No. 827,387. PATENTED JULY 31, 1906.

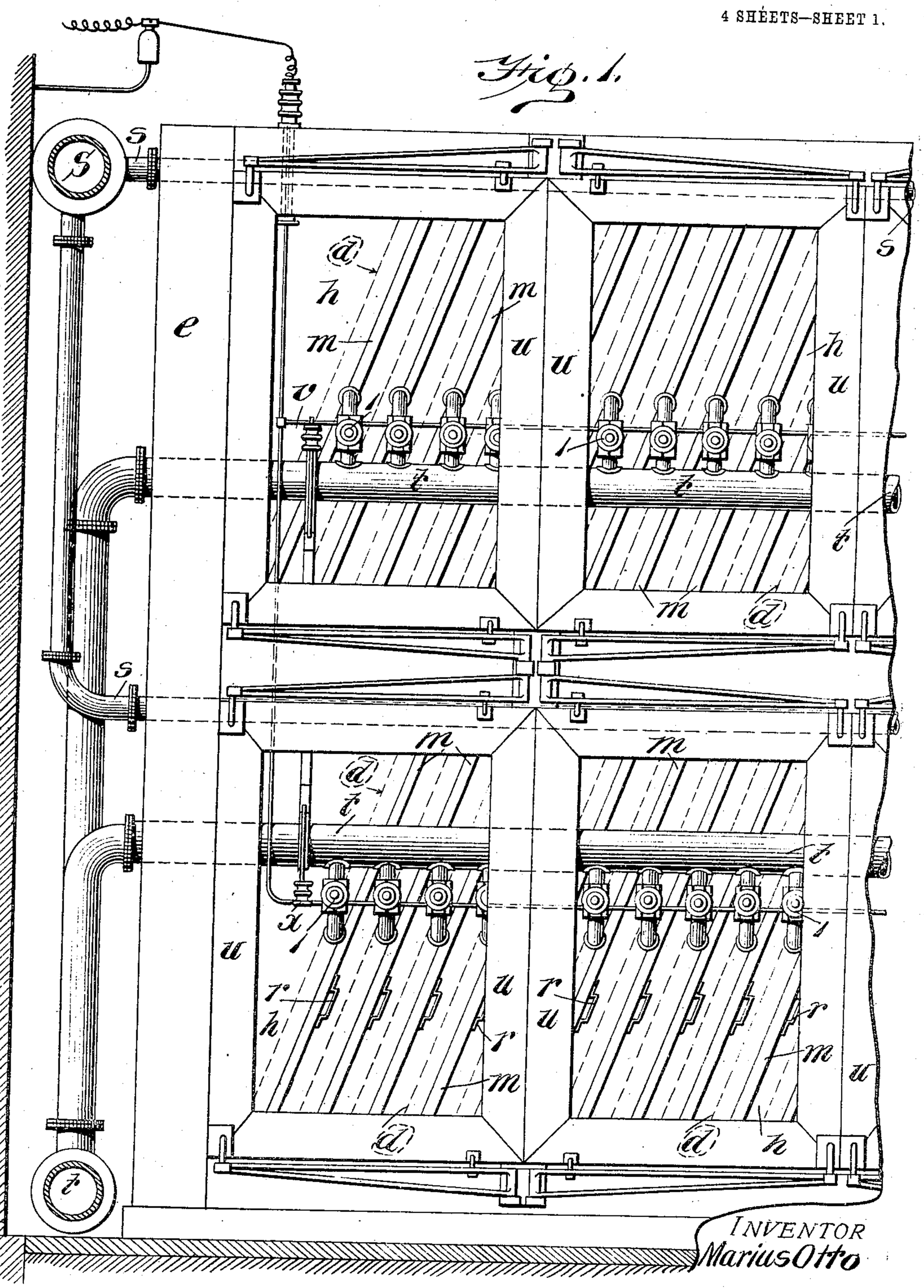
M. OTTO.

APPARATUS FOR MOUNTING AND COOLING STATICAL OZONIZERS.

APPLICATION FILED JULY 1, 1904.

4 SHEETS—SHEET 1.

Fig. 1.



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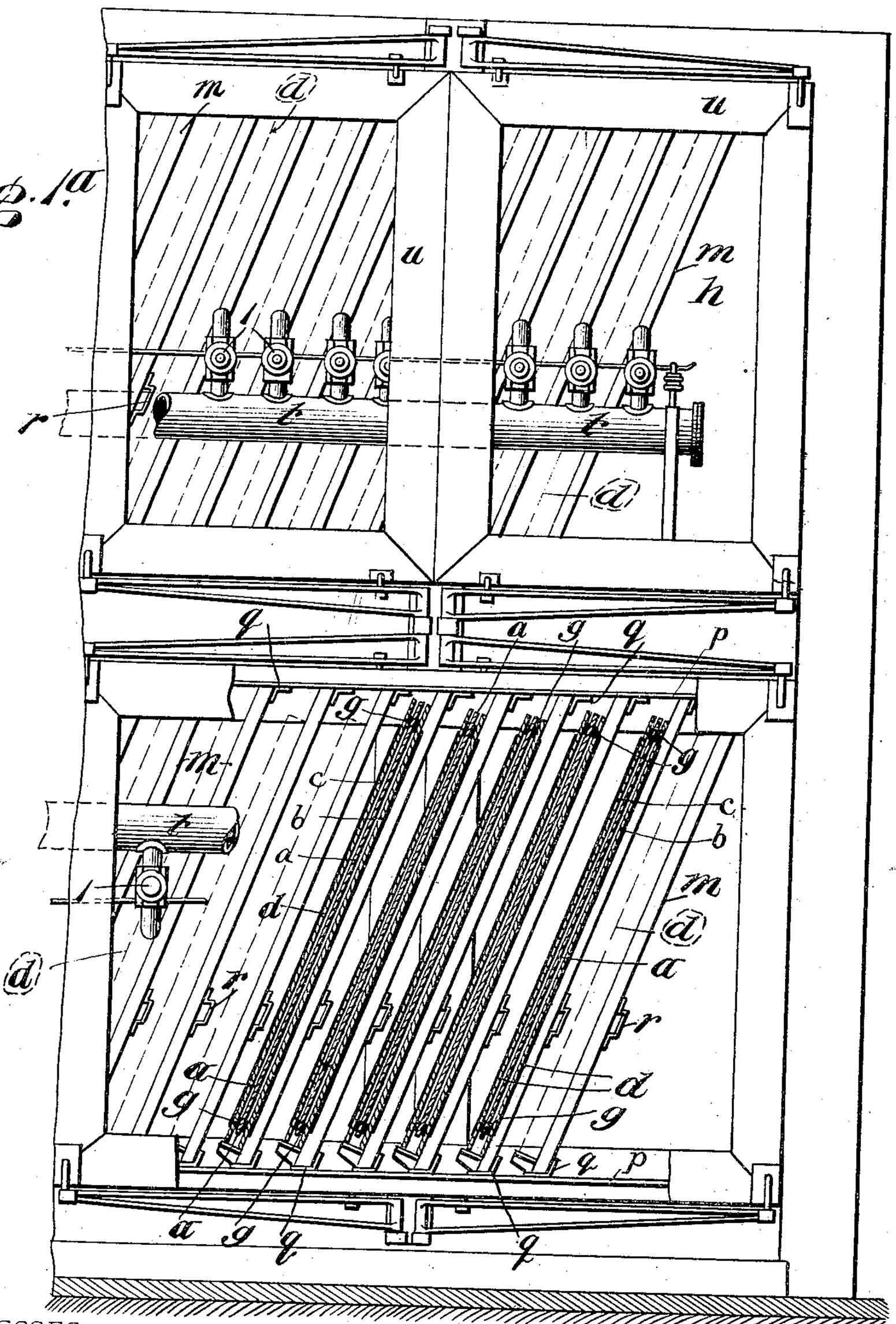
4 SHEETS—SHEET 2.

Fig. 1a



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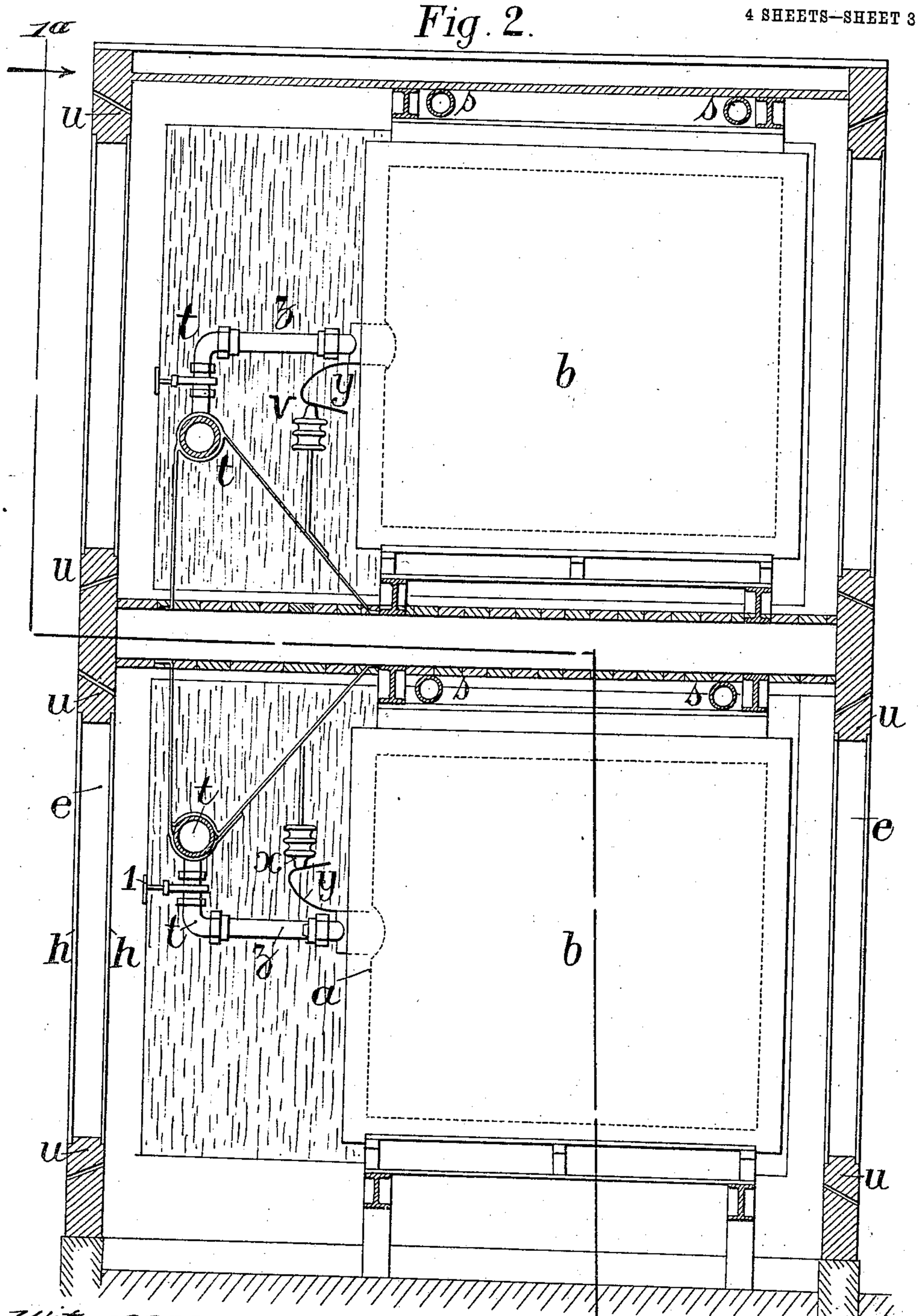
4 SHEETS—SHEET 3.

Fig. 2.



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4 SHEETS—SHEET 4.

Fig. 3.

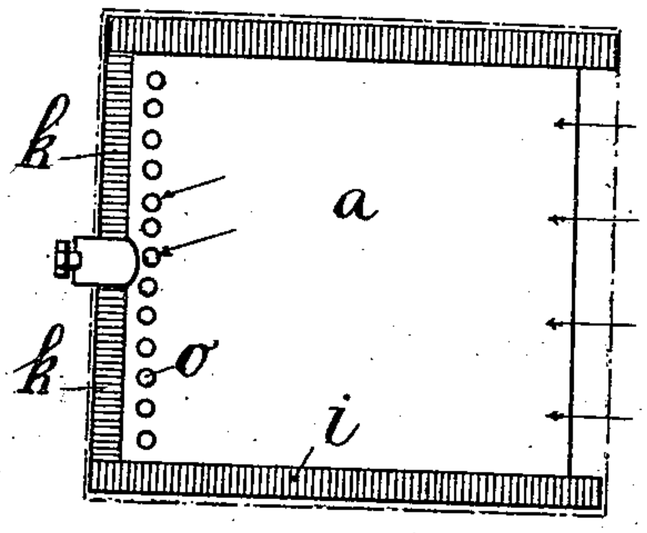


Fig. 4.

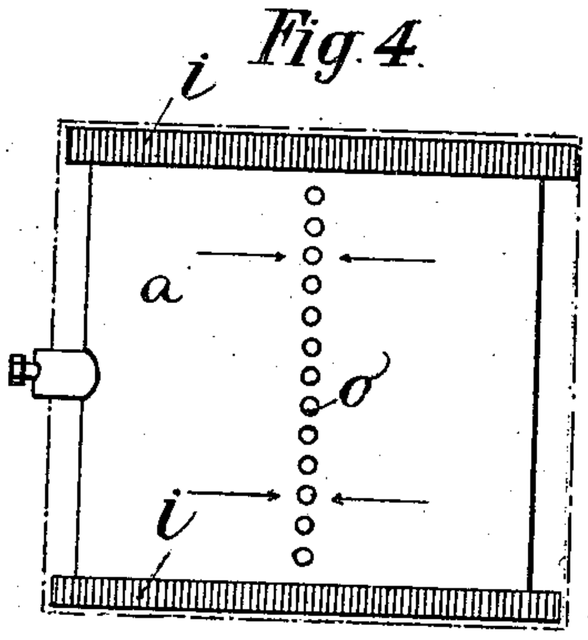
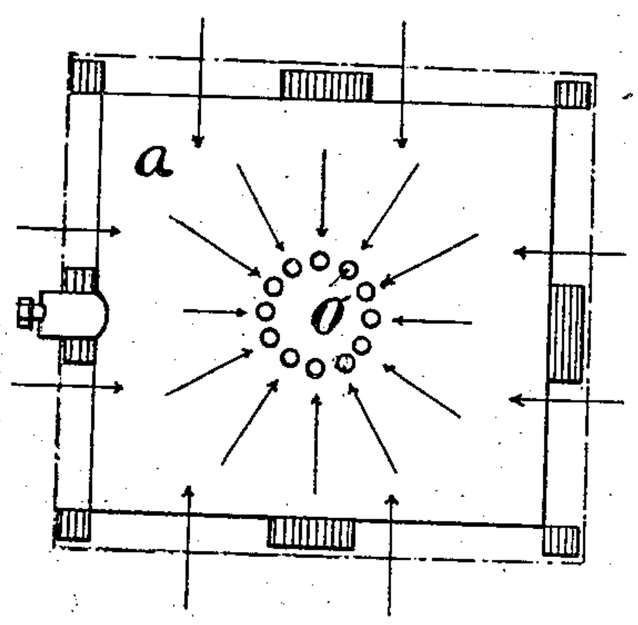


Fig. 5.



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UNITED STATES PATENT OFFICE.

MARIUS OTTO, OF PARIS, FRANCE, ASSIGNOR TO AMERICAN OZONE COMPANY, OF NIAGARA FALLS, NEW YORK, A CORPORATION OF NEW YORK.

APPARATUS FOR MOUNTING AND COOLING STATICAL OZONIZERS.

No. 827,387. Specification of Letters Patent. Patented July 31, 1906.

Application filed July 1, 1904. Serial No. 215,016.

To all whom it may concern:

Be it known that I, MARIUS OTTO, of 5 Avenue du Bois-de-Boulogne, Paris, France, have invented a certain new and useful Apparatus for Mounting and Cooling Statical Ozonizers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

In Patent No. 733,674, granted to me July 14, 1903, I described an apparatus for cooling ozonizers, particularly characterized by a metallic electrode forming an indraft-chamber for the ozonized air and which is held between two dielectric surfaces covered on the outside with a conductor.

The subject of the present application for a patent is an arrangement whereby the electrodes can be assembled in a manner very convenient for practical use.

The arrangement is represented in detail on the accompanying drawings, in which—

Figure 1 is a front elevation of the entire apparatus. Fig. 1ª is a front view, partly in section, taken on the line 1ª 1ª of Fig. 2. Fig. 2 is a transverse section. Figs. 3, 4, and 5 show in elevation three different forms of construction of the hollow metallic electrode.

The apparatus represented is especially intended for the production of ozone on a large scale, the supply of the electrical energy being arranged under special conditions to insure successful operation.

The elements are readily changeable and easily operated. They each consist of a metallic electrode *a*, forming an indraft-chamber. These are placed between two glass dielectrics *b c*, each of whch is covered with a conducting layer *d*, connected with the ground. The sheets of glass are separated from the central electrode by insulating-blocks *g*.

The apparatus consists of a casing *e* in the form of a parallelepiped, made of wood and iron, with a double insulating-partition *h*, made of glass.

The elements of the battery are supported on two shelves in view and within reach of the hand.

The indraft of the ozonized air can be effected in many different ways.

First. The hollow central metallic electrode may be provided with two side separating-strips *i* and a front strip *k*, Fig. 3. The indraft then takes place at the back, and the air enters through the holes *o*.

Second. The front strip may be omitted and the indraft-holes arranged along a middle line, as shown in Fig. 4.

Third. The hollow electrode may be provided in its central portion with a set of orifices *o'*, as shown in Fig. 5, air being drawn in through a series of passages formed in the separating-strip all round the circumference.

The strips which serve to separate the plates of the hollow electrode should be made of glass or some other suitable insulating material. Each element rests on a flat plate *m*, provided with a ledge *n* at the under side. This forms a kind of drawer which rests on angle-irons *p q* in a slightly-inclined position. The drawers *m n* are provided with handles *r*.

The apparatus contains two series of pipes, the series *s* for the admission of the cold air and the series *t* for the removal of the ozonized air. The glass doors *u* have a double partition *h* opening in either direction, as required, and adapted to render the apparatus air-tight. The electric current is supplied to the apparatus by two rigid cables *v x*, carefully insulated. The connections between the cable and the central metallic electrode may be effected by means of simple spring-contacts *y*, Fig. 2. An insulating connection *z* connects the electrodes to one of the air-pipes.

The apparatus in practice should include a cold-air generator. Liquid air, enriched by oxygen at a low temperature, gives very good results. The use of pure oxygen is to be avoided, because the short-circuiting liable to take place in an atmosphere of such gas is very dangerous. Inside the tube which forms the insulating connection a small aluminium vane may be placed to indicate the flow of air. Each of the joints which connect the insulating connection *z* to the air-pipe is provided with a disconnecting stop-cock *l*, which will enable any one of the elements of the battery to be removed and replaced without interrupting the working of the rest of the apparatus.

I claim—

1. In an apparatus for supporting and cooling the elements of statical ozonizers, the combination of the elements, a case, a series of ledges therein, plates supported by said ledges and provided with ledges at their lower extremities serving as supports for the elements, and electrical contacts adapted to be closed by the elements.

2. In an apparatus for supporting and cooling the elements of static ozonizers, the combination with the elements, the case, a series of ledges in said case and suitable terminals supported in said case, of plates supported by said ledges and provided with ledges serving as supports for the elements, and electric spring-terminals carried by said elements and adapted to connect with the terminals in the case, when the elements are in position.

In witness whereof I have hereunto set my hand in presence of two witnesses.

MARIUS OTTO.

Witnesses:

LOUIS GARDET,

HANSON C. COXE.