

Scientific Museum.

Steam Carriages for Public Roads, Balloons &c.

It is well known that it has often been attempted to make steam carriages on common roads. Many attempts have been tried and failed, but still there are others who are not yet discouraged. In Bristol, England, a steam carriage lately patented, has been brought out as the invention of Messrs. Clark & Motely.

The entire machine is intended to consist of an engine of from six to ten horse power, to which is attached an omnibus or long-bodied carriage, capable of accommodating forty persons and a certain quantity of luggage. With this load the patentees assert the capability of their invention to attain an average speed of ten miles per hour on ordinary roads, and the power of ascending inclines of one in six or eight. A speed of sixteen miles an hour might be checked and the engine brought to a stand-still in the space of sixteen feet.

The engine comprises an apparatus for steering with certainty at any required speed, on any kind of road. Suspension of machinery in such a manner that all jolts or concussions arising from bad roads shall not be injuriously communicated to the machinery, so that wear and tear will be considerably reduced. The power to be increased or decreased according to the state of roads, or the resistance to be overcome. A boiler of the strongest mechanical form with the least possible weight of material.

The most economical application of the steam power, by keeping the cylinder hotter than the steam employed therein, by which all condensation of the steam during its expansion is prevented, and to work the steam at such a pressure that the greatest effect may be produced by being worked expansively.

The carriage frame is made of sheet iron, rivetted together in such a manner, that the water tanks, &c., may be formed of the same, so that it will be strong and of light weight.

Flying Ship.

Near Hoboken village on the other side of the river, opposite our city, there is a strong enclosure 290 feet long, in which is a most wonderful apparatus—or rather huge artificial dragon nearly ready for launching. It is a huge cigar shaped balloon 260 feet long and 24 its greatest diameter. It has a car 64 feet in length, very sharp at either end, width 5 feet, height 6 feet 4 inches, the whole composed of a strong, light wooden frame covered with canvass, with doors and glass windows. It is to be propelled by two of the most beautiful engines ever constructed. They are made of gun metal and cast steel, are of 12 horse power, and are to work 20 inch stroke 66 times per minute, which will give 400 revolutions to two propelling fans. The entire weight of the car, float and fixtures is but about 4,000 pounds, leaving 2,500 pounds surplus. It is designed to run about 200 feet above the surface of the earth at a rate of speed varying from 25 to 50 miles per hour. It is calculated that the gas will have an upward buoyant force sufficient to raise more than 6,000 lbs. above the ground. The engines only weigh 181 lbs. They are constructed by Mr. Robjohn, a most ingenious mechanic, one who can make a balloon go if neat and well constructed machinery can do it.

It is designed to drive this vessel by steam, and to obviate the necessity of coal, Mr. Robjohn says he has discovered a plan of decomposing water, which is converted into steam, by the combustion, and this steam is again condensed and returned for decomposition.

The most skillful and best of men are oftentimes led away by enthusiasm, and it is a good thing for science perhaps that it is so.

Great Balloon Ascension.

Mr. John Wise, the veteran aeronaut of Lancaster, Pa., made a splendid ascension from Philadelphia, last Monday, (21st) in his large balloon named the Hercules. The cost of the balloon and rigging was \$2,600. It was manufactured of prepared silk. Its size

is immense, and said to be the largest ever made in this country. It is capable of containing 41,000 cubic feet of gas.

At five minutes past six o'clock, about 37,000 cubic feet had been obtained, when Mr. Wise, not wishing to weary the patience of his friends, disconnected the tube from the balloon, and prepared for a departure from *terra firma*. At 15 minutes past 6 o'clock a topical ascension was made. The *voyagers* were Mr. Wise, his wife and son, Miss E. Denton, and W. R. Stockton, of Spring Garden. The balloon rose gracefully, to the height of over one hundred feet, and remained stationary for a few minutes. It was then drawn down by means of a windlass to which the end of the rope was affixed.

At half-past 6 o'clock, the rope was cut, and the balloon, with the same persons, shot upwards, and continued to rise to a great height, perpendicularly. It afterwards took a northeasterly direction, and was perceptible to view for nearly an hour. The audience within the enclosure was entirely orderly and expressed the greatest approbation of the skill and success of the aeronaut.

It takes friend Wise to do the thing up in grand style; but this balloon has since been torn.

Railway Gauges.

It would be a good thing if all the railroad tracks in our country, were of the same width; but what is the best gauge some will say. Almost all our railroads have the narrow gauge—the New York and Erie Railroad however has the broad gauge—a splendid track, and we can have various gauges in this State. It would appear that other States have strange notions about such things. The Cincinnati Gazette says:—

The laws of Ohio establish the gauge or width of the railway track at 5 feet 10 inches, while those of Indiana fix their gauge at 5 feet 8½ inches—making a difference of an inch and a half in the width of the tracks. This difference is sufficient to prevent the use of the same rolling machinery on both tracks. It is vexatious and detrimental to the interest of railway companies in both States. The legal gauge in both States was inconsiderately adopted, looking to no practical good. Roads in each State have been built, and are now run with machinery adapted to each gauge, and difficulty is experienced in connecting the lines of road of different gauges so as to secure the greatest advantage with the least delay and cost of transportation.

(For the Scientific American.)

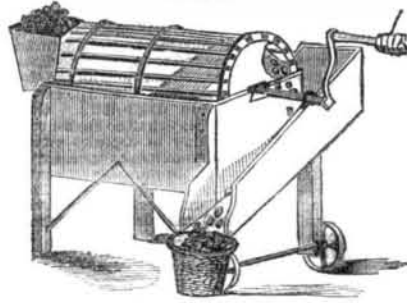
Does the Moon Influence the Weather.

Some will say yes, and answer—so sure as decomposition takes place in fish, flesh, or fowl, when exposed to her rays, so sure does she influence the weather; aye, and human nature too, as well as the earth's surface. The above inquiry is near about as old as Adam's time, it is by thousands booked as a chimera of the brain, and by hundreds an established fact derived from observation and experience. Hewers of wood and sowers of seed know as much, and probably more, about the moon's influence than the French astronomers can, in their vibratory ideas, begin to know. I give Mr. Alexander all the credit he can get for his theory, though I must confess I am a little skeptical as to its truthfulness. Adam Clark or Wesley, I forget which, based a meteorological table on the like-father-like-son principle, though their own disciples could never see anything in it. The sixteenth century was big with hieroglyphics and prognostications on the weather, &c. William Lilly, about that period, famous for his success in the prognosticatory art, told of the fire of London in 1666, as well as the plague the year previous, fourteen years before they happened; the consequence was, as all the world knows, "a singular fact," considering the many deficiencies in the category of stars at that time it is truly wonderful how so many of their suppositions or predictions should be realized. But, to return more directly to the subject of inquiry (by the way it is a large field, and one that would afford a good deal of speculation among the wise heads at Washington and Cambridge):

the way to arrive at the true theory of the moon's influence is to make a chart of the heavens at the exact conjunction (new moon) of the two great luminaries, which can readily be done by an astronomical ephemeris or the nautical almanac—the former contains the geocentric longitudes of the planets, while the latter gives only the R. A. in hours and minutes, which must be turned into degrees and minutes, reckoning from the first point of Aries, then, should Saturn, Mars, or Herschel be found in opposition (180°) or square to the Moon's place, and she in a watery sign, viz., Pices, Scorpio, or Cancer, the observer will find a superabundance of the watery element to descend at that period; should the Moon be in Aries, Libra, or Capricorn, then hurricanes may be looked for. I regret not being in possession of either of the above almanacs for 1851, nor have I time to calculate the planets' places just now, or I would give some observations on the weather in prospective.

X. Y. Z.

A Machine for Washing Potatoes and other Roots.



This is an Archimedean potatoe washer. The roots to be washed are placed in the cylinder at the farthest end from the crank, the cylinder being partly immersed in water. By turning the handle in one direction the roots are washed; and when sufficiently cleaned, by turning it in the contrary direction, the Archimedean screw inside the cylinder instantly empties out the contents, as shown in the illustration.

This machine may be very useful to some of our farmers. It is to be hoped that more of such machines will come into use. We like to see the labor of the farmer economized by machinery. Animals should be fed with more roots during the winter season than they generally are. Potatoes, turnips, beets, &c., should be more generally fed out to both cattle and sheep. These roots should be well washed, and this machine will greatly facilitate and make the labor of washing such roots more agreeable.

Improvement in the Manufacture of Sugar.

We learn by the London Mechanics' Magazine, that Mr. John M. Frazer, of London, has taken out a patent for the following method—briefly condensed by us—for improvements in the manufacture of sugar.

The expressed cane juice is poured into an open vessel through a sieve containing about one pound of quick lime. A similar quantity of lime is mixed with about a gallon of juice in a vessel, and kept ready for use. This quantity of lime is sufficient for two hundred and twenty gallons of juice. When about one hundred gallons of juice are run into the vessels, the mixture of lime and juice in the vessel is put in along with half a gallon of sulphurous acid of the gravity of 1.05, containing 30 volumes of gas to one of water. When the whole 220 gallons of juice are run in, ¼ of a gallon of the sulphurous acid is added and the whole well stirred and allowed to settle. The clear liquor is then drawn off and boiled in an open pan. The scum is carefully removed and the liquor gives out a peculiar odor, which decreases as the boiling is continued. The liquor is at first a deep brown, then green, then becomes a rich golden color throwing up yellow flakes. When the color is quite clear, the boiling is discontinued, and the liquor is then fit for evaporation and crystallization in the common way. The boiling may be done in the vacuum pan, care being taken to remove the scum when the liquor is about the density of 38° Beaume.

New Waterproofing Composition for Cotton and other Fabrics.

M. Cleste Menotti, of Paris, has recently invented and patented the following waterproofing composition which he denominates "hydrofugenc." In a vessel capable of containing 3 gallons place 22 lbs. of alum or sulphate of copper reduced to powder. In a second vessel like the other place 14 ozs. of oleic acid, or the stearine of commerce, or good soap. The soap or stearine is dissolved by heat in 2 gallons of alcohol, and then poured on the alum or sulphate of copper, and the whole submitted to a high temperature, when the "hydrofugenc" is obtained or rather is the result of the mixture of these compounds. It can thus be obtained in a dry or moulded state. To water-proof cotton or linen fabrics, dissolve 1 part by weight of the "hydrofugenc" in 100 parts of water dip the cloth in it, and hang it up to dry. Treat silk or paste-board in the same way.

This water-proof composition permits the air to pass through the cloth, but prevents water from doing so. This is a very excellent water-proofing composition; we hope that our readers will take advantage of this information.

LITERARY NOTICES.

FRUITS OF LEISURE.—This is the title of a neat volume, published by Anson D. Randolph, 669 Broadway, and a most excellent book it is. It is the first American from the fourth London edition. It comprises essays written in the intervals of business, and they contain admonitions to men in every station and condition of life. It is a work full of practical wisdom, and we cannot find language strong enough to commend it to our young men, more especially our young men engaged in the mercantile profession; they will find in it many "gems of purest ray serene." One essay on "The Education of the Man of Business," is one of the most profound productions we have ever read.

SHAKESPEARE'S POETICAL WORKS.—The last number of Phillips, Sampson & Co.'s beautiful edition of Shakespeare's works is just issued, rendering it complete for binding. We thank the publishers for the prompt manner in which they have furnished us the numbers from the beginning.

SARTAIN'S UNION MAGAZINE, for August has a great variety of beautiful engravings, and a choice collection of reading for the ladies.

GRAHAM'S AMERICAN MAGAZINE, for August, has a splendid engraving of the "Tomb of Washington," besides several others of merit, and an excellent variety of articles from our most popular authors. Each of the above magazines are for sale by Dewitt & Davenport, Tribune Buildings, New York.



INVENTORS AND MANUFACTURERS.

The Best Mechanical Paper IN THE WORLD! SIXTH VOLUME OF THE SCIENTIFIC AMERICAN.

The Publishers of the SCIENTIFIC AMERICAN respectfully give notice that the SIXTH VOLUME of this valuable journal, commenced on the 21st of September last. The character of the SCIENTIFIC AMERICAN is too well known throughout the country to require a detailed account of the various subjects discussed through its columns.

It enjoys a more extensive and influential circulation than any other journal of its class in America. It is published weekly, as heretofore, in *Quarto Form*, on fine paper, affording, at the end of the year, an ILLUSTRATED ENCYCLOPEDIA, of over FOUR HUNDRED PAGES, with an Index, and from FIVE to SIX HUNDRED ORIGINAL ENGRAVINGS, described by letters of reference; besides a vast amount of practical information concerning the progress of SCIENTIFIC and MECHANICAL IMPROVEMENTS, CHEMISTRY, CIVIL ENGINEERING, MANUFACTURING in its various branches, ARCHITECTURE, MASONRY, BOTANY,—in short, it embraces the entire range of the Arts and Sciences.

It also possesses an original feature not found in any other weekly journal in the country, viz., an Official List of PATENT CLAIMS, prepared expressly for its columns at the Patent Office,—thus constituting it the "AMERICAN REPERTORY OF INVENTIONS."

TERMS—\$2 a year; \$1 for six months. All Letters must be Post Paid and directed to MUNN & CO., Publishers of the Scientific American, 128 Fulton street, New York.

INDUCEMENTS FOR CLUBBING.

Any person who will send us four subscribers for six months, at our regular rates, shall be entitled to one copy for the same length of time; or we will furnish—

10 copies for 6 mos., \$8 15 copies for 12 mos., \$22 10 " 12 " \$15 20 " 12 " \$28

Southern and Western Money taken at par for subscriptions. PREMIUM. Any person sending us three subscribers will be entitled to a copy of the "History of Propellers and Steam Navigation," re-published in book form—having first appeared in a series of articles published in the fifth Volume of the Scientific American. It is one of the most complete works upon the subject ever issued, and contains about ninety engravings—price 75 cents.