

New Inventions.

Ventilating and Extinguishing Fires in Ships.

The want of fresh air in the berths and the general bad ventilation on board ships, is a great cause of disease and aggravates that most terrible malady, sea-sickness; while the want of some means whereby a fire could be extinguished in a moment, in any part of a ship, has long been felt. John W. Richards, a scientific mechanic of this city, has invented and patented, this week, a means of ventilating and extinguishing fires in ships, which deserves especial notice. The invention, which is more particularly applicable on board of steam vessels, consists in the employment of a series of pipes having orifices or branches communicating with the spaces between the decks, cabins, state rooms, and hold, and the spaces between the timbers. These pipes have separate connections with a blowing apparatus and with a steam boiler, either of which can be opened at pleasure by the engineers or other persons qualified to have their control, for the purpose of introducing through them a copious supply of fresh air for ventilation, or if a fire occurs in any portion of the vessel, the air may be shut off from that and steam admitted thereinto in sufficient quantity to effect its extinction. By an improved mode of connecting and supporting the several lengths of pipe, provision is made for the convenient removal of any part that may be desirable or necessary to allow of the stowage of cargo or the packing of the pipes in a small compass, and every passenger has the pipes in his berth under his own control.

Automatic Oven.

Thomas Russell, of New York, has obtained a patent, this week, for an automatic oven, one that is remarkably simple and effective. The invention consists of a system of screws and endless chains, in combination with permanent ways or tracks leading from end to end of the interior and exterior and through the door-ways of a horizontal oven, having two doors on the same side, one for receiving the bread to be baked and the other for discharging it after baking, and a series of carriages to run on these ways, and carry bread. The doors of the oven are opened and closed by the carriages themselves, and all that has to be done is to deposit the dough on a carriage at one end, and the bread comes out properly baked at the other.

Variagated Wood.

Joel Cowee, of Keene, N. H., has invented and patented a new and efficient method of producing a variagated appearance on the surface of wood, by making indentations or depressions in it in a direction running cross-ways to the fibres of the wood, by means of a fluted and plain roller, the plain roller being arranged in a pendulous weighted lever, whereby those parts of the timber which have been depressed by the projections of the fluted roller receive a different degree of compactness from those parts falling between the projections, so that the surface, when planed smooth, will have a variagated appearance.

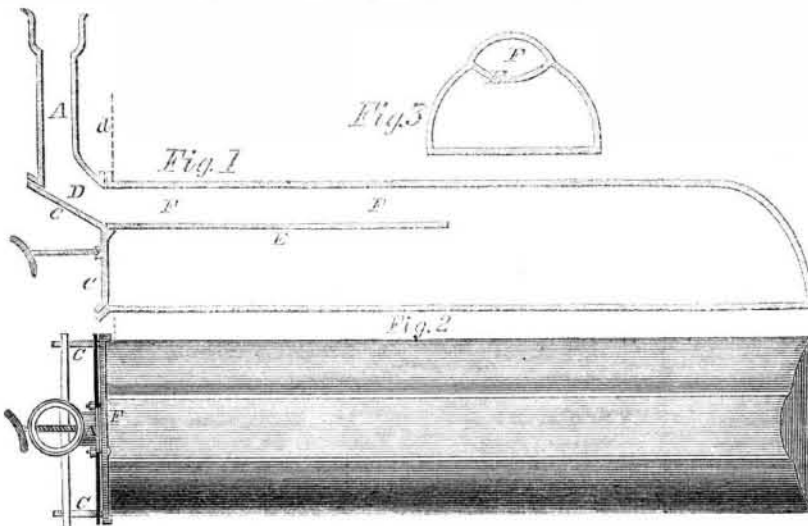
New Gas Retort.

The retorts in which illuminating gas is made have occasionally to be taken from the stack or furnace and re-set, and this not only gives great trouble, but from the fact of the door and "stand-pipe" connection being an extra attachment, called the "mouth-piece" to the retort, which has to be taken off, it so disturbs the whole of the pipe joints, and renders them liable to leak. The subject of our illustrations is an invention which dispenses with the mouth-piece, and allows the retort to be set in the fire to dotted line, *a*, so that the heat acts equally on all parts of the contained coal, and the gas so made has to pass a short distance over a hot surface which increases its volume and illuminating qualities. With this retort, too, most of the tar is converted into gas, and what remains is car-

ried up by the superior heat into the hydraulic main. The fireman has a better opening to charge through, and it is much easier of removal for re-setting, besides saving the weight of metal in the mouth-piece, usually about 300 pounds.

Fig. 1 is a vertical longitudinal section, Fig. 2 a plan, and Fig. 3 a cross-section.

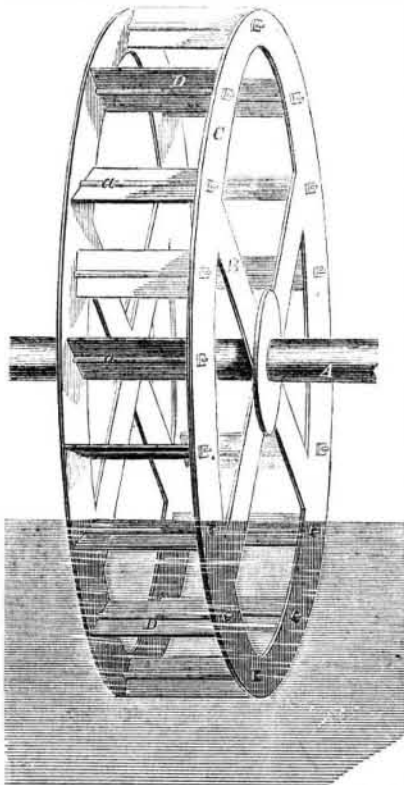
SYMMES' GAS RETORT.



head and screw. A flange, E, runs under F for about half the length of the retort, and forms a kind of pipe, to relieve the back of the retort, and as the gases from the front have also to pass through it, they are kept much longer in contact with the heated surface.

Orcutt's Paddle Wheel.

The subject of our illustration is a novel paddle wheel, invented by Nelson Orcutt, of Binghamton, N. Y., assigned to himself and G. W. Gregory, of the same place, either of whom will be happy to communicate with any person who may feel interested in the invention, which we will now describe.



The shaft is seen at A, and on this shaft is supported a wheel, C, by arms, B. The two sides of this wheel are braced together by cross bars, *a*. The buckets or floats are formed of boiler iron or wood, having a circular channel running through their centers horizontally, through which is passed the cross bar or tie, *a*; and the buckets being perfectly balanced on *a*, can rotate freely on them.

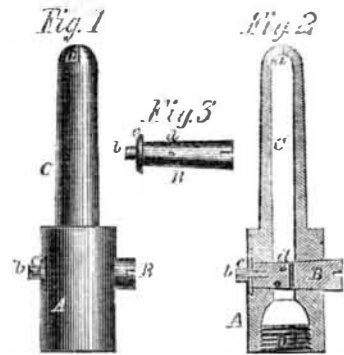
The intention of this arrangement is, that when the bucket strikes the water, it shall strike it horizontally; and as the pressure is equal on both sides of its center, on which it is free to turn, it should always present a plane surface to the line of greatest resistance; and when it leaves the water, back

A is the bottom joint or elbow of the "stand-pipe," turning round to be parallel with the retort at D, which is cast with an elevated ridge, F, on the top, which forms a kind of pipe for the passage of the gases to the stand-pipe. The lower side of D is flat, and is closed by a lid or door, C, secured in the usual way, namely, by two lugs, a cross-

The inventor is H. K. Symmes, of Newton, Mass., and it was patented January 11, 1859. For further information the inventor should be addressed as above, and the retorts may be seen in operation at the works of the Newton and Watertown Gas Light Company, Watertown, Mass.

Tozer's Gas Burner.

The prevalence of gas as an illuminating agent, and its increasing adoption throughout the country, renders the gas burner an article of some importance, and entitled to the consideration of inventors as an object for the exercise of their genius. Junius F. Tozer, of Binghamton, N. Y., has turned his attention to them, and has effected a considerable improvement. With the ordinary burner the amount of gas consumed per hour depends entirely upon the size of the orifice, and as by oxydation or other cause, that becomes enlarged, the quantity of gas consumed rapidly increases; the varying pressure on the mains also altering the amount of gas passing through the burner.



In this improved burner, C, seen in perspective in Fig. 1, and in section in Fig. 2, a small three-way cock, B, is introduced in the base, A, provided with holes, *d*, each capable of admitting two, four or six feet of gas to pass through them respectively. Of course, these holes can be made any size, but those mentioned are the more general ones. B is conical-shaped, and is held in its place by the small collar, *c*, and screw, *b*, seen more distinctly in the detached view, Fig. 3. The aperture of the burner is seen at *a*, and the thread by which the burner is secured to the pipe is indicated by D. This cock, B, can be turned by a knife or any similar instrument to bring either of the three holes vertical, and so admit the gas from the pipe to the burner in a regular and regulated flow. The

ordinary cock in the supply pipe or branch may be continued or dispensed with, a thought necessary by the person using the invention.

The inventor obtained a patent October 5, 1858, and assigned the invention to G. W. Gregory, of Binghamton, N. Y., who may be addressed for further information.

Envelope Machine.

J. B. Duff & T. W. Keating, of New York, have invented and patented a pasting apparatus for pasting or gumming envelopes, by which the pasting in any part of the envelope, except where it is required, is effectively prevented. There is also in the machine a novel contrivance for creasing the blanks in the lines in which the folds are to be produced, and the lappers by which the folds are finished are of improved construction. The claim will be found on another page.

"Why do not Ladies Skate?"

And echo replies, "Why not?" In Holland, one of the most pretty sights in the winter time is to see the bright-eyed Dutch lasses skating along the canals to market, and the graceful action it induces tends not a little to give that easy carriage of the person which is so envied by our belles. The exercise is truly healthy, and would give a color to the cheeks more brilliant than rouge, and a charming brightness to the eye which nothing but Nature's own free air can impart. Ladies, our winters are long enough, and our air is pure and bracing—you have the opportunity to acquire in the open air in winter a stock of health, beauty and natural elegance to carry you through the duties of home or the pleasures of the ball with *eclat* and cheerfulness, if you will but improve it. Ladies, skate!

Yankee Locomotives in Egypt.

On the railway between Alexandria (Egypt) and Suez, recently finished, there are four locomotives,—two of them are of English manufacture, and the other two were built at Mason's Works, Taunton, Mass. It seems that the Pasha's ears are open to flattery, and the English engineers, through their Consul, use every possible means to get rid of the American engineers. They were told by the railway company that the engines were not going to be used, and that their services would not be needed. The excuse for giving them up was that they are not strong enough to haul the heavy trains. One of the Americans, getting an opportunity to speak with the Pasha, told him he could haul as many loaded cars as would reach from one end of the road to the other. Accordingly seventy-five heavy loaded cars (which was all they could muster) were put in a train, the Pasha's own car attached and the whole taken through to Suez, a distance of 200 miles, in twelve hours, making stoppages for fuel and water. The Pasha exclaimed, in Egyptian,—"God is great, but a Yankee is very near perfection!" On his return he discharged the English engine drivers and now uses the Taunton engines altogether.

Signing Drawings—How it Works.

Messrs. Editors—You will excuse my stating that the Commissioner of Patents, in enforcing his order in my case, is working most disastrously to my interests; but I am pleased to acknowledge the promptness with which you have attended to my last thus far.

R. B. N.

Sacramento, Cal., Jan. 4, 1859.

[The above is a specimen of the letters we are receiving from our clients in California, and other remote places. This gentleman's specification had been sent to him for execution long before the rule requiring the signing of drawings had been promulgated. Under like circumstances, we made strenuous efforts to induce the Commissioner to postpone the enforcements of the rule, but our exertions were spent in vain.]