New Inventions.

Report of the Scientific Committee to Investigate Paine's Light.

We give below the Report of the Committee employed by the Gas Companies of this City to examine into the merits of Mr. Paine's alledged discovery, as mentioned by us last week :—

WORCESTER, Mass., Tuesday, June 25.

We, the undersigned, met at the Worcester Hotel this day by appointment—Mr. Green, the agent of Mr. Pedrick, having given to Mr. Roome the assurance that Mr. Paine would this day be present and prove to his satisfaction and the satisfaction of such scientific gentleman as he (Mr. Roome) might invite, that his discovery of a new method of decomposing water and generating illuminating gas was genuine and valuable.

Having been introduced to Mr. Pedrick, the partner of Mr. Paine, by Mr. Green, the latter stated that he was sorry Mr. Paine could not be present, having been called from the city by a previous engagement. Mr. Pedrick invited us to visit the machinery of Mr. Paine, at his room in the Worcester Exchange building. We accordingly proceeded to do so and were there introduced to a younger brother of Mr. Paine.

In the centre of the room we saw a disjointed piece of machinery, said by Mr. Pedrick to be the machine with which Mr. Paine decomposed water. Mr. Pedrick and Mr. Paine, Jr. explained as far, they said, as they could do so, the action of this machine, but from its disjointed and imperfect state we could form no definite idea of its mode of operation.

Thence we accompained Messrs. Pedrick and Green to the dwelling of Mr. Paine, the brother of Mr. Paine having preceded us. On arriving at the house we were ushered into a front parlor. A two light gas bracket stood on the mantel. Mr. Paine, Jr. lighted one of the burners, which gave a very bright light. On smelling the gas, as it passed through these burners when not lighted, it had the odor of oil resin gas. We were then shown into a basement room in the rear of the house. In this room, supported on four bricks, was a box about two feet square and ten inches high, said by Mr. Paine, Jr. to contain the magnets —two strips of copper, said to be the electrodes, extended from the box to a circular tin vessel which Mr. Paine, Jr., called the decomposing vessel. From this vessel a pipe passed through the wall, and we were told connected with a gas holder placed on the outside of the building.—From this pipe was a branch leading to a small tin cylinder of the capacity of a quart measure.

In this cylinder Mr. Paine, Jr. said the gas used in the house was carbonized. A small plugged opening attached to this cylinder leaked. Dr. Torrey tasted the liquid which dropped, and ascertained it to be water. Another branch pipe leading from the one connecting the gas holder with the decomposing vessel, turned off in another direction and bending downward, passed through the cork of a wide-necked bottle and dipped into spirits of turpentine—this bottle was of glass. Another tube was inserted in the cork, with a burner attached to its upper end. Mr. Paine having lighted the gas, it burned with a bright light, proving it to be carburetted hydrogen.

Mr. Paine and Mr. Pedrick both assured us the gas was hydrogen, produced from water by the machine before us, and that it was carbonized by being passed through the turpentine alone.

Mr. Roome then asked Mr. Paine, Jr. to disconnect the pipe from the bottle of turpentine and prove the gas to be free hydrogen by burning it. This Mr. Paine refused to do, saying that his brother had forbiden his disconnecting any pipe.

Mr. Blake then asked Mr. Pedrick if he would permit the pipe that dipped into the spirits of turpentine, to be drawn through the cork far enough to raise it above the surface of the turpentine.

After some conversation between Mr. Pedrick and young Mr. Paine, during which the *latter left the room and returned*, Mr. Pedrick consented, and the pipe was raised as requested; on applying a match, the gas burned with a very feeble light, showing the presence of free hydrogen. Mr. Roome then asked that the pipe be again immersed in the turpentine and the burner lighted as before. Mr. Paine, Jr. objected, but as we all insisted upon the experiment being made, it was done, and the flame from the gas after passing through turpentine, was proved beyond all doubt in our minds to be hydrogen only, and not carburetted hydrogen as at first, and to be totally unfit for illumination. Mr. Paine, Jr. on witnessing the result of the last experiment, appeared confused and declared that the light burned as well as before, but Drs. Torrey and Chilton told him that the light did not burn as well as before, but was much paler, to which we all assented. Mr. Paine then shut off the gas and positively refused to permit further examination.

(Signed)—JOHN TORREY, M. D. Prof. Chemistry in College of Physicians and Surgeons New York.

JAMES R. CHILTON, M. D. Practical Chemist, New York.

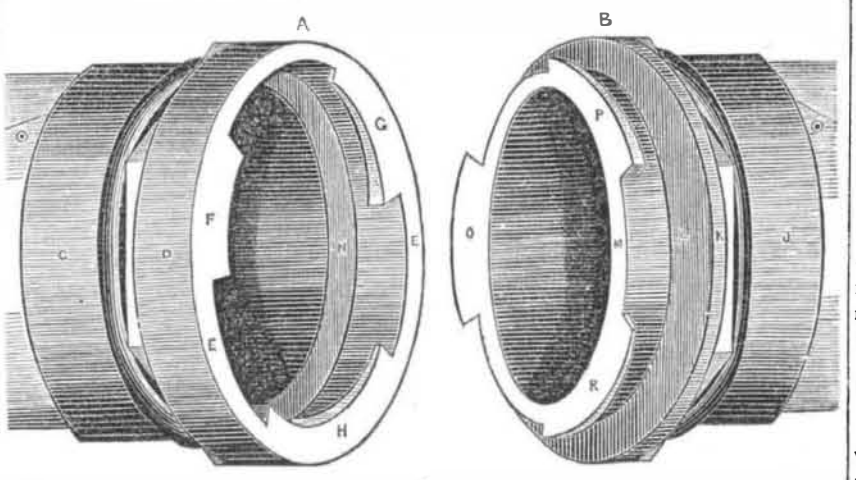
CHARLES ROOME, Engineer Manhattan Gas Works, New York.

GEORGE DARRACOTT, Agent, Boston Gas Co.

J. H. BLAKE, Engineer and Chemist, Boston.

[Next week we shall review this subject and show that Mr. Paine has used some prevarication in his communications to the Scientific American, which were published long before this hulla-baloo on the subject; and we shall show that the scientific objections presented in our columns to his alledged discovery, are corroborated by his own testimonials.—[ED.

BROWN'S COUPLING FOR HOSE OR PIPE.



This engraving represents a coupling for pipes, invented by Mr. A. Heyer Brown, of the city of Albany, N. Y., and for which he has recently received letters patent of the United States. This figure is a perspective view of the coupling when separated, and each part turned toward the separator.

The coupling, A, consists of a hollow metal ferule, C, attached to the hose by the method now in use. This ferule is enlarged at its other end, to form a cylindrical shaped box, D, the edge, E, of which is of sufficient thickness to form a firm bearing against the flat corresponding part of the coupling, B. On the inside of this box, and next to the edge, E, are placed three equal flanges, F G H, forming the outer portions of a sector formed by the inner circle of the box, D, each flange being a little less than one sixth of the circumference of the said circle, and projecting inwards a distance about equal to the thickness of the box, towards the centre of the circle. The outer edges of these flanges correspond with the edge of the box, their inner sides being slightly oblique, forming small portions of threads of a screw.

The coupling, B, is a hollow metal ferule, J, attached to the hose, and is of equal bore to the ferule, C. Its extremity is enlarged to form the flange, K, equal in diameter to the coupling, A. The edge of the face of this flange at L, towards the coupling, A, is turned at right angles to its axis, so as to bear truly against its edge, E, when the couplings are united. Projecting from the face of this flange is a ring of such a diameter as to pass between the inner edges of the flanges, F G H, of the coupling, A. The bore of this ring is at least equal to that of the ferules, C and J, is just as deep as the box, D, and its end, M, is turned true with the surface, L, so that whenever the ring is inserted into the box the surface, L, will bear truly against the parts, E M and N, thus making a water and steam tight joint. When used for water pipes or hose, the usual packings are put upon L and M, against which the opposing metal surface are tightly pressed. O P R, are three equal flanges placed on the periphery of the ring along its outer edge. They are of such width and form as to pass freely through the intervals between the flanges, F G and H, when the two parts of the coupling are brought together. The inner edges of these flanges are oblique, forming portions of a screw, the reverse of the opposite coupling—the one to couple into and with the other operation. If the flanges, O P R, be passed between the intervals, F G H, and turned to the right hand. B will move freely round until the surfaces of the flanges (being oblique at the same angle) will rest on each other. When this is done, a further slight turn to the right will, by the action of the oblique surfaces on each other, (like the threads of a screw,) press A and B more firmly together, setting the surfaces of L, G, M, and N, against each other, and making a water or steam-tight joint.

The hexagonal rims behind D and K are designed for the application of wrenches, when necessary to connect the couplings firmly, or to disconnect the same.

A specimen of the above described hose-coupling has been left for a few days at this office for examination. Applications for rights or for further information relative to the above invention, will meet with immediate attention, if addressed, post-paid, to the inventor, at Albany, N. Y.

A New Wonder.

The True Democrat says that a Mr. Thayer has invented a process of tanning a sheepskin in three hours, if necessary; ordinarily in twelve! and leaving it to all appearance, as strong and well finished as the softest leather! Those who have tried them, say that skins thus tanned will last as long as the best.

[The above we select, hoping that some more light may dawn upon us from afar on the subject.

A London tailor has produced a novel summer coat, weighing only six ounces, and which can be rolled up to fit a small telescope case, and carried in the pocket.

Improvement in Making Bricks.

We have been informed that bricks are now being made in some places of such a form as to dove-tail into one another. We have not seen any of them, but we can conceive of a brick with a tennon on one end and a mortice on the other.

Philips' Fire Annihilator.

A fair trial of this patented English invention, about which so much has been said by some of our papers, recently came off near London, by a house—a real house—on fire. The Annihilator was annihilated, although managed by the patentee's own workmen.

Glass Water Pipes.

We are glad to know that glass tubes are now coming into a very general use for conveying water. Mr. Wm. T. De Golyer, of Schenectady, N. Y., has a patent for making tubes of such a form as to couple different lengths together, and form glass conductors for water, of any length. About 1000 rods of glass pipes of different diameters have already been laid down, and Mr. John Matthews, of First Avenue, this city, has tested the strength of a pipe 1¼ inch in diameter, made at the Albany Glass Works, (Mr. Mayer, 139 Front st., N. Y., is Agent,) and found it capable of standing a pressure of 200 lbs. to the square inch, or a column of water 450 feet high. Mr. Wilson, of Hastings, a few miles out of the city, has connected these glass tubes with a hydraulic ram to stand a pressure of 80 feet high. After the joints were cemented only four days the water was let on, and the joints were found perfectly tight. It is well known that glass is anti-corrosive, and resists all action of the elements of air and every kind of water: it is therefore indestructible, and when kept from the action of frost, it may be considered as enduring as the everlasting hills. By them water is conveyed in all its purity from the fountain, as the interior is too smooth to allow any weeds or vegetable formations to adhere to it. We do not know the price for laying down different sizes of pipe, (although they are very cheap), but Mr. De Golyer or Mr. Mayer will no doubt promptly furnish all necessary information on the subject, if letters are addressed to them, post-paid.

Ink that Resists the Action of Acids and Alkalies.

Shell Lac, 2 oz.; borax 1 oz., distilled or rain water 18 oz.: boil the whole in a closely covered tin vessel, stirring it occasionally with a glass rod or a small stick, until the mixture has become homogeneous; filter, when cold, through a single sheet of blotting paper; mix the filtered solution, which will be about nineteen fluid ounces, with one ounce of mucilage of gum arabic, prepared by dissolving 1 oz. of water, and add pulverized indigo and lamp-black, ad libitum. Boil the whole again in a covered vessel, and stir the fluid well to effect the complete solution and admixture of the gum arabic; stir it occasionally while it is cooling; and after it has remained undisturbed for two or three hours, that the excess of indigo and lamp-black may subside, bottle it for use. The above ink, for documentary purposes, is invaluable, being, under all ordinary circumstances, indestructible: it is also particularly well adapted for the use of the laboratory. Five drops of kreosote added to a pint of ordinary ink will effectually prevent its becoming mouldy.

Ink for Lithographers.

White soap 25 parts, white wax 25 parts, mutton suet 6 parts, lamp black 6 parts, shell lac 10 parts, mastic 10 parts; mix with heat and proceed as for lithographic ink.

Transfer Paper.

A useful transfer paper may be made for copying monumental inscriptions, brasses, &c., by rubbing a mixture of black-lead and soap over silver paper.

Disinfecting Compound.

A scientific writer in the "Journal de Pharmacie," recommends pulverized plaster of paris, well dried and mixed with rather more than one-fifth its weight of powdered charcoal, as a cheap and most effective mixture for removing the noxious effects of decomposing organic matter. This compound combines with the ammoniacal products which would otherwise escape, and forms a most valuable manure.

[This forms, when dried, a valuable poudrette, for corn especially. For dry situations we believe the chloride of lime to be preferable to any other salt applied to land, as it is a great absorbent of moisture.

New Old Planing Machine.

Next week we will publish cuts of a planing machine with pressure rollers and revolving cylinder, and a tongueing and grooving machine with S cutters, and pressure rollers, which was in operation one mile out of Baltimore, in 1822.