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Rail Road News.

Pittsburgh and Connellsville Railroad.

A public meeting was held at Somerset, Pa., in favor of this road, at which it was resolved that, as steamboat navigation will soon be completed from Pittsburgh to Connellsville, leaving 79 miles of railroad to connect the steamboats of the Ohio and Mississippi with the Chesapeake and Ohio Canal, and the Baltimore and Ohio Railroad at Cumberlend, application be made to the Legislature of Maryland, at their next session, to incorporate a company to meet the Pittsburgh and Connellsville Railroad Company at the State line. A committee of twenty-five, to prepare a petition was appointed. The resolutions expressed the opinion that Somerset county would subscribe half a million to the road.

Auburn and Ithaca Railroad.

Another meeting is to be held at Auburn to take measures for building a Railroad from Auburn to Ithaca, N. Y. This road in connection with the Ithaca and Owego road, will form a direct Railroad communication between the Central line of roads at Hudson and the Erie Railroad at Owego, and a short and complete route to New York, The directors of the Cayuga and Susquehanna Road, it is stated, will furnish the iron for the new road and take stock in payment.

Rutland Railroad.

The Rutland Railroad from Burlington, Vt., was opened to Mount Holly; Mass., last week.

The Vermont Central Railroad is now open also to Bosten.

The Worcester (Mass.) Railroad Company, are building a fence seven feet high around the inner part of the Passenger depot in Boston, from which the outward trains start, in order to make every passenger, season as well as transient, show his ticket to men stationed at the gates, before entering the cars.

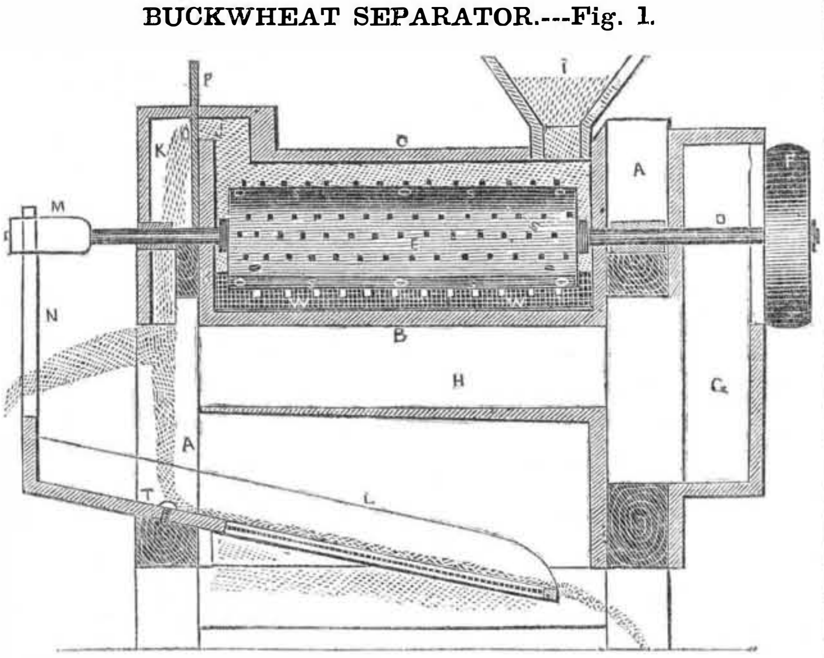
The Papel Triumvirate have decided that the railway to Naples is a useless scheme, "tending to inundate Rome with worthless foreigners;" they have, therefore, definitely suspended the works, and thereby thrown thousands out of employment.

A project is now before our City Farthers to run a railroad down the Sixth Avenue to Carmine st., and along Varick to Canal then up West Broadway.

Receipts at the Fair of the American Institute.

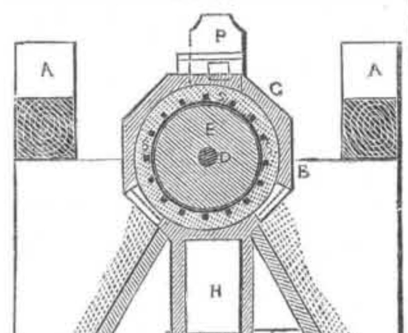
The Managers of the American Institute report the entire receipts at Castle Garden, in October, at $18,670. Including exhibitors, and other free admissions, we presume a quarter of a million of persons visited the exhibition.—The expenses were about $12.000, leaving $6,-700 for profit, of which $5,000 has already been applied to the purchase of the building now occupied by the Institute in Broadway.—One manufacturer who exhibited his wares at the late Fair states that orders to the amount of $30,000 followed such publicity. Another instance of the advantage of letting the public know what you have to sell.

BUCKWHEAT SEPARATOR.---Fig. 1.



This machine is the invention of Messrs. Calvin D. Vose and Thomas L. Vose, of Mehoopany, in Wyoming County, Pennsylvania, and for which he has taken measures to secure by patent. Fig. 1 is a longitudinal vertical section, showing the interior, and fig. 2 is a transverse vertical section. The same letters refer to like parts, on both the figures. A A is the frame, consisting of posts and transverse timbers. B is a hollow stationary cylinder, formed of two parts, the upper, C, can be removed at pleasure; D is the driving shaft working in suitable bearings and carrying a revolving cylinder, E. This cylinder is made of wood but is covered with iron plates screwed on to it, and which are covered with studs, S S. F is the driving pulley; it is cased over, and has fan blasts blades inside, and answers both for pulley and blower. It communicates

FIG. 2.



at the end with the outside and with the inside, driving the blast through the pipe, H, to cleanse the grain; I is the hopper, to receive the uncleaned wheat, and J is a recess at the opposite end of the chamber of the hollow cylinder, through which the wheat and lightmatter is forced at the opening, O, down into the passage, K, to receive the action of the blast, as represented. P is a slide to graduate the size of the opening, O. When the cylinder, E, is revolved, it stirs the buckwheat and hulls it, when the smaller and heavy extraneous particles are driven through the fine screens, W W, (best seen in fig. 2.) and fall down, while the buckwheat and light matter is forced up and into the passage, K, to be acted upon by the blast, as represented, and the lighter particles separated from the good grain, which falls upon the inclined screen, L, which is very fine, and receives a vibratory motion—shaking down the last of the heavy extraneous impurities, allowing only the good clean buckwheat to escape at its mouth into a proper receiver. The lower screen, L, is fixed on a pin, T, and N is a bar attached to the end of it (the screen); V is a helical spring, also attached to the screen, and to the frame. M is a cam on the end of the shaft, D, and as it revolves it comes in contact with the bar, N, striking it, and thus shaking the inclined screen, L, below. From the two cuts a good idea of the nature construction and use of this machine will be obtained. The buckwheat, by being beaten in the hollow chamber, B C, by the toothed revolving cylinder or roller, E, will be very effectually hulled, more especially as the orifice, O, (best seen at the end, fig. 2) can be graduated to any size, so that a great pressure may be employed, if required, to force the grain into the passage, K; and thus the particles of the grain are rubbed upon one another, and act upon themselves to clean the grain in the same way as if the berries were rubbed with sand paper. The good arrangement and the principle of action combined, in this machine, cannot be mistaken. More information, (*p.p.*) may be obtained of the inventors.

Density and Elasticity of Air.

The elastic force of air varies in exactly the same proportion of its density; and this simple and important law, which is called, after its discoverer, the law of Mariotte, applies not only to air, but to all gaseous bodies when subject to such variations of pressure as can be readily commended. Air has been allowed to expand into more than 2000 times its usual bulk, and it would have expanded still more if a greeter space had been allowed. Air has also been compressed into less than a thousandth of its usual bulk, so as to become denser than water; but its elasticity has not been exactly determined at these extreme degrees, either of condensation of rarefaction. so that we have no proof that the law of Mariotte applies so extensively. On the contrary, recent experiments on the compression of gases renderit nearly certain that they all vary from this law when subject to very great pressure their density being increased in a greater ratio than their elasticity; this variation, however, is less in air than in most other gaseous bodies and the simple law is found to appply to it very accurately when condensed as much as 50 times, and also when allowed to expand to several times its usual bulk.

Useful Receipts.

Clarification by Eggs, or Gelatinous Substances.

The effect of the albuminous and gelatinous matter is principally remarkable in the vinous liquids. It is on this account that they are employed when it is required to fine wines and other fermented liquors; that is to say, when we wish to give them that high degree of limpidity which they can rarely acquire and preserve by mere repose. In this case, nothing more is required than to dissolve eggs, isinglass, hartshorn shavings, or any similar substance, in a small quantity of the liquid, and to mix this solution, cold, with the remainder. A short time after a kind of net-work is observed throughout the whole mixture, which, soon contracting together, collects all the foreign substances from the fermented liquor, and carries them with it to the bottom of the vat.

In other instances, it is necessary to heat the liquids with which the eggs are mixed, and it is only at the moment of ebullition that the clarification takes place; most of the foreign made syrups are clarified by this process, and no others has yet been discovered that produces a better effect.

It is also observed, that egg alone is not always sufficient to clarify liquids, even if they are raised to a degree of temperature sufficient to make them boil, but that it is necessary to assist its operation by means of an acid, or a salt with a redundance of acid. In proof of this, may be adduced what takes place in the clarification of whey, *for it is* only when there is added to this fluid at the moment when it begins to boil, some cream of tartar or vinegar that the egg with which it had previously been mixed, coagulates, and carries with it the cheesy matter, which impared the transparency of the whey.

It is absolutely necessary to separate the magma which forms in liquors that are clarified with egg, especially when in order to concentrate those liquids, it is necessary to evaporate them by the aids of ebullition. Without this precaution this magma would dissolve, and these liquors would become more turbid than they were previous to the clarification- It proceeds from a similiar cause that broth, from which the scum has not been taken off, always retains a disagreeable appearance and will not keep.

Though the employment of albuminous matter for clarifying the juices of certain vegetables be of utility, it is however not without its inconveniences. Amongst others, one that has been remarked is, that it changes the nature of these fluids in such a manner as partly to destroy the medicinal properties. It often happens to certain pharmaceutical preparations, such as decoctions of medicines, that when in order to clarify them, recourse has been had to white of egg and heat, they are almost without effect, unless we take care to double the proportions of the ingredients that ought to enter into their composition. Dr. Lewis has even remarked, that this operation deprived the syrup of white poppies of all its powers.

Pumpkin Soup.

Into two quarts of cold water put three pounds of pumpkin, cut into thin slices, peeled and with all the seeds removed; two large onions, and sliced, with a small stick of celery cut into very small pieces. Boil these together slowly for two hours and a half, and then, after adding an ounce of dripping, two large tablespoonsful of flour, and of pepper and salt as much as pleases the taste, boil for half an hour longer, stir frequently during the whole of the boiling.