

New Inventions.

Improvement in Wire Fences.

Mr. Lucius Leavensworth of Trumansburg, N. Y., has made a beautiful improvement in the construction of wire fences, which will be the means of reducing the price of their construction to a very small amount in comparison with the plan at present pursued in their erection. The invention consists of two distinct parts,—one a handy neat machine for forming the coils of wire into rings, and the other consists in the mode of constructing the fence.

Pickets are turned with circular shoulders and the ends pass through the rings formed with the other machine, when the shoulders rest on the rings and the ends being likewise embraced in the rings, a firm and neat wire fence is thus erected with astonishing rapidity. The wire used is about No. 9 or 10, and it is prepared by being boiled in oil in the usual way, or else galvanized wire may be used,—thus making it anti-corrosive and therefore very durable. He has applied for letters patent.

Improvement in Railroad Car Springs.

Mr. Wm. Beers, of New Haven, Ct., has invented an improvement on Railroad Car Springs, which promises to be good. It consists in adding to the cylinder of the compressed air spring, an elastic diaphragm or bag to contain the air in combination with the piston moving air tight in the cylinder. By this combination, the elasticity of the spring is rendered perfectly permanent. Measures have been taken to secure a patent.

New Way to Zinc Copper and Brass.

Plates and wires of copper, brass, pins, &c. may be covered with a brilliant coating of zinc by the following process of Professor Bottinger, St. Petersburg, Russia:—

Pour melted zinc into a mortar of heated iron, and keep stirring it until it becomes solid. It is then placed in a porcelain or other non-metallic capsule and a saturated solution of sal-ammoniac is poured over it and the mixture boiled. The article to be covered must be dipped in weak chloric acid and then entered into the boiling sal-ammoniac and zinc. In a few minutes they will be covered with a brilliant coating of zinc, very difficult to remove by friction. The galvanic action in this case is thus explained. The double chloride of zinc and ammonium formed is decomposed by the zinc and the plate of copper. The chlorine disengaged from the sal-ammoniac goes to the zinc and the ammonia escapes in gas, while the undecomposed sal-ammoniac combining with the chloride of zinc to form the double chloride, a very soluble and easily decomposed salt. If then an excess of zinc exists in the solution in contact with the electro negative copper, the salt is decomposed into its elements, and the reduced zinc is deposited on the negative copper.

[Iron is covered with a coating of zinc nearly in the same way, to form what is called galvanized iron. The zinc is melted in pots in which is inserted a quantity of sal-ammoniac and when the whole is melted just at the boiling point, the iron sheets, or wire, are entered and soon covered with the zinc.—The iron should be perfectly free from scale by scouring it first in weak sulphuric acid, and after this dipped into the molten zinc. We believe that iron wires covered with zinc are excellent for telegraphic purposes, and Mr. Bain has used them successfully on some of his lines.

Worster's Diving Bell.

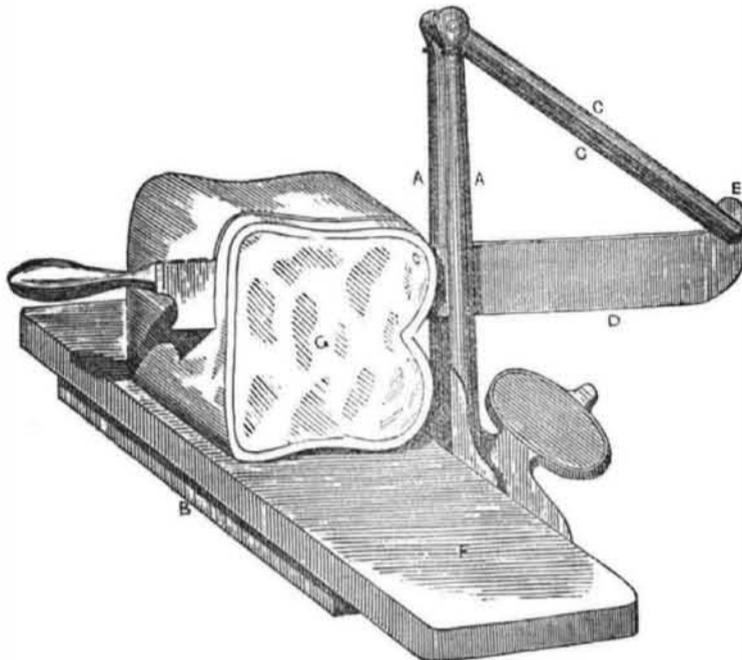
We call particular attention to the Diving Bell on our first page. The American Institute, Prof. Renwick as chairman, have made a most favorable report upon it. It will bring up more gold in the California Rivers than the most sanguine could imagine.

New Oil for Machinery.

A new process has been discovered by Messrs. J. Cumberland & Brother, which increases the lubricating or anti-friction property of oil in a remarkable degree, at the same time frees it from the tendency to become gummy when exposed to heat, and diminishes the quantity of oil necessary to be used on machinery to less than one half. Mr. J. Cumberland being a practical engineer and machinist, and having seen the necessity for a better lubricating substance for hot work, and indeed for all machinery, discovered the principle. Every means within their power have

been used both to test it thoroughly and to improve it as much as possible, and with the most gratifying results. The principle of the invention consists in eliminating the glycerine which is the natural base of oils and combining a metallic base in its true chemical proportion instead. The result is an oil which comes at a lower price, lasts longer, and is a better anti-friction agent than natural oil.—They have obtained letters patent for the invention, and established their factory at Elizabethport, N. J. Messrs. Andrews & Jessup, No. 70 Pine street, this city, are their agents for its sale.

NEW PLAN OF BREAD KNIFE FOR HOTELS.



A A, are two upright posts. B F, is the board on which the loaf G, is placed. D, is the knife, connected by a pivot E, to the levers C, which works on a joint between the two posts A A. This arrangement of knife for cutting bread cannot fail to commend itself. We are sadly deficient in improving domes-

tic implements. An improved Churn, or Washing Machine, seems to be the end of such improvements. There is a wide field for reform in this particular, and it may be that the above engraving is the entering wedge to a series of useful improvements in domestic utensils

Removing Incrustations on Boilers.

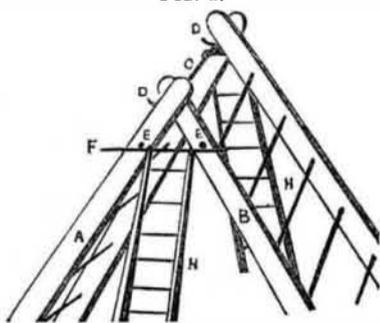
Mr. Wm. Seaton of London, has recently received a patent for removing incrustations on boilers by the following substances: Oxalic acid, carbonate of potash, or of soda, nitric, muriatic and acetic acid, these are to hold the lime of which the incrustations are formed, in solution until it is blown off. He says he may also use saw dust or charcoal, which by their mechanical action will prevent the formation of deposits. When operating on salt water, he uses soda, or saltwort. His field is a very extensive one, and is certainly not wholly new.

Electro Printing Process on Porcelain.

Mr. R. Smith, an excellent practical chemist, and an able contributor to the Glasgow Practical Mechanics Journal (North Britain,) has discovered a process for printing, coloring and gilding porcelain and earthenware, by means of electricity. The process is said to be quite distinct from the electrolyte and the specimens produced—at one third the usual cost, are represented to be splendid.

Fire Ladder Application.

FIG. 1.

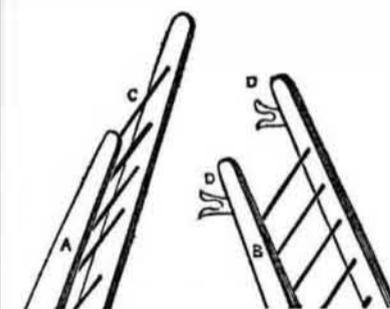


MR. EDITOR.—This is a plan for securing Ladders for the use of Firemen at fires, and which works well on a small scale.

Fig. 1 is a view of the application, and fig. 2 a separate view of the principal ladders.—Ladder A is wider at the top than ladder B.—When inclined towards one another the round C, can easily be grasped and retained by the jaws D D, and consequently the two ladders will form a firm pointed arch. E E, are two

pins projecting from the ladders A B, outside, and F, is a bar running through the ladders H H, which when raised with the other outside ladders, effectually prevents the arch of

FIG. 2.



ladder from being swayed from its position, and therefore the stack is secure for firemen to mount up on the middle of the street to a considerable height, by just a slight alteration of the common ladder, under this arrangement. Yours, H. M.

New York.

[We believe that H. M. has taken measures to secure his invention, which is well worthy attention.

New Perpetual Motion.

From our worthy exchange the London Patent Journal, we perceive that a Mr. Joseph Eugene Asaert, of Lille, in France, has taken out a patent in London for a new means of obtaining power, which is nothing more nor less than a perpetual motion, and a mechanical one too, for its principal features are, that a number of large weights are kept successively falling from a certain height upon an endless band, at the same time that another endless chain elevates them back again to their original position, the number of weights falling at one time being always greater than the number of those being elevated,—those falling also act at a greater leverage than those ascending, but to keep up the constant supply to the descending stream of weights the velocity of the ascents is greater than the descents.

The Patent Journal exposes the error of this machine, and to every man who has studied

the principles of mechanics, it is evident that the power exerted is exactly the power expended minus the friction. The one side has the greatest weight, but the other has to have the greatest speed. What is gained by this machine? a loss by friction—no means of obtaining power. It is wonderful that the inventor in this case spent about \$600 or \$700 for a patent. No shrewd Yankee would do it; and what is better, this very machine was described in the Franklin Journal, more than twenty years ago. A number of such machines have been shown to us, but instead of advising the inventors to apply for patents we have told them to lay aside their projects forever.

New Press for Printing Wrappers.

By the Cincinnati Gazette we learn that Dr. J. T. Wright, of Greenfield, Ohio, has a new press for printing the names of subscribers on newspaper wrappers. The Gazette says that "it is an ingenious contrivance, indeed, whereby he says he can direct about 1800 papers an hour, and with perfect accuracy. The motion of the machine causes a series of tubes, connected together somewhat like an endless chain, and wherein are set the types forming the name and direction, to pass through and give the impression; and this endless chain is so contrived that the series of tubes, one, two, or any greater number containing the names for any post office, has passed and given their impressions, the receiver of the papers is instantly reversed in position, so as to throw the next batch of papers for another office, across the preceding batch, and so on, ad infinitum. It requires only the attendance of a boy to put on the papers, if attached to a steam engine, or if not, an additional hand to turn the crank."

It is our opinion that the above machine would be a far more expensive process than the machine of machines now used for the same purpose, viz. an expert penman.

Muntz's Improved Metal for Sheathing Ships.

In the article of "Junius Redivivus," last week, allusion is made to Muntz's improved alloy for sheathing ships. Having the specification of the patent in our possession, we hereby publish it, believing that it may be of use to many of our readers:—

"This improvement consists in adding to an alloy of copper and zinc, another suitable metal, so as to reduce the proportion of copper to less than about 60 parts of copper to 40 of zinc. The metal the patentee prefers for this purpose is lead, and the proportions best adapted for forming this alloy, are 58 parts of copper, 40 1-4 zinc, and 3 3-4 lead; the patentee prefers to use the metals, in as pure state as possible, and in making the alloy he uses more zinc than the proportion above given, to allow for loss as is well understood, and the excess of zinc should be just sufficient, so that the resulting alloy should have about the proportions above mentioned. The lead, the patentee remarks, acts a very important part, for being a substitute for a portion of the copper used in his former patent compound or alloy, and thereby lessening the expense, it causes the metal to oxidise sufficiently to keep the bottom of the ship clean, at the same time the zinc is preserved from separate action. The above proportions may be varied, but it is not advisable to reduce the proportion of copper so low as 50 parts to 40 of zinc. The alloy when ready is to be cast into ingots, and rolled into plates, which is better done at a red heat; the plates are to be annealed before using them; if the plates require to be cleaned, this may be done by dipping them in a dilute mixture of nitric and sulphuric acids, as is well understood. The patentee remarks that he is aware that lead has been used before in alloys of copper and zinc, for sheathing vessels, but not in the above proportions. The claim is for mixing metal or metals with copper and zinc, to form an alloy, for the purpose of sheathing vessels or ships, so that it shall contain less than 60 parts of copper to 40 parts of zinc, and at the same time be capable of oxidizing sufficiently to keep the bottom of the ship clean."

The Galvanized Iron Houses made in this city, 20 feet by 15, can be set down at San Francisco for \$250.