

New Inventions.

Railings for Trap Doors.

It is well known that serious accidents very often occur by persons falling through trap-doors, in our stores, into the floor below. Within the past year, if we remember aright, two persons were killed in this city by such accidents. We are glad to know that a remedy, a simple and ingenious one, has been provided by a guard railing, invented by Messrs. Laing & Knott, of Baltimore, Md. Two sides of the railing are secured on the under side of one of the trap folds near the hinges, so that when one fold is raised up, the railing stands up on two sides, close to the hatchway; the other half is secured and formed in the same way, so that when the two folds are raised up, the four sides of the hatchway are surrounded with the railing. One side of the railing can be removed to let down bales, &c., while the other three are left standing. This improvement is a very useful and much needed one, indeed. In all likelihood we shall be able to present engravings of it in the course of a few weeks.

Extracting Silver from Argentiferous Minerals.

We learn through our cotemporary, the London Patent Journal, that Mr. Adolf F. Gurlt, of Manchester, England, has taken out a patent for a new improvement in extracting silver from its ores, which process appears to be different from the one pursued in Mexico. He subjects ores, containing silver, in the state of a sulphuret, directly to the action of a solution of common salt combined with the chloride of zinc or copper. By this means the sulphuret of silver is converted into chloride, which is dissolved in its nascent state by the solution, and it then can be separated by filtration from the mass of the ore. This process is only for the sulphurets of silver. A very strong solution of common salt, along with about 15 parts of chloride of zinc are heated up to 200°, and the ore, in a state of powder, is introduced into it, and kept agitated for about 12 hours, in a barrel for every 500 lbs. of ore. The liquor should be drawn off three times during this operation. After this, by introducing fine pieces of copper or zinc into the solution which has been drawn off, the silver will be precipitated to the bottom of the vessel. The same liquor answers the same purpose over and over again.

Improvement for Arming Steamships.

We see that a Mr. John Scott Russell has taken out a patent, in England, for arming steamers, by placing guns on the platform spaces fore and aft of the paddle boxes. A queer invention this, we think, to grant a patent for. It would not be much worth in this part of the world, and "why should it?" some will ask. Well, it is stated that the guns can be fired in this position inclined towards as well as parallel to the line of the vessel's keel.—Two vessels, on this plan of arming have recently been built in London for the Prussian Government. The vessels are also constructed with a rudder at each end, like some of our ferry-boats. These vessels carry all their heavy weight near the centre.

Improved Revolver.

Mr. C. Jillson, of Worcester, Mass., we are informed, has made an improvement on revolvers, whereby twenty-four charges may be fired for one loading; and it is said to be as compact as Colt's; if it is equal to one of Colt's improved, which we lately saw in the possession of Mr. White, of Hartford, Conn., now at the South as agent for the same, it will be a "biler burster."

Improvements in Knitting Machines.

Mr. Timothy Bailey, of Ballston Spa, Saratoga Co., N. Y., has taken measures to secure a patent for improvements in knitting looms, whereby he applies steam and other power to them, so as to do away with all hand gearing in the knitting loom. Stockings will soon be made much cheaper than is now done, so that the common kinds, like cotton cloth, will soon all be made in the power knitting loom.

Gas Light on Minot's Ledge.

A correspondent of the Boston Transcript has suggested a plan for placing a gas light on Minot's Ledge, which appears to be feasible, and meets with favor. He proposes to erect on the ledge a tubular shaft of the requisite height, to be strongly fastened in the rock, and so constructed as to oppose no unnecessary surface to the winds and waves. This it is designed to connect with gas works on shore, by pipes or feeders; and the distance through which the gas would be necessarily conveyed is said to be of trifling account, as compared with the cost of a structure for a common

light. It is urged in behalf of the project, that as the gas could be shut off by day and let on by night at the works on shore, for the greater part of the time, there would be much less of the exposure of life by frequent resort to the ledge.

[This, we think, is a good plan. The gas could be all nearly let off in the morning, allowing only a very small flame during the day. Thus the light would never go out, and it could be kept up at no great expense, without the necessity of going to the lighthouse at all, except once in two weeks, or a month, it may be.

CAPT. BROWN'S STEERING APPARATUS FOR SHIPS.

Figure 1.

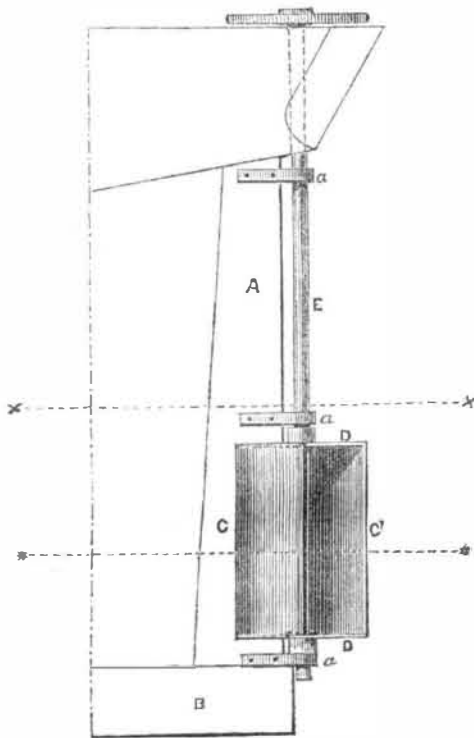
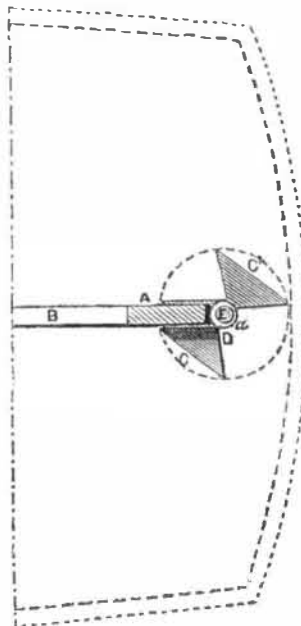


Figure 2.

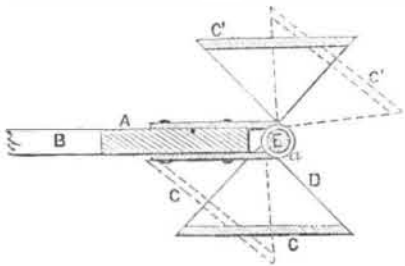


This improvement in Rudders is the invention of Capt. Charles F. Brown, of Warren, Bristol County, Rhode Island, who has taken measures to secure a patent for the same. The invention consists in the employment of two or more rudders hung at a distance apart upon the same stern post and hung in a peculiar manner opposite one another, as represented in the accompanying figures.

Fig. 1 is a side view or part of the stern of a vessel with the rudder attached. Fig. 2 is a plan view taken at the horizontal line, *xx*. Fig. 3 is a section taken at the horizontal line, ****, fig. 1. The same letters refer to like parts.

A is the stern post of the ship. B is the keel. E a rudder post which is proposed to be made of iron or wood. C C are the two rudders each consisting of a flat plate of metal of the given form and size. Wood may be employed, but iron is superior. These rudders are placed parallel to one another, and united at the top and bottom by yokes, D, in which half way between the rudders, there are bosses fitting to the post, E, and firmly secured to the same. The rudder post is hung on the stern post in loops, *a a*, or otherwise.

FIG. 3.



The rudders may have motion communicated to them by any suitable steering apparatus. By referring to the dotted lines, fig. 2, the circle describes the path of the edges of the rudders in turning. As the rudders form chords to the said circle they offer but little resistance to the water when moving from one position to another, as compared with the common rudder, which is the radius of a circle. In fig. 3 the rudders are represented amidship by the right lines, and in dotted lines when the

helm is hard a-starboard. The inside face of rudder, C', and the outside face of C, present an inclined plane to the water, and by their position of resistance, so is the course of the vessel changed and directed. Both rudders being of the same size, at the same angle to the line of the motion of the vessel, and at the same distance from a common axis, the effect of the surface resistance will be the same on each, and will not tend to alter the position of the rudders. It will at once be perceived that the labor of the steersman is reduced almost to a cypher, whereas steering by the common rudder is a work of great labor. When the helm is a-port, the outside face of C, and the inside face of C', act upon the water—rather the water acts upon them. More than two rudders may be used—the claim is not limited to the two, but more would be detrimental instead of being beneficial. The effect intended to be produced by hanging the rudders at a distance from the post at opposite sides, is to make the pressure caused by the resistance of the water—as the vessel is passing through it—on one rudder, balance that on the other and thus enable the steersman to keep it in any position with great facility. The position which the rudders occupy in relation to their motion, though it allows them to offer the same resistance to the progress of the vessel, causes them to meet with but little resistance when moved in steering.

The main parts of this improvement in steering apparatus may be made of composition metal, so as not to be affected easily by corrosion. We believe that this improvement will command attention. It is the production of a very ingenious and experienced nautical gentleman, from whom personally other information may be obtained if desired.

Another Trial of Prof. Page's Electric Locomotive.

Prof. Page, Examiner in the Patent Office, made another experiment with his Electro-Magnetic Locomotive, at Washington, on the afternoon of last Tuesday, the 29th ult.; it made, during one mile, at the rate of 19 miles per hour. Some of the cells broke and prevented a long trial. It ran to Bladensburg,

five miles, in about 39 minutes. No practical data as criterion of expense in the working of this engine, so far as we have learned, have yet been published. According to the mode we have of calculating the expense of working steam and electric batteries, we would make the expense of the latter to exceed the former by a great deal.

The Atmospheric Lamp!—Another New Light from Paine's Laboratory.

The world has heard and said much of H. M. Paine's hydro-magnetic light,—the wonder of the age,—and now, having seen that he can "set the river on fire," it will soon see that he can set the atmosphere on fire also, for his luminosity has recently broken out in a new spot, and Paine's atmospheric light will be counted as great a wonder as his hydro-electric. On Saturday evening, April the 26th 1851, he came into our office, and stated that he had that day succeeded in compounding a liquid, in passing through which, common atmospheric air is catalyzed, or affected, so as to burn with a clear white light, more brilliant than that of oil or camphene, and wished us to remember the time, so as to fix the date and his priority of this great and wonderful invention. We have since seen his atmospheric lamp, and with the breath of our own lungs, directly applied to the lamp in our own hand, we have personally proved, that the common air, by his apparatus, is rendered not only combustible, but brilliantly luminiferous. The components of this air-catalyzing, or air-filtering liquid, are, he says, abundant and cheap, and the liquid itself seems not to be diminished by the bubbling passage of the air through it. Blessings and honor to the genius, who thus shows the freezing and lightless poor, how to turn water into a wood-pile, and common air into a can of oil!—[Worcester Cataract.

The Worcester Spy says:—"Although the patent of the Hydro Electric Light has been secured, Mr. Paine has not remitted his investigations, and at last has discovered a process of catalyzing the oxygen of the atmosphere, and rendering it luminiferous at a mere nominal expense, without the cost of machinery or any other apparatus than an air receiver, capable of holding common air. We saw it in operation last evening in our office, examined it minutely, catalyzed the hydrogen ourself, and read by the light so produced, which is equal, if not superior to the best gas burned in the cities. The flame is peculiarly bright and brilliant, burns with a clear steady light, is entirely inodorous, and during the half hour that we watched its operation, we could see no consumption of the catalyzing material. The whole apparatus which we saw, could not have cost more than a couple of dollars, and it was capable of furnishing all the light needed for the illumination of an ordinary sized room."

[Well, this out-Herods Herod. We hope this wonderful catalyzing material is not very abundant, or we might expect Mr. Paine, after setting the river, would set the atmosphere on fire. Do the editors of the Spy or the Cataract know what they are talking about when they say that oxygen is "rendered luminiferous." Do they not know that sulphur, charcoal, and many of the metals, when previously heated, burn with great brilliancy in oxygen gas? Mr. Paine has been amusing them with some of the volatile hydro-carbons.

Discovery of Marl.

Professor Hall has discovered a large Gnaetheden bed on Raft River, some eighteen miles from Mobile, in which are extensive deposits of marl of a very superior quality. The bed is made up of decomposed shells alluvial mud and other fertilizing matter. This marl, Professor Hall believes, is the best manure that can be employed upon the lands about Mobile. It is a permanent fertilizer, and placed upon sandy soils without any base except at a great depth, would render them not only productive, but serve to hold together the loose sand and form a good and lasting soil.

Our friend John Wise, the hero of a hundred ascensions has in preparation a monster balloon fit to carry aloft 16 persons of 150 lbs. each.