Scientific American

NEW-YORK, DECEMBER 4, 1852.

Old and New Inventions.

We are conservatives in respect to inventions which are old and useful, and reformers in respect to those which are old and of an inferior character. Plain common sense teaches any man that it is foolishness itself to prefer an invention merely because it is new, and deride another merely because it is old. We are also advocates of all that is new and useful, but it requires experience, a great amount of knowledge, and disinterested judgment to tell what is new and useful; whether it has been employed before and superseded by something better, or had been before proposed, experimented with and failed, or has inherent defects. It frequently happens that old and exploded inventions are revived and presented to the public with the most glowing eulogies of their superiority and incomparable qualities; and it no less frequently happens that others possessing inherent defects are as prominently paraded and more vauntingly advocated. It is our duty—and we have often to perform it—to expose the worthlessness of the one class and the errors of the other. This we do without any reference to private and invidious prejudices—for we have none of them—but as public journalists speaking the truth as we believe it. We believe that much wrong is prevented from being perpetrated on the public by timely exposures of unworthy objects, many of which it has fallen to our lot to hold up, either to scorn (according to the manner in which they were heralded) or to a candid and kind criticism. Almost daily, we have either old or inferior inventions presented to us for our opinion, by honest and worthy inventors, many of whom are disappointed at discovering the age or inferiority of their plans, but generally all satisfied with our conclusions. Two years ago we were asked for our opinion about propelling a ferry boat across a river in South Carolina by the power of a huge *spring* wound up with a crank; we informed the inventor that the same device had been applied to a boat in this city in 1808, and that it had inherent defects. Nothing but a trial, however, would satisfy the inventor, and that did satisfy him to his cost, but he thanked us for our information. Three years ago a gentleman in Syracuse, N. Y., asked our opinion about a substitute for the crank which he had invented; we gave our opinion that there was no loss by the crank, and it was the most simple and best device ever invented to convert rectilinear into rotary motion.—The inventor concluded he would try his own device; the result of his experiments, however, confirmed every word we had said, and his testimony to this effect we published on page 99, Vol. 5. We could name a great many such cases, but we have not room to do so. Of the many public exposures which we have made, not *one*, we believe, has turned out different from what we predicted, although we are liable to make mistakes as well as others, for none are perfect, but we are disinterested.

In our last volume we gave our opinion respecting the worthlessness of a project which was presented to the public in this city for navigating plank and common roads with steam carriages. It would have been easy to have proven us incorrect if we were wrong, by the said company putting their plans in operation; and when we consider that this could have been done at no very great outlay, and that the company was composed of editors, lawyers, artists, &c., who make pretensions to science, and practical mechanics, it is certainly presumptive evidence that some of them have become convinced that we were right, if not, they have acted unwisely. It is now eighteen years since Robert Mills, engineer and architect in Washington, published a pamphlet recommending the adoption of steam carriages for common roads. At that time, (1834) railroads were almost unknown in our country; there was but a single short railroad then in this State, (N. Y.) Since then railroads have multiplied until they have laced our entire country with an iron network of 12,000 miles. To advocate steam carriages on common roads now, when we have railroads on which the resistance is twenty times less, betrays a great want of judgment.

With respect to new and superior modes of travelling; too much attention cannot be bestowed upon them. The steamboat and railroad are fast revolutionizing the world; but it is not to be supposed that we are yet at the end of such inventions and improvements. A means of safely, cheaply, and rapidly navigating the atmosphere may yet be invented, but no plan hitherto proposed or tried meets these positively necessary conditions; we confess, however, that we have far more confidence in balloons than steam carriages on common roads. An invention to be successful must not only be new, but useful—an improvement. Any plan or invention having these qualities, no matter by whom invented or proposed, we advocate with pleasure and hail with delight.

The Effect of Climate on Health---Consumption.

"Man is born to trouble as the sparks fly upward." It is well known that peculiar diseases belong to peculiar climates. Thus, for example, consumption is the most prevalent disease in Britain, the New England States of America and nearly the whole of New York State; the young and the lovely are its victims, and it leaves its impress on some families for generations. The tender plant grows up in loveliness and beauty, but just when the bud is ready to burst forth and bloom, there comes the chilling frost of consumption, and the expanding leaves and bud begin to droop and decay. It spares no rank, yea, rather those who are blessed above others, and more exempt from common troubles on account of their wealth, are more often the victims than the children of the poor. On this account, its general prevalence, and deceptive character, it has received more attention from medical men than any other disease. Its local causes have long been understood, but the remedies suggested are exceedingly numerous. Many patients linger so long and hope so much, that quackery with its brazen front has found an ample field for pandering to the hopes and credulity of the weak. In general, respectable physicians have counselled a change of climate, and invalids from the Northern States have generally gone to the Southern States, and the West Indies; those of England went to the South of France or Italy. Lately, some English physicians have come out against a change of climate, especially a mere change from a cold to a warm region, asserting that some warm regions are more dangerous to invalids than their own cold native hills and valleys. Dr. Burnett, of Boston, has written an able article on this subject to the Boston Medical and Surgical Journal, in which he attributes the prevalence of consumption in the New England States to the intemperate changeable climate, the tendency of which is to produce disease in the pulmonary organs. The only season of the year when the climate is favorable to lung diseases is during the month of September, and the first part of Oct., when the air is warm, dry, and quiet. It has been customary for Northern invalids who went South to return when benefitted. In general, all who did so have been re-attacked, and finally carried off (sometimes very suddenly). From statistics and information which Dr. Burnett has been collecting, he has come to the conclusion that consumptive invalids, to be permanently benefitted by a change of climate must go South and make their home there. They must also go there in the early stage of the disease, for when too weak they but leave home to die. The climate of Greenville, in South Carolina, and some parts of Georgia is exceedingly favorable to those laboring under this disease; in summer the temperature rarely exceeds 90°, and is free from sudden changes. Dr. Burnett is of the opinion that the American States possess a variety of climate and advantages for this disease, far superior to those of Europe, and as the people of England—those possessed of wealth are becoming dissatisfied with Italy and Madeira, it is not improbable that with the present rapid Atlantic steam communication, our country may soon become the home of many of the noblest and most wealthy of her inhabitants. If they are wise for themselves they will make at once for a new and a better home on the western continent.

Volcanoes, their Causes---Igneous Theory.

With our ideas of volcanoes we always associate the grand and the terrible; and a volcanic eruption—a huge piece of artillery, with a mouth perhaps miles in circumference, shooting up rocks and burning lava—is truly a terrific sight. Volcanoes are exceedingly plentiful on our planet, there being no less than sixty-three principal ones; still, they are confined to certain localities, which occupy but limited portions of our globe. The question has often been asked, "what is the cause of volcanoes?" And truly, when we consider how disastrous some of these eruptions have been, no wonder the question of their cause has been forced upon the attention of almost every reflecting mind. It is one well worthy of some speculation, and requires a considerable amount of scientific knowledge to investigate, and this may be usefully employed either in pointing out errors or presenting new facts. Various opinions have been expressed respecting their origin and activity. One thing is certain, they are in no way connected with solar influence, for they exist under the tropics of South America, and are found in the frosty regions of Iceland. It was the opinion of Darwin, that the volcanic districts of the world had earthy crusts resting on lakes of igneous melted matter. Humboldt believes that the volcanic region of Quito, in South America—the whole of that vast Plateau—is a single volcanic surface, composed of a solid crust covering a lake of molten matter. Such opinions, however, have nothing to do with a general theory, of which there are two—one is astronomical, and asserts that this earth was originally a fiery molten mass, and that we live on its crust, beneath which all is molten fiery matter; the other theory is chemical, and asserts that they are caused by explosive materials deposited in huge quantities in the volcanic localities, and which, when saturated by some means with oxygen, and ignited, act exactly like any explosion of artillery. Leibnitz first suggested that this earth was originally in a fiery fluid state; Sir Wm. Herschell afterwards suggested the hypothesis of matter being originally in a nebulous state, which, by condensation, developed great heat, and our earth became a fiery ball, the surface of which we now live upon being a mere crust, the rest not being cooled yet which, when reached by water, causes an explosion like a steam boiler. This is the nebular igneous theory.

The author of "The World Without" states how easy it is to account for volcanoes by this theory, by saying—"according to the fiery nebulous theory, the earth, at a depth of sixty-five miles, is 7000 degrees temperature, and if water percolates through fissures of the earth, we have a sufficient explanation of earthquakes and volcanoes."

This theory is unsound, and will not stand the test of scrutiny. The arguments adduced to prove that the interior of the earth is a fiery molten mass, is, the increase of temperature found to exist as we descend in some mines, which is about 1 degree for every 45 feet. According to this rate, at 25 miles depth, the melting point of iron would be obtained; but we have no facts to prove that the heat of the earth increases regularly to the centre; after a certain depth, it is perhaps uniform. What signify the experiments made in a few mines not over 2,000 feet, deep. From observations made by Kotzebue, Beechy, and Sir James Ross, the fact seems to be established that the waters of the ocean (it is also matter) are uniform in heat, at the depth of 7,200 feet. At the depth of 100 fathoms, as stated in Maury's Wind and Current Charts, the temperature of the water in "the cruise of the Taney," was 64°, while at 50 fathoms, one half, it was 70°. In the soundings by the sloop-of-war Albany, at 680 fathams, the temperature was 81°, while that of the air was 83°, and at 995 (5970 feet) fathoms it was only 80°, while the temperature of the air was 79°. Now if it were true that the heat increased downwards, at the rate of one degree for every 45 feet, as asserted by some, then with a temperature of air at 79°, the water of the sea at 5985 feet of depth, should be at the boiling point—212°. Instead of this it was only 80° at 5970 feet, only 15 feet less. How does this accord with a uniform increase of heat as one descends into the matter composing the earth?

Dr. Daubeny, and Sir Charles Lyell are advocates of the chemical theory, and the latter is a decided opponent of the central theory of heat. It is well known that when potassium is dropped upon water, it causes an explosion; if, in certain places of the earth, there were large deposits of this metal, and water percolate to or come in contact with it, a terrific explosion would ensue. It appears to us that volcanoes are local, and generally preceded by earthquakes. If the centre of the earth were fluid, according to the well-known laws of fluids those earthquakes, caused by volcanoes would affect equally every part of the earth's surface, a thing which we know they do not.

Our attention was directed to this subject by reading some accounts of the recent eruption of Mount Etna. There is no positive certainty respecting the real cause of volcanoes; but the general, yea, almost universal opinion expressed by writers on the subject, is that water in some way is an active agent in all eruptions. Water, however, in all likelihood, exerts no agency whatever; and a strong argument in proof of this, is, that in the moon there is neither atmosphere nor water, and yet the volcanoes of the earth are mere dwarfs compared with those on our satellite. Our views, then, are distinctly opposed to the prevailing igneous theory, and we choose, rather, to plead ignorance of the causes of volcanoes than adopt any theory which cannot stand the test of scientific analysis.

Dinner to Inventors in England.

On the 3rd of last month, (Nov.) one hundred and fifty gentlemen interested in patents sat down to a sumptuous dinner in Birmingham, to celebrate the British Patent Law Amendment Act. Muntz, the inventor of the metal which bears his name was there, so was Prosser, another eminent inventor, and Hindmarch and Webster, the two able counsellors and authors of works on patents were among the number. Some fine speeches were made, and inventors were congratulated on the boon they had obtained. Mr. Prosser said he was not yet satisfied, he looked forward to the time when patents would be obtained for half a crown, and specifications for one penny, (he forgot that the copyist needs pay as well as the inventor). Mr. Hindmarch spoke sensibly; he advocated the enrollment of the complete specification on receiving the patent. Mr. Webster contended that a mere outline description of an invention was enough when the patent was granted, always allowing six months for enrollment. He considered that with a few modifications the patent law was a good one, and he hoped, for the sake of inventors, that it would be long before Mr. Prosser's hopes were realized. He considered that low fees would make patents less valuable in England; this statement was allowed to be true, and met with a general response. He made a fierce onslaught on the opposition which was manifested against the bill by some members in the House of Commons, and completely demolished the trashy arguments (like those advanced in the New York Daily Times,) against patents. "The foolish idea," he said, "had got into the head of some men that *patents were bad things*; this was an idea which should be got rid of by every man who entertained it."

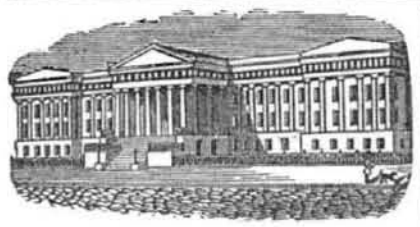
A Large and Small Wheel.

MESSRS. EDITORS.—In No. 10, Scientific American, you expect some of your friends in Muncy to prove how much the small wheel slides that is secured on the axle with two wheels of double diameter, (6 feet,) I will answer; it will slide exactly the whole of its circumference, and roll the whole of its circumference, which is 3·14159×3=9·42477×2=18·84954. We measure the distance which the large wheels travel by the point of tread upon the rail, which is a perpendicular line drawn through the axis, consequently the axis is drawn through a space of 18·84954 feet in one revolution of the large wheels, therefore, as the small wheel makes only one revolution, and its axis passes through an amount of space double its circumference, it follows, that it must slide 9·42477 feet.

The error which you also wish pointed out is the use of the word will *not* slide; it was superfluous. Am I right? R. M. B.

Muncy, Pa., Nov. 24th, 1852.

[R. M. B. is right; the communications received on this subject have been "*legion*."



Reported Officially for the Scientific American

LIST OF PATENT CLAIMS

Issued from the United States Patent Office.

FOR THE WEEK ENDING NOVEMBER 23, 1852

SWINGING CHURNS—By Wm. F. & Nathan Davis, of Castleton, Vt.: We claim the combination of the swing slotted board wheel, rock shaft, and lever, for the purpose of producing two complete motions of the dash, from one full oscillation of the pendulum bars, substantially as described, to be denominated the "Oscillating Double-Acting Dash Churn."

PINCERS FOR OPERATING PILE WIRES—By Augustus Faulkner, of Walpole, N. H.: I claim the manner described of constructing and operating the claw, for withdrawing, carrying, replacing, and releasing the figuring wires, viz., by making one of the jaws fixed, and providing it with a pin or projection extending into a suitable slot in the sliding part of the claw, so that as said part moves back and forth, in contact with the fixed part of the jaw, the pin or projection therein will, when the figuring wire is to be seized, keep it in position for being properly caught in the claw, and when it is to be released, will prevent it from moving with the sliding jaw, as set forth.

SPACES FOR SETTING TYPE—E. C. Harmon, of Troy, Ohio: I claim the cyma recta, or other more suitable shaped elastic space, for facilitating the art of setting type, or for saving the time and labor usually expended in "spacing out," "thin spacing," regulating the distance of words in the same line from one another, and "correcting proof," in the manner set forth.

FASTENING PALINGS TO RAILS IN IRON FENCES.—By Geo. Hess, of Easton, Pa.: I claim the circular projection, or its equivalent, on the rail and lower part of the paling, in combination with a corresponding cavity on the lower rail, so arranged that by giving a partial rotation to said rail the palings will be clamped to the rails, in the manner described.

DRYING PAINTS—By Heman S. Lucas, of Chester, Mass.: I claim the process of treating magnesian mineral, such as serpentine silicates of magnesia and iron, and similar rocks, by mineral acids, to prepare from the sedimentary or insoluble, or undecomposed portions of such rocks or mineral product, which I call a basis, to be used in the preparation of pigments, as set forth.

HARVESTERS—By John H. Manny, of Waddams' Grove, Ill.: I claim, first, the arrangement of the track scraper and driving wheel, in such a manner that the latter, while the machine is cutting one swath, will run in the track cleared by the former, when the machine was cutting the previous swath, as set forth.

Second, the projections on the under side of the upper bars of the finger, in combination with the chamfer or recess on the lower inside corners of said bars, to counteract the tendency of wire grass and other fibrous obstructions to pass in between the cutter bar, and the sides of the recess in the upper part of the finger in which it is guided.

Third, forming the guard fingers of two parts, interlocked at the point, substantially as set forth, so that the grass cannot lodge in the joint and form an impediment to their entering between the stalks of the standing grain.

Fourth, in combination with a rocker stand or seat, a removable platform, constructed with a wing that extends from the outer end of the cutter, over the frame, and holds up the butts of the straws above the stubble, which otherwise would obstruct the discharge of the grain from the platform, substantially as set forth.

PRINTING PRESSES—By Chas. Montague, of Pittsfield, Mass.: I claim placing the bed-plate in a vertical position, when a reciprocating motion is imparted to it, by which the impressions can be made at each forward movement of the said bed-plate, as set forth.

I also claim the combination of the vertically acting bed, with a cylinder or cylinders, arranged in such a manner that the forward movement of the bed will impart motion to the cylinder or cylinders, to give or take an impression and allow said cylinder or cylinders, to remain stationary during the return movement of the bed, substantially as set forth.

BOOT TREES—By David Sadleir, of McWilliamstown, Pa.: I claim, first, the arrangement and combination of the levers, friction rollers, screw, and slide, or their equivalents, with the back part of the tree, which, when constructed, all bed closely therein, for the purpose described.

PRINTING PRESSES—By A. H. Cragin, M. Buck, J. H. Buck and F. A. Tenney (assignors to A. H. Cragin), of Lebanon, N.H.: We claim, first, the arrangement and combination of the movements, in connection with the bed, by which an extent of motion is imparted to the said bed, much larger than that of the sweep of the operating crank, whilst the whole of the said movements only occupy the space within the frame work of the press below the bed, the pinion shaft having pinions upon it, which gear into stationary racks, B B, made fast to the sides of the frame, and into racks, C C, secured to the underside of the bed, the forked lever, or its equivalent, having its forked extremities connected to the said pinion shaft, and its opposite end jointed to the lever that rises from the oscillating shaft, and the pitman connecting the said lever with the crank on the driving shaft, or the equivalents of the said movements, when combined and operating as set forth; disclaiming, however, the principle of imparting motion to a printing press, by direct application of power to the bed.

Second, the combination and arrangement of the pressure cylinder and the bed with the conveying bands, nippers, and cams for operating the said nippers, as set forth.

Third, the arrangement of the upper and lower tables with the pressure cylinder, bed, conveying bands, nippers, and cams for operating the nippers in such a manner that an impression can be made at each right and each left movement of the form under the cylinder, and the sheets be deposited after receiving their impressions upon the said lower tables, substantially as set forth.

WHIFFLETREE—By D. C. Williams, of Madison, Ohio: I claim a shaft with the ends bent at right angles, and the lever making part of the same, arranged and operating as set forth.

MACHINE FOR DRILLING STONE—By J. J. Couch, of Philadelphia, Pa: I claim making the drill rod to slide through the piston rod, as set forth.

I also claim the combination of the rocker lever, the wedge, the bolt within the lever, the two cam plates, the spring catch, the spring, and a projection, as applied to the drill shaft, the carriage or block, and the sideways thereof, and made to operate together, and to actuate the drill, substantially as set forth.

RE-ISSUE.

STEAM BOILERS—Cadwallader Evans, of Pittsburgh, Pa. Originally patented April 15, 1839: I claim the combination of a fusible alloy confined in a cup tube, or case, with a metallic stem, rod, or other fixture, not fusible at the melting temperature of the alloy, which stem, rod, or other fixture, is held or kept in position whilst the alloy remains hard; but when said alloy is fused, said stem, or its equivalent, can move or have motion, by which liberty to move any valve may be liberated, or caused to open and let steam escape, or any alarm may be let off, or any index moved, so that this combination may act as an alarm indicator, or safety apparatus.

Also, in combination with said alloy and plug, the heavy slotted weight, lever, or its equivalent, and safety or escape valve and its ordinary weight, acting in the manner and for the purpose described

Recent Foreign Inventions.

NEW COMPOSITION FOR RAILWAYS AND OTHER CONSTRUCTIVE PURPOSES.—Mr. Owen Williams, of Stratford, has patented a composition to be used in railways and other structures, in lieu of iron, wood, or stone, and for building purposes generally. One of these compositions consists of 180 lbs. pitch, 4½ gallons creosote, 18 lbs. resin, 15 lbs. sulphur, 45 lbs. finely powdered lime, 150 lbs. gypsum, and 27 cubic feet sand, breeze, scoria, bricks, stone or other hard materials, broken up and passed through a sieve with half-inch meshes. The sulphur is first melted with 30 lbs. of the pitch, after which the resin, and then the remainder of the pitch is added with the lime and gypsum, by degrees, and well stirred till the mixture boils. The earthy and stony materials are then added, and the creosote mixed in, when the composition is ready for moulding into blocks, to which pressure is applied. The claim is the mode of preparing such composition, particularly the use of sulphur therein.

PREPARING MADDER—C. A. Kurtz, chemist, of Manchester, Eng., patentee. The improvement is for treating madder roots and ground madder, or munjeet, for calico color-makers. The patentee takes 20 lbs., of crushed malt and boils it in 100 gallons of water for half an hour; he then stops the boiling and adds 45 lbs. of wheat bran, stirring the whole together, and then allows the liquor to settle. When settled the clear is run off, and to every 65 gallons of it 100 gallons of water are added, which is placed in a copper vessel and heated to 112° Fah., and to this is added 3 cwt., of madder or of munjeet ("Rubia Munjista"), which is stirred at intervals of 15 minutes, until a homogenous mass is produced. In this state the mass is allowed to stand until it exhibits symptoms of fermentation, when they are checked by successive stirrings for 18 hours. This prepared madder is then filtered, pressed, dried, and ground, and packed away for use like garancine.

TO PREVENT INCRUSTATIONS IN BOILERS—M. Libbald, patentee.—To prepare the compound, take one pound melted tallow, one pound of black lead, two ounces of powdered charcoal, and one gill of gas tar; these are well mixed together, and present the proportions of the scale preventative. This composition is applied while hot, with a brush, to the inside of the boiler. It also makes a good black paint for fences, outhouses, &c.

EXPLOSIVE COMPOUNDS—S. Davey, of Rouen, and A. L. Cance, of Paris, France, patentees.—The explosive compound is formed of 6 parts, by weight, of the chlorate of potash; 5 parts of nitrate of potash; 5 parts sulphuret of antimony; 2 parts yellow prussiate of potash, and 2 parts bichromate of potash. A second explosive compound or powder is formed of 6 parts chlorate of potash; 3 parts nitrate of potash; 3 parts sulphuret of antimony, and 4 parts of the prussiate of potash. Each of these ingredients is separately ground to a fine powder, and the whole of them, when so ground, are thoroughly mixed together, when the said two compounds are fit for use.

MACHINE FOR RESTORING HUMAN HAIR—R. Griffiths, England, patentee.—This is a new touch in the hair restorative art, and does not consist in any of your lotions, &c., but a real true-blue mechanical operation. It consists of a machine containing combs and brushes, so arranged and constructed as to produce a galvanic current when used. The teeth of the combs are made of copper and zinc, alternately, and continued back to a chamber in the hind part of the comb, in which is placed a flannel saturated with salt water as an excitant. The object of the invention is to excite an electric current when the combs or brushes are used. The brushes are made of fine copper and zinc in place of bristles.

Vinegar---Its Adulteration.

It is our opinion that adulterated liquors of every description are manufactured and sold in great quantities in our city. Out of a hogshead of whiskey, nine or ten different liquors are made and palmed off for the real Simon Pure. We believe it is the same with other liquids besides those containing alcohol. Vinegar, for example. Are we sure that all the vinegar sold in our city is genuine? No, we are not. The majority of people do not know how to judge of good acetic acid, they are perfectly satisfied if what they get for it is perfectly sour in taste and has the yellow color of the excellent old cider vinegar, that is made by our farmers. It is easy to make a cheap spurious article, and no doubt hundreds of people daily use a mixture of vitriol, water, &c., in the firm belief that it is real vinegar, because they have purchased a liquid of that name. The manufacture of spurious vinegar is an old story, we have heard an old soldier who fought on the frontiers during the last war, state, that the troops were often served with vitriol and water for vinegar while at Oswego, and their health was affected by it, until he discovered the imposition, and where it was manufactured—a few miles distant in the woods.

Where there is no cencorship exercised over the manufacture of such liquors or liquids, there is great room for evil doers to do acts of the greatest enormity—we consider that the adulteration of any article of food or drink is almost venial crime. In London there is an analytical sanitary commission of eminent chemists and doctors, appointed to analyze the articles which are daily used by the people and sold wholesale and retail. They report the names of those whose articles are adulterated, who are amenable to law, and those whose articles are pure. The late report of the committee states, with regard to vinegar and its adulterations, that out of 28 samples purchased at the houses of various retailers in different parts of the city, and the productions of almost every maker of any note by whom the entire metropolis and its suburbs are supplied, only four out of the above number were free from sulphuric acid or oil of vitriol; that twenty-four were adulterated with that powerful and corrosive mineral acid; that two contained it in a small quantity only; that in three it was present in considerable amount; that 12 contained it in very considerable amount; and that in seven it was present in immense quantity. The report then publishes, as usual, the names of the parties selling and the makers of the adulterated articles, together with the names of the makers (unfortunately only four) and venders of the pure article. The fact of the vinegars of these four makers being found to be entirely free from sulphuric acid or oil of vitriol is regarded as most important, inasmuch as it proves most convincingly that the use of that highly objectionable acid, even in small quantities, is not necessary to insure the preservation of vinegar, and shows that its addition is made rather for the purpose of increasing its apparent strength. The report concludes by publishing a letter from Mr. Fletcher, surgeon, of Bromsgrove, showing how families might manufacture for themselves, by a very simple process, sufficient vinegar for the table, or for the purpose of pickling, by using sugar, treacle, and water, and a fungus known as the vinegar plant, and thus make themselves independent of dishonest manufacturers.

Every American family knows how to make vinegar; it is therefore needless for us to tell how this can be done; but at the same time, we must say, that there are so many families in cities like New York, who have not the conveniences to make it, and it is so much easier to buy than to make it, that there should not be the least necessity for doing so, and there need not, if things were well managed. We should have an analytical sanitary commission in this city, to examine both solids and liquids, so as to have only pure articles sold, and those punished who sell adulterated articles. Now what would our Common Council say to the appointment of such a commission? We believe if such a commission was appointed, a great amount of good would be accomplished by it. Let our Aldermen think of it; the subject is a very important one.

A New Propeller for Steamers.

Professor A. Crestadoro has just secured under the new patent law, an interesting scheme for propelling vessels.

He considers the use of paddles or blades to be a mistake similar to that which so long prevailed in the application of locomotives on railroads, and which materially retarded the progress of that invention, when, taking for granted the inability of the plain circumference of the wheels to propel the carriage, much labor and skill had been wasted in the contrivance of levers, which acted on the road in a manner somewhat resembling the feet of the horses. Now, as the appprehended insufficiency of the adhesion of the plain circumference of the wheels with the road to propel the carriage has been proved a fallacy, so he considers the necessity of paddles or blades, of whatever description they may be, as altogether fallacious and that the best and cheapest method of improving the propeller is to use simply the plain circumference of cylindrical drums. It is a natural supposition that a plain round surface should have no tractic adhesion with the water; but on close examination it will be found that not only such is not the case, but what is even more surprising, the tractic adhesion of a plain cylindrical drum is far greater than that of a paddle-wheel of equal size.

Taking, for instance, the steam vessel Atlantic, whose paddle wheels are of 35 feet diameter, and length of paddles 12 feet 6 inches, supposing a moderate immersion of five feet paddles—one pair of drums of equal size at equal immersion would displace a pair of cubic segments of about 135,631 lbs. of water, or, what amounts to the same thing, a pressure of not less than sixty tons would act upon the drums as a tractic adhesion which is by far superior to that afforded by the best method of paddle wheels in the most favorable circumstances. Now, the cylindrical propeller has the substantial advantage that it can be, when reduced to a moderate diameter, applied as well as totally immersed, if it be, (as proposed by the patentee,) fitted into a semi-cylindrical case, with only such a clearance as is just sufficient to let the drum have a proper action, the other half drum or semi-cylindrical projection being out of the case for the propelling action.—[English paper.

[There is a decided mistake in the conclusions of Prof. Crestadoro. No mortal man but himself, we believe, ever would suppose that paddle wheels were invented because it was believed that broad sheathed wheels would slide on the surface; such an idea never was entertained, consequently no such mistake as that referred to was ever made in the case of steamboats. The two modes of propulsion are entirely different, the one is by traction, the other by the displacement of an incompressible fluid. Now, the action of a rigid body passing over another rigid body, is altogether different from what it would be if propelled through a fluid. We have also to state that drums have been tried as substitutes for paddles, but as might be expected, proved utterly incompetent. We cannnot see how a man of science permitted himself to be led away by such an idea as that set forth in the above extract.

Telegraph between Quebec and Detroit.

The process of laying down the submarine wire across the Bay of Quinte, for the trunk line of telegraph now in course of construction between Quebec and Detroit, was gone through last week. The submarine wire, which works admirably across the bay, was manufactured in London.

All plants have a season of rest; discover what season is peculiar to each, and choose that season for transplanting.