NEW YORK, JUNE 23, 1849.

A New Motive Power.

The following is a condensed description of a new motive power taken from a letter by the author, Count De Wardinsky, published in the London Mining Journal. He says:—

This new motive power surpasses by far steam, or any other power actually known; for, if we employ one cubic inch of the patented ingredient, we obtain from it no less a pressure than that of forty-six tons upon the square inch of surface. The gases evolved consist chiefly of carbonic oxide and carbonic acid gas, both gases, permanently elastic, so that passing through cold air or water, they do not collapse, but will follow the piston to the utmost limit of its work. In using this ingredient we require neither fire or water; it creates neither smoke nor any offensive effluvia, and, with the exception of a slight moisture, or pure vapor, it leaves no residum behind. Neither is there any compound in the gases which could corrode metals, as was presumed by Tschemacher, Porrett, Fordos, and Gelis, who seem to have copied from each other the supposition, "that there might be compounds of cyanogen in the gases of this ingredient, judging from the color of the flame when such gases were ignited," never telling us that the greatest portion was carbonic oxide, which gas is well known to burn with a dark blue flame, the ingredient in question, consists, in fact, of all kinds of vegetable fibres, such as cotton, flax, hemp, tow, straw, hay, paper, &c., rendered explosive by their being dipped for 14 or 15 minutes in nitric acid, strengthened by an admixture of an equal quantity of sulphuric, then well washed in pure water, and dried for about two hours. By this process all the vegetable fibres in the creation become highly explosive. This fact was first noticed by Professor Otto, of Brunswick, about fourteen years ago; and again by Pelonze of Paris, in 1838; and finally fully published in the English press about the early part of the year 1845, under the name of guncotton as it was called by Professor Schonbein, or as M. Pelonze called it, xyloidine.

Now, considering the very intense power of xyloidine, it is found to be the most tractable ingredient we know—for example, compression, or matting, suffices to limit, retard, or entirely prevent its explosion—not like gun powder, by one fired grain of which a whole mass of the same powder is instantaneously ignited and exploded; no by slighter or greater degree of compression, I have caused a long sliver of xyloidine to explode in my hand in six and seven degrees of velocity and force; or, by compressing a certain part of the sliver between my fingers, I have limited its explosion to the mere loose and carded parts of it.

The explosive qualities of this ingredient are so great, that very small quantities and small apparatus are required. For an engine of two horse power, a thread not larger in size than ladies' sewing cotton is sufficient. A thread of this size passed through either end of a piston, and divided by compression, and these parts exploded by electricity, will furnish the power. Mr. Isaac Mickle, of Camden, New Jersey, has built one of this size.—The working machinery occupies no more space than a man's hat. He also says that, "in steamboats, locomotives, &c., this must create an entire revolution, but above all this he says that he has made another discovery, which verges almost on a miracle, it is this, that carriages can be propelled on common roads without steam, fire, magnetism, air or animal power, and ships without paddles, sails or any kind of propellers whatever."

It is always cheering to stumble upon something new, especially when it is a discovery like the above, which is *sure* to place all our steam engines on the *upper shelf*, to take a long sleep as war worn veterans, good in their day, but no longer able to compete with their xyloidine dwarfish opponents than could an English longbow with a rifle. We have always said, that we just want such a moter. By it, the California balloon is no longer problematical, and although it did not depart as was promised, on the 15th of last April, yet if it starts off on the 15th of April, 1850, it will make only a year's difference and what of that. We have not been informed how Mr. Mickle's engine, at Camden, N. J., operates, and therefore cannot really say anything about it, but we hope that all the noble Count says on the subject, is true, it must be *true* you know when it comes from such high authority.

There is one discrepancy however, in the Count's account of this xyloidine which does not all agree with Prof. Schonbein. The Count says that xyloidine is the same substance which Schonbein calls *gun cotton*, but this is not so. The gun cotton was discovered by Walter Crum, of Thornliebank, Glasgow, to be pyrozylodine an essentially different composition, says Prof. Schonbein, from the xyloidine of Pelonze. According to the noble Count's statement, we must express no more doubts about perpetual motion now, as the xyloidine exploded forms a *permanent elastic gas*, and being perfectly tractable, all that we have to do is, just to explode two strips of it alternately above and below a piston in a cylinder, cutting off at half stroke and exhausting to let the gas travel back again, in an outside tube, and thus we have the same xyloidine that gave the first impulse, travelling round and round, like keeping the pudding hot, all day long, and night too if necessary.

The Count states that "a cubic inch" of his xyloidine exerts a pressure of no less than 46 tons on the square inch. Now as this is a *permanent elastic fluid not to be collapsed*, one cubic inch by the operation we have described will drive an engine of 22 and nearly a third horse power, making only 5 strokes per minute, if the stroke is 3 feet and a quarter, and if the pressure alone has only a velocity of 16 feet per minute, but as we are not enlightened on the velocity and pressure at the same time, we must stand up back to the wall on this point. As the nobleman's letter has been extensively praised in American papers, we hope that we may be excused, not for our incredulity, as that is very fully developed, but for a want of optic perceptability, which some may attribute to ozone in the New York atmosphere, and this may really be the case, at least, we are positive that it is not xyloidine.

Ames's Great Machine Factory.

At Chicopee, Mass., formerly Cabot and Chicopee, is the extensive and far famed establishment, known as the Ames Manufacturing Co. In this establishment 300 men find constant employment, at various branches of mechanical productions. There are manufactured splendid cutlery for Uncle Sam's service in the shape of "swords of metal true," every one of which is submitted to a bending force of a severe nature, and is then whipped on edge, back and flatwise on hard blocks of wood of different forms, until the experienced tester is satisfied that it can cut through a bar of steel as thick as that severed by the famous *cross hilt* of Cœur de Lion. Besides war cutlery, there is made in this establishment lathes of a superior finish, and also the well known augurs for boring pump logs—a most ingenious contrivance—invented by the father of the present gifted and gentlemanly proprietor. Machinery for the cotton and woolen manufacture is also made with an accuracy not surpassed by any machine shop in this country. At the present moment there is some beautiful machinery nearly completed for factories in progress of erection at Ireland Depot, a place about nine miles above Springfield, on the Connecticut. In fact, this establishment manufactures nearly all kinds of machinery and tools, and from the known skill of the operatives employed and the genius of the proprietor, it is not too much to say, that from the delicate hair spring and gearing of a watch, to the ponderous proportions of the mighty steam engine, all can be constructed with an accuracy of proportion and combination of parts, not outrivalled, if equalled by any establishment of the kind in the world.

Turbine Wheels of various powers, for prime moters, forms a very interesting feature in the establishment. This kind of wheels are now extensively known and used, and in many situations they are better than overshot wheels. Many factories might be erected and driven by Turbine wheels on the banks of rivers, where overshot wheels would be out of the question.

The writer of this article has no interest or desire to flatter any man, or establishment, but being on a recent excursion to Springfield he embraced the opportunity of visiting this establishment, and as he experiences delight in looking upon beautiful machinery, he felt an impulse within him to give expression to his feelings, by stating briefly what is done at the above place. W.

Lime.—Some of its Uses.

Lime has been known from the remotest ages. It is found under different forms, but as it is used and known it is the oxide of calcium. It is composed of the metal calcium 71.91; oxygen 21.09 = 100.00. In nature it is found combined with sulphuric acid and is called Gypsum and Plaster of Paris, and when in a crystalline form, it is named alabaster.—When it is combined with carbonic acid, it is chalk in one form and limestone in another, and when crystallized, it is marble. It is found scattered under these different forms in almost every country. Lime can be obtained by roasting oyster shells or any of the carbonates of lime, in a kiln. The roasting drives off the carbonic acid and what is called quicklime is the result. When sprinkled with water it becomes very hot, by the water giving out its heat in the new combination, and combining with the lime to form a hydrate. As the lime is anhydrous, it will also imbibe moisture, if exposed, from the atmosphere, and then it falls into powder. In the combination of water with lime a heat of 300° centigrade is produced—a heat sufficiently intense to ignite many combustible bodies. The hydrate of lime (slacked lime) is very sparingly soluble in water, and what is strange, cold water solves more of it than warm. One grain of lime requires 1270 grains of water at 212° to solve it, while it requires only 972 grains of water at 130°, and only 778 at 60°. Water at 32° is capable of dissolving twice as much lime as water at 212.

The hydrate of lime possesses one curious property, viz. the quality of absorbing carbonic acid gas when it is left exposed. Quicklime therefore loses its property of mixing well to form mortar, when it becomes old, if it has been exposed, for the carbonate of lime thus reformed, will not mix with water.—When lime is mixed with water, it has also the property of absorbing carbonic acid gas from the atmosphere, which is known by a scale forming on the lime vats. Tanners and Dyers know this, but few of them know the cause of such formations. It is this quality of the hydrate of lime which makes it a good disinfectant. It gives up its oxygen 28.09 and embraces the deleterious carbonic acid gas.

No bleach works, dye works or soap works, should use water impregnated with lime, for it decomposes common soaps and forms an insoluble lime base soap. Our carpet factories would do well to pay some attention to this subject, to see that they are not losing some hundreds of dollars every year. The most delicate test of lime is the oxalate of ammonia. When this is added to water supposed to contain lime, if that body is in the water, it will be thrown down in a curdy precipitate. This test will also answer for those who may wish to test the water they desire to use for steam boilers. The precipitate is but slightly soluble in water. The oxalate of ammonia, will also precipitate an oxalate of baryta, or strontia, if these substances are in the water, but they are very scarce indeed in comparison with the carbonates of lime.

The moderns use lime for a great number of purposes unknown to the ancients. It has been a great civilizer, and we do not know how we could do without it. It is kind in Providence to have made it so abundant. It is used for building our houses, for raising our food, for bleaching our clothes, and in dyeing some of the most beautiful colors. The metallurgist uses it as a flux in the separation of metals from their ores, and the glass maker uses it in his art. As a sulphate it is used to take representations of things that were and are, and as a carbonate we behold it coming from the studio of a Powers with the inspiration of ancient Greece glowing in every bounding line of beauty. In short, lime is one of those products of nature, which is so common that few do not know and fewer still reflect upon its real benefits, but we verily believe that if it was unknown, and we had no adequate substitute for it, we would be little better than the barbarians who now live in huts and roam with fish bone spears over the wilds of the Pacific Islands.

Needles.

In the manufacture of needles, the slender bars of steel are forged out by a succession of hammers, each one less in weight and quicker in stroke than its predecessor, as the motion of the hammer is alternating, the dislocating effects of its momentum when thrown into rapid vibration would be enormous, but for the contrivance of giving the hammer a double face, and causing it to strike every time it rises against a block of steel above, from which it is thrown back upon the anvil. The vibration is thus produced by a series of rebounds between two opposing surfaces. Five hundred strokes can thus be made in a minute, while the power is greatly economized and the strain upon the stalk and axle nearly annihilated.

Great Patent Case.

On the 13th inst., at Frankfort, Ky., in the United States Circuit Court, Judges McKinley and Munroe on the bench, decision was made in favor of Henry O'Rielly, giving him the privilege to use Bain's Instruments from Nashville to Louisville, which obviates the injunction, for infringement, obtained by Morse last fall over the Columbian, or Zook & Barnes' instruments, and regarding which so much was said in the newspapers.

The decision must have been rendered although we have not heard what the charge was, that Bains' telegraph, chemical, and Morse's electro magnetic, were entirely different inventions.

Free Bathing for the Poor.

The Society for the Employment and Instruction of the Poor have thrown open their Baths in the House of Industry, Moyamensing, Philadelphia, to the poor, at the nominal rate of five cents for each bath, to those able to pay, but free to the needy, whose means do not admit of this outlay. The importance of cleanliness at the present time should prompt many to avail themselves of the opportunity so liberally offered to them.

It is also proposed to adopt the same system in this city. The subject is before the Common Council. We hope to see the system adopted and carried out.

Another New Planet.

Foreign papers announce that Professor Schumacher, Altano, announces, by a circular of the 11th of May the discovery of another new planet. It was observed at Naples by Signor Gasparis, on the 12th of April. It resembles a star of the 9th or 10th magnitude and its position was near a star which appears on Steinheil's celestial chart in right ascension, 12h, 9m. 49s., and in—7 deg. 0m. 9s., and forms No. 23,098 in Lalande's catalogue. The motion of the planet was retrograde, and it was approaching the equator. This is the ninth new body (including planets' satellites) which has been added to the solar system within the last four years.

Dredging Sandusky Harbor.

The Cleveland Plain Dealer says, that the Sanduskians have voted a tax upon themselves of forty thousand dollars, and more if necessary, for the purpose of making their Bay navigable. The propeller Petrel towed up from Buffalo the other day, a dredging machine which cost $6,000, and which, it is estimated will require $3,000 more to put in operation. It is calculated to begin operations in about six weeks, and to commence at the mouth of the Bay, where a new channel is to be opened into it.

There is a kind of wood called China wood, now beginning to be extensively used in cabinet work at the South. It is a good substitute for Bay mahogany, and is a native.

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