

## New Inventions.

## New Kind of Gas.

Prof. Gesner has discovered a new illuminating gas and exhibited it last week at No 93 Liberty street, this city, in the presence of gentlemen, somewhat distinguished for their scientific attainments. With the use of a retort recently invented by him, in which he placed a pound of bitumen or mineral pitch, obtained from the Island of Trinidad, he succeeded in producing in about twenty minutes, nearly six cubic feet of gas that burned with unusual brilliancy—sufficient to supply one burner four hours. The Doctor says that gas can be furnished in this manner possessing a much higher illuminating power than that now in use, and at a much lower rate. By introducing his patent retort into common gas-works, the expense of manufacture, he says, will be reduced two-thirds. Dr. Gesner has obtained a patent for his invention, as will be seen by reference to another column of this paper.

We will publish an article next week on this subject, explaining the nature and benefits of this invention at greater length.

## Machinery for Washing Dishes.

Mr. Joel Houghton, of Ogden, N. Y., has invented a machine for washing dishes, so as "to save the women-folks a deal of trouble." The dishes are placed in a rack and set upright when it is carried to a vessel containing water and a little soap, and by turning a crank the dishes on the rack are whirled in great style to remove all the dirt. The unclean water is then drawn off and re-placed by clean boiling water, and the crank again turned a few seconds. The dishes are then clean, and can remain in the rack, which obviates the repeated handling of the dishes. About two years ago, one of our subscribers invented a very ingenious machine for washing the floor. All that was necessary to be done to it, was to turn the handle, move it every square yard, and supply it with clean water. By turning the handle it scrubbed the floor, wiped it up, and wrung out the cloth. It had a spring, a drum with a cord on it, and a few levers peculiarly combined and worked by cams, all operated by a handle revolving a wheel.

## New Locomotive.

Messrs. Norris, of Schenectady, N. Y., have lately placed upon the Syracuse and Utica railroad a new locomotive engine designed for high speed. It has two driving wheels, of 7 feet diameter, the shaft of which is back of the fire box; a pair of carrier wheels, forward of it of 4 feet diameter, and four truck wheels, each 3½ feet diameter. The wheels are all of wrought iron, and the cylinders are 16 by 22. The plan of the engine is new, the top of the boiler is lower than these commonly used in the 4½ or 5 ft. connected wheels. The frame work of the engine, and the wheels, are fine specimens of mechanical skill; it is designed after the English kind. Its speed so far as it has been tried, is very great.

## New Artificial Bearing.

Mr. Christian Schiele, a very ingenious German of the free city of Frankfort, but now of Manchester, England, has discovered the true form to construct bearings so that every part of the rubbing surfaces shall always wear alike, and equal. It can also be applied to valves, cocks, pivots of upright shafts, millstones, &c. The discovery is a peculiar curve, and it has already been patented in England, where it has received universal commendation. A patent for the United States, has been applied for. The Agent is Mr. P. R. Mehlgarten, of Lowell, Mass.; a very scientific and able mechanic.

## Singular Association.

An association has been formed, at the City of London Mechanics' Institution, to promote the practice of decomposing the dead by the agency of fire. The members propose to burn with becoming solemnity, such of their dead as shall have left their remains at the disposal of the association. The entrance fee is one shilling, and the council meet to enrol members, &c, on the second and last Wednesday in each month.

## Rosin for Fuel.

I have for some thought of asking you to call the attention of your readers to the burning of rosin to make steam: it can be burned with wood, or without wood by having a suitable hearth to burn it on. The price, I believe, ranges in your market from 6s. to 8s. per barrel, and is cheap fuel at these prices.

I am not aware of its being used for fuel by any body, except glass manufacturers, and I see no reason why it would not answer an excellent purpose for steamboats and locomotives, and three barrels will make as much steam as a cord of wood. Yours, &c., G.W.H.

## Square Stone.

The Louisiana Statesman remarks that the Second Municipality, New Orleans, is now receiving from Belgium, upon contract, a supply of paving stone, of the finest quality and texture. The blocks are cut perfectly square on their edges, and the upper faces are hammered, and being nearly of size, can be laid diagonally on the street. In the olden time the Dutch fathers of this city imported the bricks and tiles for their houses from Holland, but who would have believed that in our day the stones for the streets of New Orleans would be imported from Flanders, but so it is.

## Fine Casting of Brass.

The principal object in fine casting is to have a mould that shall receive a beautiful impression, and at the same time sufficiently adhesive to resist the force of the fluid metal, that shall neither wash nor be injured by the heat. The sand that covers or surrounds the model should be fine close sand; after removing the mould, the model must be faced with burnt rotten stone, and covered with loam, each dusted through a bag, and the mould laid down upon it; this facing may be repeated, the mould must be dried and smoked with a torch in lieu of water; the sand is moistened with a solution of the lees of wine, or with cream of tartar. Care must be taken to loosen the bands quickly, viz., loosen the first mould while the second is pouring, &c. On removing the work, every particle of the facing should be carefully scraped from the mould, and thrown away.—Part the moulds with coal and black rosin.

FOR COMMON JEWELLERY.—Melt together three parts of copper, one of Bristol old brass, and four ounces of tin to every pound of copper. If this alloy is for fine polishing, the tin may be omitted, and a mixture of lead and antimony substituted. Paler polishing metal is made by reducing the copper to two or to one part.

GILDING METAL.—Melt together 4 parts of copper, one of Bristol old brass, and fourteen ounces of tin, to every pound of copper.

YELLOW DIPPING METAL.—Melt together two parts Cheadle brass, one part copper, with a little Bristol old brass, and a quarter of an ounce of tin to every pound of copper. This alloy is almost of the colour, &c., of gold coin. Cheadle brass is the darkest, and gives the metal a greenish hue. Old Bristol brass is pale and yellow.

ANOTHER.—Good dipping metal may be made of one pound of copper to five ounces of spelter; the copper should be tough cake and not tile. When antimony is used instead of tin it should be in smaller quantity, or the metal will be brittle.

IMITATION OF SILVER.—When copper is melted with tin, about three-quarters of an ounce of tin to a pound of copper will make a pale bell-metal, and they will roll and ring very near to sterling silver.

TUTANIA OR BRITANNIA METAL.—Melt together four ounces of plate brass and four ounces of tin. When in fusion add four ounces of bismuth and four ounces regulus of antimony. This is the hardening, which is added at discretion to melted tin, until it has the requisite colour and hardness.

ANOTHER.—Melt together two pounds of plate brass two pounds of mixture of copper and arsenic, either by cementation or melting, two pounds of tin, two pounds of bismuth, and two pounds of regulus of antimony. This is to be added at discretion to melted tin.

ANOTHER.—Melt together one pound of copper, one pound of tin, and two pounds of regulus of antimony, with or without a little bismuth.

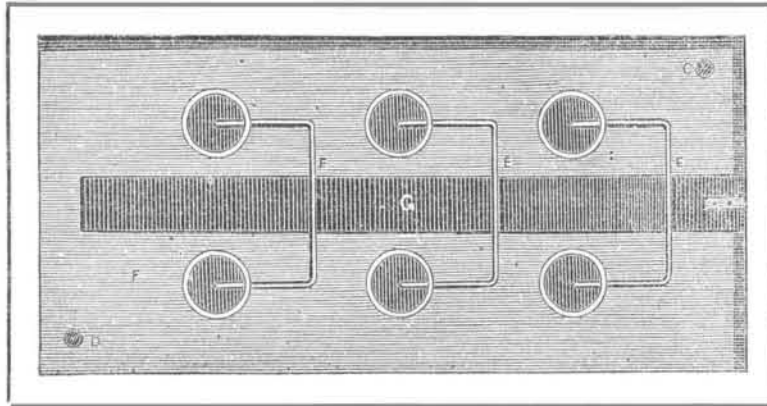
## Patent Met 1 Life Boats.

Over 700 of Francis' patent galvanized iron and copper life boats have been put into service on the principal waters of the United States. They are in use on the great steamboat lines and on the lakes. The south shore of Long Island and the coast of New Jersey, have been furnished with them by government order.

Another mammoth steamboat has been built at St. Louis. The St. Louis Intelligencer says she will draw, when light, only 3½ feet and will carry eighteen hundred tons. She is 1315 feet deck, 38½ feet beam, 37 feet floor, and 8½ hold. Her cylinders are 31 inches diameter, and ten feet stroke. She has five boilers 32 feet long and 44 inches diameter, with a "doctor," and an engine for raising the cargo out of the hold.

The internal commerce of the West is estimated at \$526,000,000, annually, to carry on which 80,000, boatmen are employed. Of late the Christian Churches of the west have paid considerable attention to the moral and religious condition of this class, and the Boatmen's Union are accomplishing much good.

## IMPROVEMENTS IN APPARATUS FOR MAKING MOULD CANDLES.—Fig. 1.

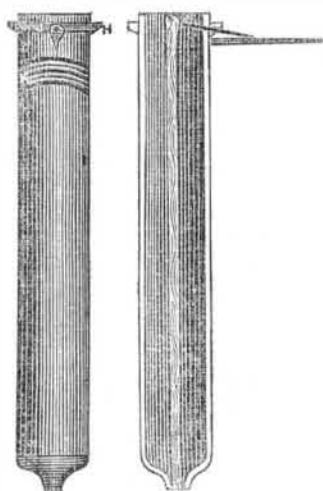


The inventor of this improvement is Mr. Andrew L. Brown, of New Haven, Conn. The patent was issued in the month of last October. The superiority of this apparatus has been acknowledged by some of the oldest candle manufacturers in the country, who have thrown their old machines aside, and now employ this kind.

Fig. 1 is a top view of the upper surface of the frame and moulds, when the tallow table is removed, showing the slide and wires which support the wicks, and how those wires pass through the sides of the moulds.

Fig. 2 is a side view of one of the moulds, showing the screw by which it is to be adjusted and secured in the frame; the shoulder on which the tallow table rests, and the hole through which the wire passes. Fig. 3 is a sectional view of one of the moulds, showing the wick when in the mould, as supported by the wire.

FIG. 2. FIG. 3.



The improvement in this apparatus consists in constructing the mould with a screw on the upper part, about two inches from the end, for adjusting and securing it in the frame, and a shoulder near the upper end, to support the tallow table, and a hole to admit the wire which supports the wick; also in attaching all the wires which support the wicks to a slide worked by a jointed wire handle, and governed by a guard, so that all the wicks may be evened by one motion of the hand, and then be all centred by another motion; also in using a smooth tallow table, level with the tops of the moulds, to allow the tallow to be easily scraped off and the whole kept clean. The moulds are made of any suitable material like Fig. 8, and they are adjusted to the frame by the screw, K, and it has a shoulder at, H, to support the tallow table, and it has a hole, J, at one side, through which the wire, E, fig. 1, passes to support the wicks. The frame is made of

wood, through the bottom of which the moulds are adjusted about two inches deep. The moulds are adjusted in the box, as seen in fig. 1, to the proper height, to leave room for the slide, so as to move freely and adjust the wicks. The slide, G, is made of tinned iron, or any other suitable substance, and its length is about an inch less than the inside of the box, F, to allow it to be moved lengthwise, to even and centre the wicks, and to draw back the wires out of the candles after they have cooled, to let the candles be taken out. B is a jointed wire attached to the slide; E E are the wires of the slide which pass through the holes, J, of the moulds. A is a spring guard, the bent end of which passes through the same hole as the wire, B, to regulate the motion of the slide when evening the wicks, the moulds are adjusted, as seen in fig. 1, to the proper height perfectly level, by the screw, K, and the slide G, is then placed in its proper position, with the wires, E E, inserted in the holes, J, fig. 2, and the wire, B, is then through the hole, as seen in fig. 1. The wicks are then inserted in the moulds in the usual way, with the loops passing over the wires.

To even the wicks place the thumb on the spring guard, A, pressing it snug to the end of the box, and by means of the jointed wire, B, the slide is drawn back till the ends of it touch the spring guard, A, when all the wicks will be evened on the wires. By pushing in the slide, G, by the wire, B, the wicks will all be centred in the moulds, and then they are ready to receive the tallow. The tallow is poured in the usual way, and when it is cold, the slide is withdrawn and the tallow on the surface scraped off, when an awl is inserted into the loop and the candle withdrawn.

Whenever it is necessary to take out the tallow table, it may be done by inserting two small rods upwards through the two holes, C D, fig. 1. The advantages of this apparatus, are the excellent plans of evening and centring of the wicks by the slide; and the auxiliary tallow table resting on the shoulder of the moulds, to allow the tallow to be cleanly and easily scraped off, thus making more beautiful candles, while the manner of making them is rendered much easier and certainly more correct.

Letters addressed (p. p.) to Messrs. Farr & Briggs, Candle Mould Makers, No. 30 Rector street, this city, will meet with prompt attention.

## Failure of an Oil Gas Company.

The city of Dayton, Ohio, established a Co. to illumine it with Gas made from grease; but it has failed, and the Company have abandoned the project—suffering a loss of about \$12,000. They want now to increase their capital and turn it into a coal Gas Company.