

IMPROVED COOKING CHAMBER.

We illustrate, in the annexed engraving, a new chamber or covering for the top of cooking stoves, whereby all odors, steam, smoke, and other emanations from cooking are drawn off from the apartment in which the cooking is done. By means of the same device, it is claimed that the heat of the stove during hot weather may be conducted away, and in cold weather may be utilized for warming other portions of the house. The chamber also serves as a hot closet for drying fruit, and as a plate warmer; and through its use, we are informed, boiling can be done with less fire and in a shorter space of time than upon the open stove.

The box is made of sheet metal. The heat may be led into the chimney by a short pipe, as represented in the engraving, or the pipe may be extended into another room and terminate in a suitable register. The top and back of the chamber are united; the upper portion has a grating floor, A, so as to form a separate compartment, access to which is had by the door, B, and which may serve as a receptacle for warm plates or for other uses. At the back of the lower chamber, and also on top of the box, shelves are placed for setting cooking utensils upon. The sides are movable, and slide back and forward. To these, the front doors are hinged. By pushing back the sides and opening the doors, the whole chamber is thrown open, giving free access to the top of the stove. A frame is supplied, which fits on top of the latter and serves to hold cooking vessels. The apparatus can be attached to any make or pattern of stove by elongating the ribs or frame and by enlarging the doors. It can be easily taken apart and packed for transportation.

Patented April 13, 1875. For further information address the inventor, Mr. John D. Smedley, Syracuse, N. Y.

Excommunicated Insects.

Apropos of the efforts in progress to destroy the phylloxera and other insect scourges in France, a writer in *La Nature* gives a curious bit of information relative to the way in which such pests used to be proceeded against when Science, save so far as it could be made to agree with theological dogmas, had no existence for the world. In 1120, the Bishop of Laon formally excommunicated all the caterpillars and field mice. In 1488, the grand vicars of Autun commanded the parish priests of the vicinity to enjoin the weevils to cease their ravages, and to excommunicate them. In 1535, the Grand Vicar of Valence cited the caterpillars to appear before him for trial. He kindly assigned them counsel for their defense, and, as they did not appear, proceeded against and sentenced them, *in contumaciam*, to clear out of his diocese, a command which they probably obeyed.

During the seventeenth century, thirty-seven similar judgments, against both insects and quadrupeds, were issued. One is on record, during the eighteenth century, fulminated against a cow; and there is still another, of later date, due to a judge of Falaise, who condemned and hanged a sow for killing a child.

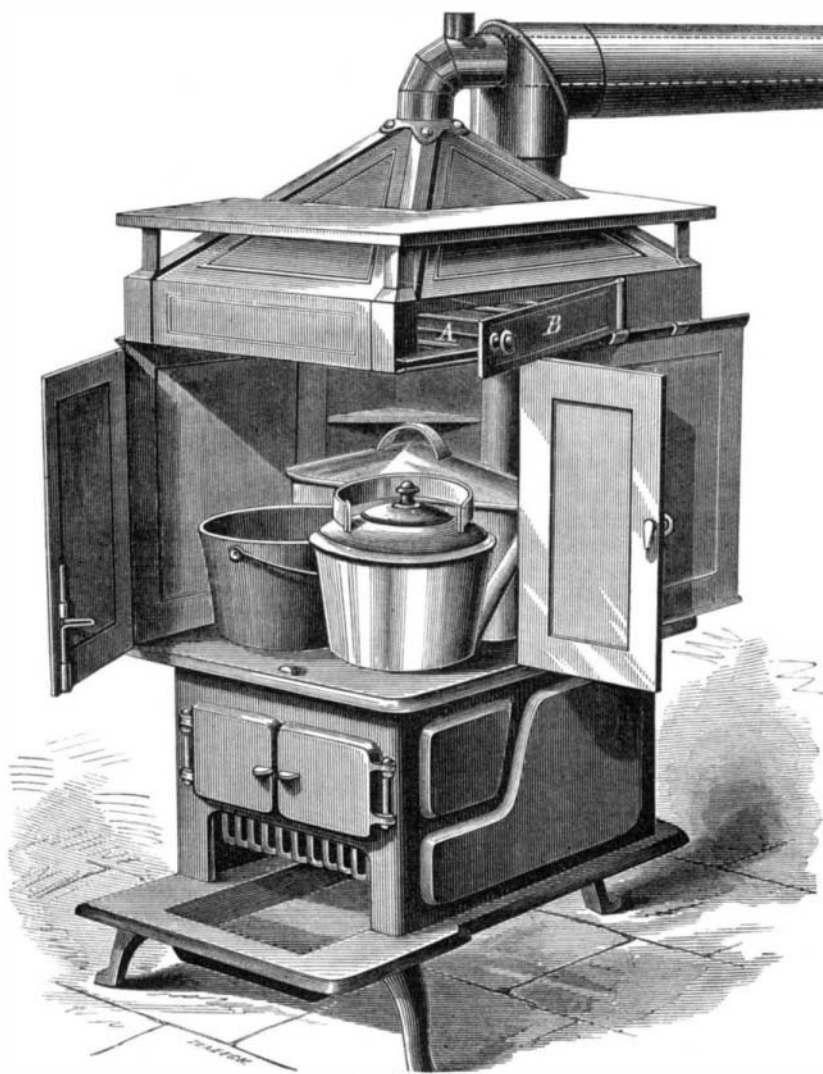
IMPROVED ORNAMENTAL MOLDING MACHINE.

The object of the invention illustrated herewith is to combine several valuable improvements suited to molding machines in the simplest form.

By the arrangement here shown, a staunch and unyielding frame is secured, that will admit of great speed of the running parts, and prevent any twist or cramp that would tend to increase the friction in the boxes from an imperfect or yielding floor upon which it may be placed. The boss or foot of the frame is cast separate from the trunk or post, and the two are fitted and bolted together, or they may be both cast in one piece. These together make the main frame of the machine, to the sides of which the yokes or box frames are attached. The boxes are connected together by a broad plate, A, which has V-shaped edges that fit into correspondingly shaped grooves in the perpendicular ribs cast upon the sides of the main frame, and the yokes are thus held to the frame by gibs, B. The yokes carrying the cutter shafts are moved up and down by means of the screws operated by the hand wheels and bevel gears. The screw and hand wheels rest in stands that are attached to the main frame near the top. By this movement the cutters are brought to any desired height in relation to the top of the table of the machine, thereby readily adapting the cutters to the work in hand. By this mode of construction the belts and all other working parts of the machine are on the outside of the frame, convenient to the hand of the operator when adjusting, oiling, or repairing. At

the top of the frame are two girts or arms firmly attached, one upon the front and one upon the back. Upon these rests the plate or top of the machine, which is secured to them by screws.

In the top, around each cutter head, are nicely fitted a series of rings that are removable when the operator desires to place the cutters so as to have them operate upon the under side of the piece to be cut or molded. The apparatus is thus rendered less liable to accident when applying the work.

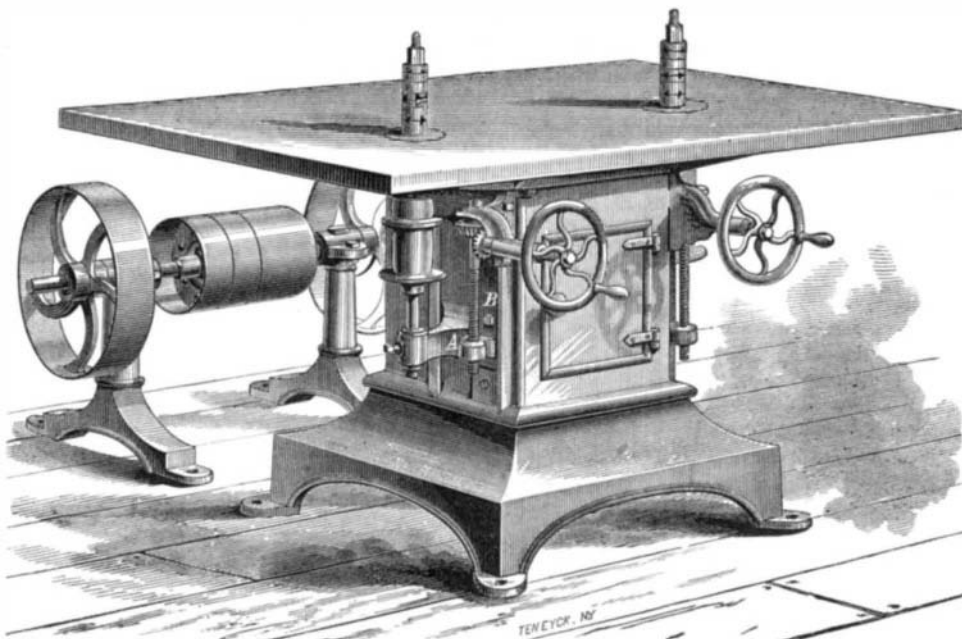
**SMEDLEY'S COOKING CHAMBER.**

It is claimed that the machine is capable of being run at a high rate of speed, with scarcely any perceptible jar or vibration, giving an easy, smooth, rapid cut, and that consequently a greatly increased amount of work can be done with less labor.

The machine and its improvements are covered by four patents, the latest dated April 9, 1872. For further particulars address the patentee and manufacturer, Jonathan P. Grosvenor, 12 Fletcher street, Lowell, Mass.

Carbonic Acid Gas as a Motive Power.

On this subject, Professor de Repentigny (of St. Therèse College, Canada) writes us that he has discovered a method by which the gas may be obtained in large quantities, and at a very moderate cost. There exists in Canada a peculiar for-

**GROSVENOR'S ORNAMENTAL MOLDING MACHINE**

mation known as gray iron sand, which contains a large portion of carbonate of lime. He says: "It is very common in this section, and may be found in immense quantities." When treated with dilute oil of vitriol, a complete solution of the sand ensues, accompanied by a copious liberation of carbonic acid ($\text{Fe CO}_3 + \text{H}_2 \text{SO}_4 = \text{Fe SO}_4 + \text{CO}_2 + \text{H}_2\text{O}$) The

residue remaining, consisting chiefly of a solution of copras, along with sulphate of manganese, lime, and other impurities, he treats with ferrocyanide of potassium for making Prussian blue.

Soundings in the Gulf of Mexico.

The U. S. Coast Survey steamer Blake, Lieutenant Commander C. D. Sigsbee commanding, has recently returned to Washington, after an excellent winter's work in running lines of soundings in the Gulf of Mexico. These deep sea examinations are the first ever made in that portion of the ocean, and consequently, in points of novelty, are on a par with those of Commander Belknap of the bed of the Pacific. Steel pianoforte wire, No. 22 gage and weighing but 14½ lbs. to the mile, was employed as a sounding line with uniform success, even in heavy seas.

The results show that the slope of the delta of the Mississippi is gradual, and that the deepest water in the vicinity is on a prolongation of the axis of South Pass. At the end of that line, 120 miles distant from South Pass lighthouse, the depth was 1,632 fathoms. The limiting lines of the system of lines, which was run by the Blake, extend (magnetic) east, half mile south of Pass à l'Outre, at the end of which was found 426 fathoms, and southwest of Southwest Pass, which ended in 608 fathoms. On the latter line was found the only abrupt irregularity of the bottom found off the delta. Up to April, the currents immediately off the passes set generally to the westward, after which they appeared to set gradually to the eastward. On May 4, the Blake commenced a line between Southwest Pass and the Rio Grande. Until half the distance between the ends of the line had been passed, the depths were not great; but afterward the water deepened, the greatest depth on the line being 900 fathoms. About 105 miles from the Rio Grande, at seventeen miles from the Southwest Pass lighthouse, the water had deepened to 32 fathoms, after which it shoaled gradually to as little as 18 fathoms, and 30 fathoms was not reached again until ninety-four and a half miles from the lighthouse.

On May 6 a sounding was got in 47 fathoms, the sounding rod bringing up hard bottom—enameled shells, etc.—(the only instance in which hard bottom was obtained during the season Tortugas was neared). At a sounding in 583 fathoms, in latitude 27° 07' north, longitude 94° 35' 15" west, the sounding rod brought up dark mud, or ooze, which emitted so offensive an odor as almost to drive the people from the fore-castle, where the sounding operations are carried on. The odor soon passed away.

On May 9 commenced the longest line run during the season, that from the Rio Grande to Tortugas, a distance of about 760 miles; 100 fathoms was not reached until about forty miles from the Rio Grande; the water then deepened rapidly. At about 100 miles from the Rio Grande the depth was 839 fathoms, whereas the previous and following soundings were respectively 1,386 fathoms and 1,648 fathoms. This was the only marked peculiarity of the bottom found on the line; soundings varied from 1,600 to 2,100 fathoms, the bottom being undulating, apparently. No northern extension of the bank of Yucatan was discovered. The greatest depths were 2,008 fathoms, 2,025 fathoms, 2,016 fathoms, and 2,119 fathoms. The average specific gravity of the water of the Gulf is about 1.0265.

The following is an example of the quickness with which the Blake does her work: On one occasion she got the following results in actually one hour from the time of stopping the engines to sound to the time of seaming ahead again: A sounding in 1,500 fathoms, with a specimen of the bottom, water specimens, and temperature, at the surface and at the following depths in fathoms: 100, 300, 600, 900, 1,200, 1,500. There were but seven men on the watch to accomplish this.

During the summer the Blake will work in the Gulf of Maine, when the new machine will be tried, as also a new sounding rod by Admiral Porter, and another by Mr. Wilson of the navy yard.

Metal Glass.

Another hard glass, to which the above name has been given, has been produced at Count Solm's works, near Buntzlau, Germany. The tests withstood appear to be about the same as

those to which the Bastie glass was subjected, with the exception, however, that the metal glass is indifferent to cold water when highly heated. The Bastie glass breaks under similar conditions. The treatment to which the glass is subjected in the new process is not made public; but it is probably, like the Bastie method, a system of annealing.