

RECENT AMERICAN INVENTIONS.

The following inventions are among the most useful improvements patented this week. For the claims to these inventions, the reader is referred to the official list on another page:—

DESICCATOR.

This invention consists principally in the use of a fused metal or alloy, in connection with a suitable chamber for the reception of the substance or substances to be desiccated, in such manner that such substance or substances may have their moisture evaporated by the heat distributed throughout the chamber from the fused metal or alloy, by which means the temperature at which the desiccation is carried on may be regulated and kept uniform. It also consists in certain means applied in combination with the desiccating chamber to facilitate the process of desiccation. J. Eugene Tourné, of New Orleans, La., is the patentee of this invention. He has also secured his invention in foreign countries through this office.

MACHINE FOR FILING GIN SAWS.

This invention consists in the employment or use of a circular rotating file, placed within a swinging or movable frame, and arranged with a slide or carriage containing the saw-shaft and saws, in such a way that the device, by means of a single operator, may be made to perform the desired work in a rapid and perfect manner. The filing of gin saws and the keeping of them in proper order has hitherto been attended with considerable trouble and expense, and great care is requisite in order to preserve the proper form of the teeth. It usually requires about six days to put a set of gin saws in perfect working order by the manual process, while, with this invention, the work can be performed in one day. The credit of this contrivance is due to Samuel Yeatman, of Providence, Ala.

SLIVERING MACHINE.

This invention is an improvement in machinery for slivering blocks of wood for upholsterers' purposes. It consists in setting the beveled cutting point of each slitting cutter at an obtuse angle—more or less—with its shank, whereby, instead of their cutting perpendicularly into the wood, they will make a slanting cut, so that, when two sets of such slivers are used with their points inclined in opposite directions, they will produce, with the horizontal plane irons, prismatic shreds or slivers. It further consists in securing the slivering cutters in stocks which are allowed to have a lateral play, so that the points of these slivers will follow the grain of the wood where it is not perfectly straight. This invention was designed by Henry L. Nichols, of this city.

ROTARY ENGINES.

This invention relates to that description of rotary engine having sliding pistons rotating with an inner cylinder or drum arranged eccentrically within a larger stationary cylinder; and it consists principally in a certain construction of the sliding piston and mode of applying the same, in connection with arc-formed revolving guide plates arranged between the heads of the inner drum and outer cylinder, whereby the pistons are caused to present themselves, with their outer faces concentric with the inner periphery of the outer cylinder, and in proper contact with said periphery throughout the whole of their revolution; and the escape of steam, water or fluid between the pistons and the outer cylinder, and between the said cylinder and the rotating drum, is very effectually prevented without any necessity for stuffing-boxes around the shaft. It also consists in a certain construction of the ports in the outer cylinder, whereby, after the pistons, in their revolution, have passed that portion of the inner periphery of the outer cylinder with which the rotating drum comes in contact, the steam, water or other fluid is received into the cylinder, both in front of and behind them, until they arrive at a position where the steam or other fluid, in the case of an engine used as a motor, may act upon them, or the water, in the case of a pump, may be acted upon by them with good effect, and a free eduction is provided for. It further consists in a certain construction of an adjustable packing piece which is fitted to the inner periphery of the outer cylinder, to constitute a bearing for the outer periphery of the rotating drum, whereby provision is made for adjusting the said piece toward the axis of the rotating drum without any danger of the pistons catching against the said piece in their revolu-

tion, and so injuring or being injured by it. The inventors of this device are K. and T. Cox, of this city. Foreign patents have been secured through our agency.

STEAM PIPES FOR EVAPORATORS.

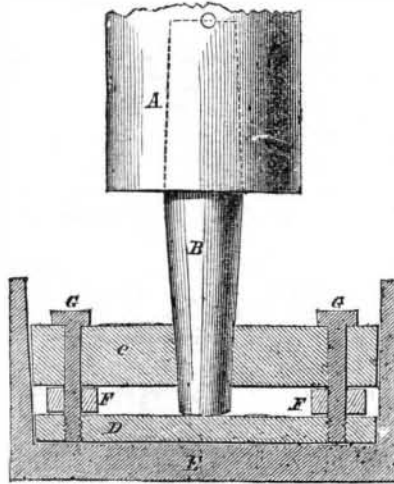
This invention relates to a system of parallel pipes, connected at their ends with two transverse boxes, one of which is by a transverse partition made to serve partly as the induction or steam chamber, and partly as an eduction or water chamber, and is also made to turn on its axis to permit the cleaning of the evaporating vessel. The improvement consists in so arranging the aforesaid partition in the main box with respect to the pipes, that the water of condensation is conveyed from the pipes and boxes through a single pipe, or through a small number of the pipes only, so that nearly the whole or the greater number of the pipes are made fully effective for evaporation, instead of one-half only, as in other arrangements of the partition in the main box. The patentee of this improvement is H. O. Ames, of New Orleans, La.

GAS REGULATOR.

This invention relates to that kind of regulator composed of a valve attached to an inverted cup, floating in a basin of quicksilver or other fluid substance. It consists in the arrangement of the weight by which the buoyancy of the cup is, to a sufficient degree, counteracted, below the cup and between the cup and the valve. It also consists in the employment as a weight to counteract and adjust the buoyancy of the cup, of a tubular valve stem containing shot or other weight movable in small quantities. And it further consists in the attachment of the guides, by which the cup is kept upright, outside of or beyond the circumference of the cup. The inventor of this ingenious device is Joseph Foster, of Richmond, Va.

A GOOD STEP FOR MILLSTONES.

MESSRS. EDITORS:—I herewith send you a description of the step which I use in my mill. I think it will answer the purpose for J. F. Dance & Bros., of Columbia, Texas. A is the spindle; B the steel point passing



through the steel plate, C, and resting on the bottom steel plate, O, all placed in the cast iron step, E. The plates, C and D, should be bolted together with bolts, G G, and held apart by thick washers, F F. The bearing surfaces of the steel plates should be hardened and polished; and when put in motion, the step should be filled nearly full of good oil. If this step does not furnish a remedy for the evil of which he speaks, I know of none that will.

HENRY H. GUILD.

Milton, Conn., October 12, 1860.

NEW AMERICAN ATLANTIC LINE OF STEAMERS.—Commodore Vanderbilt, it is reported, is about to build two new fast steamers for his transatlantic line. The length of each is to be 400 feet; breadth of beam, 55; depth, 18. They are to be of wood, and built in the most substantial manner, so as to secure light draught, combined with great strength. Their model will be after that of our fastest river boats; the engines are to be "overhead beam," with 100 inch cylinders and 16 feet stroke. The paddle wheels will be 50 feet in diameter. The Commodore is determined to wrest from the English steamers those advantages which they have lately gained in the carrying trade of the Atlantic. We have no fears of the result. Those steamers, when built, will be the swiftest in the world.

CELLAR WALLS AND FLOORS.

Most cellars are built without adequate provision being made for keeping moisture from passing through the walls from the outside, and up through the earthen floors inside during rainy weather. The cellar of a house should be dry so as to render it comfortable and healthy, as moisture in the lower part of a dwelling generally makes the upper stories damp and chilly, and causes mildew in clothes, books, and all household articles made of cloth and leather. Cellars can be easily built so as to have dry walls, and hard dry floors; and the latter are invaluable to prevent rats from burrowing, as well as dampness from coming up from the soil beneath. To render the cellar walls dry, they should be coated on the outside with hydraulic cement, mixed with sand. Houses in our cities have their cellar walls thus treated in many instances, but their floors are neglected. To make a cement floor, the surface should first be rammed down and levelled; then hydraulic cement, mixed with sand, of about the consistency of thick mortar, should be laid on to about one inch in thickness, and its surface levelled with a scraper made of a thick plank. In laying down such a floor, sections of about eight feet square should be marked off, and finished one after another. A coat of clean sand or gravel, one inch thick, should be laid on the top of the cement; and after it has stood about half an hour, the whole should be rammed down smooth with a pounder, when the work is complete, after the surplus sand has been swept off. In a few days, such a floor becomes hard as a stone, and quite impervious to water.

MEETING OF STEAMBOAT INSPECTORS.

A meeting of the steamboat inspectors from the various districts throughout the Union is now being held at the Metropolitan Hotel, this city. At the time of going to press, no important business had been decided, but in our next issue we may be able to give a condensed report of the whole proceedings. The present law relating to steamboat inspection is defective in several vital features. Neither steamships nor steam ferry boats come under its control. It is desirable that its provisions should extend to these classes of vessels as well as river boats which carry passengers. The inspectors have repeatedly taken measures to bring these reforms before Congress, and their bill of amendments got the length of passing the lower House last session. We trust it will go through the Senate next winter, and become a law. The important subject of marine signals, we understand, is engaging the attention of the inspectors. Collisions are becoming so frequent, for want of proper lights, that far more lives are now lost by such accidents than by explosions.

A BOILER BLOWN FROM UNDER A MAN WITHOUT HURTING HIM.—We learn by the Fort Wayne (Ind.) *Sentinel* that, on the 27th ult., while Mr. Hattersley was standing astride of the steam boiler at Smith's factory, at that place, the west end of the boiler blew out, and the boiler jumped endways from beneath Mr. H., dropping him into the furnace. He was slightly burned by the fire, but not injured at all by the boiler. The cause of the explosion was low water in the boiler, as usual.

PRESERVING SWEET POTATOES.—The Ohio *Cultivator* gives the following method of preserving these precious roots during severe winter weather:—Take dust from the highway and dry it thoroughly; then pack the potatoes in layers in it, using either barrels or boxes for this purpose. They should be kept in a warm place, such as in the vicinity of a stove, or some situation where they cannot be affected with frost during very cold nights. This appears to be as good as any other method yet published.

EUROPEAN NATIONAL DEBT.—The debts of the several States of Europe, at the close of June, 1860, were as follows:—Great Britain, \$5,365,000,000; France, \$2,880,000,000; Russia, \$1,745,000,000; Austria, \$1,600,000,000; Spain, \$1,050,000,000; Prussia, \$284,000,000; Portugal, \$190,000,000; Turkey, \$135,000,000; Belgium, \$100,000,000.

AT Boulogne (France), the female porters have been formed into a regular corps, in uniform, with the exclusive right to carry passengers' luggage ashore.