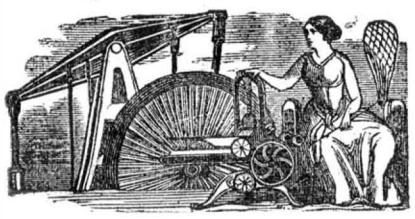


New Inventions.

Novel Mode of Propelling Steamboats.

One of our exchanges says that " the inventor of a new mode of propelling steamboats, different from the paddle wheel, which in sea vessels is so liable to accident, and in government vessels may be readily disabled, has left us a notice that he intends to apply for a patent for what is considered by him an important application of *steam* and *water* power." The method is this. A cylinder is placed either vertical or inclined in the interior of the vessel protected from shot and storms, " to which force is given by an endless screw also within the cylinder to act upon the water in which the vessel is afloat, so as to give her a forward motion equal to the force with which the water is driven through the cylinder, the portion of the cylinder from which the water escapes being always submerged."

All we have got to say regarding this invention is, that the inventor would save both time and money, in becoming better acquainted with the principles of propulsion.

Chloroform a substitute for Steam.

On the twenty second of last month a committee, appointed by the Academie des Sciences Paris, went to the establishment of M. C. Beslay, to witness a trial of a discovery made in the applicaiion of chloroform as a motive power in machinery. It will be recollected that the Minister of the Marine had an engine constructed for trying ether as a motive power. This engine was found to act well, and afford a considerable saving in fuel, but it was rejected on account of the inflamabillity of ether, which rendered it too dangerous for use in steam-vessels. Lieut. Lafond, of the navy, however, studied the nature of chloroform, ascertained that it was capable of producing a great motive power at a saving of 50 per cent., and that no danger is incurred. The experiment is said by our exchanges to have been completely successful.

It is our opinion that it never can be successful to compete with steam. The ether engine was boasted of as being " a new discovery that would revolutionise the whole science of mechanical propulsion." It has been laid on the *upper* shelf, and so will chloroform.

Improvements in Wrought Iron.

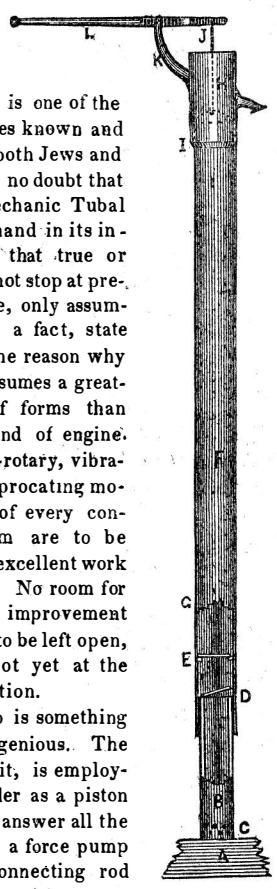
Take scraps of wrought iron and melt them in a cupola furnace with a soft fan blast, or use a reverberatory furnace, as for melting pig iron. After being melted, it is poured into moulds, and is very hard and brittle. After this it is put into an iron box, if a small quantity is wanted, surrounded with bricks, iron ore and charcoal dust being placed between the box and the bricks, and the whole submitted to a degree of heat to restore the malleability of the iron. A trial bar is used to be withdrawn from time to time to ascertain the degree of malleability to which the mass has obtained. For making articles which do not require to possess the density and texture of wrought iron alone, mix therewith cast iron in various proportions, according to the nature and requirements of the article, taking care that the proportion of cast iron, in no instance exceeds the weight of the wrought iron. In making articles which require to take the nature and temper of steel, mix with the wrought iron, steel in various proportions, according to circumstances—the proportion of steel never exceeding the weight of wrought iron ; then pour the molten metal into moulds and subsequently submit it to the annealing process in the manner before described.

The annealing may also be performed without the iron box by simply covering the metal with the ore and charcoal dust in a proper kiln.

Coke versus Diamond.—An Important Discovery.

Mr. James Nasmyth, the inventor of the steam pile driver, of Bridgewater Foundry, Patricroft, England, has tested as it were, and proved the fact, of the identity of diamond and coke, by the discovery that the minute laminated crystals or crystlets of coke are capable of cutting glass with the true diamond clearness of cut, or without merely scratching. No other setting too is necessary to prove this fact, than the crumbling consistency of the coke itself in mass ; so that a fragment of coke, switched at random across a pane of glass in the sunshine, is sufficient to exhibit not only the depth of the clear cut, but the prismatic colors in all their purity and beauty Ground to impalpable powder, Mr. Nasmyth, as intimated in the Mining Journal has found that coke constitutes what we may call the true " diamond paste" for sharpening razors —probably, indeed, if we may venture to say so, the only secret of the diamond pastes so largely advertised, if they merit even so worthy a supposition. The adamantine properties of black oxide of manganese, and its peculiar affinities, induced an ingenious chemist to suggest its strong analogy to carbon, is it possible that it too, when in fragments, much more firmly crystalline as it is in mass than coke, may cut glass with practical facility.

Dodge's Balance Pump.



The pump is one of the oldest engines known and used among both Jews and Gentiles, and no doubt that old handy mechanic Tubal Cain had a hand in its invention. Be that true or not, we will not stop at prese to argue, only assuming it to be a fact, state that this is the reason why the pump assumes a greater variety of forms than any other kind of engine. Rotary, semi-rotary, vibrating and reciprocating motion pumps of every conceivable form are to be found in the excellent work of Ewbank. No room for novelty or improvement would seem to be left open, but we are not yet at the end of invention.

This pump is something novel and ingenious. The principle of it, is employing its cylinder as a piston and lifter to answer all the purposes of a force pump without a connecting rod or plunger, in a very simple manner. A, is the foundation (a stone,) on which the pipe B, rests in the cistern. C, is the basket of the pipe. D, is a valve on its upper part. F, is another pipe, and if we suppose the lower one 30 feet and the upper one 70 feet, it will make the cistern 100 feet deep. The upper pipe laps over the lower the length of a stroke or a little more. The junction is surrounded with a stuffing box or collar, and the two pipes are therefore just the length of a single one, with only the length of stroke of difference. E, is a valve in F, the upper pipe, and fixed in the said pipe at such a distance above D, that the butt of one will not strike the top of the other when working. G, shows a break of the pipe as displaying a section view. I, is a collar surrounding F, and H is the reservoir in the inside of which the pipe F, moves up and down, as seen by the dotted lines connected with a small rod J. L, is the lever or pump handle and K, the fulcrum. When the air is exhausted from the lower tube, the water will rise to its top, 30 feet, by the common pressure of the atmosphere, and throwing open the valve D, will enter the intermediate chamber between the two valves in the pipe F. When therefore F is depressed, D closes and E opens, letting the water into the upper pipe, and when it is lifted up by the lever (when accumulated) will be discharged through the spout, thus combining both the pressure and lifting pump, without the use of a piston and connecting rod, excepting the short one at the top instead of one 70 feet long.

When treating of pumps, (an article on which might profitably be greatly extended,) we would correct a very common and wide spread error regarding the common pump as constructed to lift water over 30 feet high — It is generally supposed that water cannot by any, except by a force pump, be lifted over 30 feet high. This is wrong. We have seen a common pump lift water 100 feet high.— How was this done ? Simply by adding 170 feet of pipe to the common pump. Every stroke of the plunger brings the water above the centre valve, which closing prevents the water getting back and thus accumulating every stroke above the piston at last fills the 200 feet of pipe and discharges every stroke through the audit. There are mines in England 150 fathoms deep which are kept free from water by the pump described. Others are drained by a combination of a common pressure, and a tier of force pumps, all worked by one huge rod, very clumsy and expensive.

For most purposes to which a lifting pump or forcing pump is used to raise water as high as 160 feet, we think that this pump of Mr. Dodge is the best that we have seen. It is so simple and cheap. No piston nor connecting rod, and all the difference of expense from a common pump is just the lap of the pipe and an extra valve. It must commend itself universally. It could well be applied to the pumping of the Dry Dock in Brooklyn. Some may object to the great weight of the pipe to be lifted at every stroke, as well as the water, but this is no objection at all, as a balance weight on the end of the handle will act as a counterpoise, and then the depressing of the pipe is altogether a different thing, as the pipe F tends to the centre of gravity and assists to overcome the resistance of the water in the pipe by the water coming through the valve E, from the chamber.

Nehemiah Dodge, Esq. No. 634 Broadway, this city, is the inventor, and has taken measures to secure his unique and beautiful Yankee invention.

Double Headed and pointed Finishing Brad.

This cut represents a new kind of Brad manfactured by a very ingenious machine by H. S. Sill, at the corner of Reed and Elm street, this City. Its form enables it to be driven without turning in the wood and it goes through a board without splitting the under side. It also drives into hard wood without boring and is stiffer than the common Brad. It is but recently that this machine was put in operation although invented some years ago, but got into the hands of speculators. A machine will likely be exhibited at the Fair next month, when those who are interested in improvements will see it in operation.

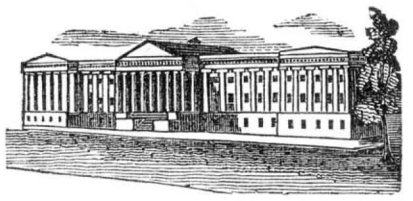
An old Revolver.

At the " Cadets Fair" lately held in Cincinnati an old German musket was exhibited amongst other things ; it was said to be 175 years old, and was provided with 4 revolving chambers, exactly similar to Colt's revolvers. The bayonet is about 8 inches long and shaped like a cutting knife.

There are many other modern inventions older than this musket.

New War Engine.

An exchange says that the French Government has adopted a new invention in the army, called a moveable barricade, made of solid oak, lined with sheet iron, with holes for muskets. It is moved upon wheels, and is an effectual shield to the soldier in a street fight, where the usual barricade is used. No one will fail to perceive that this is an old invention newly vamped up. The same moveable barricade was employed in Asia a thousand years before the Christian era.



LIST OF PATENTS

ISSUED FROM THE UNITED STATES PATENT OFFICE,

For the week ending Sept. 19, 1848.

To James K. Howe, of New York City, for improved theory of constructing Vessels Patented Sept. 19, 1848.

To Thomas B. Smith, of Philadelphia, Pa., for improvement in Refrigerators. Patented Sept. 19, 1848.

To Henry A. Stearns, of Cincinnati, Ohio, for improvement in sizing and drying Cotton Batting. Patented Sept. 19, 1848.

To Lewis Kirk, of Reading, Pa., for improved Steam Hammer. Patented Sept. 19, 1848.

To Anthony H. Austin, of Baltimore, Md., for improvement in Cream Freezers. Patented Sept. 19, 1848.

To Charles H. Van Dorn, of St. Louis, Mo. for improved apparatus for rotting Hemp. Patented Sept. 19, 1848.

To Samuel Bentz, of Boonsboro, Md., for improvement in hulling wheat preparatory to grinding. Patented March 4, 1848. (Antedated.)

To James M. Evarts, of New Haven, Conn. for improved Window Sash Fastener. Patented Sept. 19, 1848.

To E. H. Penfield, of Middletown, Conn., for improved Metallic Grummet. Patented Sept. 19, 1848.

To Charles Gifford, of Braintree, Mass., for improvement in preparing Shoe Pegs. Patented Sept. 19, 1848.

To Henry G. Hall, of Kirkersville, Ohio, for improvement in Posts for Telegraph, &c. Patented Sept. 19, 1848.

To Christian V. Queen, of Peeksville, N. Y. for improvement on Queen's portable Forge. Patented Sept. 19, 1848.

To John W. Phelps, of Boston, Mass., for improvement in Spino-abdominal Supporters. Patented Sept. 19, 1848.

To John Maxson, of DeRuyter, N. Y. for improved Door Spring. Patented Sept. 19, 1848.

To Henry Van Dewater, of Reading, Pa., for improvement in Shutes and Water Wheels. Patented Sept. 19, 1848.

To John G. Hull, of New York City, for improved method of attaching Tillers. Patented Sept. 19, 1848.

To Gustavus A. Nicolls, of Reading, Pa., for improvement in Locomotives. Patented Sept. 19, 1848.

To John Young, of West Galway, N. Y. for improvement in Washing Machines. Patented Sept. 19, 1848.

To A. Lyman and M. W. Baldwin, of Philadelphia, Pa. for improvement in Fountain Pen-Holders and Nibs. Patented Sept. 19, 1848.

To Reuben A. Holmes, of New York City, for improvement in Harness Buckles. Patented Sept. 19, 1848.

To Rhodolphus Kinsley, of Springfield, Mass. for improvement in Locks and Escutcheons. Patented Sept. 19, 1848.

To Harvey Law, of Wilmington, N. C. for improvement in machinery for planing Rived Staves. Patented Sept. 19, 1848.

To Nathaniel Waterman, of Boston, Mass., for improvement in Refrigerators. Patented Sept. 19, 1848.

To Henry L. Pierson, assignee of John Crum, of New York City, for improvement in the Screw Threading Machine. Patented Sept. 19, 1848.

To Thomas Glasco, of Wilmington, Del., for improvement in Saddle Trees for Carts — Patented Sept. 19, 1848.

DESIGNS.

To A. Cox & Co assignees of G. W. Ring and J. Crandall, of Troy, N. Y., for Design for Stoves. Patented Sept. 19, 1848.

To William Jackson, assignee of S. W. Gibbs, of Albany, N. Y., for Design for Cooking Stoves. Patented Sept. 19, 1848.