SCIENTIFIC AMERICAN.

THE ADVOCATE OF INDUSTRY AND ENTERPRISE, AND JOURNAL OF MECHANICAL AND OTHER IMPROVEMENTS.

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THE SCIENTIFIC AMERICAN
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(The Principal Office being at New York,)

By RUFUS PORTER.

Each number of this paper is furnished with from two to five ORIGINAL ENGRAVINGS, many of them elegant, and illustrative of NEW INVENTIONS, SCIENTIFIC PRINCIPLES, and CURIOSITIES; and contains as much Interesting Intelligence as six ordinary daily papers, consisting of notices of the progress of Mechanical and other Scientific Improvements,—American and Foreign Inventions, Catalogues of American Patents,—Scientific Essays, illustrative of the principles of the Sciences of MECHANICS, CHEMISTRY, and ARCHITECTURE;—Instruction in various Arts and Trades;—Curious Philosophical Expements;—Miscellaneous Intelligence, Poetry and, occasionally, Music.

TERMS.—"The Scientific American" will be furnished to subscribers at $2, per annum,—one dollar in advance.

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TERMS OF ADVERTISING.—For 10 lines, or less, 50 cents for the first, and 12 1-2 cents for every subsequent nsertion.

Sympathy.

A knight and a lady once met in a grove,
While each was in quest of a fugitive love;
A river ran mournfully murmuring by,
And they wept in its waters for sympathy.
"Oh never was knight such a sorrow that bore,"
"Oh, never was maid so deserted before.
"From life and its woes let us instantly fly,"
And jump in together, for company."

They searched for an eddy that suited the deed,
But here was a bramble, and there was a weed;
"How tiresome it is," said the maid, with a sigh—
So they sat down to rest them in company.
They gazed on each other, the maid and the knight;
How fair was her form and how goodly his height—
"One mournful embrace," said the youth, "ere we
So kissing and crying kept company. [die."

"Oh, had I but woo'd such an angel as you;"
"Oh, had but my swain been a quarter as true"—
"To miss such perfection how blind was I!"
Sure now they were excellent company.
At length spoke the lass, 'twixt a smile and a tear:
"The water is cold for a watery bier,
When the summer returns we may easily die;
Till then let us sorrow in company."

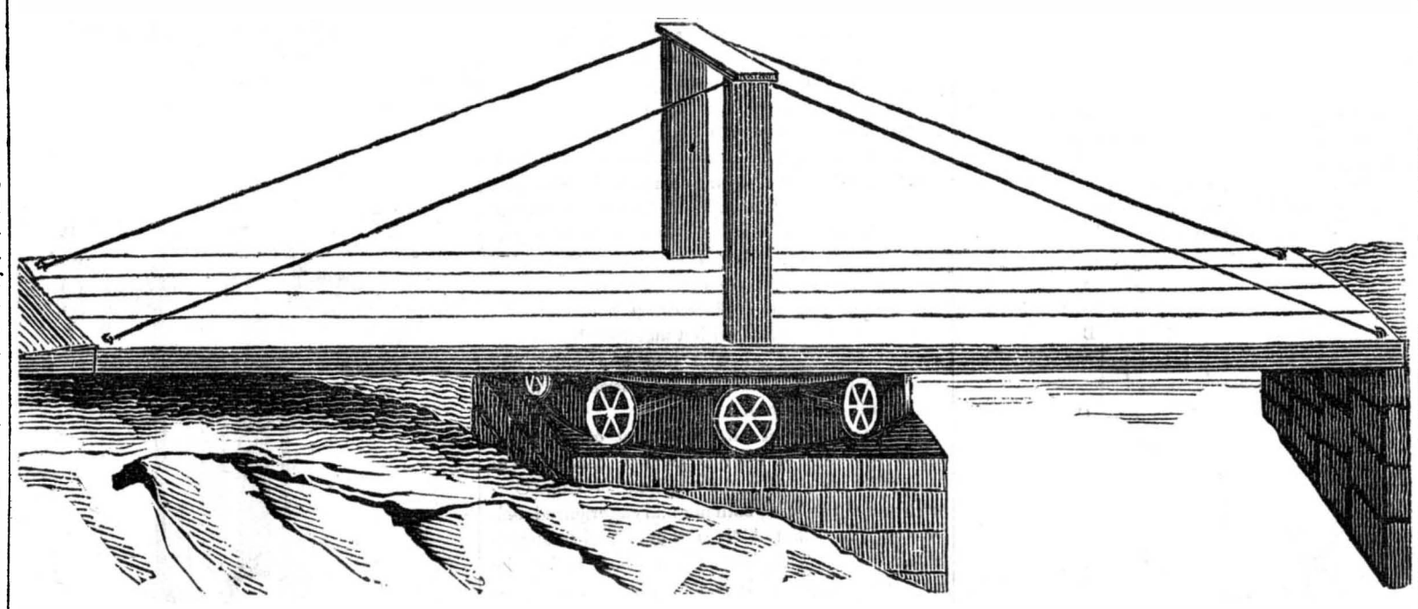
Sneezing.

Like a dog and a tin kettle,
Like a bill a man can't settle,
Like a hat without a crown,
Like a bottle upside down,
Like a coat that doesn't fit,
Like a piece of would-be wit,
Like a pot of ale that's dead,
Or like pasteboa d gingerbread,
Like the queerest thing you please
Is the checking of a sneeze!
Like a squinting lady's leer,
Or a cross-eyed auctioneer;
Like a hat blown off a head
When the head is very red,
And the hat along the street
Runs a race 'tis hard to beat,
With the owner running after,
Amid roaring peals of laughter!
Like the man without the hat—
Half a sneeze is just' like that.
Like a stale and broken charm
Is a sneezing false alarm;
Like a snapping fiddle string,
Or a more vexatious thing.
But like water when you thirst,
Or a hope to crowning nurst,
Like a friend's returning smile
After wrath and storm awhile,
Or like aught bestowing case
Is a good and hearty sneeze.

NAPOLEON'S HEART.—After the death of Napoleon, his heart was taken out by his English physician, to be embalmed. This physician laid the heart in a large silver dish, and poured cold water over it. He then placed a burning wax taper on each side of the dish, which was in the middle of a table, and went to bed in the same room; but having of course become excited by his singular employment, he had no sound sleep. While lying in a half dreaming state, he was completely aroused by a flashing in the silver dish. A shudder passed over him—he knew not what to think of the singular occurrence, and remained perfectly still; but in a moment more he heard a fall, and starting up, discovered the cause of his alarm. A monstrous rat had drawn the heart from the dish to the floor, and when the doctor reached the spot he was in the very act of dragging it to his hole. In another moment that heart, for which half the globe was too narrow, would have become the supper of a common rat!

IMPORTANCE OF INSECTS TO COMMERCE.—The importance of insects to commerce is scarcely ever treated of, at the present rate; Great Britain does not pay less than a million of dollars annually for the dried carcasses of a tiny insect—the Cochineal. Gum Shellac, another insect produced from India, is of no less pecuniary value. A million and a half of human beings derive their sole support from the culture and manufacture of silk, and the silk worm alone creates an annual circulating medium of between one hundred and fifty and two hundred millions of dollars.

WRIGHT'S IMPROVED SWING BRIDGE.



EXPLANATION.—This engraving requires no reference, as the peculiarities are plainly shown without them. The improvement consists principally in the arrangement of a series of wheels which play between the central part of the bridge, and a circular railway below. The central part of the bridge consists of a circular platform, which rests on the top of the wheels, and the latter being connected to a central revolving post, the bridge is almost perfectly relieved from friction, as it swings round horizontally to open a passage for boats. There is no definite limit to the length of the bridge, but it is expected to extend the projecting end, from the centre, to the distance of sixty feet, or more, with safety. If it is preferred to have the bridge mounted on a central pier, so as to open a passage on both sides, there may be an arrangement of geer work connected to the wheels with advantageous leverage, whereby the bridge may be turned on its centrs by two men standing thereon with ctanks. In cases where it may become requisite to erect two such bridges,—one on each side of a channel, the landward end of each, must be restricted from elevation, by means of strong bars, to be firmly secured to the rocks or earth below, while the ends of the bars project a little over the end of the bridge, when in its road-way position. This security of the landward end must be equal to the greatest weight of teams, &c., that may be expected to pass over the bridge, and it may be requisite for this purpose, to bury some large flat stones six or more feet deep in the earth, and connect them by vertical iron rods to the bars which are above, which secure the end of the bridge from rising by the preponderance of loaded teams. This improvement was invented by Mr. C. D. Wright, of Hebron, Ct., who intends to apply for a patent therefor, as soon as he has tested the improvement by actual experiment.

OIL ON WATER.—It is said that there was once a law in force in England, that when a ship was in danger during a tempest, and it was necessary to throw goods overboard to lighten the ship, if any oil was on board, and it could be reached, that must be thrown overboard first, that it might produce the effect of smoothing the waves, and prevent danger by shipping seas. It is said that even at this day the Raggusians, when they go on a fish-spearing excursion, throw oil upon the water with a brush that they may thus obtain a clear prospect of the bottom. The transparent openings thus formed, they call *windows*. Doubtless oil could sometimes be used to advantage in this way by the fishermen in our harbor—and cases have occurred, when, during a violent sea in a furious gale, vessels have been rendered comparatively safe, by getting a cask of oil on deck and boring a hole in it with a smal gimlet. The ship drifting to leeward, would have an unruffled surface of the ocean to windward, and of course avoid all risk of shipping a sea, or of being otherwise roughly handled by the waves.

ENOUGH! ENOUGH!—A Frenchman, who knew very little of our language, unfortunately got into a difficulty with a countryman, and fight he must, and that too rough and tumble. But before he went at it, he was anxious to know what he should cry if he found himself whipped. After being informed that, when satisfied, all he would have to do would be to cry out "enough," at it they went: but poor Monsieur, in his difficulties, forgot the word, and finding his eyes likely to be removed from their sockets, he began to cry out: but instead of saying what was told him, he commenced bawling lustily, "Hurrah! hurrah! hurrah!" To his astonishment, the countryman kept pounding harder, when Monsieur, finding there was no use in halloing, turned and went to work in such good earnest, that it was not long before the countryman sang out in a stentorian voice,—enough!

"Say that again," said the Frenchman.

"Enough! enough!" cried he again. When the Frenchman in his turn exclaimed, "Be gar, dat is the vere word I was try to say long time ago."

VARIETY OF CLIMATE IN MEXICO.—Conformably to the law of nature, which makes the climate effect of an elevation of 3,000 feet equal to a difference in latitude of ten degrees, we find in Mexico all imaginable variations and shades of climate, piled above one another, as it were, in stories; and may in a few hours, often several times in the course of a day's journey, descend from the world of hyacinths, mosses and lichens, from the regions of ever-benumbing cold, of perpetual snow and ice, into that of ever-dissolving heat, where the inhabitant goes naked, his brown skin anointed with grease, to make it less sensitive to the sun's burning rays, and dwells in bird-cage shaped huts, open to the air. Situations more or less sheltered from the wind, especially the northwest wind, more or less exposed to the influence of the sun-beams; greater approximation to the west coast, where the air is perceptibly milder than on the east; want of abundance of wood and water, are all circumstances which modify the temperature in the most surprising manner, at the same height above the sea, and in the same parallel.

TITULAR HONOR.—A countryman entering one of the Western hotels, wrote after his name, P. O. P. F. C. "Pray my dear sir," asked a bystander, "what do these letters stand for?" "Stand for, why that's my title!" "Yes, sir, but what is your title?" Why, Professor of Psalmody and Schoolmaster from Connecticut."

DREAMING.—An old lady who was apt to be troubled in her dreams, and rather superstitious withal, informed the parson of the parish that on a night previous she dreamed she saw her grandfather, who had been dead for ten years. The clergyman asked her what she had been eating. "Oh, only half a mince pie!" "Well," said he, "if you had devoured the other half, you might have seen your grandmother!"

MINERAL WEALTH.—On Lake Superior, at Copper Harbor, a copper mine has been opened twelve feet wide, and from the top to the bottom of the hill 200 feet—rich in copper and silver. One native piece of copper found there weighs 2000 pounds, and they have found 2000 pounds in smaller pieces. They are getting out immense quantities of the purest ore,—one piece of pure silver, as large as a hen's egg. It is a source of great wealth.

WEALTH.—We understand that Tirrell possessed when he came of age, an estate amounting to about $15,000, the principal part of which was spent during his intercourse with Mrs. Bickford. How often do we see fathers toiling for the "root of evil," to leave for their children, which in a majority of cases is the cause of their ruin. It is much better that a young man should be trained in the school of poverty and adverity. The lesson is severe, but it will develope the energy of the character, and bring into play the best and noblest qualities of man.—How many of our distinguished men struggled with poverty in their youth! Let no poor man despair—let no rich man count too much upon the benefit of wealth.

WONDERFUL ANIMAL.—The Melbourne (Australian) Courier, according to the reports of natives, describes a gigantic amphibious animal, which they call *Bunyip*, and paint in form as between a bird and an alligator. In the water, it swims like a frog; on the land it walks upright (12 or 13 feet) on its hind claws; lays eggs twice the size of the emu, and hugs its prey to death in its powerful limbs. One native declared that his mother and another woman had been devoured by this monster at the Barwon Lakes; and his account of its ferocity was confirmed by a companion, named Mambowran, who showed the marks of its capper-clawing in wounds upon his own breast.

BAD MECHANICS.—A quaint speaker at the late temperance convention, held at Columbus, Ga., remarked that the retailer was the only mechanic in our community who was ashamed of his work. When other mechanics finish a job, they usually hang it out at the door, as a specimen of their workmanship, to invite purchasers. But when a retailer finishes a job, he generally hides it in a back room, or unceremoniously thrusts it into the street, that passers by may not be permitted to behold a specimen of his handy work. They see it, however, "through a glass, darkly."

MAHOGANY TREE.—The mahogany tree of St. Domingo, is a tall, straight, and beautiful tree, with no flowers, and oval, lemon-sized fruit. When found on a barren soil the grain is beautifully variegated. On rich soils it is more open and porous, the grains coarser, and the value of the wood much less.

A CURIOUS CALCULATION.—Noah's ark was longer than any North River steamboat by one half—taking the cubit at 22 inches, it was 547 feet long, 91 broad, and 54 high, measuring, according to Bishop Wilkins, 72,620 tons.

CURIOSITIES OF NEWSPAPER LITERATURE.—We find the following remarkable announcement of facts among the advertisements, which fairly come under the head of phenomena. We are told in one place that there may be had "An airy bedroom for a gentleman twenty-two feet long by fourteen feet wide." The bed-room ought indeed to be airy to accommodate a gentleman of these dimensions. Again we read of "A house for a family in good repair," which is advertised to be let with immediate possession. A family in good repair means, no doubt, one in which none of the members are at all cracked. The last oddity to which we shall call attention, is an announcement of there being now vacant "A delightful gentleman's residence." "The delightful gentleman" must be rather proud of his delightful qualities, to allow himself to be thus strangely advertised.

WATER-PROOF CEMENT.—To a quart of vinegar add the same quantity of new milk. Separate the *curd*, and add to it the white of twenty eggs.—These should be beeten well together, and sufficient quicklime sifted in to give the mixture the consistence of common paste. Fractured and broken vessels mended with this composition, seldom separate when exposed to the action either of *fire* or water.

CROSSING THE LINE.—In the morning of the day on which we reached the latitude 0, a lady asked if she could have a sight of the line through the telescope. A silk thread was fastened across the bottom of the glass, and she was desired to take the instrument into her own hands and look out for it. She immediately exclaimed that she saw it; and after a time, having satisfied her curiosity, gave back the telescope, apparently quite contented.

CURIOUS CUSTOM.—The following curious custom is said to exist on the Elbe. The peasantry who possess any land, however small, never enter the church without a nosegay in their hands. Thus they show that they claim the consideration due to persons who possess property in the parish, (town.) Among the country people in the neighborhood of Hamburgh, there is no garden so small as not to possess a place for the flowers intended for this use, and the plant is distinguished by the name of the "*Church Nosegay.*"

ANOTHER CURIOSITY OF LITERATURE.—Near the town of Pine Grove, in the county of Schuylkill, hangs before a hotel its sign, having thereon:

ENDERDENMEN FUR MAN UN HOS
BA DO DA UN DRUS DOMORI
BI DOMIRED

Interpreted, it reads thus: "Entertainment for man and horse. Pay to-day and trust to-morrow. By Thomas Reed."

DIAMOND MINE IN GEORGIA.—The Dahlonega Times of the 23d ult., notices a diamond of the first water, about the size of a large pea, belonging to the Rev. P. Cheek, of Aenry County, which was found recently in the Union Gold Mine. This discovery of diamonds in Georgia will probably give an impetus to mining operations in that State.

GOOD FRUIT.—A farmer, who is famous for good fruit, says he raises his trees in the following manner: he takes a cutting from the best tree he can find, fits the end of the cutting into a large potato, and sets it in the earth, leaving but one or two inches of the cutting above the ground. The cutting soon sends out roots and grows rapidly, making a fine tree, which needs no ingrafting.

Definitions in Geometry.

Bight Line. A straight line.

Curve Line. One that continually changes its direction.

Angle. The intersection or meeting of two lines, or corner made by two lines. The sharper the corner is, the less the angle.

A Circle is a figure bounded by a curve line which lies equally distant from a point within called the *Centre* The line which bounds the circle is called the *circumference.*

The *Radius* of a circle is a line drawn from the centre to the circumference.

The *Diameter* of a circle is a line drawn through the centre, and terminating at the circumference on both sides.

An *Arc* of a circle is any part of the circumference.

Every circle, great or small, is supposed to be divided into 360 degrees; each degree into 60 minutes; each minute into 60 seconds; each second into 60 thirds, &c.

The measure of an angle is the arc of a circle whose centre is at the angle cut off by the two lines by the intersection of which the angle is formed. The angle is said to contain as many degrees and minutes as the arc so cut off contains.

A *Superfice* is a surface.

A *Plane Superfice.* or surface, is one of such a character that a straight line drawn between any two points in it, will be wholly in the surface. In other words, it is a level surface,—one which must be all horizonal when a part is horizontal.

A *Triangle* is a surface bounded by three lines, and consequently having three angles.

A *Plane Triangle* is a plane surface bounded by three right lines.

A *Quadrangle* is a figure bounded by four right lines, and having consequently four angles.

A *Pentagon* (derived from the Greek *pentae*, five; and *gonos*, an angle,) is a figure having five equal sides and angles.

A *Hexagon*, (derived from *hex*, six, and *gonos*,) is a figure having six equal sides and angles.

A *Heptagon* (from *hepta*, seven, and *gonos*,) is a figure having seven equal sides and angles.

An *Octagon* (from *octo*, eight, and *gonos*,) is a figure with eight equal sides and angles.

A *Nonagon* (this seems irregularly derived) is a figure of nine equal sides and angles. A *Decagon* of ten, an *Undecagon* of eleven, a *Duedecagon* of twelve.

A *Polygon* is a figure of more than four sides.

A *Regular Polygon* is one having all its sides and angles equal.

An *Equilateral Triangle* is one having all its sides and angles equal.

An *Isosocles Triangle* is one that has two sides equal.

When two lines meet in such a way that if they should cross each other they would make four equal angles, they are said to be perpendicular to each other, and the angle they make is called a *right angle.* The measure of a right angle is therefore a quarter of a circle, or 90 degrees.

A *Right-angled Triangle* is one that has one of its angles a right-angle.

A *Square* is a figure having four equal sides and four right angles.

A FAITHFUL SENTINEL.—A few days since, says the Baltimore Argus, we saw a "Jack Tar" taking more than usual care of a gallant Rooster, on board of a vessel then lying in port and upon inquiry, we learned that he was an especial favorite, and had made many voyages in the vessel. The cause of the attachment, it appears, was in consequence of the faithful manner in which chanticleer performed his duties as a sentinel, the sailor assuring us that "he was as true as a chronometer," that he would call the morning watch by crowing at the exact time, and has never been known to be five minutes out of time for four years past, in all manner of weather, and in the different climates, as well as at sea.

TALL TALKING.—"May it please the court," said a gentleman, learned in the law, addressing the judge on the bench, speaking in reply to some pungent remarks that fell from a brother barrister—"May it please the court, resting on the couch of republican equality as I do—covered by the blanket of constitutional panoply, and protected by the ægis of American liberty, that great preservative political musquito bar, under which even a tiger can take shelter, as I feel myself to be—I despise the buzzing of the professional insect, who has just sat down, and defy his futile attempts to penetrate, with his puny sting, the interstices of my impervious covering."

STATISTICS OF PARIS.—Paris is inhabited by 912,035 individuals, who occupy 34,396,800 square yards of surface, or nearly 8600 acres. It contains 42,000 houses, 192 streets, 57 gates, 46 military roads, 37 quays, 20 boulevards, 37 avenues, 153 squares, 37 bridges, 105 courts, 9 palaces, 23 remarkable edifices, 6 public gardens, 4 triumphal arches, 5 columns, 1 obelisk, 35 libraries, 15 museums, 28 monumental equestrian statutes, 24 theatres, and 39 barracks.

RECIPE FOR MAKING BISCUIT.—1 quart of milk, 4 even teaspoons full of Cream of Tartar, 2 even tea spoons full of Carbonate of Soda—the Soda to be dissolved in the milk—the Cream of Tartar to be thoroughly mixed dry with the flour; a little salt. Mix it as soft as it can conveniently be baked. In this way you have biscuit mixed and ready for the table in half an hour.

ARTIFICIAL FREEZING MIXTURE.—A mixture of snow and nitric acid; in the proportion of half an ounce of the former to two drachms of the latter, will produce a powerful freezing mixture, reducing the thermometer 32 degrees lower than the freezing point of water.

SCIENTIFIC AMERICAN

NEW-YORK, THURSDAY, MAY 14.

Drawings of machinery, engraving on wood, and lithographic drawings, neatly executed, at the lowest prices, at this office.

ENCOURAGEMENT.—Our readers may expect full instructions in the arts of stereotyping, lithography and the Daguerreotype process and apparatus, without delay.

BACK NUMBERS.—We have recently forwarded several hundreds of our early numbers to subscribers who were desirous of completing their sets. We have more on hand to supply others who want them, and shall forward them as far as our memoranda of 'back numbers wanted' extends.

IN PREPERATION.—We have in preparation for future numbers, descriptions, with large engravings of a horse-power carriage for carting hay or cutting ditches on miry marshes: a retaining wind-power on a large scale, for mills and manufactories on the western prairies: Mr. Cornell's recent and wonderful improvement in the electro-magnetic telegraph: an original machine for manufacturing ice in warm climates: a new instrument for builders and engineers, and which will instantly indicate levels, perpendiculars and the inclinations of all diagonal lines.

ANOTHER HUMBUG.—We find in an exchange an extravagant report of a new invention for drawing water from a well; said to have been invented by a Mr. Harper, of Somerset (State not mentioned.) The account purports to have been copied from "the Post"—whether a mail post or Somerset Post we know not, but the statement is that 20 buckets of water per minute may be drawn from a well 20 feet deep, with such ease that a child might perform the labor; that the buckets descend by the slightest effort, and when filled, they ascend of themselves, &c. This will suffice to satisfy any man who has the least knowledge of mechanics, that the report is a sheer humbug: or if a Mr. Harper, of Somerset, has invented anything valuable, he should give some account of it in a more rational form than that published by "the Post."

MARRIED, STONG ENOUGH.—Most of our readers have heard of the marrying joke, which occured in March last, between a Mr. Hill and a Miss Lillie, while on a sleigh-riding party. A Justice of the Peace was called in, who, after asking some questions of the parties, whether they were willing to marry, &c., pronounced them husband and wife. On returning to the lady's home the parties separated; but Mr. Hill returned next day and found Miss Lillie somewhat anxious about the legality of the ceremony, and application was accordingly made to the Legislature to annul the obligation; but this, after hearing the circumstances, the Legislature refused to grant. So the parties have concluded to make the best of the bargain, and on Sunday evening had a regular formal marriage and wedding, at which the lady is said to have appeared exceedingly beautiful, and withal cheerful and contented, while the young bridegroom is evidently happy. It will probably be much better for the parties, that the Legislature, by no means ungallant in this case, refused their petition. They reside at Albany.

A SCANDALOUS CONCERN.—We have more than once been insulted by having sent us among our exchanges, and enveloped in a paper called "The Arena" purporting to be published at 451 Broadway, the most scandalous and diabolical handbills that ever disgraced the American press and which ought to consign its authors—the publishers of the Arena—to seven years hard labor on Blackwells, as well as the hearty contempt of all decent people. The nefarious handbill sets forth, as for sale by said publishers, the worst form of the drugs used by the infamous and notorious Restel, and with unblushing impudence recommends the use thereof, as if they supposed—whether judging from themselves we know not,—that their readers were dirty enough to patronise them. It is a wonder that our Public Authorities, who are authorised to suppress and burn obscene books and prints, will permit the circulation of such pernicious, poisonous, and disgusting prints. There are some other circumstances connected with the above, which we forbear to mention at present: but if any more "Arenas" appear among our exchanges we shall handle them with ongs.

THE NEW MODE OF TANNING.—We mentioned, in a late number, that a gentleman in this city had succeeded in producing excellent sole-leather, from the green hide, in less than ten days. We have since then been permitted, by invitation, to examine his extensive works, constructed on a new and vastly improved system, and have been favored with a full explanation of the process; though for certain obvious reasons we do not feel at liberty to promulgate the same at present. We find that instead of ten days, the entire process may be accomplished in three; and the leather produced is evidently far superior in firmness, strength and durability, to that prepared by the ordinary process.

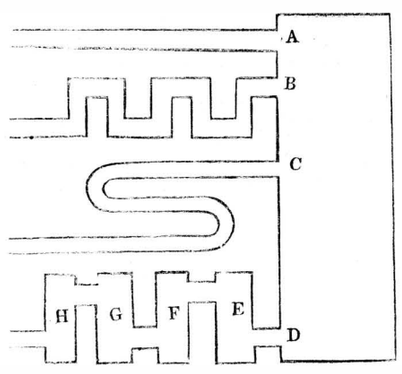
CONSTRUCTIVE MILEAGE.—We have mentioned, heretofore, that according to the constructive mileage of Members of Congress, a member from Oregon would draw about $12,000, in consideration of the distance ordinarily travelled; but it may not be generally understood that those who are re-elected are entitled to draw mileage for the whole distance, on the termination of one session on the 4th of March, and the commencement of another on the 5th, although they remain at Washington, and have not a mile to travel. $12,000, in this case, especially, would be cheaply obtained.

Magnetic Telegraph.

We are informed by one of the principal superintendants of the rapidly extending telegraph, that the lines between this city and Washington are now complete, with the exception of two river crossings. The entire lines between New York and Buffalo, in one direction, and between New York, Springfield and Boston in another, will probably be completed within twenty-five days. The line between this city and Albany is in a state of forwardness, and rapidly progressing. The line between Utica and Syracuse. is complete and in operation. It was discovered that one battery at Utica was capable of working the lines in both directions—to Albany and to Syracuse—at the same time. An interesting phenomenon was witnessed, or rather experienced, at one end of the Syracuse wires, before the line was completed. The end of the wire hanging down from the mast, several persons took hold of it, at first idly, without motive, and afterwards from curiosity, and each person, in his turn, received a shock, more or less severe, according to the time which elapsed between the applications. Many persons, ignorant of the effect, were persuaded by the boys to take hold of the wire, and some were thereby nearly thrown down, and were affected with a pain in the head or in the arm and shoulder. We have heard of some instances in which, during a recent thunder storm, the lightning took to the wires (which are of *iron*) of the southern lines, producing sharp reports, with bright sparks, at the ends of the wires at the depots. We understand that no danger is apprehended therefrom, however, unless it be to some curious person, who may be listening, with his ear to the wire, to hear the communicated news as it passes.

Science of Mechanics.

(Continued from No. 34.)



THE IMPORTANCE OF DIRECT CHANNELS FOR FLUIDS.—Steam, and other fluids, when liberated from under a pressure, through an open aperture, would escape with infinite veloity, and be instantly exhausted, were it not for the inertia of the fluid, which requires some degree of force to overcome and put the fluid in motion. Steam ordinarily requires a pressure of about twenty lbs. per square inch, to give it a velocity of 1000 feet per second, in escaping through an open aperture. A, B, C and D, in the above cut, represent four apertures, through which steam is supposed to be escaping from a boiler or generator. Through a long straight pipe like A, its velocity is not perceptibly retarded. If the pipe has regular curves, as C, there will be but little loss of motion; probably not exceeding one or two per cent at each curve. In passing through short angles, as those in the pipe B, the steam will lose at least ten per cent of its velocity at each angle; thus requiring double the pressure to drive it through the ten angles, with the same velocity with which it escapes through the pipe A. This disadvantage is small however, in comparison with that of passing through the aperture D. In passing through the several chambers E, F G, H, it looses its entire momentum in each; and requires a fresh application of force, equal to the original pressure, to support its velocity through each successive chamber; or if it passes off with only the above mentioned pressure of twenty lbs. per square inch, its velocity will be retarded by the several chambers, to about 200 feet per second,—only one-fifth part of the velocity of that which escapes through the straight pipe; and having lost one-third part of its velocity in passing each chamber. If a similar succession of chambers are continued to twenty or more, the escape of the steam will be hardly perceptible. On this principle it has been proposed to construct metallic pistons with a succession of circular cavities in their peripheries, so as to sufficiently prevent the passage of steam, without packing. The circumstance of the retardation of steam, by angles and cavities, is not duly considered by those who construct and manage steam engines in general. There are many steam engines in use, the pipes, valves, and chambers of which are so constructed, that in ordinary operation, not more than one-third of the pressure per square inch, is applied to the piston, that is sustained within the boiler; thus showing a loss of more than one half of the actual power of the steam produced. The argument "what steam does not escape is still retained," is far from proving that there is no power lost; for it is plain and well known, that a greater quantity of heat is required to generate steam under a high pressure, than under a low: wherefore it is evident that in every chokage or hindrance of steam by valves or otherwise, between the boiler and the cylinder there is a proportionate loss of power. And this circumstance alone has been the occasion of failure in the speed of some very expensive, and otherwise well constructed steamboats.

(To be continued.)

ERRATUM.—Our blundering types made an awkward reading in our answer to T.D. S in our last paper. The sentence should have been made to read—"The weight or gravity of bodies at the surface of the earth, near the poles, instead of being greater, is *less* than it would be near the equator."

In answer to a second letter from T.. D. S., we freely assert that the *weight* (not the gravity,) of bodies, is incontrovertibly equal on every part of the surface of the earth, with the exception of a very slight diminution on high mountains.

Exciting News

FROM THE U. S. ARMY IN TEXAS.

[From the N. O. Picayune.]

Col. Charles Doane arrived in this city at an early hour this morning, from Brazos Santiago, which place he left on the 28th ult. in the steam schooner Augusta. Sixty miles west of the S. W. Pass he was transferred to the steamer Galveston. He is the bearer of important dispatches from Gen. Taylor, and of a requisition upon the Governor of Louisiana for four regiments. The previous news received, that the Mexicans had crossed the Rio Grande, is fully confirmed, and a detachment of American troops has been cut off.—But for the details we refer to the following account of operations kindly furnished us by Col. Doane.

On Thursday evening, the 23d, Gen. Taylor received information that a body of the Mexican army had crossed to the east side of the Rio Grande, at a point some twenty miles above his encampment. Early on the following morning he dispatched Capts. Thornton and Hardee, of the 2d Regt. Dragoons, with a detachment of 70 men to examine the country above, and Capt. Kerr af the the same regiment to examine the country below the encampment. The latter returned to camp without having made any discovery of Mexicans.

The former, however, fell in with what he considered to be a scouting party of the enemy, but which proved to be the advance guard of a very strong body of the enemy, who were posted in the chaparral, immeadiately in the rear of Gen. Taylor's camp.—Capt. Thornton, contrary to the advice of his Mexican guide, charged upon the guard, who retreated towards the main body, followed by Capt. Thornton, when in an instant he found himself and command surrounded by the enemy, who fired upon him, killing, as it is supposed Capt. Thornton, Lieuts. Kane and Mason, and some twenty-six of the men, and taking Capt. Hardee and the remainder of the command prisoners. The Mexican command sent into Gen. Taylors camp, a cart, with a soldier badly wounded, with a message that he had no travelling hospital with him and could not, therefore, render the soldier the assistance which his situation required.

It is supposed that the detachment of the enemy on the east side of the Rio Grande consists of at least 2500 men, under the command of Cols. Carusco and Carrabajal, both old and experienced officers, and that their object is to cut off all communication between Gen. Taylor and Point Isabel, the depot of provisions. In the execution of this object, they have fully succeeded, and have thereby placed the American army in a most dangerous position, as it will be utterly impossible for Gen. Taylor, with the limited number of men now under his command, say 2300, to force his way through the dense chaparral in which the enemy are already strongly posted.

VOLUNTEERS FROM TEXAS.—At Galveston, within an hour after the receipt of Capt. Catlett's letter, there was a public meeting, and it was determined to dispatch 200 men that evening in the Monmouth. Gen. Memucan Hunt would leave there the same evening (April 30), by way of Velasco and Victoria to rendezvous at Corpus Christi, preparatory to marching to the relief of Gen. Taylor and Major Bryant.

EXCITEMENT IN NEW ORLEANS.—The greatest enthusiasm prevailed througout the city, on Saturday week, at the time the mail closed. Business was almost suspended. Companies and volunteers were gathering in the streets and public squares, making preparations for immediate departure in steamers for Point Isabel. The legislature of Louisiana being in session, patriotically voted *one hundred thousand dollars* immediately, to defray the expenses of the Louisiana forces.

PROCEEDINGS AT WASHINGTON.—The President called the Cabinet together on Sunday, with the Military and Naval Committees of both Houses of Congress, when the communications from General Taylor were discussed, and reports agreed upon in favor of an immediate declaration of war, a blockade of all the Mexican ports on the Gulf and the Pacific Ocean, (the latter ordered some weeks ago by an overland express via California,) the despatch of 50,000 men to Mexico, and their immediate equipment in the sea ports, to be forwarded by steam vessels to the Rio Grande, with an appropriation of ten millions to defray the expenses. The commencement of the war by the Mexican chieftains, added to the position of our army, secured entire unanimity in favor of these measures.

The latest news, by telegraph, up to the time of our going to press, reports that a bill authorizing the immediate raising of 50,000 men, and appropriating ten millions to the prosecution of the war, had passed the House 174 to 14, and would probably have passed the Senate yesterday.

The news from New Orleans and Mobile is of the most interesting character. Both cities were literally a camp. The former will send out about *ten thousand* men and the latter *two thousand.*

Three steamers had gone off from New Orleans on the 4th. with about twelve hundred men, for Point Isabel.

The surrounding country is pouring in its legions into both cities, and the Mississippi boatmen at New Orleans can't be hired to stay at home on any terms: go they will. The Governor of Louisiana pays ten dollars bounty money, and a month's pay ($10) in advance. All volunteers engaged for a year.

P. S. The bill above mentioned, with slight amendments, passed the Senate by an unanimous vote,—50 to 0. The amendments of the Senate have, in all probability, ere this, been agreed to by the House. Advices one day later from New Orleans, have been received, but nothing later from the seat of war.

HOW PLAIN IT IS.—The Essex Banner has enlightened us vastly on the subject of shooting a tallow candle through an inch board. It appears that the candle is to be shot through the board *flatwise* and not endwise as we supposed. Indeed we did not think of that.

Arts and Trades.

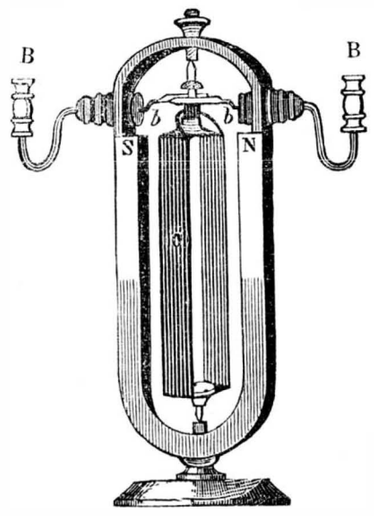
BLEACHING COPPER.—An esteemed correspondent, a practical artist and mechanic, has communicated a mode, as practised by himself, of whitening copper by means of a small quantity of arsenic. The process is as follows:

Take a quantity of thin copper plate, and cut it up into small pieces about half an inch square. Put a pound of these pieces into an earthen vessel, and wet them with water, observing to use no more water than barely sufficient to wet the surface of the copper. Then add thereon four ounces of arsenic, sprinkling it over the copper, and stir the whole together: put it in a crucible while wet, and cover the copper with a layer half an inch thick, of pounded flint glass: place it in the fire and subject it to a melting heat, and then pour the mass into a tub of water two or three feet deep, that the globules of copper may become cool before reaching the bottom. Collect the copper and repeat the process, adding another quantity of arsenic equal to the first, wetting the copper to make the arsenic adhere. By this second process the copper will become white, resembling silver.

PLANISHING METALIC PLATES.—Silver, copper, and tin plates, are beautifully planished by being hammered with a smooth convex-faced hammer or mallet, on a highly polished steel anvil. The more perfect the polish of the steel, the more perfect will be the lustre of the surface planished; but much depends on the skill of the operator, to hammer every part equally, and preserve the level and straightness of the plate during the process.

Galvanism.

Continued from No. 34.



PAGE'S REVOLVING RECTANGLE.—This is one of a class of electro-magnetic machines in which a rotary motion is produced by means of an arrangement denominated a *pole-changer*, which being attached to the axle of the revolving part, changes the direction of the current twice during each revolution. The revolving part, in machines of this class, must invariably consist, in part, of one or more helices or coils of insulated copper wire, through which the current from the battery is made to pass to complete its circuit. In this instance, the revolving part consists of a rectangular coil of wire, mounted vertically between the prongs, S N, of a U shaped permanent steel magnet, erected vertically upon a stand, as shown in the engraving; and this magnet is surmounted by an arch of brass, to which is attached the binding cups, B B, and through the top of which is inserted a vertical screw which supports the head pivot of the axle. The pole-changer consists of two semi-cylindrical pieces of silver fixed on opposite sides of the axle, but insulated from that and from each other by several layers of paper, each varnished with shellac; and to each of these segments is soldered one end of the wire composing the rectangle. The battery current is conveyed to the coil by means of two wires passing from the cups B B, through the brass arch (but insulated from it) and terminate in two silver springs, b b, which press gently on the segments of the pole changer, which must be so arranged that the direction of the current in the rectangle may be reversed at the moment that the sides of the rectangle come nearly in contact with the prongs of the magnet. It will be seen that the galvanic current, passing through one spring and segment, continues through the coil of the rectangle to the other segment, and passes off through the other spring to the other cup, and thence to the battery. While the current is passing through the coil, a strong polarity is produced therein; that of one side being north and the other south. It is an invariable law in magnets, that the poles thereof repel the corresponding poles and attract their opposites: consequently, the north pole of the magnet in this machine attracts the south pole of the rectangle, and vice versa; but at the moment that the sides of the rectangle passes the poles of the magnet, the direction of the current is reversed by the pole changer, and what was attracted is now repelled by both poles, and at the same time attracted by the opposites; the direction of the current being thus twice changed by each revolution. So instantaneously obedient to the pole changer is the galvanic current, that the attractions and repulsions effectually succeed each other even when the velocity of the rectangle exceeds 1000 revolutions per minute.

(To be continued.)

RATHER QUEER—The Boston Chronotype says "The Scientific American is an interesting paper published in New York devoted to 'industry, enterprise, *mechanical* and other improvement.' It appears to be edited partly on the mechanical principle, which is very appropriate to its objects. But so far as its mechanics lay hold of our *edltorials* we should like to see the '*proof*' before they go to press." Indeed! Now Mr. Chronotype, although we do not know which of your "edltorials" we have copied, it strikes us that whenever you choose to publish any strictures on our typography, you would do well to "see the proof" before it goes to press.

VARIETY

The military and naval expenses of Great Britain, together with the interest of the national debt, amount to $35,000,000; or $42 per annum for each man. In the United States, the same items cost only $1,85 for each man.

Important experiments have been recently made in England and Ireland, to see whether the people could live on corn bread and puddings. The experiment has thus far proved generally successful.

A new and improved kind of violin strings are said to have been recently invented at Zurich. They are very strong, waterproof and require no rosin, and not liable to get out of tune.

The Post Master General is engaged on a cheme for transporting the mail from Boston to Washington in 24 hours. It will furnish important accommodations to business men.

The proceeds of the Inman Gallery exhibition, clear of expenses, amounted to about $2,000, which the committee have invested for the benefit of the the bereaved family.

The catalogue alone, of one of the Chinese libraries, embraces 120 volumes of 140 pages each. It is truly astonishing that with such quantities of books, the people should remain so ignorant.

An inhabitant of Corfu, who recently returned from Spitzbergen, after an absence of twenty-eight years, found his wife in good health, *but the widow of three husbands!*

The St. Louis Impartial says, "We call the attention of the city authorities to the pump on the corner of Jefferson and fifth streets." That's right; give 'em a supply of cold water.

The Sergeant-at-Arms of the Louisiana House of Representatives has recently been arrested on a charge of having sold liquors to the members of the Legislature, without a license.

It is reported that there are about four thousand emigrants preparing to embark, or already on their way, from Cork, to the United States. The "natives" will look out for them.

The new suspension bridge over the Monongahela river, at Pittsburg, is being finished with achitectural ornaments in tasteful style. It is said to be a curiosity.

It is stated in the English "Art Union," that casts and copies have been taken from daguerreotype plates, by the electro-magnetic process. We doubt the correctness of the statement, however.

A tree in Durham, N. Y., under which twenty-four sheep had taken shelter, was lately struck by lightning, and the whole flock of sheep killed, except one small lamb.

There was shipped at Baltimore for London last week, upwards of thirteen thousand barrels of flour, besides large quantities of beef, pork, and other provisions.

The pickerel fishery in the Maumee river, is a business of considerable importance. One person is said to have caught upwards of four hundred barrels of these excellent fish, the present season.

The number of men drafted for the armies of France, 1798 to 1838, inclusive, was 13,392,000! From 1804 to 1814, the number supplied was 3,865,-000, averaging 386,000 per annum.

There are ten iron foundries at Albany, giving employment to about 700 hands, and turning out immense quantities of stoves and machinery equal to any in the United States.

It is stated in a London paper, that President Polk was taken prisoner by the British, in 1812, being captured on the ice near Detroit by a party of the 41st. *Prehaps* he remembers it.

Two "Breach of Promise" cases were lately tried and decided at Lowell, Mass., in both of which the fair plaintiffs recovered, the one $2,000, and the other $2,500:—$500 more than she had claimed.

The large clock for the spire of Trinity Church, in this city, cost $1000, and weighs 7,000 lbs. The peadulum is 20 feet long, and vibrates 24 times in a minute.

A diadem of precious stones, valued at $4,500,000 is prepared for the Russian Princess Olga, as a part of her wedding decorations. The centre diamond alone cost upwards of $200,000.

The new hall prepared for the exhibition of goods at the great Fair at Washington, contains 30,000 square feet, and is to be occupied for a grand Ball at the close of the exhibition.

Nashville, Tenn., with a population of only nine thousand, is said to contain two hundred and sixty rum-selling establishments. Of course it is no honor to a man to hail from Nashville.

A story is told of a cat, in Providence, R. I., which has caught and adopted an infantine rat, and is carefully nursing him among a litter of four kittens. Rather singular if true.

The Charlestown Aurora states that dandelions have, in that vicinity, become an important article of cultivation. One farmer, in Dorchester, furnishes 30 bushels per day in the market.

The business receipts for a single day, about two weeks since, on the Reading Railroad, amounted to $7,000:—at the rate of $2,170,000 per annum. This has no parallel.

There are fourteen glass manufactories in Pittsburg and vicinity, manufacturing about *one million* dollars worth of glass annually.

Several of the *new* comets recently discovered prove to be old second-hand comets, known long ago.

For the Scientific American.

Lines to the Robin in Spring.

Hail thou sweet red bird of spring,
With all thy song's of gladness;
Bear away on thy silvery winds,
All that's fraught with sadness.

Come thou to us with joyous notes,
And fill our hearts with gladness;
Let all thy song that o'er us floats.
Breathe forth naught of sadness.

As thou dost thy sweet anthems sing,
With all thy native gladness;
May we greet this merry spring,
Without a thought of sadness.

May our lives in every thing,
Be like thine forever gladness;
And may our songs when ere we sing,
Be like thine free from sadness.

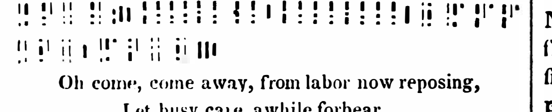
Fare thee well, first bird of spring,
May thy life be nought but gladness,
May no sportsman's deadly aim,
Wring from thee notes of sadness. M.B.P.

The Fall.

[We insert the following partly by request, though we do not fully adopt the sentiment of the author, that the present state of mankind is deplorable: for we can not doubt that those who are obedient—and all might be—will attain to a much higher and happier state than they would have done if our first parents had not sinned.]

There was a time when man at first
Originated from the dust:
His heart was pure, his mind was free:
The God of Nature pleased to see
His works were all so well begun—
Each in its proper order run.
The beast, the birds, the fish, and man
Were in their proper station then;
Nor was there in creation round
One single murmur to be found;
All loved peace—none wanted power,
Until arrived the fatal hour,
When Satan, jealous seemed to grow,
And at our comfort aimed a blow,—
"Thou art not happy yet," he cried,
"Because you're destitute of pride.
You do not know enough as yet,
To make your happiness complete.
Just taste the fruit of yonder tree,
And you, your nakedness will see,—
And then your pride will thus begin,"—
But did not add that pride was sin.
"But then," replied the lovely Eve,
"This is a tale I can't believe—
For in that day, assured am I,
I eat thereof, that I shall die—
My Maker, God, hath told me so,
And his command I'll not forego."
The subtle Serpent then replied,—
"In that your maker knows he lied:
For he doth know full well that you
May eat thereof and prosper too."
So then she tasted of the tree,
Involving us in misery:
In misery, and every pain,
Which human nature still retain.
M. MUNDY.

Come, come away."



Oh come, come away, from labor now reposing,
Let busy care awhile forbear,
Oh come, come away:
Come, come, our social joys renew,
And there where Trust and Friendship grew,
Let true hearts welcome you,
Oh come, come away.

From toil and cares, on which the day is closing,
The hour of eve brings sweet reprieve,
Oh come, come away;
Oh, come where love will smile on thee,
And round its hearth will gladness be,
And time fly merrily,
Oh come, come away.

While sweet Philomel, the weary trav'ler cheering
With evening songs her note prolongs,
Oh come, come away:
In answering songs of sympathy,
We'll sing in tuneful harmony,
Of Hope, Joy, Liberty,
Oh come, come away.

The bright day is gone, the moon and stars appearing,
With silver light, illume the night,
Oh come, come away:
Come, join your prayers with ours—address
Kind Heaven, our peaceful home to bless
With Health, Hope, Happiness,
Oh come, come away.

A DROLL MISTAKE.—An old gentleman taking passage on board the steamer Governor the other evening, proceeded to the cabin to select a berth, and seeing his own reflection in a large mirror by the side of the table, mistook it for a gentleman in the "Captains Office," and immediately addressed it, "spare berth sir?" No answer being returned, he again put the question in louder voice. "Spare berth for me, sir?" at the same time putting his hand to his ear, in order to catch the reply. Seeing the *reflection* do the same, he evidently imagined that the supposed personage had plead deafness. "Well," said he, "speaking louder—so am I hard of hearing." Here the boisterous burst of mirth from a coterie of passengers who gathered near, around the stove, discovered to him his mistake, and he joined in the laugh as uproariously as any of them.

FIRST OF MAY IN NEW YORK.

[Our readers may not all be aware that most of the removing and changing of residence that is done in the course of a year, in this city, is on the first of May. It is not uncommon to see heaps of furniture remaining in the streets over night, for want of carts or drays to remove them to their next destination, even at the extravagant price of two or three dollars per load. The confusion of the removing season is now past, and people begin to find out their own residences, and household business is again going on in tolerable order. The following poetry appears to have been written on the occasion, though we do not know in what paper it first appeared.]

First of May, clear the way,
Baskets—barrows—bundles,
Take good care, mind the ware,
Betty, where's the bundles?
Pots and kettles, broken victuals,
Feather beds, plaster heads,
Looking-glasses, tow mattrasses,
Spoons and ladles, babies' cradles,
Cups and sauces, salts and casters,
Hurry scurry, grave and gay,
All must trudge the first of May.

Now we start, mind the cart,
Shovels, bedcloths, bedding.
On we go, soft and slow,
Like a beggar's wedding.
Jointed stools, domestic tools,
Chairs unbacked, table cracked,
Gridiron black, Spit and jack,
Trammel hooks, musty books,
Old potatoes, ventilators;
Hurry scurry, grave and gay,
All must trudge the first of May.

Now we've got to the spot,
Bellows, bureau, settee,
Rope untie, mind your eye,
Pray be careful, Betty.
Look what's there, broken ware,
Decanters smashed, china crashed,
Pickles spoiled, carpets soiled,
Sideboard scratched, cups unmatched,
Empty casks, broken flasks.
Hurry scurry, grave and gay,
Get you gone the first of May.

Hark! what noise, girls and boys,
Hauling all things over,
All astounded, head confounded,
Savage as a rover.
Such a clashing, and a smashing,
Ripping, splitting, pulling, hitting,
Babies crying, women flying,
All about in the rout,
Wits quite hazy, raving crazy.
Hurry scurry, grave and gay,
Such a bedlam, first of May.

Great surprise, mind your eyes,
What a dust we're raising,
Clear the way, carmen say,
Old straw beds are blazing,
Bed bugs dying, fleas are flying,
Landlord's grouty, tenants pouty,
Washing, scrubbing, painting, rubbing,
Scolding, swearing, mending, tearing,
Dogs' intrusion, blind confusion,
Bad luck to the man I say,
Who first invented first of May.

TOO BAD.—The Southport American complains that by the recall of Mr. Wheaton, our minister to Prussia, and the appointment of Mr. A. J. Donaldson, to supply his place, displaces the only individual from the Northern States among the *eight* ministers *Plenipotentiary* by which our country is represented in foreign Courts, and gives the whole to the South: and adds that "in all other branches of the Government the case is but little better.—The South has become the petted, insolent, spoiled child of the republic, while Northern talent and Northern patriotism is almost entirely excluded from the public service." Well, if Mr. Polk can find no Northern men but what are as tame and passive, and as easily led by the nose as our Northern representatives in Congress, no one can blame him for appointing Southern men to the principal offices.

MISERY IN PROSPECT.—There is a story of a sailor who was sitting on the deck of a vessel with one of his legs hanging over the side, and who, upon the appearance of another vessel, began to howl and to agitate himself in a dreadful manner. A compassionate messmate stepped up, and asked what was the matter. "I was thinking," answered the sailor, "that if the ship yonder were to strike against this, what a terrible jamming my legs might get between them."

A PERFORMANCE NOT IN THE BILLS.—While a crowded audience was assembled at the Circus, in Georgetown, D. C., on the evening of the 20th ult., to witness the performance of Welch & Co's Company, a tremendous thunder storm arose, and when the performance was about to commence, the pavilion was blown to pieces, and the multitude had to seek shelter elsewhere. No person was materially injured.

PROBLEM.—A stone weighing 205 lbs. falling from a high wall was broken into eight pieces, of such proportions that by means of the several pieces, used as weights in a common balance, the weight of any article from one ounce up to 205 lbs. could be ascertained, to the precise ounce. What are the weights of the several pieces? Correct answers (pre-paid) will be duly credited.

RATHER ULTRA.—It is reported that the Fall River Railroad Company, having resolved by vote, that no ardent spirits should be conveyed over the roads, the clerks refuse to sell tickets to any person who has a glass of liquor in his stomach. That will do for a joke.

A GREAT VARMINT.—The Apalachicola (Flo.) Advertiser states that a large panther, measuring ten feet from the nose to the tip of the tail, was recently "shot at the distance of three miles [a long shot, however,] from that place." His claws and tusks were about two inches long.

THE "LITERARY EMPORIUM," and the "YOUNG PEOPLE'S MAGAZINE," for May, are each of them beautifully embellished, and each contains a rich variety of well written moral and very instructive articles in poetry and prose. The first is embellished with a very fine and elegant view of the city of Quebec, and a colored print of a branch and blossom of the tulip tree. Those of the Young People's Magazine, are "The Gleaners," a fine mezzotint, and an elegant colored print of the black alder, with its bright scarlet berries. These elegant and interesting Magazines are published by Wellman, 116 Nassau street, for the very low price of one dollar per annum,—only eight cents per number: and it is a plain fact that the engravings alone, in either of them, would be exceedingly cheap at that price, to say nothing of the reading matter, which is worth twice as much more. Don't neglect them.

THE AMERICAN PHRENOLOGICAL JOURNAL.—The May number contains much useful information on Bathing, Progress of Nature, Self-Improvement, Cultivation of the Mind, &c., with the portrait analysis of the phrenological organization of Washington Irving. Published by Fowler and Wells, 131 Nassau street.

AN EXCUSE.—"Why didn't you tell a straight story?" said the captain of a frigate to a coaster who had given a false account of his vessel, when he was hailed. "To tell you the truth, captain," said he, "my speaking trumpet got bruised; and it is so crooked, that it is impossible to tell a straight story through it."

We know some editors who have got their *pens* essentially warped, in passing through the windings of political campaigns.

BARK-BOUND TREES.—It is the custom with many farmers to slit the bark of young fruit trees, vertically, with a knife, to give the body of the tree more liberty to grow. A writer in an eastern agricultural paper, however, says he should as soon think of slitting the skin of a boy's legs, as a regular part of the plan of rearing them, as to slash the bark of a sound and healthy tree. He is probably near the right.

CURING TOOTHACHE BY GALVANISM.—It is currently reported that the pain of an ordinary tooth may be removed, by placing in contact with the tooth, and with each other, two small pieces of metal, the one of silver and the other of zinc. We presume the efficacy of the remedy must depend much on the faith of the subject of the operation.

CORRECTION.—We, or our types stated last week that Jackson, the pedestrian, *had gone* to England. It should have read "is going" to England; or rather, that somebody says he is going, &c. It is now stated that he has found another place to run, before he RUNS away.

Selected Articles.

IMPRISONMENT OF FACTORY GIRLS.—In the House of Commons, on the 1st of April last, Mr. T. Duncombe rose to call the attention of the House to a petition presented by William Scott, Chairman of a public meeting held at Dundee, complaining of the illegal treatment and imprisonment of six factory girls. Judging from the allegations of the petition, he had rarely known a case of greater hardship. Four out of the six girls were fatherless and unprotected, and in the present case, they were opposed by many leading persons in Dundee, manufacture, great and powerful merchants, bankers, and ship owners, and others engaged in the trade and commerce. It was against these powerful parties that he asked for justice on behalf of these poor girls. The oldest was 20 years of age, and the youngest was between 14 and 15, and they had been in the service of the Messrs. Baxter, of Dundee, ever since they were nine years of age. During that period not one of them had been guilty of the slightest offence or neglect till then. And what did it amount to? It appeared that these girls were earning from 5s. 6d. to 5s. 9d. per week; and one of the flats or stories of the factory, having obtained a rise of wages, they asked for the same; the amount additional sought by them, being but 3d. per week. The request not having been met, on the 27th of October these girls left the factory at the dinner time, and did not return that evening, though they should have returned at two o'clock. The next morning they returned to work at the usual hour. About five o'clock that day, they were apprehended by four men, and taken to a private office, where they were kept till nearly twelve o'clock. Instead of then being taken before the public Court and examined, they were taken to another private office, at which there were present but one magistrate, and Mr. Baxter and his overseers. They were told to sign a paper, and two of them who could write did so, while the other four attached their mark. They were then taken before the magistrates, and being shortly examined, after Mr. Baxter had whispered something into the Magistrate's ear, they were sentenced to ten day's imprisonment, with hard labor. In all similar cases of this kind, for leaving work for any number of hours, the usual penalty was to deduct a fine equal to the wages of the time lost, and half as much more. But instead of deducting the fine of one and a half time, these girls were sent to hard labor for ten days. And what said Mr. Baxter to this? He said that combinations and strikes prevailed, and that something was necessary to keep them in check.

PICTURE THREE MILES LONG.—A late number of Gen. Morris,s new paper contains a notice of a painting which will, when completed, cover a canvass upwards of *three miles in length*. It will form a perfect *panorama* of the Mississippi and Ohio rivers, showing, with the greatest fidelity, all the beautiful scenery on their borders, with the islands, cities, towns, villages, and wood-yards. It is a vast and noble conception of the artist's mind, and we are pleased th hear that he is making rapid progress toward the completion of the work. The panorama commences at Pittsburgh, showing the Ohio river from thence to its junction with the Mississippi, at Cairo, and then the "great father of waters," from the mouth of the Missouri to the Gulf of Mexico, a continuous line of scenery of more than three thousand miles in extent.

INDIAN CORN.—This article continues to arrive in great quantities in the principal ports of this country, and is already becoming one of great consumption. In Liverpool we have several flour dealers and bakers who put forth Indian corn, Indian flour, and bread made of Indian flour, as the prominent articles of sale; and amongst the higher classes of society it is used with English and American flour in making bread. At a meeting of the Horticultural society, held in London last week, there were distributed among the members a large quantity of packets of seeds of the early sort of Indian corn, the earliest and most prolific variety, and the most suitabe to cultivation in this country, which had been sent over from New York to ascertain whether its growth would not introduce a fresh article of food here.—*English paper.*

AN IRON BRIDGE.—On Friday week the Mayor of Baltimore, Members of the City Councils, and other gentlemen, invited by the Directos of the Susquehannah Railaoad, went to examine a newly erected iron railroad bridge, erected at a distance of 18 miles from the city, over Carroll's Run. The bridge is 54 feet in length, composed of two truss frames; it weighs 28,000 lbs., and cost $ 2,200.—The examination gave great satisfaction to the company, and it was pronounced a very successful experiment, and the bridge well adapted to its object, in point of strength, convenience, and apparent durability.

COMMANDING INFLUENCE—What Mike Walsh says of New York—"Rum governs the politics of this city"—it is true to a certain extent of other large cities. He has devoted much time in acquiring a list of the office-holders, of all grades in this city—and that they constitute a great army—and he assures us that ten out of eleven of those who hold office in New York either keep rumshops, or did so previous to their appointment! As a general thing the man who does most to debase his fellow man, thereby acquires influence and the means of gratiying his ambition.

DR. OTIS SMITH.—We noticed a few weeks since, the decampment of this worthy, from Stonington, Ct., with the remark that he had probably gone after another wife. We now learn that no less than five ladies, most of them young and respectable, stand connected with him in bonds of matrimony. $100 reward is offered for him by "his friends" in Stonington, as much, probably, on account of the hired horse and carriage in which he rode off, as his conjugal relations.

The best weapons of warfare are kindness and love:—let us ever keep them in good order—was a toast given at a Washingtonian dinner.

The Joys of Prayer.

Even in those parts of prayer that might seem only painful, there is a pleasure that would be ill-exchanged for this world's most boasted bliss. In the bitterness of repentant sorrow for sin, there is a sweetness; in the agony of fervent supplication for pardon, there is a joy, as much superior to the best the world can boast, as the heavens are higher than the earth—

The broadest smile unfeeling folly wears,
Less pleasing far than prayer's repentant tears,

O! what a happy, heaven-foretasting life might the children of God enjoy on earth, if they would live a life of prayer! How calm might they be in the midst of the wildest storms. How joyful in the midst of the deepest tribulations. How composed and cheerful, while around was the agitation and alarm—the smile of Heaven sparkling around their path, the peace of Heaven dwelling within their hearts. They say that travellers in Alpine regions are encompassed with a clear atmosphere, and cloudless sunshine, while traversing the summit of those lofty mountains, at the very time that the world below them is all wrapt in mists and darkness, and thunder-clouds are bursting at their feet. Even thus does prayer lift the believer to a loftier and serener region, far, far above the clouds and storms that darken and distract the world below. In that region of purity and peace, the atmosphere is clear and calm; and the light of God's countenance shines brightly on the believer's soul, while he sees the thunder-clouds of earthly care and sorrow rolling beneath his feet—thus realizing the beautiful illustration of the poet:

"As some tall cliff that lifts its awful form,
Swells from the vale, and midway leaves the storm,
Though round its base the rolling clouds are spread,
Eternal sunshine settles on its head." *Selected.*

PIOUS WIVES.—A short time ago, as I was conversing with a pious old man, I inquired what were the means of his conversion. For a moment he paused—I perceived I had touched a tender string. Tears gushed from his eyes, while with deep emotion he replied, "My wife was brought to God some years before myself. I persecuted and abused her because of her religion. She, however, returned nothing but kindness; constantly manifesting an anxiety to promote my comfort and happiness; and it was her amiable conduct, when suffering ill treatment from me, that sent the arrow of conviction to my soul. Temper," added he, "is every thing."—*Selected.*

THE DEAD.—In New Orleans, children are often buried in coffins painted white, and ornamented with bows of ribbon intermingled with flowers. We have heard no reason assigned for this, but there is something peculiarly appropriate in the custom. It speaks of the innocence of childhood, the purity of infancy and the bliss of those whom our Savior said, "Suffer little children to come unto me, and forbid them not, for of such is the Kingdom of Heaven."

EXTRAORDINARY LIBERALITY.—A fire recently occurred at Cincinnati which destroyed a new foundry, including a screw manufactory, and other works, lately put in operation by an enterprising mechanic named Greenwood. On the morning after the fire, Mr. Griffin Taylor, of that city, called on Mr. Greenwood, and handing him five hundred dollars, told him to consider that as a loan for 100 years without interest.

HALF WAY.—In the road over the Andes, at about half way between the foot and the summit there is a cottage in which the ascending and decending travellers meet; the former, who have just quitted the sultry valleys at the base, are so relaxed, that the sudden diminution of temperature produces in them the feeling of intense cold, whilst the latter, who have felt the frozen summits of the mountain, are overcome by the distressing sensation of extreme heat.

TAKING IT EASY.—"When a stranger treats me with disrespect;" said a poor philosopher, "I comfort myself with the reflection that it is not myself that he slights but my old coat and shabby hat, which to say truth, have no particular claims to admiration. So if my hat and coat choose to fret about it, let them, but it is nothing to me.

THE POUND STERLING.—When the rate of exchange on London is eight per cent. premium, the pound sterling is about $4 80. When the rate of exchange is ten per cent., the pound sterling is then estimated at $4 88. When the rate of exchange is but six per cent., the pound sterling is only about $4 70. The *sterling* is the addition of the exchange to $4 44, which is the pound in federal money.

A LAND SPECULATION.—A lot of land near the "new city," on the Merimack River, and which had been bought within a few months for $60, has been recently marked off for building lots, and sold at auction for from 7 to 70 cents per foot; amounting in the aggregate to about $70,000. So the world goes.

PERFECTLY CONSISTENT.—An Italian wit to whom a favor had been granted, after many and long entreaties said, "Do not be surprised if do not break out in thanksgiving; the truth is I have spent my strength in begging, and have none left for returning thanks."

GIVING A DINNER.—It was lately announced in the New Orleans papers, that a DINNER was to be given to Mr. J. S. Skinner. Well what of it? If a man has an occasional dinner given him, he should be allowed to eat it in peace, without being subjected to newspaper remarks on the occasion.

There are no less than nine thousand differen varieties of roses, and fifty varieties of pinks.

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Hotchkiss & Co., 13 Court street, Boston.

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New Hampshire.—J. A. Fay, Keene; Wm. O. Ruggles, Hanover; C. M. Smith, Manchester; J. Buffam, Nashua; D. L. Norris, Dover.
Vermont.—Thomas Boynton, Windsor.
Massachusetts.—S. Thompson, Worcester; B. Perry, Salem; W. P. Seaver, Taunton; P.W. Tenny, Newburyport; Otis Cary, Foxboro; W. Robinson & Co., New Bedford; W. S. Barker, Medford.
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Connecticut.—Peter Cook, Hartford; E. Downes, New Haven; William Woodward, Middletown; S. Jones, Colchester; J. Hunter, Thompsonville; H. S. Snow, Meriden; Safford & Parks, Norwich; O. P. Butler, Northfield.
New York.—T. Dickinson, Newark; T. S. Hawks, Buffalo; G. W. Hildreth, Lockport; William M. Beauchamp, Skaneatles; M. Nevin, 158 Fulton street, Brooklyn; M. S. Leonard, Oswego.
New Jersey.—J.L. Agens, No. 1 Commerce street, Newark; J. M. Francis, Hoboken; Alfred Walling, Keyport; Lees Garside, Corner of Main and Market sts, Paterson.
Maryland.—S. Sands, 122 Baltimore st., Baltimore.
District of Columbia.—W. H. Ward, Washington.
Georgia.—Chas. O'Neal, Darien.
Florida.—Major J. Nathans, Quincy.
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Wisconsin Territory.—Norris Hubbard, Southport.

Travelling Agents.

Clark Selleck. Frederick Hazeltine. Charles Hazeltine. Stephen J. Payne. Wm. H. Russell.

BENTLEY'S PATENT TUBULAR STEAM BOILERS.

These boilers offer the following advantages, viz. Cheapness, small consumption of fuel, require but little room, and are set up without masonry or brick work. For sale by SAMUEL C. HILLS,
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Water-power for Sale.

A Rare Chance for a Manufacturer.

The Water-mills at the head of tide-water, in the pleasant village of East Haven, Ct., and within two miles of New Haven harbor, on an unfailing stream of ten or twelve horse-powers, are for sale at a very moderate price, and on liberal terms of payment. This site is susceptible of a considerable additional power, by increasing the head of water, if required: and its location is such that the cost of transportation of goods to the steamboat landing is merely trifling. A part of the price may remain on mortgage two or three years, if required. For further particulars enquire of Edwin Street, East Haven, or Robert Atwater, 192 Pearl st., N. Y. may6.

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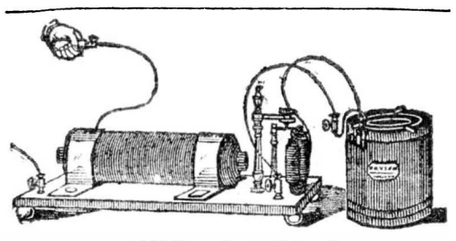

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By J. M. SCRIBNER, A. M.

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General Patent Agency.

THE subscriber has established an agency at his Warehouse, 12 Platt street, New York, for the protection and general advancement of the rights and interests of Inventors and Patentees.

The objects of this agency are more particularly to aid and assist Inventors and Patentees in effecting sales of their inventions and of goods and wares made therewith—and also for the sale and transfer of Patent Rights.

Arrangements have been made with a lawyer familiar with the Patent Laws, who will attend to the legal branch of the business upon reasonable terms. Satisfactory references will be given. Applications may be made to the undersigned personally, or by letter, *post-paid.*

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All letters on business *must be* post paid, and contain a suitable fee, where a written opinion is required.

Office on F street, opposite the Patent Office.

He has the honor of referring, by permission, to Hon. Edmund Burke, Commissioner of Patents; Hon. H. L. Ellsworth, late ditto: Judge Cranch, Washington, D.C.; Hon. R. Choate, Massachusetts, U. S. Senator; Capt. H. M. Shreve, Missouri; H. Knowles, Machinist, Patent Office. april 2.3m*

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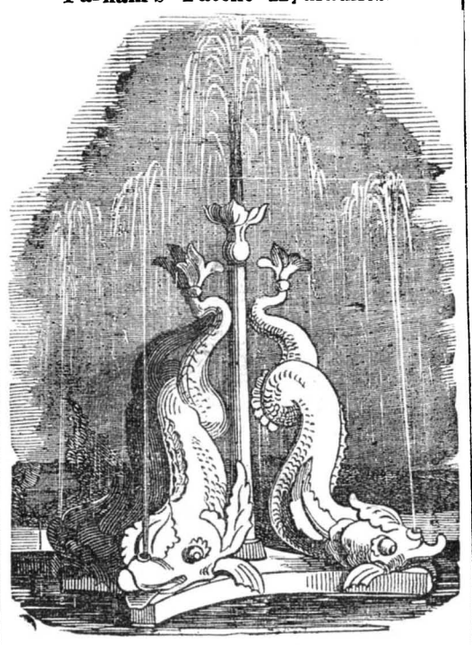

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PROSPECTUS OF VOLUME IX., FOR 1847,

OF THE

AMERICAN PHRENOLOGICAL JOURNAL

O. S. FOWLER--EDITOR.

To reform and perfect Man—to develope, by culture, the original beauties and capabilities of his nature—is a work the most arduous and exalted that can possibly engage human intellect or effort. To do this effectually, however, his nature must be known; and since Phrenology and Physiology imbody his entire constitution, there is no way by which we can so easily become acquainted with ourselves, or for what occupation in life we are best qualified, as by the aid of these sciences.

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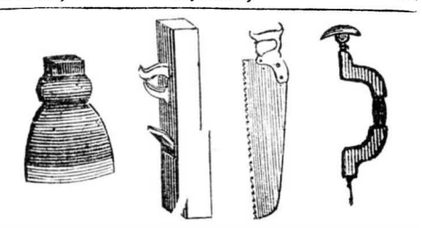
" Duck,	18d	Beef Steak Pie,	6d
" Beef,	6d	Chicken Pie,	12d
" Pork,	6d	Mush and Milk,	6d
" Veal,	6d	Rice and Milk,	6d
" Lamb,	6d	Lamb Pot Pie,	6d
" Pig,	12d	Fried Fish,	6d
Boiled Chicken,	12d	Fried Clams,	6d
" Mutton,	6d	Ham and Eggs,	12d
" Corned Beef,	6d	Chicken Soup,	6d
" Pork,	6d	Beef Soup,	6d
" Fish,	6d	Coffee,	6d

Dessert.

Suet Pudding	6d	Mince Pie,	6d
Indian Pudding,	6d	Apple Pie,	6d
Rice Pudding,	6d	Peach Pie,	6d
Plum Pudding,	6d	lum Pie,	6d
Bread Pudding,	6d	u mpkin Pie,	6d
Apple Dumplings,	6d	Custard Pie,	6d

Breakfast and Tea.

Beef Steak,	6d	Hot Corn Bread,	6d
Veal Pie,	6d	Indian Cakes,	6d
Mutton Chops,	6d	Boiled Eggs,	6d
Ham and Eggs,	12d	Fried Eggs,	6d
Fried Tripe,	6d	Toast,	6d
Fried Sausages,	6d	Hot Muffins,	6d
Fried Fish,	6d	Hot Rolls,	6d
Fried Clams,	6d	Tea,	3d
Fried Liver,	6d	Coffee,	3d



AT HENRY ROWNTREE'S old established *Tool Store*, at the Corner of Chambers and Chatham streets, Mechanics, Farmers, &c., will find an assortment of good Tools, suitable for almost every branch of trade.

H. R. feels obliged to his many customers, of every class, for their past patronage and hereby assures them that no pains shall be spared to procure the best articles in all variety.

H. R. has a greater part of his goods made expressly for him, and Mechanics, &c., may place confidence in them, having had the gold medal awarded him, at the late Fair, for the best tools.

First rate Razors; Pen and Pocket Knives; Table Knives and Forks, &c.

☞ Remember, at the corner of Chambers and Chatham streets. dec26

W. N. SEYMOUR & Co.

IMPORTERS AND DEALERS,
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HAVE the greatest assortment of Hardware for builders; Mechanics' tools of all descriptions.

Wm. Graves & Sons' warranted cast steel files & tools.
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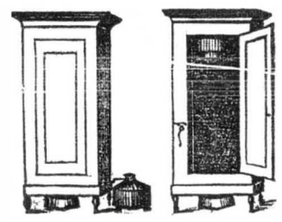
Hoe & Co.'s do. do. do.
Cabinet Trimmings. Tin and wooden ware.
House-keeping articles of great variety.
Agricultural tools. Patent Safety Fuse for blasting.
Sole Agents, for this city, for J. A. Fay's patent Mortising Machine.

THE INVISIBLE DOOR SPRING.

W. N. S. & Co. have taken the exclusive agency, for this city, of Ellis's Invisible Door Spring, which commands a ready preference over all others, and has made arrangements to have them put on and adjusted to the doors of those who may require them; Mr. Shaffer, 75 Warren st, is engaged to superintend this department, and will promptly attend to all orders in this line.
Dec. 25.



Locke's Portable Shower Bath.

THE subscriber has the satisfaction to announce to the public, that he has perfected, and is prepared to furnish at short notice, a portable shower-bath, far superior in utility and convenience of management, to anything of the kind hitherto offered. It constitutes a light and genteel article of furniture for a bed-chamber, and so perfectly constructed, that either a lady or gentleman can at any moment enjoy a copious shower without the id of servants, and withodt haviug a drop of the water sprinkled on the carpet or floor. And by a slight change in a part of the apparatus, the same may be converted to a steam-bath, either plain or aromatic. These baths are manufactured and may be examined at No. 31 Ann st.
JOHN LOCKE.
Dec 4.

ILLUSTRATED BOTANY.

Edited by JOHN B. NEWMAN, M. D.

Circumstances make the man, and very often, as in the present case, the book. For years there has been a steadily increasing interest felt for the vegetable kingdom. Latterly this taste has been partially gratified by the literary magazines, which owe their popularity, in a great measure to the beautiful flower prints that adorn them. One specimen a month, however, is not enough, nor is it required in such connection. A work relating exclusively to the subject, is wanted by the public, and this want, the present enterprise is intended to supply.

Preceded by a short introduction on Physiology, and a view of the Natural and Linnæan Systems, the work will be devoted to a separate consideration of each plant.—Together with our own information, we shall draw on the standard works on Chemistry, Botany, and Medicine, combining every useful item of knowledge, and without lessening its value, present it in a concise and pleasing form. Obtaining our supplies from the same sources as the bee, we hope to *secrete* as elegant a sweet for the mind, as it does for the body. The properties of each, more especially the medicinal, will be confirmed, in a great number of instances, by personal experience. To this will be added its history; its meaning in the language of flowers; and poetry, either original or selected from the gems of the children of song.

The whole illustrated by splendid colored engravings, taken from nature. full size, and finished in the highest style of modern art.

This work is designed to be eminently popular in its application, and there is enough of that which is stronger than fiction about it, to render it, in no ordinary degree, interesting and instructive.

Terms.—This work will be published monthly, with four or six flowers, handsomely painted, in each number. Price three dollars a year, or two copies sent to one address for five dollars. A *very* liberal discount allowed to agents. J. K. WELLMAN,
Publisher and proprietor, 118 Nassau st.

*** Furnished to Seminaries, Colleges, and societies, in clubs, 10 copies for $20 a-year.

PARTICULAR NOTICE.

We do not intend to confine ourselves to the botanical descriptions of each plant, but on the contrary, divested of technicality, intend to make it a thoroughly scientific work, in all the departments of Botany. It will also give information on the cultivation of Plants and Flowers. In a word, it will comprise the whole science.

We give below the *free* opinions of the press.

From the N.Y. Tribune.

"ILLUSTRATED BOTANY."—This is a new candidate for popular favor, in the shape of a monthly periodical. The first two numbers are before us, and if they may be regarded as speeimens of those which are to follow, the work will certainly prove highly attractive. It is to be devoted to a separate consideration of each plant in the vegetable kingdom, the whole illustrated by colored engravings, taken from nature, full size, and finished in the highest style of modern art. Four or six of these engravings will be given in each number. Those in the numbers already issued are of the most beautiful and splendid description. The Editor will draw on the standard works on chemistry, botany, and medicine, and thus combine in a brief form every useful item of knowledge respecting plants and flowers, their medicinal qualities, &c. To this will be added their history and their meaning in the "language of flowers." To all lovers of the beautiful in Nature and Art, we commend this work as eminently worthy of patronage.

From the Christian Advocate and Journal, (Edited by T. E. Bond, M. D,)

The painted specimens are really exquisitely done; and the great marvel with us is, how the work can be afforded at the low price of three dollars per annum, or two copies to an address for five dollars. Engravings can be cheaply multiplied, but paintings must be executed separately, and without the aid of labor-saving machinery. It will give us real pleasure to announce the successive numbers of this beautiful periodical, as we have been led to think the study of Botany not only as an innocent recreation, but eminently promotive of piety.

From the N. Y. Surgical and Medical Reporter.

We have received the first number of "The Illustrated Botany." This periodical is got up in a very neat form, and displays taste and judgment in its Editor, who, being a well educated medical man, is prepared to make a work of this kind very interesting and useful to the general reader. The colored plates are unsurpassed in beauty and finish.

From the Protestant Churchman (N.Y.)

ILLUSTRATED BOTANY.—The design of this work is admirable. It is intended to comprise scientific descriptions of the most valuable native and exotic plants, with their history, medicinal properties, &c. &c.

N. B. Publishers of newspapers who give the above prospectus three insertions, shall receive the work one year. march 26.

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GREAT EASTERN, SOUTHERN, AND WESTERN

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Express for the South and West leaves the Office daily, at 1-4 to 3, and half past 4 P.M.

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march 26. A. R. HAIGHT.

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