New Inventions.

New Felloe Machine.

Messrs. J. S. Rockwood and A. Goodman, of Petersham, Mass. have invented a very valuable machine for dressing and finishing out carriage felloes and for turning out the rims of carriage wheels to a perfect circle. The machine bores, squares and makes felloes of all descriptions, and has a circular saw for cutting off the ends, and a hollow augur for tennoning the spokes, all combined and working on the rotary principle. The felloes are made fast to a large circular face plate which is of sufficient size to receive the longest felloes and the said plate revolves carrying felloes to the cutters, which forms, squares and rounds them. After the felloes are got in readiness for planing and turning, they are then also placed upon the same circular disc mentioned above and made fast, when the said plate is revolved with a slow steady motion which brings the rim of the wheel in contact with two cylinder cutters which turn the periphery of the wheel to a perfect circle and planes the rim to a proper thickness and finishes the felloes in a very neat and rapid manner. The inventors are taking measures to secure a patent.

New Water Wheel.

Mr. A. P. Conant, of Fitchburg, Mass., has invented a new Water Wheel, which uses the whole power of the water during the entire revolution of the wheel excepting the spaces devoted to the entrance and discharge of the water. It is a unique wheel in every sense of the word. There are two paddles (that is the best name we can give them) placed on a diametrical axle, which has two cams on it near the centre, on each side of a stationary centre cam that is firmly fixed to the side plate of the wheel. The paddles fit tight in a circular chamber of the wheel into which the water is admitted which acts upon the paddles, carries them round, and when each paddle has come to the discharge opening, after the wheel has completed its revolution, the cam on the paddle axle is acted upon by the stationary cam on the plate of the wheel and the paddle is then what is called "feathered," that is, the edge is turned to a position at right angles with its former position, and the water is discharged and not before.

The main power shaft is secured on a hub, that revolves and is driven by the paddle, acted upon by the water. The paddles might be turned by gearing so as to discharge and turn again to receive the action of the water, but the cams we think are best. Mr. Conant has taken measures to secure a patent.

New Car Coupling.

Mr. N. G. Freeman, of Manchester, N. H., has invented a new mode of Railroad Car Coupling, which is both good and ingenious. It is self-acting and is retained so securely that there is no jarring—no fears of shaking apart, and it can be uncoupled in a very short time. It has a hooked tongue that slides up an inclined bar and catches over a cross pin in the coupling box. This cross pin holds the hook firmly and it cannot be relieved but by turning the cross pin which has an eccentric pallet on it, that throws out the hook, and uncouples the cars. The catch pin has a pinion on the outside which is operated by a handle, on the lower end of which is a cog wheel that gears into the pinion to uncouple or fit the catch pin for coupling. If there is danger to be apprehended, the cars can thus be uncoupled in an instant. Measures have been taken to secure a patent.

New Paving.

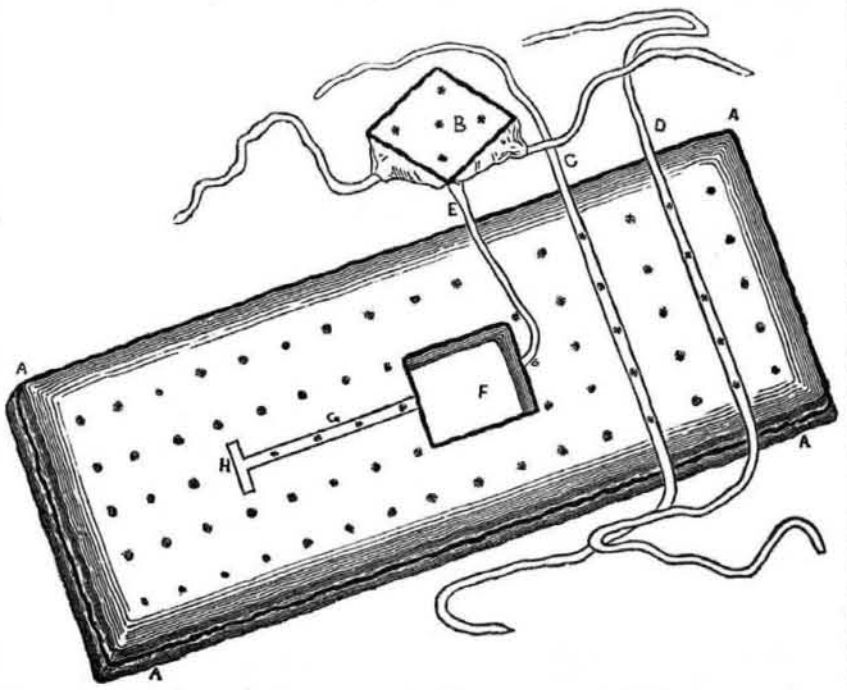
The Artisan of last week has a representation and description of a plan for paving our streets, by Mr. J. Pinkerton of this city, which we think is excellent, far better than any which we have seen proposed before.

New way of Manufacturing Soap.

Mr. Leon Castelain, a Chemist in England, has discovered a new and curious way of making soap from Irish Moss. For every two pounds weight of Irish Moss, he employs 672 gallons of water into which the moss is introduced at the time the water is brought to boil—when the contents are well stirred and the cover put on and the whole suffered to boil for about 10 or 15 minutes. Steam should be used to boil the liquor, and at this period it should be shut off, and the whole allowed to macerate for about three hours, taking care to stir every 20 minutes. The combined matters are then to be drawn off by a faucet at the lower part of the vessel, and strained through basket work which retains the larger pieces of moss. The liquid is next strained through horse hair cloth, and when thus obtained it is run into a vessel in which is placed 4 oz. of common salt to each gallon of the liquid.

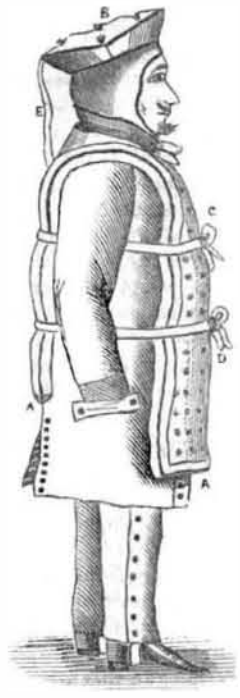
These matters are then stirred till the salt is dissolved, when this substance is run into the common soap vessel while the soap is boiling, at the rate of 1 gal. of this liquor to 5 gal. of soap, when both are run into the moulds and produces a soap, firm and excellent for washing. This may be of some benefit to Ireland if on farther practical experience it proves to be as valuable as the patentee says it is.

LIFE PRESERVER MATTRESS.---Figure 1.



This is a Life Preserver Mattress, invented by Messrs. George Shegog and Martin Chapin, of Columbia, in the district of Richland, S. C. Fig. 1 is a view of the invention employed as a mattress, and fig. 2, a view of it employed for a life preserver. The same letters of reference indicate like parts on both the figures. The mattress is made of some kind of stout cloth, as a covering in the common way, and filled up with granulated cork to give it buoyancy at all times, and to keep it dry, and it makes a very fine and soft mattress. A A, is the mattress. F, is an aperture in it, and B, is the square piece that fits into this aperture, it being of the exact thickness of the mattress, but made with side li-

FIG. 2.



nings so as to be a cap and fit on the head of the wearer, when used as a life preserver.—C D, are bands that tie the mattress around the wearer as represented by fig. 2. E, is a band which ties the bonnet to the mattress and G H, is a band and loop to be used with another band if required to tie it snugly.—Fig. 1, shows its application as a mattress and here is John Smith, fig. 2, bound on an aquatic excursion up the Sacramento. Our engraver has put a goatee and *moustache* on John to make him fierce and warrior like among the gold diggers. We remonstrated with him for doing such a thing after what we had said two weeks ago respecting long beards; but it was no use, "John," he said, was not an editor, and we had no right to judge of such adventurous carls by *sanctum sanctorum* rules." Having a desperate aversion to the science of controversial tonguology, we gave up the point, and here John is in a natural state, and we hope to be excused for the absence of the razor, after this honest fair confession. We hope that when Mr. Smith returns from the diggins with 25 lb. pieces, he will not forget old friends. We shall then be happy to repose with him on his famous life preserver mattress and listen to his adventures. Those who know us will warrant him against *bottsification.*

After what we have said, let no person think that we entertain any other opinion about this mattress than a most favorable one. We believe that every ship and steamboat should use it in preference to any other.—Thousands of lives may be saved by it, and it can be made at no great expense and will endure longer than ten straw mattresses, and we believe that it is far healthier than a hair mattress. The inventors have taken measures to secure a patent.

New Vertical Dipping Paddle Wheel.

Mr John Mills, Jr., of Springfield, Mass. has invented a new paddle wheel which operates the paddles to make them dip vertically in the water and then leave the water in a vertical position. The paddles, therefore, move on axles and are allowed by their own gravity to swing free while not in the water, but at the moment they enter the water vertically (which they will do on a perpendicular line with the centre of gravity,) a stout arm on each side grasps the outer side of the paddle and holds it firm while it is passing through the water, then releases the paddle so as not to raise any back water. These stout arms to do this are secured on the radial arms of the wheel and are operated by having their ends revolve in a groove of a stationary eccentric cam, secured around the shaft of the Wheel. The groove in the cam guides the arms that grasp and retain the paddles, to catch and let go the paddles at the exact point required. Mr. Mills has taken measures to secure a patent.

Improvement in the Manufactnre of Printing Ink.

Mr. George W. Pratt, of this city has recently secured a patent for England for his improved mode of manufacturing Printing Ink. The invention consists in employing the oil obtained in the distillation of rosin. He uses at the rate of 1 lb. rosin oil, 13 oz. of rosin and 5 oz. of yellow soap, melting them thoroughly in a pot over a fire. He uses more rosin if he wants it stiff, or less when it is wanted more fluid. He then suffers this to get cold, and grinds it up with lamp black, or other coloring pigments for variously colored Inks.

Improved Mode of Setting the Spindles of Grist Mill Stones.

Mr. Charles Crofut, of Westport, Conn., has made a good Improvement in the manner of securing the top stone to the spindle, whereby it can be taken out in the most simple and admirable manner. There are two clutch grooves secured in the inside to the sides of the stone, and the driving spindle has a wedge passing through it, which sits into the grooves in the flanges, and clutches the stone and spindle together holding them firmly while the stone revolves, but is easily uncoupled to allow the stone to be dressed when required. Mr. Crofut has taken measures to secure a patent.

New Chemical Discovery.

A valuable discovery is mentioned in a recent number of the Journal of Pharmacy, of which Mr. Tilghman, of Pennsylvania, is the author. By means of the decomposing power of steam, soda ash is easily made from sea salt, and sulphuric acid from the refuse lime of manufactories. The refuse lime of the gas works can be made to yield back its acids, and is then prepared for use again, and so with the lime of soap factories, in which sulphuric acid is an item of expense, and the lime has heretotore been useless. But, by Mr. Tilghman's process, the sulphuric acid thus wasted is recovered, and the lime, heretofore thrown away, becomes as fit for use again as it was when it was first taken from the kiln.

New Invention.

The Pittsburg Gazette mentions a new invention which the editor calls a Manometer, the purpose of which is to indicate the pressure of steam on every square inch of the boiler. The instrument consists of a glass tube inserted in a bath of mercury and a graduated scale, and performs its office in the most satisfactory manner.

[The Pittsburg Gazette would see by last week's Scientific American that the Manometer was not so very new after all.

Life Boat Cylinders.

A Mr. Bennett has been making some experiments at Nantucket, Mass., with a life boat composed of a number of cylinders. A whale boat loaded with stone, the whole weighing 8,400 pounds, was borne up by 12 of the cylinders, each 5 feet long, and 8 inches in diameter; and it is estimated that, had the cylinders been fully inflated, (as it was they were only partially so) they would have sustained with ease at least two tons more.

We believe that this invention is a good one, but as the Nantucket papers do not state what kind of cylinders they are, we are not prepared to say whether it is new or not. Inflated India Rubber tubes have been employed for the same purpose here.

Curing Bacon.

As soon as the meat is salted to your taste, which will generally be in about five weeks take it out, and, if any of it has been covered with brine let it drain a little. Then take good black pepper finely ground, and dust on the flesh side and on the hock end, as much as will stick; then hang it up in a good, clean dry, airy, place; if all this is done as it should be you will have no farther trouble with it, for by the fly time in the spring, your bacon is so well cured or dried on the outside that flies or bugs will not disturb it.

The above is taken from the Nashville Whig and we speak confidently of its merits both for bacon and beef hams. The process is not new, however, and if some ground cloves and cayenne pepper be added, so much the better.