CHLORINE APPARATUS

H. Deacon's Patent

118211

PATENTED AUG 22 1871

FIG. 1.

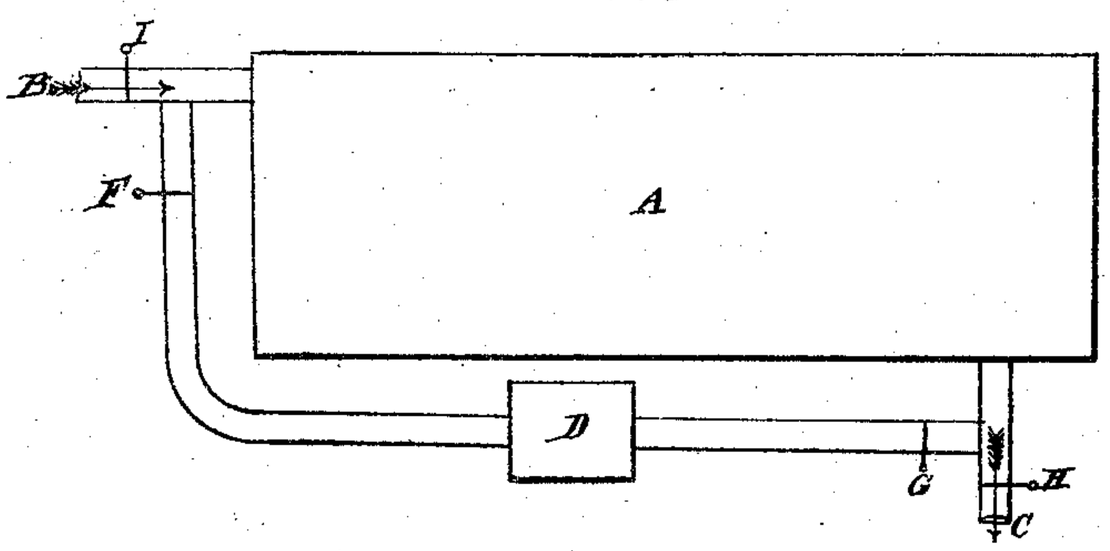


FIG. 2.

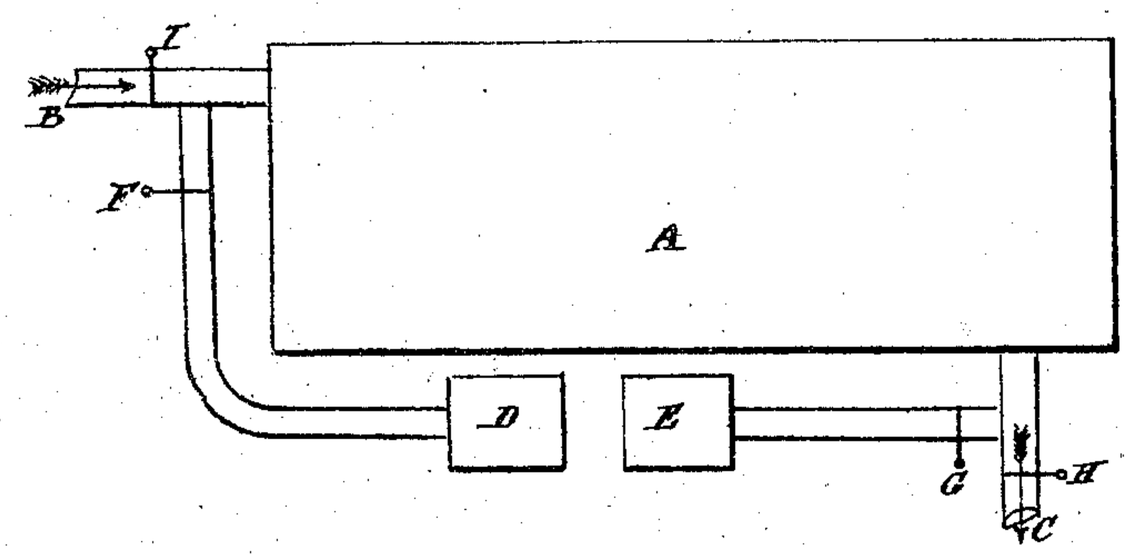
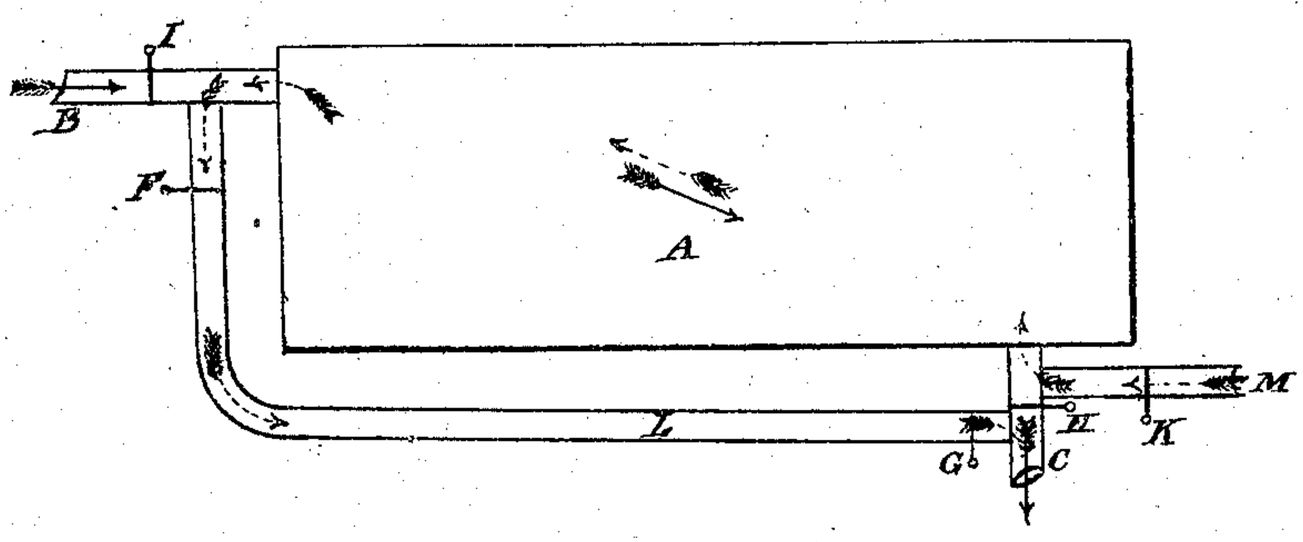


FIG. 3.



Witnesses. C. B. Nottingham
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Inventor:
Henry Deacon
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UNITED STATES PATENT OFFICE.

HENRY DEACON, OF WIDNES, ENGLAND.

IMPROVEMENT IN APPARATUS FOR PRODUCING CHLORINE.

Specification forming part of Letters Patent No. 118,211, dated August 22, 1871.

To all whom it may concern:

Be it known that I, HENRY DEACON, of Appleton House, Widnes, in the county of Lancaster, England, alkali manufacturer, have invented Improvements in Apparatus to be Employed for the Continuous Production of Chlorine, of which the following is a specification:

This invention relates, firstly, to a mode of removing the dust or deposit of foreign matter which takes place in the interior of the apparatus, wherein chlorine is generated or formed by the employment of porous materials impregnated either with sulphate of copper or with other suitable metallic salts, in conjunction with hydrochloric-acid gas and air; and consists in removing the said dust by means of a powerful blast of air, which can be passed through the apparatus in either direction at pleasure, as hereinafter fully shown and described. This method of removing the dust or deposit is applicable to all chlorine-producing or generating apparatus wherein the gases before mentioned are caused to traverse either vertically or horizontally through a number or series of insterstitial spaces formed by piling or arranging together solid pieces or fragments of porous materials, or hollow pipes, or tubes of porous material. As the particular form or construction of the apparatus for producing the powerful blast of air constitutes no part of my invention, and as the system of removing the dust by blasts of air is applicable to various forms of chlorine-producing or generating apparatus of the general character hereinbefore described, I have not considered it requisite to illustrate any special forms of the said apparatus in my drawing, but have merely shown that which is essential to this part of my invention, viz., the arrangement of the air-pipes and valves or dampers in reference to the chlorine-generating apparatus and the air-forcing or exhausting apparatus.

Figures 1, 2, and 3 represent diagram plans of three examples of the mode of carrying out the second head of this invention.

In Fig. 1, A is the apparatus wherein the chlorine is generated or formed. B is the inlet-pipe, and C the outlet-pipe. At D there is situated any suitable apparatus for producing a powerful blast or draught of air, such, for example, as an air-pump, duplex fans, or other mechanical equivalent. From the apparatus D the delivery-pipe is connected both to the inlet and outlet-pipes B and C; but valves or other means of making and breaking communications in each of the pipes are placed at F, G, H, and I. By means of these valves and connections the current of air may be reversed at pleasure, and the dust be forcibly blown or drawn through the apparatus. Fig. 2 shows a second fan or apparatus, E, for producing a blast or draught of air in combination with the fan D, the fan D being connected with the inlet-pipe and the fan E with the outlet-pipe. The fan D may be propelling air through A by compression, and the fan E drawing it through by making a partial vacuum, both going on at the same time; and this action may be reversed, D being made to exhaust and E to force the air. The use of the valves H and I is to cut off access to the atmosphere as required, to cause the current of air to take the necessary direction. Instead of these separate fans, or air-forcing or exhausting apparatus, D and E, the ordinary method of propulsion may be reversed, as indicated by an arrangement shown in Fig. 3, where the pipe C is constantly connected with the source of draught, or pipe B by the connecting-pipe L. At M, in the pipe C, is an opening communicating with the air by a valve, K. When working regularly the connecting-pipe L will be shut off by the closing of the valves F and G. The valve K will also be closed, and the valves H and I open, the air will then follow the direction of the arrows. When the current is to be reversed the valves H and I will be closed and valves F G K opened. The air will then enter at M and pass through C into the apparatus, leaving it by the pipe B. From the pipe B the air passes through the open valve F, along the pipe L, and through the open valve G, and finally escapes by the outlet at C. The blast of air may be temporarily increased by the application of increased power of steam, &c., to the motor. Where auxiliary air-forcing or exhausting machines are used, as at D, or D and E, the same machine may, by suitable pipes and valves, be obviously arranged to blow through two or more chlorine-producing apparatus, and for thorough cleansing a very powerful blast is

advisable; by this means the necessary blast will be obtained at the least cost.

I claim—

The cleansing of apparatus wherein chlorine is generated in the manner hereinbefore described, by means of powerful blasts of air, reversible at pleasure, substantially as hereinbefore described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY DEACON.

Witnesses:

ALEXANDER WALKER,

JOHN HOWARD.