the mud, and it was equally impossible to tear her to pieces as the oak was as solid as on the day she went down. The only thing that was gone was the iron, in those places where it had been exposed, and this had completely rusted away. After several vain attempts to stir her, a diver was sent down, who fired a heavy charge of dynamite under her. This broke her up somewhat, but it was only after many explosions and two years' hard work, that she was finally got rid of.

The wood was eagerly sought for, and now it is almost an impossibility to get a piece of it large enough to make anything of any value. The frigate was the last relic of the old French government, having been built under the superintendence of the Intendant Bigot. She lay in 90 ft. of water, and while she has been there many are the changes that Quebec has seen—as well in manners and customs as in men. When she was removed there were found to be over 100 anchors of all sizes and many hundred fathoms of chain entangled with her. These were, of course, raised, and in some instances claimed, but most of them were sold by the government to satisfy expenses.—*Iron Age.*

ALCOHOL AND DIGESTION.—According to foreign medical journals, M. Leven has been investigating the question of the quantity of alcohol which should be taken to facilitate digestion, and, consequently, the assimilation of food. He demonstrates, by conclusive experiments, that an excess of alcohol, as 75 grams of brandy to 200 grams of meat, completely arrests digestion; while 25 grams of brandy with the same weight of meat will, on the contrary, have a very powerful effect on the digestion. The quality of the alcohol used is of no less importance. Dr. Rabuteau has studied the comparative action of the different alcohols of commerce with the greatest care. Ethylic or vinous alcohol has always yielded the best results. His numerous experiments show that even an excess of this kind of alcohol does not produce the injurious effects that are brought on by even moderate use of the majority of the alcohols of commerce, and especially of that variety which contains amylic alcohol. According to him, it is this kind which produces the lamentable results of alcoholism.

A GERMAN newspaper claims to have discovered that Goethe was descended from a Bavarian family, bearing the name of Gotze, and living in 1449 at Henstren.

LEWISTON has \$590,070 invested in 78 factories, outside of cotton and woolen, which pay 1,256 persons \$296,277 a year for making \$1,263,968 of products.

RUINS AT AZTEC SPRINGS IN SOUTH-WESTERN COLORADO.

One of the most interesting of the many groups of Aztec ruins scattered throughout Colorado, New Mexico and Arizona, are those at "Aztec Springs," located in a depression between the Mesa Verde and the Late mountains. It is said that, until within six or seven years, there

base of the Mesa Verde a mile or more away, and its transportation to this place has doubtless been a great work for a people so totally without facilities.

The upper, probably principal, house is rectangular, measures 80 by 100 ft., and is built with the cardinal points to within 5°. The pile is from 12 to 15 ft. in height, and its massiveness suggests an original height at least twice as great. The plan is somewhat difficult

remains of partition walls, separating it into the three apartments, *a*, *b*, *c*. Enclosing this great house is a net-work of fallen walls, so completely reduced that none of the stones seem to remain in place; and I am at a loss to determine whether they mark the site of a cluster of irregular apartments, having low, loosely-built walls, or whether they are the remains of some imposing adobe structure built after the manner of the ruined pueblos of the Rio Chaco.

Two well-defined circular enclosures, or *estufas*, are situated in the midst of the southern wing of the ruin. The upper one, *A*, is on the opposite side of the spring from the great house, is 60 ft. in diameter, and is surrounded by a low stone wall. West of the house is a small open court, which seems to have had a gateway opening out to the west, through the surrounding walls.

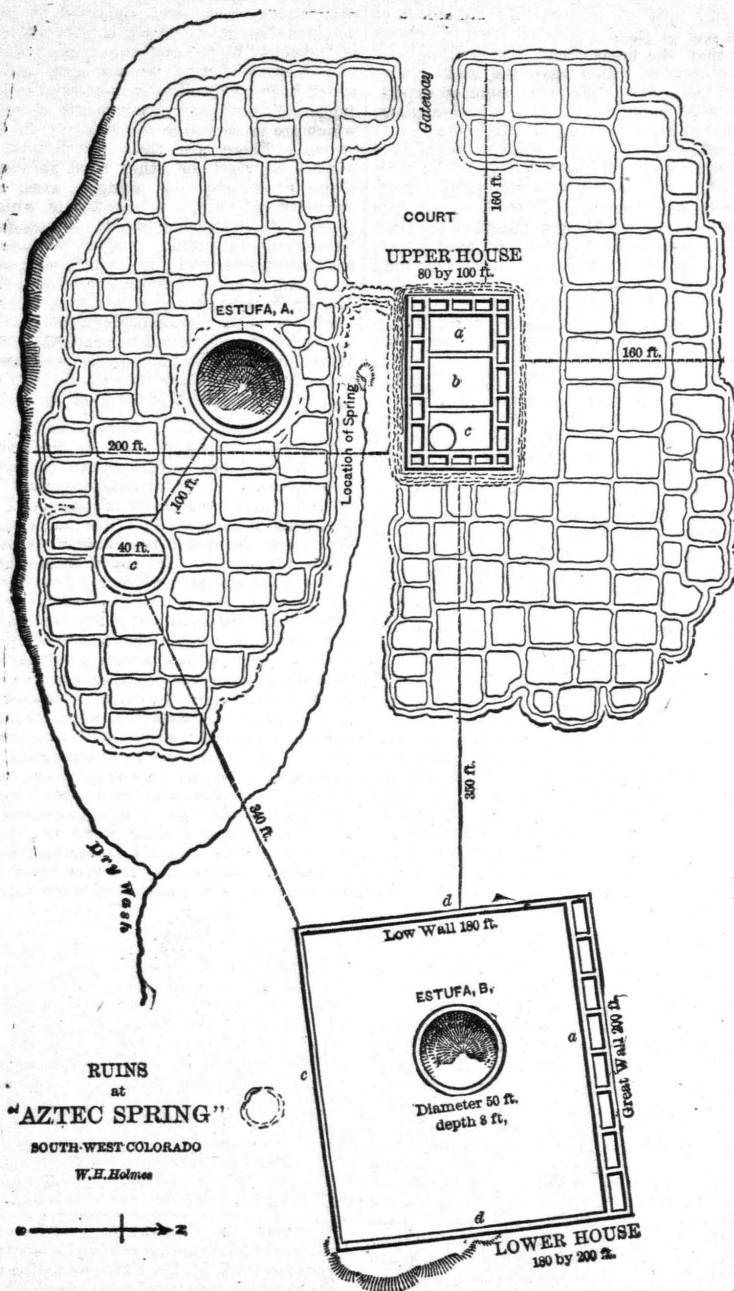
The lower house is 200 ft. in length by 180 in width, and its walls vary 15° from the cardinal points. The northern wall, *a*, is double, and contains a row of eight apartments about 7 ft. in width by 24 in length. The walls of the other sides are low, and seem to have served simply to enclose the great court, near the center of which is a large walled depression (*estufa B*). No other ruins were observed in the neighborhood of these, although small groups are said to exist along the base of the Late mountains, a few miles to the southwest.

The little squares which surround the more imposing portions of the ruins are probably the remains of less pretentious dwellings. They are not of uniform size; neither are they arranged in regular order. The walls are simply marked by low lines of loose rubble, the quantity of which would indicate nothing but a very low wall, and all of which, as well as the larger structures, when occupied, were covered with some kind of a roof. As they now appear, they are more like a cluster of open pens, such as are used at the present time by the Moqui tribe of Indians for the keeping of sheep and goats. A somewhat singular circumstance may be noticed, in connection with this portion of the ruins, viz.: the fact that the number of minor divisions in dwellings upon each side of the open or dividing space is exactly equal in number—70.

CASTING GAS PIPES VERTICALLY.—The subject of casting gas pipes vertically in 12-ft. lengths bids fair to become one of considerable importance in the estimation alike of pipe foundries, gas managers, gas companies, etc. It seems that vertically-cast pipes of that length down to four inches in diameter are extensively produced in the U. S., whereas in Glasgow, which is the largest seat of the pipe founding industry in the world, it is seldom that such pipes are made of less than 15 inches in diameter. Two or three Glasgow firms are said to have tried to produce pipes of the kind referred to down to eight inches in diameter; but owing to the great difficulties connected with their foundry plant, waste, etc., the results have been anything but satisfactory. It is urged that Scotch pipe foundries should not hesitate to spend some effort in learning what improvements have been made in pipe-founding in America, so that 12-ft. lengths of piping have become a regular article of trade. Doubtless gas managers would welcome the advent of such pipes in this country, as their use would effect a great amount of economy in jointing, and therefore a large saving in leakage which has so widely and so frequently to be deplored.—*Journal of Gas Lighting*.

AFTER several years of reflection I have come to the conclusion that the three most difficult things in life are—1st. Carryin' an arm-ful of live eels up a steep hill without spillin' an eel; 2d. Actin as a referee at a dog fight without gettin' mad; 3d. Editin a newspaper.—*Josh Billings*.

It is told of a monkey who had suffered from a toothache for several days that he tied a string to the offending tooth and pulled it out with a jerk.



has been a living spring at this place, located at the point marked on our illustration, the presence of which undoubtedly determined this as a desirable point for settlement. Hayden, in his report, says that these ruins form the most imposing pile of masonry yet found in Colorado. The whole group covers an area of about 480,000 square ft., and has an average depth of from three to four ft. This would give in the vicinity of 1,500,000 solid ft. of stone work. The stone used is chiefly of the fossiliferous limestone that outcrops along the

to make out on account of the very great quantity of debris.

The walls seem to have been double, with a space of seven ft. between. A number of cross-walls at regular intervals indicate that this space has been divided into apartments, as seen in the plan.

The walls are 26 inches thick, and are built of roughly-dressed stones, which were probably laid in mortar, as in other cases.

The enclosed space, which is somewhat depressed, has two lines of debris, probably the

DOES EUCALYPTUS PREVENT FEVER?

In the last number of *Nature* some very positive statements are made as to the value of the eucalyptus or blue gum tree of Tasmania in destroying fevers in marshy districts. The testimony in support of this power, it says, is most convincing. In marshy districts near eucalyptus forests fever seems to be unknown, and in parts of Corsica and Algeria, where the tree has been planted for the sake of its reputed virtues, endemic fevers have been stamped out. M. Gimbert, in a report to the French Academy, instanced the case of a farm situated in a pestilential district about 20 miles from Algiers, where by planting a number of trees the character of the atmosphere was entirely changed. Similar testimony comes from Holland, the south of France, Italy, California and many other parts of the world as to the febrifugal attributes of this tree.

In no case is the evidence more convincing than in that of Algeria, as related by Dr. Santra, and quite recently, by Consul Playfair. Large tracts of land have been transformed by the agency of the "fever-destroying tree," as it has come to be called, and wherever it is cultivated fevers are found to decrease in frequency and intensity. Fewer districts in Europe have a more evil reputation than the Campagna as a veritable hot-bed of pestilential fever, and the people who know the country around Rome may remember the monastery at Tre Fontand, on the spot, as the tradition tells, that St. Paul met his death. Life in this monastery meant death to the monks, but since the eucalyptus has been planted in the cloisters fever has disappeared and the place has become habitable.

EDGE-LAID BELTS.—According to Leigh, a better method of producing a broad belt than the usual American double leather belting sewed together—a method by which the article can be made with the greatest ease, of any thickness or width, perfectly equal in texture throughout, and alike on both sides—consists in cutting up the hides into strips the width of the intended thickness of the belt, and setting them on edge, these strips to have holes punched in them about one-eighth of an inch in diameter and one inch apart; nails, made of round wire, clinched up at one end for a head and flattened at the other, are used for fastening the leather strips together. Each nail is in this case half the width of the intended belt, and after the strips are all built upon the nails, the ends of the latter are turned down and driven into the leather, thus making a firm strap without any kind of cement, splicings, or similar treatment. When a strap made in accordance with this plan requires to be tightened, it is only necessary to take it asunder at the step lines of the splice, cut off from each end of the strap what is required, and piece up again with wire nails or laces, going entirely through the strap.

VINEGAR.—Clara Francis gives the *Prairie Farmer* this recipe for a perpetual vinegar supply: A 10-gallon keg would answer the purposes of a small family; it should be provided with a faucet and a bung hole, and have in it five gallons of good strong cider vinegar. To this may be added hard cider from time to time, as space and strength will permit, unless the supply of fruit be such as to make cider unnecessary. Put all parings and cores of sound fruit, scraps of tomatoes, scum and rinsings of preserving kettles, and the pulp remaining in the jelly press, into a stone jar; cover with warm water, tie a thin cloth over the top, and set it in the sun in the summer; in cold weather, near the stove. At the end of two weeks strain the liquid through a bag, and pour it into the keg through a funnel; first drawing out some good vinegar for immediate use. Where much fruit is used, the refuse portions will be amply sufficient for keeping a plentiful supply of vinegar on hand, and there will be no necessity for consuming deleterious and poisonous acids in the form of commercial vinegar.

GLASS MILLSTONES.

We have already made a brief allusion to the introduction of glass millstones into successful use. We have since noticed in the trade and technical papers numerous references to the success that has attended their introduction into Germany. These accounts report recent improvements in their manufacture, which, in connection with the excellency of their work, must bring them into very general notice among millers. The idea of constructing millstones of glass is said to have originated from the observation that the finest flour was produced by those millstones which have the most glassy texture; from this observation came an experiment which demonstrated that pieces of glass, combined in the same way as the French buhr, and similarly grooved on their surfaces, gave better results in grinding than the buhr millstone. The outcome of this successful experiment, we learn from the *Pottery Gazette*, was the invention, by the Messrs. Thorn, of the glass millstones now made by them, and used in Germany with much satisfaction. Respecting their special merits, we learn, on the same authority, that they grind more easily, and do not heat the flour as much, as is the case with the French buhr-stone. In grinding grist they run perfectly cold.

In making these stones the glass is cast in blocks of suitable size and shape, joined with cement in the same way as the French buhrs, dressed and furrow cut with picks, and pointed hammers. It is suggested that the substitution of diamond dressing machines would give better results.

Without going into the technical points respecting the comparative merits of the old and new millstones, which are given at some length, but which would only be appreciated by practical millers, we note simply our contemporary's opinion that, in the event of the success of certain experiments now making on a larger and more important scale than any previous ones, "this discovery will be entitled to rank as one of the most valuable of recent years as regards the milling industry."

THE LARGEST SEWING MACHINE IN THE WORLD.—Mention has already been made, says *Design and Work*, of the modifications of the Singer sewing machine to adapt them to certain kinds of work. The latest of these we must allude to more prominently, and introduce the reader to the largest sewing machine in the world. This gigantic stitcher has just been completed, and may thus be described:—The machine weighs over four tons, and is in some respects of new design, uniting much simplicity of construction with great strength of parts. It is adapted for general manufacturing purposes of the heavier sort, although specially made for stitching cotton belting, an article which is just now taking the market as a cheap and serviceable institution for gearing and the ordinary leather belting. The material used is of great strength and toughness, and is sewed together in plies or layers up to an inch in thickness. The belting in being sewed together is passed through heavy feed rollers some nine inches in diameter and over eight ft. in length, getting stretched and pressed in the process. There are two needles at work, with two shuttles, and the shuttles can be removed from the bottom without disturbing the overlying plies of belting. The rollers between which the work passes are actuated by reversible worm and cam motions, and the machine has, in addition to these roller-feeds, what is known as a top-feed motion, suitable for a lighter class of work. The stitch, as in the ordinary sewing machine, can be easily adjusted from one-eighth inch upward, and the pressure of the rollers on the work passing through the machine can be regulated at the will of the operator. The machine, which is driven by steam, has been made for a manufacturing firm in Liverpool.

The old-fashioned leather fan, which was such a conspicuous feature of a lady's dress in the time of "good Queen Bess," has recently been revived under different names.

THE USE OF COPPER BY THE ANCIENTS.—Copper is widely spread over the face of the earth, and man, in all ages, has adapted it to his wants. It was one of the greatest articles of commerce with the Phœnicians, who derived a large supply from the mines of Nubia, that at one time supplied the whole of the known world, and combined with it the tin obtained from the islands of Great Britain. It was used by some of the northern nations of Europe in the fabrication of weapons, at a period and under circumstances when steel appeared to be more precious than gold. This has been illustrated in Denmark, by the opening of many Scandinavian tumuli of very remote ages, and from which have been collected specimens of knives, daggers, swords and implements of industry, which are preserved in the museum at Copenhagen. There are tools of various kinds, formed of flint, or other hard substance, in shape resembling our wedges, axes, chisels, hammers and knives, the blades of which are of gold, while an edge of iron is attached for the purpose of cutting. Some of these tools are formed principally of copper, with edges of iron, and in many of these implements the profuse application of copper and gold, when contrasted with the parsimony evident in the expenditure of iron, seems to prove that at that unknown period, and among the unknown people who raised these tumuli, gold as well as copper were much more common products than iron.

WOMEN AS SANITARIANS.—In the course of his recent address at the Smith College commencement, President Gilman remarked: "That education must be secured through good living, obedience to the laws of health and recreation. The housewife should be educated so as to be able to prevent the ailments of those who dwell under the same roof with her. As every young man must expect to qualify himself to support a household, so must every young woman strive to render herself fit to manage the affairs of the house. The relations to each other of all the things which effect good living must be understood—food, air, water, exercise, etc.—in order that all emergencies may be provided for. All those things which we call modern improvements—gas, water-service furnaces, books, newspapers, magazines, and other manifold accessories of the household—must result in bad odors, noxious gases, headaches, and a host of other ills, unless their right use is understood and insisted on by the ever-watchful housewife. All sanitary reforms must rest on the shoulders of the women of the country."

BRAKES ON ENGLISH RAILWAYS.—British railways seem to have made even less progress in the adoption of continuous train brakes than our own, says the *Railway Gazette*, in spite of parliamentary requirements. It appears that only 25% of the engines and 28% of the passenger train carriages are fitted with any of the systems returned by the companies as continuous brakes, and that many of the brakes so returned failed to comply with the conditions laid down by the board of trade. In this country brakes filling all these requirements are in use on the passenger trains of nearly all important roads, and earnest effort is being devoted to perfecting a continuous brake for freight trains.

DISEASES OF COAL-MINERS.—The Belgian Academy of Medicine has received a report on the researches made by Dr. Fabre regarding the diseases to which coal-miners are especially liable. He finds that as coal absorbs rapidly up to 100 times its own volume of oxygen, the air which the miners have to breathe is deprived of oxygen to a hurtful degree. The atmosphere of a mine is also further vitiated by the gaseous carbon compounds given off by the slow combustion of the coal. He concludes that a supply of air is more essential than a supply of light, and that even the best ventilated mines need to be better ventilated.

A NATURAL cavern, 600 ft. long, and others of less size, have been discovered near Wells, Somerset, England.

A STUDY OF CHICKEN CHOLERA.

Pasteur declares that chicken cholera is caused by a microscopic parasite ("le microbe"), and he has studied its habits until he knows what it feeds upon, and can produce it and kill it at will. This parasite, he says, finds its food in the body of the animal, and, therefore, if microbes be introduced therein, so as gradually to exhaust this nourishment thereafter, the animal is proof against the disease, because the microbes die of hunger. The experiment by which he proves his theory is the most interesting part of his discovery. Of 80 healthy fowls, which had never had the disease, 20 died immediately after being inoculated with the cholera poison in a virulent form. The poison was then very much reduced in strength, and a second score of the fowls were inoculated with it. They all suffered from the disease in a slight degree, but they all recovered, and when afterward inoculated with poison of full strength, only 8 of the 20 died. A third lot of 20 was then inoculated twice with the weaker poison, and only five died, when they were afterward tested with the stronger "mixture." The final score of fowls were inoculated four times, at regular intervals, and thereafter it was impossible to give any of them such a dose of microbes as to cause its death. The conditions of the experiment are said to have been such as to leave no room for doubt as to the results obtained. Consequently, it would seem that chicken cholera must be added to the list of diseases prevented by inoculation. It is a long step from cholera in fowls to cholera in man, and M. Pasteur does not seem to take it. He does think, however, that there is a connection between chicken cholera and a disease common among the negroes of Senegal. The symptoms are very much the same, and, in corroboration, it may be mentioned that the cause of the "sleeping sickness" is said to be eating fowls afflicted by a certain throat disease. This hint opens a wide field for speculation.

FACING SHEET IRON WITH NICKEL.—We reported quite recently the experiments made by Dr. Fleitmann, of Iserlohn, to render nickel malleable. It seems that he has sought an application of his process chiefly by facing sheet iron with nickel. M. Dumas, the eminent French scientist, gives some details in regard to the process. Sheet nickel and sheet iron are welded together under a steam hammer, the product being such that the thin coat of nickel adheres firmly to the sheet iron, and does not separate from it, whether used when cold or when heated. When malleable sheet nickel is heated to a temperature approaching the white heat, in a porcelain retort, and the air in the latter is rarefied by well-known means, all the gases occluded by the nickel are first expelled, the volume being approximated double of that of the metal itself. Then the volatile metals in the nickel are distilled. The nickel remaining behind has not been impaired as regards its ductility and malleability; and M. Dumas comes to the conclusion that the qualities of Dr. Fleitmann's nickel are due to the presence of zinc which he adds. The latter, it would appear, counteracts the influence of the substances dissolved in the nickel, which cannot be removed by ordinary processes of refining.

BURNT ALUM.—Ordinary alum is a double sulphate of potash and alumina, containing, when crystallized, 24 molecules of water. When heated, it melts in its water of crystallization, and on continued heating this is expelled, leaving a dry powder, known in pharmacy as *Alumen usta*, or burnt alum. That sold at the drug store is often imperfectly dried, and should be placed for an hour or more in a hot bake oven before use. According to C. Bernbeck, the best test for a good article, is nearly tasteless when put on the tongue, and takes 12 to 24 hours to dissolve in water. Much of the alum now in commerce contains no potash, the alkali being ammonia. Of course ammonia alum cannot be converted into burnt alum, as the ammonia is expelled at the same time, leaving only sulphate of alumina behind.

DECOMPOSITION OF POWDER IN CARTRIDGES.

In the course of some rifle practice lately in France it was found that the older infantry cartridges did not give the ball its normal velocity (which is about 430 meters at 25 meters from the mouth of the gun for fresh cartridges of the 1874 model). Comparing cartridges of different dates of charge from 1876 to 1880, the velocities were found to decrease with increasing age of the cartridges, down to 415m. for the former year. With this was also observed a diminished precision with the older cartridges. An examination of the weights of powder and ball revealed too small difference from regulation weight to account for the variations in question. M. Pothier then analyzed the matter in the 1876 cartridges, and found them a mixture of carbon, sulphur, saltpeter, sulphide of potassium, sulphate and carbonate of potash, and sesquicarbonate of ammonia, with some metallic salts arising from a combination of the brass of the case with the constituents of the powder. The numerical results of this and other cartridges clearly proved a progressive decomposition of the powder in the metallic cases. The quantity of powder transformed in a given time depends on the atmospheric influences, and especially moisture, acting at the time of manufacture or during storage. M. Pothier placed in contact with powder of known composition various common metals, copper, iron, tin, lead and zinc, added a little water, and after some time analyzed the powder anew, when it was found to contain new compounds, including salts of the metal and sulphate of potash, also traces of hyposulphite and carbonate of potash. Zinc and (next) copper wrought the greatest transformations; lead, tin and iron were less active. The influence of heat was also studied. When pretty dry powder is put in a zinc or copper case and hermetically sealed heat does not affect it, but if the powder be moist, heat accelerates the transformation.

THE RELATIVE COST OF MOTIVE POWER.—Mr. Bissinger, M. E., at Carlsruhe, Germany, gives the following results as obtained in his examinations of the several motors in regard to the relative cost per horse for each hour. It will be observed that the examination pertained principally to small motors. The relative cost per effective horse-power per hour is as follows:

100-horse power steam engine.....	7.6
2-horse power steam engine.....	44.3
2-horse power Lehmann's caloric engine.....	26.5
2-horse power Hock's motor.....	40.0
2-horse power Otto gas engine.....	26.4
2-horse power Otto Lang gas engine.....	26.4
2-horse power Schmidt's hydraulic motor, supplied with water from the city water works....	95.00
2-horse power obtained by horses and a gin.....	45.00
2-horse power obtained by manual labor.....	200.00

Otto's gas motor and Lehmann's caloric engine are the cheapest of the small motors, but are, nevertheless, four times as expensive as the 100-horse power steam engine.

PERFORATING GLASS BY ELECTRICITY.—A simple method of perforating glass with the electric spark is described by M. Fages in a recent number of *La Nature*. The apparatus required consists (1) of a rectangular plate of ebonite, its size, for a coil giving 12 ctm. sparks, about 18 ctm. by 12; (2) of a brass wire passing under the plate, and having its pointed end bent up and penetrating through the plate, not farther. This wire is connected with one of the poles of the coil. A few drops of olive oil are placed on the ebonite plate about the point, and the piece of glass to be superposed, care being taken not to imprison any bubble of air. The olive oil perfectly accomplishes the object of insulating the wire. One has then only to bring down a wire from the outer pole of the coil, on the piece of glass, above the point of the lower wire, and pass the spark. By displacing the glass laterally for successive sparks, it is easy to make a close series of holes in a few seconds.

INDIA'S yield of tea is estimated this year at 70,000,000 pounds.

NEW INVENTIONS.

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

WINDMILL.—Joseph H. Therien, of Orland, Colusa county, Cal. Patented July 20, 1880. No. 230,209. This device consists of a novel exterior rim for the wheel to which the vanes are hinged, this rim being made in zigzag sections, and having the arms or spokes of the wheel extending from the hub to the angles of these sections, so that they stand alternately forward and backward from a plane, and thus brace the rim. It also consists in a novel formation of the vanes, which are curved similar to a plow-share, and are hinged to the angular rim, so as to stand diagonally with the plane of the wheel, and they may be adjusted to the strength of the wind by means of arms connected with a ring or sleeve sliding upon the shaft. It further consists of a peculiar socket by which the mill may be mounted upon a single post, this socket having a vertical spindle upon which the wheel, axle and upper part of the mill may be mounted to swivel about as the wind may make it necessary.

BERRY BASKET.—Roswell E. Morey, S. F. Patented July 13, 1880. No. 229,904. This invention relates to that class of berry baskets made of bent veneers, and provided with a sheet-metal rim crimped over the edge. Heretofore the sheet-metal rims have simply been bent at the corners, and experience shows that when the baskets are of the larger sizes used the bends at the corners of the sheet-metal strip are too weak to retain the basket in its proper form, and in handling it changes form. The object of this invention is to overcome this difficulty, and it consists in casing within the sheet-metal rim, at its corners, a brace or strengthening plug of solder, or other metal or alloy, which makes the corners solid, and greatly strengthens the strip and enhances its capacity for preventing the top or rim of the basket or box from changing form.

GANG-PLOW.—Henry A. Olmster, Oakland, Cal. Patented July 20, 1880. No. 230,192. This invention consists in a means of adjusting the cut of the plows and holding them down. Ordinarily, in gang-plows with rigid beams, when they are lifted out of the ground the heels of the plows are apt to drag on the ground. This cannot occur in the present device, since the raising of the loose plow-beams elevates the points of the plows, and the elevation of guides lifts the rear ends. Each of the plows hangs loose and independent, and while they are lifted together, held down together, and have their depth of cut simultaneously regulated, each has an independent motion as well, so that one can go over a mound or ridge and not affect the other. The adjustment of the plows is all regulated from the driver's seat.

DITCHING AND DREDGING MACHINE.—John A. Murray, Stockton, Cal. Patented July 20, 1880. No. 230,329. This device consists in certain details of construction by means of which mud or earth is removed from the ditch and deposited at a distance therefrom, the operation being continuous. It also consists in providing buckets or scoops, having peculiarly arranged bottoms, which open and close automatically at the proper time, so as to drop the loads freely and rapidly.

SHEEP-SHEARS.—John G. Corey, Santa Paula, Ventura Co., Cal. Patented July 13, 1880. No. 229,872. This device consists in a novel means for adjusting the tension of the spring, so that any pair of shears may be adjusted from the lightest to the heaviest tension, to suit the hand of the operator, and to regulate them so as to be used in light, heavy, or dirty wool.

EXPERIMENTS IN MAKING DIAMONDS.

It will be fresh in the memory of some of our readers that a few months ago a statement was made to the effect, that diamonds had been artificially produced in Glasgow by a process not yet divulged, and that, having been examined by the highest chemical and mineralogical authorities, the new gems had been found to satisfy all the conditions hitherto alone supplied by the diamonds from nature's own laboratory. When, however, it became known that the new diamonds were almost microscopical, and that a gem worth a few dollars cost 10 times as much to make, the interest in the subject somewhat diminished. It has, however, revived on the publication by Mr. G. B. Hannay, in the recently-issued number of the "Proceedings of the Royal Society," of the precise method by which he obtained his startling and novel results. And if only as a record of indomitable perseverance against ever-increasing difficulties, of scientific acumen, and of the true application of the Baconian method of research, it is worthy of study. Some idea of the nature of the investigation may be obtained from the fact, that out of 80 complex and expensive experiments only three succeeded. Violent explosions were frequent; furnaces were blown to pieces; steel tubes burst, scattering their fragments around. On other occasions, tubes which had been carefully prepared, filled, welded, and nested in a reverberatory furnace for many hours, were found to have leaked, and spoiled the experiment. "The continued strain on the nerves," writes Mr. Hannay, "watching the temperature of the furnace, and in a state of tension in case of an explosion, induce a nervous state, which is extremely weakening, and when the explosion occurs it sometimes shakes one so severely that sickness supervenes."

The diamond-making experiments were started in September, 1879, when Mr. Hannay made many attempts to find a solvent for the alkali metal, sodium, potassium and lithium. But in no instance could such a solvent be found which did not, in the gaseous state and under pressure, unite with the alkali. Even in the case of hydrocarbons, such as paraffine spirit, containing only hydrogen and carbon, the alkali combined with the hydrogen, setting free the carbon. Now, as we know, diamond is pure carbon; hence, when this element was set free from a pure substance, it was thought that conditions of pressure and temperature might eliminate it in the hard crystalline, adamantine form, namely, as diamond. Glass tubes were first employed, but, although of great thickness in comparison with their bore, they were found to be insufficiently strong, and they were replaced by wrought-iron tubes 20 inches long by one inch diameter, and having the diameter of the bore half an inch. In these lithium was heated for many hours to a high temperature in paraffine spirits, and on subsequently opening the tube carbon in a hard form was found within it.

Great difficulty was experienced in getting the tubes perfectly air-tight, and eventually the open end was welded, at a white heat, and by that means alone did it resist leakage. Sometimes tubes would burst with an explosion like a gun. A tube 20 inches long by $\frac{3}{4}$ inch diameter and $\frac{1}{4}$ -inch bore, was filled with a hydrocarbon made from bone oil, to which some charcoal powder was added in order to keep an excess of carbon in the tube. Its open end was welded, and it was heated for 14 hours with lithium. On opening it a quantity of gas appeared, and some minute pieces of hard carbon, which had evidently separated out from solution. Another similar tube burst at the end of eight hours' heating. A tube of cast-iron, no less than $3\frac{1}{2}$ inches diameter, and with a bore of only three-quarters of an inch, exploded at the end of an hour with a fearful report, wrecking the furnace. Several tubes of steel also burst under the enormous pressure, at last shattering the top of the furnace. The author remarks that in nature the temperature must at one time have

been much higher than anything we can now produce artificially; while the pressure obtained at a depth of 200 miles below the earth's surface, is greater than that which any of the materials from which we can form vessels can resist. We now come to the great experiment which resulted in the artificial production of veritable diamonds. A tube 20 inches long by four inches diameter, of coiled Lowmoor iron, was bored so as to have an internal diameter of half an inch. Thus the central bore was surrounded by walls of iron $1\frac{1}{2}$ inches thick, and, of course, capable of resisting an enormous pressure. In the tube was placed a mixture of 90% of bone oil and 10% of paraffine spirit, together with 4 grams (about 62 grains) of the metal lithium. The open end of the tube was welded air-tight, and the whole was then heated to redness for 14 hours, and allowed to cool slowly. On opening it a great volume of gas rushed from the tube, and within was found a hard, smooth mass adhering to the sides of the tube. "It was quite black, and was removed with a chisel, and as it appeared to be composed principally of iron and lithium, it was laid aside for analysis. I was pulverizing it in a mortar, when I felt that some parts of the material were extremely hard—not resisting a blow, but hard otherwise. On looking closer I saw that these were most transparent pieces imbedded in the hard matrix, and on triturating them I obtained some free from the black matter. They turned out to be crystalline carbon, exactly like diamond.—*Iron Age.*"

FISH HATCHING.—A new interest is added to the marvelous industry of fish-hatching by the discovery that Spanish mackerel can be artificially hatched. The New York *Evening Mail* says that Prof. Earle, who made the discovery, prosecuted his investigations in Maryland; and his enterprise is likely to multiply manifold the supply of our markets with this toothsome fish. While five days are required to hatch shad, and from 8 to 12 days to hatch cod, the Spanish mackerel appear 18 hours after the milk and spawn are brought together, and 200,000 to 300,000 can be turned out at one hatching, while only 20,000 to 30,000 shad can be hatched in one batch. Another advantage is that the spawning time comes about the last of June, just after that for shad and just before that for cod. It is thus possible to provide for each fish in its season without inconvenience, and the Spanish mackerel will henceforth share with the shad and the cod the attention which Prof. Baird and his force give to the multiplication of the piscatorial population of the United States. As it is expected that 100,000,000 Spanish mackerel will be hatched the first year of the enterprise, it seems impossible to conjecture what proportions the industry of fish hatching will yet reach. The advocates of a fish diet for intellectual purposes must take great satisfaction in Prof. Earle's discovery, and if the stocking of our waters with an abundance of fish of the varieties most sought in our markets can improve the mental faculties of the people, great progress in that direction is to be anticipated.

LUMINOUS FLOWERS.—Among the elegant novelties of the hour offered for sale on the Paris boulevards are phosphorescent flowers, which glow with a lambent light in the dark, and almost rival their natural tints. They are rendered luminous by coating the petals with transparent size, and then dusting them with a phosphorescent substance, such as Canton phosphorus (sulphide of calcium) or Bologna phosphorus (sulphide of barium). Canton phosphorus is the best, and yields a soft yellow light. According to M. Becquerel, a good quality can be made by mixing 45 parts of flowers of sulphur with 53 parts of calcined oyster shells, and raising them to a temperature of between 800° and 900° centigrade in a crucible. After exposure to sunlight during the day, or to the electric or magnesium light, the flowers thus coated become brightly luminous in the dark.

INATTENTION.

The foe of married happiness is inattention. The real wrong to the wife, the real failure to the husband is when he becomes unconscious of what she is doing for him, and what she is in herself. A man should every day see in his wife the woman she is. Whatever purity, sweetness, womanliness he once saw in her, and thrilled at the sight of; whatever fuller and richer growth the years have brought—these things he should see in her continually. Not a mere part of the domestic machine should she be to him; not even a mere comfort and convenience and pleasure to himself—her soul, in its full stature should come home to his constant thought. Whatever charm of face or manner, whatever womanly grace, whatever quickness of thought or delicate sympathy, would strike a stranger's notice, ought far better to be seen and prized by him, her husband. It is little to say that her face ought to be as beautiful each day to his eyes as if they looked upon it for the first time; it should be far more beautiful, because he has learned to see through its windows the soul within. And in the same way the wife should look upon her husband. It is this true yet tender regard which makes the right atmosphere for the soul to ripen in. Few things touch us so deeply as to be understood. But to be understood and loved; to have the best that is in us made full account of; to know that our faults, too, are open to that sweet and gentle gaze; so long to be worthy of a love so pure and high that only our highest and ideal self can deserve it—what other influence can so strongly draw us toward all our noblest possibilities? This is the work of true marriage; to reveal two souls to each other in their ideal beauty, and then to bring that ideal to realization.—*Unity.*

A COLD AIR MOTOR.—A novelty in motive power, consisting of an engine set in motion by air combined with steam, is now on exhibition in New street. The invention consists of an attachment very much like a common air pump by which cold air is forced by the engine into the steam cylinder. The increase in the number of revolutions per minute of the fly-wheel, when this apparatus is applied, over the number it is able to make when the engine is run by steam alone, seems to indicate a great gain in power. A 10-horse power stationary engine is used to exhibit the appliance. The exhibitors claim that with this invention they can do 10% more work on 30% less coal, or in other words, that its use will effect a net saving of 37% in the cost of running an ordinary engine. On June 15th, with 385 pounds of coal, and while using a friction brake weighing 168 pounds, the engine with steam alone caused the fly-wheel to make 18,688 revolutions. On the next day, with the apparatus attached, but with only 270 pounds of coal—all other conditions being equal—the fly-wheel made 20,793 revolutions. For the purpose of thorough inspection by all who may be interested, the engine and appliance will be on exhibition in running order for some time. Engineers are particularly invited to test the truth of the exhibitor's statement.—*N. Y. Herald.*

LARGE FORGINGS.—A steel shaft forged by Krupp, at the Essen works, for the steamer *Harry Brown*, built at Pittsburgh, weighed 10 tons. Another shaft, forged with three cranks and coupling-flanges, exhibited in Mr. Krupp's group of forgings at the Philadelphia Centennial exhibition, weighed $13\frac{1}{2}$ tons. This is, however, a small weight compared with that of many shafts made by the same firm for ocean steamers. The forging for the large Krupp gun exhibited at the Centennial was more than three times this weight. Probably the largest steel forging ever made was a shaft produced at Essen several years ago. This shaft was 30 inches in diameter and 70 ft. in length.

ANOTHER IMPOSITION.

There appears to be a morbid determination on the part of certain yearning individuals to become healers of the sick, at all hazards. To adopt this profession, hang out a sign, and be known by a community of gaping, credulous patrons, as "Dr. Jalap," or "Dr. Calomel," and be privileged to write a well turned "M. D." at the hinder part of their names, would seem to these men to be an acquisition passing all other earthly emoluments.

Whether they see millions in it, or whether the mania springs from a covetous desire for deathless renown, will probably never be known outside of their own officious guild. As an offset to the legal restraints which popular indignation has caused to be put upon all forms of empiricism in the medical profession, a new base line has been adopted whereby young men having a gushing desire to become disciples of Esculapius, can purchase, for a price equivalent to a few weeks' salary, a through ticket to the coveted goal. The city of Philadelphia has the unenviable reputation of having foisted upon the indulgence of an unsuspecting public a new creation in the line of bogus medical colleges. A noble and persevering journalism, however, has arisen to confront the hideous imposition, and it is to be hoped that these moral nuisances will soon be swept from the civilized world. If Philadelphia was the first city to inaugurate bogus medical colleges, it is entitled to the honor of instituting the first successful crusade against them. The *Record*, of that city, has embalmed its name, forever, by zealously and fearlessly following to their hiding places several of these pests of modern society. In a late issue, this paper publishes an exhaustive report of one of its staff who was detailed as a sort of a scout, under the guise of an ardent and devoted student, to go and "graduate" at one of these electropathic schools, chartered with all the display of blue ribbons and red tape, by the City of Brotherly Love.

This simple-minded newspaper man made due application for admission into one of the suspected institutions. After paying about one hundred dollars, the young man was regularly matriculated; he then attended a full course of lectures, behaved himself courteously, got

a dash at the famous electric process, merely for the sake of knowing how to run the machine, presented an immaculate thesis, dissertation, or some other big thing on an abstruse medical topic, was examined, good-naturedly, by the long-haired professors in gold spectacles, and, before he had the faintest idea of his rare attainments, he was ceremoniously presented with a gaudy diploma, declaring him to be a far-fetched and full-fledged medicine man, finished even to polishing, authorized to practice his art without let or hindrance, and, of course, to cure all manner of dire diseases, perform surgical operations, etc., etc., all for the good of suffering humanity. But the most wonderful part of the story remains yet to be told. The exact time required for this strange metamorphosis, was, we believe, a trifle less than twenty-four hours; or, as the records have it, twenty-three hours, forty-seven minutes and eleven seconds.

The above relation of facts is but an introductory instance of what might be detailed in regard to the nefarious practices of a number of so-called medical colleges and universities in a leading city of the United States. But a thorough ventilation of the whole affair has been commenced in good earnest. The capital *expose* brought about by the Philadelphia *Record* has been extensively copied and commented upon; and the managers of the base impositions in question are beginning to suffer a just and well-timed retribution.

The Chicago *Journal of Commerce* has entered the lists, and, in a recent issue, gives utterance to the following scathing strictures on the subject:

"The shameful record made by a number of these bogus medical schools in Philadelphia is one of the most startling character, and illustrates to what measures some persons will resort to obtain money. Diplomas have been awarded to hundreds, not only in this country but also in Europe, who, without having acquired even the rudiments of a medical education, have branched out as physicians regularly graduated after a full course of study; persons, too, many of them, who do not possess the first requisites of a common school education. Some of our regular medical colleges in the West, turn out, each year, Spring and Fall, a batch of M. D.'s, who are, at best, a disgrace to the profession; but these Philadelphia schools are far worse than anything that has yet had an existence in this country

outside of a so-called medical institute of the eclectic pattern at St. Louis."

Thus, after what has been said in this connection, we are strongly reminded of the old adage, "One-half of the world are cheats, and the other half are their victims."

It is not at all unlikely that, among the confused mass of emigration now tending hitherward from the Atlantic States, there may be numbers of these machine-made healers of the sick seeking lucrative fields of labor within our own borders. We have but one word of caution. Let the intelligent people of our State be ever on their guard against the influence of quackery.

REMEDY FOR A COLD.—Eat no supper. On going to bed drink two tumblers of cold water. On rising in the morning drink freely of cold water. For breakfast eat a piece of dry bread as big as your hand. Go out freely during the morning. For dinner eat about the same as you ate at breakfast. During the afternoon take a sharp walk, or engage in some active exercise which shall produce a little perspiration. Go without your supper and retire early, drinking before you jump into bed as much cold water as you can swallow."

CURE FOR A FELON.—Take common soft soap and stir in air-slacked lime till it is of the consistency of glazier's putty. Make a leather thimble, fill it with this composition, and insert the fingers, and cure is certain.

A class of little "primary" children were busily engaged in their reading lessons. They read in order, something like the following: "The hat is in the box." "The man is in the box." "The rat is in the box." "The cat is in the box." When all at once up came a chubby little hand, the signal for permission to speak. "Well, what is it, Mattie?" said the teacher. "I should fink 'e box' doo be full after a while."

"Mamma," says four years-old Minnie "What are we made of?" "Dust, my dear," replied mamma. Not long after Minnie is heard instructing her younger brother. Do you know what we are made of?" She asks. "No." "Well, now, I'll tell you, and you must allers 'member it. We are made of sawdust!"

A little 5-year-old friend, who was always allowed to choose the prettiest kitten for his pet and his playmate before the other nursling were drowned, was taken to his mother's sick room the other morning to see two tiny, new twin babies. He looked reflectively from one to the other for a minute or two, then poking his chubby finger into the cheek of the plumpest baby, he said decidedly, "Save this one."

TWO INCIDENTS IN THE LIFE OF AN
AMATEUR FISHERMAN.

A FOUL START.



A LIVELY CATCH.

THE BEAUTIFUL UNKNOWN.

SAM. L. SIMPSON.

I.

How passing fair some scene that lies
Afar in Nature's virgin wild—
At midnight, when from curtained eyes
The moon looks down with glances mild—
And with bent face, Madonna pale,
Above a cradled lake's retreat,
Thus softly drops her cloudy veil
And steals a kiss divinely sweet.

II.

The very breezes there have died,
The birds are dreaming of their loves,
And only on the raptured tide
The night's angelic spirit moves;
And lo, the bright and tranquil lake
A goddess seems, in sleep delayed,
Whom Paris saw, and would not wake,
As erst in Ida's groves he strayed.

III.

The islands are like airy gems
That deck a dreaming maiden's breast,
When all her thoughts are diadems
Of perfect love and perfect rest.
No city gleams beneath the hill—
No castled crag stands dark and bold,
For e'en the stars' light laugh would thrill
And break the dim enchantment's hold.

IV.

A pictured sigh, a brodered dream
Of tender beauty and repose
That needs alone that magic beam

In which the vestal flowers uncloze,—
All in some wilderness enshrined—
Away from smoky haunts of men,
Or in some gentle poet's mind
Who never knew the toiling pen.

HOMES OF GLASS.

BY J. L. MORRISON.

I know that I have many faults—
Pray tell me who has not—
And on the record of the past
Is many a stain and blot;
Can man or woman e'er be found
But truthfully must own,
So much of home is built of glass
They should not throw a stone.

I know that 'tis imperative
To reap just as I sow,
That not from fountains foul and stained
Can limpid waters flow;
Neither can holy thoughts tran pire
From evil hearts I own;
My home is built so much of glass
I dare not throw a stone.

I know 'tis easy fault to find
With erring brother man,
And self-conceit fails never to
Suggest a better plan;
In looking for our neighbor's faults
We oft forget our own,
And tho' our homes are built of glass
Sometimes we throw a stone.

I know that but an id'e word
May much of mischief do,
Tho' every thought in language clothed
Undoubtedly be true;
Gossip and scandal, chicken like,
To roost may yet come home,
So we whose buildings are of glass,
Had best not throw a stone.

CHILDREN.

Somebody very sagely remarked,
"there is a great difference in children,"
and the thought has occurred to the
writer that there is a great difference
in parents also.

Every intelligent person may see
that while the little folks belonging to
one family may be trusted implicitly
among the most costly plants, or other
highly prized articles, such as are to be
found in refined homes, those of an-
other seem to have been created
especially for getting into everything
they should not get into; destroying
choice plants, scratching furniture,
greasing floors, worrying cats, dogs, or
anything else that will submit to being
tortured by them,—in short, making
everything and everybody that has the
misfortune to be afflicted with their
presence, so thoroughly uncomfortable

that the patience of the average Chris-
tian is tried beyond endurance.

To illustrate: Mrs. A. who has the
"knack" of making things look nice
about her home, is visited by Mrs. B.
with her small children. Everything
goes along nicely. The children move
among the flowers and other treasures,
in a manner that convinces the owner
at a glance that there is nothing to be
feared for her pets from those little
hands. Even the mother canary chirps
a welcome. The graceful Calla can
lose none of her grace by their pres-
ence, and the kingly Begonia may wear
his leafy crown in perfect safety. It
would be superfluous to say that there
is nothing low, nor coarse, nor vulgar
about that mother. Her children are
the children of a lady, therefore, they
are lady-like and gentlemanly them-
selves.

Anon comes Mrs. C. and her children,
and with them comes trials and vexa-
tions and losses that no housekeeper
ought to be called upon to submit to.
Choice plants, worth perhaps, several
dollars, are disfigured for the season or
ruined outright, furniture scratched or
broken, floors are greased,—in short,
the place bears the appearance of having
been visited by a large flock of goats
and a tallow chandler besides, instead
of a small army of very small hoodlums,
who might be taught better in five
minutes, but they have not the teacher,
and with increase of size comes in-
creased capacity for mischief, till they
become a terror to all who are afflicted
with their presence. This part of the
picture might be drawn out indefinitely,
but it is not pleasant to contemplate,
and to be delivered from the reality is
something to be prayed for.

These lines are not overdrawn, and
it may be seen at a glance that there is
a difference in children, and a great dif-
ference in parents. S.

A school mistress, while taking down
the names and ages of her pupils, and
of their parents, at the beginning of the
term, asked one little fellow, "What's
your father's name?" "Oh, you
needn't take down his name, he's too
old to go to school to a woman" was
the innocent reply.

Some people are born to ill luck. An
old woman who has pasted nearly five
thousand medical recipes in a book dur-
ing the past forty years has never been
ill a day in her life, and she is growing
discouraged.

CHILDREN'S DIET.

Five old women about a quilt! Can the pen of one give a tithe of their conversation record? Let us attempt but a part of it. Mrs. Green began the tournament.

"Why, I've ben to hum. 'Tain't real handy to take to baby-tendin' when ye git along in years a spell; but there don't seem to be nobody else to take care of Bezy's babe but me. Bezy's as pernickity as a woman about the child; he won't lemme give it a speck of nothin' but red cow's milk, an' he's nigh about seven months old, an' he'd oughter set in lap to the table, an' take a taste of vittles along with us. My land! my children used to set to an' grab things as quick as ever I fetched 'em where they could. Little Jemimy was the greatest hand for b'iled cabbage ye ever did see; an' pork! how that child would holler for fried pork! There wa'n't no peace to the wicked till she got it; she'd ha' been a splendid child ef she'd lived; but the summer complaint was dreadful prevalent that year, an' it took her off in the wink of an eye, as ye may say; allers does the healthy children. Then my Samwell, why he was the greatest hand for pickles that ever was; he'd git a hunk o' fried steak into one leetle hand an' a pickle into t'other, an' he would crow an' squeal. Cuttin' of his stomach teeth was the end o' him: got 'em too early, was took with convulsions, an' died right off. An' the twins: well, they favored beans—baked beans an' minute puddin'; they was eighteen months old when they died, an' they eet toast an' cider like good fellers only the day they was took sick; we'd hed buckwheats an' tree molasses for breakfast that day, an' I expect they'd eet so much sweet it kinder made 'em squeamy, so 't the hard cider just had the right tang. Poor little creturs! mabbe 'twas the bilious colic a-comin' on made 'em dry; anyway they was awful sick with 't, an' they died a Sunday week, for they was took of a Sunday, an'—"

Miss Poly Paine, a short, plump old maid, gently interrupted here; she thought Widow Walker had occupied the floor long enough.

"But, say, what do ye give it red cow's milk for? I never knowed there was any great o' virtue in red cows."

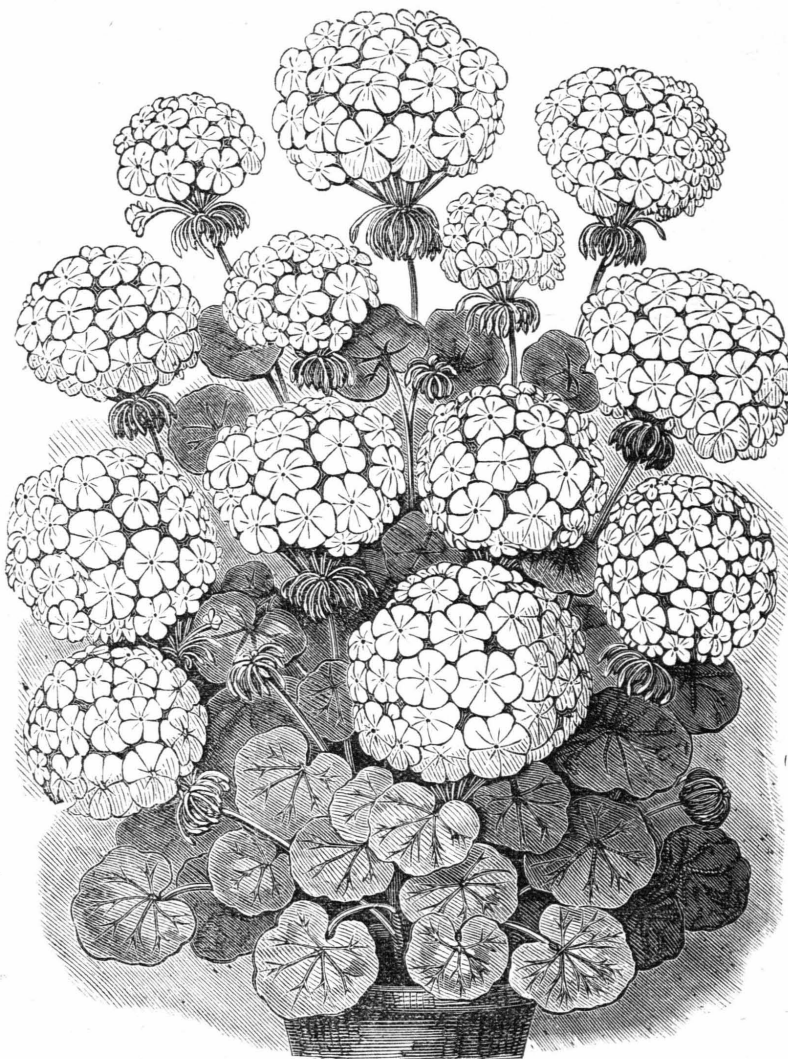
"Sakes alive!" Here Semanthy House, Deacon House's wife, took up the thread of conversation. "I want to know ef ye didn't? Why red's the powerfulest thing! You jest put a red flannel round your throat, and it won't never be sore; an' a red string in your ears 'll keep off fever, everybody knows; but then I don't hold to fetchin' up a child on milk altogether; they won't never make old bones that way. I b'lieve in hearty vittles for everybody. Pie's real hearty ef ye make it good, an' so's cheese, when ye can't git butcher's-meat. I b'lieve I could stan'

it the year round on pie an' cheese an' baked beans."

"Well, ye see," potted on Mrs. Walker, who seized a chance to begin again, "Bezy he won't hear to no reason; he claims he knows more about fetchin' up children than I do, spite of my hev'in' hed four on 'em: he speaks about their all dyin' off, an' he says he wants his'n to live—a-flyin' in the face of Providence, as ye may say, for we all know folks die by the dispensations of Providence, an' mortal

of their seven senses, a-shakin' of 'em over the pit, as ye may say. They don't mind nothin' but a real scare, and they don't mind that no great.—*Harper's Magazine.*

A WELL GROWN GERANIUM.—In contrast to the scraggy, scrawny things growing in tin cans, and misnamed geraniums, we present our readers with a correct picture of a handsome, well grown, pink geranium just one



A WELL GROWN GERANIUM.

man can't say, 'Why do ye so?' to the Lord; but I don't know but what brother Bezy thinks he can; he sets dreadful loose to religion, 'specially doctrines and sech; says he wishes 't Parson Pine wouldn't say sech a lot about 'lection, an' hell, an' decrees, an' more about mercy an' lovin'-kindness. Land! I want to know how you're goin' to fetch hardened old sinners like some ye could mention ef ye was a-min' to—an' I guess we all know who they be without namin' of 'em—inter the kingdom, ef ye couldn't scare 'em out

year old, raised by a friend from a 2-inch slip. It simply illustrates how well plants repay the care bestowed on them.


Two Tennessee girls had a duel in regular man style. They both fired at the word, and one hit a boy who was climbing over the fence, and the other hit a calf in the field. Both acknowledged that they had received satisfaction.

Oregon Railway and Navigation Company.

COLUMBIA RIVER DIVISION.

PASSENGER SCHEDULE.

Beginning April 1, 1880.

 PASSENGERS LEAVE PORTLAND FOR DALLES, UMATILLA, WALLULA and WALLA WALLA--Daily, (except Sunday,) at 5 A. M.

FOR LEWISTON and points on Snake River--Monday, 19th; Tuesday, 20th; Friday, 23d; Saturday, 24th; Wednesday, 28th; Thursday, 29th, at 5 A. M.

FOR KALAMA, TACOMA and SEATTLE--Daily, (except Sunday,) at 6 A. M.

FOR VICTORIA--Wednesday and Saturday at 6 A. M.

FOR ASTORIA--Daily, (except Sunday,) at 6 A. M.

For Cathlamet, Bay View, Skomackoway, and Brookfield--Monday, Wednesday and Friday, at 6 A. M.

For Westport, Clifton and Knappa--Tuesday, Thursday and Saturday, at 6 A. M.

WILLAMETTE RIVER DIVISION.

STEAMERS leave PORTLAND from the Central Wharf, between Washington and Alder Sts., as follows:

FOR DAYTON--Tuesday, Thursday and Saturday, at 7 A. M.

FOR SALEM, ALBANY, CORVALLIS and intermediate points--Monday and Thursday, at 6 A. M.

[For Lightering and Towing of Vessels Between Portland and Astoria apply at the office of the Company, near corner of Front and Ash streets, GEO. J. AINSWORTH, Steamboat Agent.

Oregon Railway and Navigation Company, Pacific Coast Steamship Company

ONLY DIRECT LINES
Between San Francisco, Cal. and (Portland), Oregon and Washington and Idaho Territories.

The Steamers engaged on this route are the
New and Powerful Iron Steamships OREGON."

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Steamer leaves San Francisco and Portland every five days.

Connecting at Portland with the Oregon and California and Western Oregon Railroads for all points in the Willamette, Umpqua, and Rogue River Valleys and Southern Oregon. With the Oregon Railway and Navigation Company's boats for all points on the Upper Columbia River, Eastern Oregon, and Washington and Idaho Territories, also, with a regular line of Steamers to Victoria, V. I., Fort Wrangel and Sitka, Alaska Territory. Tickets to all points on the O. & C. R. R. and W. O. R. R. sold at reduced rates.

To save expense and detention, parties should be careful to ask for tickets by this route.

G. W. WEIDLER, Agent O. R. & N. Co's S. S., Front St., near Ash, Portland, Ogn.

J. McCRAKEN & Co., Agents P.C.S.S. Co., 60, 62 and 64 North Front St., Portland, Ogn.

Every Physician, whose name appears in this column, is a graduate of a reputable Medical College.

H. Carpenter, M. D.

(Late of Salem.)

OFFICE--First and Morrison street, up-stairs.

Residence--375 Fourth Street, corner of Montgomery.

Wm. B. Cardwell, M. D.

OFFICE and Residence--Southwest corner First and Morrison streets.

J. A. Chapman, M. D.

OFFICE--Stowbridge Building, corner First and Alder.

Residence--Cor. First and Market.

F. B. Eaton, M. D.

(Diseases of Eye and Ear.)

OFFICE--Northwest corner First and Morrison streets.

Residence--Corner East Park and Yamhill.

E. P. Fraser, M. D.,

OFFICE--Northwest corner First and Stark streets--Union Block.

Residence--274 Second street.

R. Glisan, M. D.

OFFICE--Stowbridge Building, corner First and Alder streets.

Residence--Northwest corner Tenth and B.

R. G. Rex, M. D.

OFFICE and Residence--Southwest corner First and Morrison streets.

Curtis C. Strong, M. D.

OFFICE--No. 3, Dekum's Building.

Residence, 225 West Park street.

W. H. Saylor, M. D.

OFFICE--Rooms 1, 2 and 3, Union Block, cor. First and Stark streets.

Office Hours--9-10 a. m., 1-4 and 7-8 p. m.

Holt C. Wilson, M. D.

OFFICE--151 First Street.

Residence--Corner Fourth and B Streets.

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And His Diseases,

— BY —

B. J. KENDALL, M. D.

Full of Valuable and Practical Information,

AND CONTAINING

AN INDEX OF DISEASES,

Which gives the Symptoms, cause, and the Best Treatment of each; a table giving all the principal drugs used for the Horse, with the ordinary dose, effects, and antidote when a poison; a table with an engraving of the Horse's Teeth at different ages, with rules for telling the age of the Horse; 65 engravings showing the important points in the structure of the horse, also illustrating positions assumed by sick horses in different diseases. A valuable collection of receipts, many of which would cost a horse-owner three to five dollars each.

Every Farmer

SHOULD OWN THIS BOOK.

Thousands who have seen it commend it, and many good horsemen have extolled it in the highest terms, even stating that they prefer it to books which cost \$5 to \$10.

Do not throw away your money in the purchase of costly books on the Horse, which are so full of Latin phrases and technical terms as to be unintelligible to the average reader, but

BUY KENDALL'S TREATISE,

A book of 100 pages, in paper covers, giving you more practical information than is contained in some large volumes at far higher cost.

Having examined this book thoroughly, we are satisfied no

HORSE-OWNER

Would hesitate a moment about investing 25 cents in its purchase, if he did not know the value of its contents. Recognizing the desirability of having such practical information as our farming friends daily need in their business, provided at reasonable cost instead of being obliged to pay the enormous profits demanded by the Publishers of most Agricultural books, we have secured

SEVERAL HUNDRED COPIES

Of this valuable little Treatise on the Horse, single copies of which we shall be pleased to mail to any reader of this paper, postage prepaid by us, on receipt of

25 Cts. in Postage Stamps.

Send all orders to

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ST. HELEN'S HALL,
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A Boarding and Day School FOR GIRLS.

The Christmas Term of this School will Open on Wednesday, the 1st September

This school employs eleven teachers of superior and varied acquirements, and offers uncommon advantages for the education and culture of girls.

For admission apply to the Principal, Miss MARY B. RODNEY, or to BISHOP MORRIS

PORTLAND MECHANICS' FAIR, 1880.

The Annual Exhibition
OF THE
Portland Mechanics' Fair Association
WILL BE

Opened on the 7th and Close on the
23d of October.

The Pavilion is being enlarged by the addition of two wings. The south wing is destined for the Floral Display, and the north wing for the Machinery exhibit.

Intending exhibitors will please file applications for space at an early date, by applying to the Superintendent, Room 26, Union Block, where all information concerning the Fair will be cheerfully given.

By order of the Board of Directors.

E. OLDENDORFF, Supt.

Oregon Transfer Company. General Forwarding and Commission.

Freight and Baggage Forwarded
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Pianos and Furniture Moved.

Orders for HACKS promptly at-
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THOS. VARWIG,
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And dealer in Lead and Iron Pipe,
Copper Bath Tubs, Copper Balls, Copper
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ent Closets, Marble Basins, Rub-
ber Hose,
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NEW YORK HOTEL,
Deutches Gasthaus, 17 N. Front St., onposite
Mail Steamship Landing, Portland, Or.
H. ROTHFOS & CO., Proprietors.
Board per week \$4; Board per week, with Lodg-
ing, \$5; Board per day, \$1; single meals, 25 cts.
lodging, 25 cts
Baggage conveyed to and from the House free of
Charge. No Chinamen employed.

A. H. JOHNSON,
Stock Broker, wholesale Butcher and
Packer, and dealer in all kinds of
Fresh and Cured Meats, Bacon,
Hams and Lard.
Special Attention given to supplying Ships.
Stalls 26, 27 and 28, Central Market.
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Silk Hats. The largest
and best
assortment
at
Meussdorffer's Hat Manufactory,
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L. Rose & Co., London, Lime Juice
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VICTORIA, B. C.
Manufacture Steam Engines
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GENERAL MACHINE WORK.
Having started a **Stove Foundry** in con-
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ish to the imported article and at
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Fly," leave my wharf for Nanaimo, weekly.

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COFFEE AND SPICE MILLS.
General Italian Warehousemen,
Fort St., Cor. of Broad, Victoria, B. C.
All Shipping Orders completely and promptly
filled and delivered per Express Van, Free of
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Always ask for Fell's Coffee at the Mines.

JOSEPH GOSNELL,
Importer and Dealer in
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Island and Oregon Produce,

Corner of Douglass and Cormorant Sts.,
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Keep constantly on hand Tea, Coffee, Butter,
Eggs, Flour, Oilman's Stores, etc.
Ask for Gosnell's own Home-cured Hams
and Bacon.

JACOB SEHL,
Manufacturer and Importer of all kinds of
Furniture,
Bedding, Mirrors, Picture Frames
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WINDOW BLINDS & CORNICES,
And a full assortment of
Carpets, Oil Cloths, Marbleized Iron
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May always be found a fine assortment of
Rare Vases, Clocks, and Parlor Or-
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Toys, Shells, and Curios,

Just such Goods as visitors from abroad delight
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A first-class establishment in every respect.

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UPHOLSTERER,
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Upholstery Goods.
Bedding and Lounges on hand or made to order.
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WASHINGTON TEACHERS' INSTITUTE.

We have received a neatly printed pamphlet entitled, "Appeal for Teachers' Institutes, and proceedings of the Washington Teachers' Institute and Educational Association;" compiled and edited by Mr. J. E. Clark, Secretary of the Association, and published at the *Courier* Book Printing Office, Olympia, W. T. The work contains about seventy pages, reflects credit upon editor and publisher, and, what is more than all else, clearly evidences that the people of Washington Territory are fully up to the times in the course of education.

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

The enterprising Dry Goods House of J. F. D. Wrinkle & Co., cor. of First and Salmon Sts. are as usual the first in the field to mark down their stock of summer Dry Goods, thereby offering a good opportunity to our readers to obtain good reliable Goods at lower prices than the auction trash offered by other houses. They fill orders by mail with unusual care.

Seeding and planting time is approaching, and the question where to obtain reliable seeds and trees is easily answered by informing our readers that H. Hanson, the reliable Nurseryman, is again in the field with a large and well-selected stock of tried Trees and Seeds,—when you need anything in the line of Trees, Shrubs and Seeds, by all means call on H. Hanson, Front street, near Oak,

GREAT MARK DOWN

Summer Dress Goods

J. F. D. WRINKLE & CO'S.

We have commenced this day our regular MARK DOWN SALE of Summer Dress Goods, believing this to be the only way to clear off our stock, preparatory to opening our Fall Goods, which are now on the way from the East—and as our stock has been larger than usual this season, we have a great many bargains to offer among which are the following:

Fine Black Cashmere, 38-inch wide, 50c per yard.

Fine Black Cashmeres, 40-inch wide, all wool, 75c per yard.

A Large Assortment in Summer Silks, in Checks and Stripes, reduced from \$1 to 50c.

A Fine Line of Black Silks, reduced 50 per cent.

Handsome Line of Dress Goods at 12 1-2, 15, 20 and 25c per yard.

The Largest Stock of Hamburg in the city at Half Price.

2-button French Kid Gloves, 50c. worth \$1.00.

4-button French Kid Gloves, 75c, worth \$1.50.

Fancy Dress Goods, Summer Shawls, Ribbons, Laces, Corsets, Parasols, Ruchings, Dress Trimmings, Handkerchiefs, etc., etc., at reduced prices.

Sweeping Reductions in Every Department!

No Bankrupt Stock or Auction Goods in this stock,

In order to make this the most attractive and successful sale we have ever had, every department has been gone over and re-marked to such prices as must insure their speedy disposal. Those coming first will secure the best assortment.

J. F. D. WRINKLE & CO.,

221 First St., Cor. Salmon,

ESTABLISHED 1852.

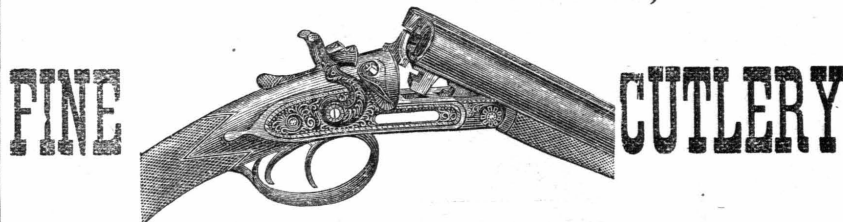
Sportsmen's Emporium.

WM. BECK & SON,

Corner Front and Alder Streets, PORTLAND, OREGON,

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Guns, Rifles ^{AND} Revolvers,
FIELD GLASSES,

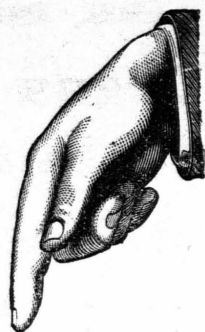


Fishing Tackle, Base Balls, Archery,
Sporting Goods,

Velocipedes, Hammocks, Fireworks, Lawn Tennis,

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ONE PRICE TO ALL!

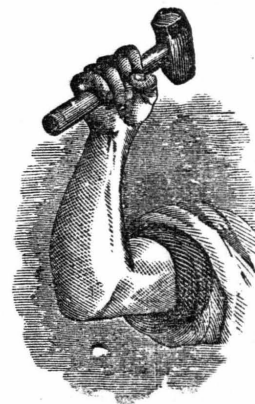
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Are now ready Sent to any part of Oregon and Washing-
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Address all orders---

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CROCKERY, GLASSWARE,
Lamps, and Hero Oil.

Agents for Maddock's Semi-Porcelain Goods,
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Warranted not to crack.

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Dry Goods and Millinery

—AT—

WHOLESALE AND RETAIL.

Dolmans, Capes, Walking Jackets,
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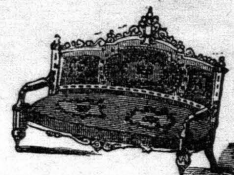
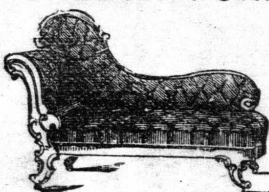
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