

## New Inventions.

### The Ballance Dry Dock.

The Ballance Dry Dock, at the foot of Pine street, as now constructed, can receive and raise, in less than an hour, ships of the largest class, with their cargoes on board, or ships of the line, with their armaments; and this without danger of straining. The strength of the dock is secured by enormous kelsons and trusses of oak, fastened and connected as firmly as iron bolts and the most scientific principles of mechanics can join them, and forming a structure which, for beauty and strength, cannot be surpassed in this department of building. It is capable of sustaining from 2,000 to 3,000 tons weight. The lifting power is remarkable: the dock being one structure, and not divided into sections, the lifting is a single process, and the main power being thrown into the centre by a series of chambers in the bottom, which are filled with water when the dock is submerged, and pumped out when a vessel is to be raised; a great advantage is thus gained, and one which secures the success and usefulness of this and similar docks.

### Flexible Ivory.

It has been long known that in subjecting bones to the action of hydrochloric acid, the phosphate of lime, which forms one of their component parts, is extracted. Bones preserved in this manner retain their original form, and acquire great flexibility. It is by this process that M. Charriere, a skilful maker of surgical instruments, in Paris, softens the ivory of which he makes use to manufacture flexible tubes, probes, and other instruments. These pieces, after receiving the required form and polish, are steeped either entirely or partially in acid diluted with water, where they remain as long as required. The ivory, having undergone this preparation becomes supple, flexible, elastic, and assumes rather a yellowish color. In the course of drying it again grows hard and inflexible; but the flexibility of the ivory may be restored by wetting, either by surrounding it with a piece of wet linen, or by placing sponge in the cavities of the pieces. Some pieces of ivory have been kept in a flexible state in the acidulated water for eight days; they were neither changed nor injured, nor too much softened; they had acquired no taste, nor any disagreeable smell.

### Tupper's Hay and Straw Cutter.

Two weeks ago, among the list of patents granted, there was one, for improvements on Straw Cutters to Mr. Lewis Tupper of Auburn, in this State. Among the great number of machines of this nature patented, and in common use, it may be well supposed, that any machine for which a patent would be granted, must possess some really good and useful feature. This is particularly the case with this machine. It works with great ease; its parts are very simple, and it is therefore easily kept in order, and cheaply constructed. It will no doubt receive that share of public patronage, which it deserves.

### American Lithographic Stone.

A quarry of fine lithographic stone has been discovered by Dr. H. McKenzie at Talladega, in Alabama. The lithographic stone heretofore employed in this country, have all been imported from Germany. The American stone is stated to be as good as the foreign. This will be a great benefit to the art, as it will no doubt be obtained much cheaper at home than to import it.

Colman's work says, "Private carriages in England have reached a wonderful perfection in beauty and commodiousness. It is a pleasure to stand in Hyde Park and see them pass, almost infinite in variety, yet all so excellent. The real English carriage is strikingly plain, but of a finish which fascinates the eye at once."

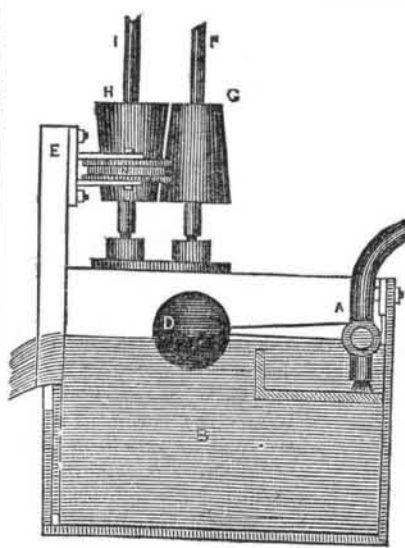
### Horse Power.

Mr. Albert Sheek, of Mocksville, in Davies County, Va., has made an important improvement in Horse Power, for which he has taken measures to secure a patent. The improvement consists in regulating the power applied to machinery in connection with the master wheel of the horse power. The improvement, therefore provides a governor for the power applied, to suit variations of the amount of power required to operate the connected machinery.

### Cure of Bald Heads.

We mentioned some time since that Mr. Wise, of Richmond, has invented an ointment that causes a thick suit of hair to spring out from the most inveterate bald head, in the course of a few days. The Richmond Republican says, in reply to the numerous inquiries made to them by letters on the subject, that it is Mr. Wise's intention to visit the north in a short time, and administer it to all applicants in person.

### Self Registering Water Meter.



This is an apparatus for measuring the quantity of water discharged from a fountain in a given time—something very much desired sometimes. A is the pipe to supply the cistern B. The stop-cock of A is regulated by the float D. There is an outlet of the cistern, and above it is a sliding weir (a board with a hole cut in the middle.) The weir must be raised or lowered by a handle or screw, till a stream of a suitable depth passes over it. The spindle, F, and the cone G are worked by a clock all the time the water is running over the weir, and motion is communicated to the counter by the spindle I, which has a cone H fixed on it. The guide pulley, N, and another guide pulley, which is placed on the opposite side of the cone H, are fastened by brackets to the top part of the weir E. A strap works upon the guide pulleys now spoken of, and passes between the cones G and H, and as these cones are pressed towards each other by a spring, the cone G will, by its action on the strap, communicate motion to the cone H. The motion of the cone G being uniform, the speed of the cone H will not be so great when the strap is working near the top end of the cones, as it will be when the position of the strap is lower, and as the weir and strap, from the way in which they are connected, must rise or fall together, the quantity of water running over the weir will be less when the cone H and spindle I are revolving at a slow rate, than it will be when the motion of these parts is quick. From this it is clear that the counters will point out the quantity of water expended, if the cones have such a form or taper as will cause the speed of the spindle, I, always to be in exact proportion to the quantity of water expended, whatever may be the position in the weir. The shape of the cones may readily be calculated; and any form may be given to them, provided the motion of the strap, up or down, in relation to that of the weir, be made to correspond.

### Arkansas Marble.

The Little Rock (Ark.) Democrat says that fine black marble has been discovered near the head of steamboat navigation on White river. It appears on the bank on either side of the stream.

### New Magnetic Perpetual Motion Machine.

Mr. Silas A. Snyder, of Clarendon, Orleans Co. N. Y., has discovered a new way of making permanent magnets to give motion to large bodies in so simple a manner that it is considered by many that it will be applicable to produce permanent mechanical movements. He has taken measures to secure it by patent, and he is expected to exhibit his invention in this city either during the latter part of this fall, or during the winter. The magnet is formed of an entirely different shape from any ever employed before, and the body to which motion is communicated by its attraction passes continually on a plane through its centre.

The Ammoniacal Blister of Goudret is thus prepared—Lard 32 parts, oil of almonds 2 parts; melt them together with a gentle heat, pour into a wide-mouthed bottle, and then add 17 parts of solution of ammonia, mixed by continued agitation. This will produce vesication in ten minutes.

### Portable Filter.



This is a portable filter, designed by Mr. Louis Bonnet, of the Courier des Etas Unis, No. 12 Park Place, of this city, who will dispose of the same on favorable terms to those who desire to purchase. At the first glance the object and utility of this filter will not be understood, but this we will elucidate after describing the parts. A is a bag of vulcanized India rubber, or gutta percha; B is a tube that communicates with a vessel, C, which is made of porous earthenware; D is a faucet to draw the water from the vessel C. F is a small plug to admit air into the filtered water. Two or three thicknesses of canton flannel are placed in the tube, B, through which the water passes from A to C, to separate the impurities in the water; E is a strap to carry the apparatus and by which to hang it upon a peg, &c.

It is well known that the natives of the east keep all their water in porous vessels, and from them draw cooling draughts; when, if the water was kept in glazed or metal vessels, it would become quite tepid. The Arab, when crossing the desert, draws a cool cup from his porous goat skin bucket, even when traveling under the burning rays of an oriental sun. This is accounted for on the principle of rapid evaporation—the water inside radiating the heat so rapidly in the currents created by evaporating through the many pores of the vessel, that the water within is always found to be some degrees below the heat of the atmosphere. By putting a porous vessel containing water in the sun, (the hotter the better), and keeping the vessel sprinkled continually with other water, that contained within the vessel will be reduced almost to freezing temperature. A mouse has been frozen to death by sprinkling it with ether, upon the principle of rapid evaporation. Every person knows how cool the skin feels after rubbing it with alcohol. By filling the bag A with water and hanging it in a current of air in any part of a dwelling, we can not only have our water filtered but cooled, in the warmest weather, without the expense and artificial aid of ice, as the vessel C acts the part of a refrigerator

to the water contained within it. This apparatus, therefore, has two qualities, in the production of certain results, and another in the simplicity, convenience and cheapness of its parts.

The evaporation of the water through the pores of C, cools the water a great deal, although it may not be placed in a current of air. These porous vessels, called "Alcarraza," are much used in Spain and other warm countries. A French chemist, "Darcet," found the best to be composed of 5 part calcareous and 8 parts clayish earths, and a small portion of salt—they may, however, be made of other materials.

### New Locomotives for Common Roads.

The London Mining Journal gives a flattering account of a new locomotive for common roads, constructed on the high pressure condensing principle, from which it says if there is no error or miscalculation in the results, we must almost believe the system successfully matured. This engine, we are informed, is of nine-horse power; while in proportion it is the lightest ever made, weighing altogether about 30 cwt., consequently not much heavier than an omnibus. The boiler is on an entirely new construction, weighing only 8 cwt. There are two cylinders 4 1-2 inches in diameter, and the great advantage in its light weight is obtained by the use of an entirely new condensing apparatus, without which our informant believes no locomotive can succeed on common roads, in consequence of its own weight. By this apparatus, which consists of a great many small tubes, arranged in various directions, the steam will be completely condensed to a vacuum, by which, it is calculated that there is a gain of 28 lbs. on an inch, at a speed of only fifteen miles per hour, above the power of the locomotive now in use, and the principle can be applied to every description of engine.

[The great thing about it is, that there is an error in the calculations. The best vacuum will only gain 15 lbs. on the square inch.]

Locomotives have been tried on common roads before in England, but although they run well enough, yet they were too expensive to keep up.]

### How to use Chloroform in Surgery.

The London Medical Gazette, in a favorable review of Prof. "Lizar's Surgery," having expressed a regret that he had published his work before chloroform was used, the Professor addressed a letter to the Editor, in which he says, that "since the employment of ether, he had used it in lithotomy, amputation of the extremities, excision of the mamma, and in strictures of the urethra; and that although he commenced its use with prejudice, he had now become a thorough convert to its utility in almost every operation in surgery. When using chloroform, the patient, he observes, should have an empty stomach, and for that reason operations should be performed before breakfast, as chloroform always produces vomiting when the stomach is full, and the rejected fluid is liable to enter the paralyzed glottis and produce suffocation. To this cause he apprehends the great proportion of fatal cases under its use may be ascribed. An experienced assistant is therefore required to administer the chloroform, and to do nothing else. He must watch its effects, allowing fresh atmospheric air to enter the nostrils and mouth occasionally, during its administration and influence, otherwise the blood may become too greatly carbonized, and death ensue."

### Muscular Development.

M. Emilie du Boys-Redmond, communicated through Humboldt, to the Academy of Science, at Paris, a description of the following experiment, that establishes the fact of the electrical influence of the human system: Fix to the two extremities of a sensitive galvanometre, two strips of platinum: plunge these slips in tumblers of salt water, and then introduce into the tumblers the corresponding fingers of each hand, let them remain until the fluctuations of the needle cease. Then contract the muscle of one arm by an effort of the will, and a deviation of the needle will instantly indicate a contrary current of electricity in that arm. The amount of deviation depends on the muscular development.