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Cross Reference

326,254

(no model.)

W. VON PITTLER.

ARTIFICIAL LITHOGRAPHIC STONE.

No. 326,254.

Patented Sept. 15, 1885.

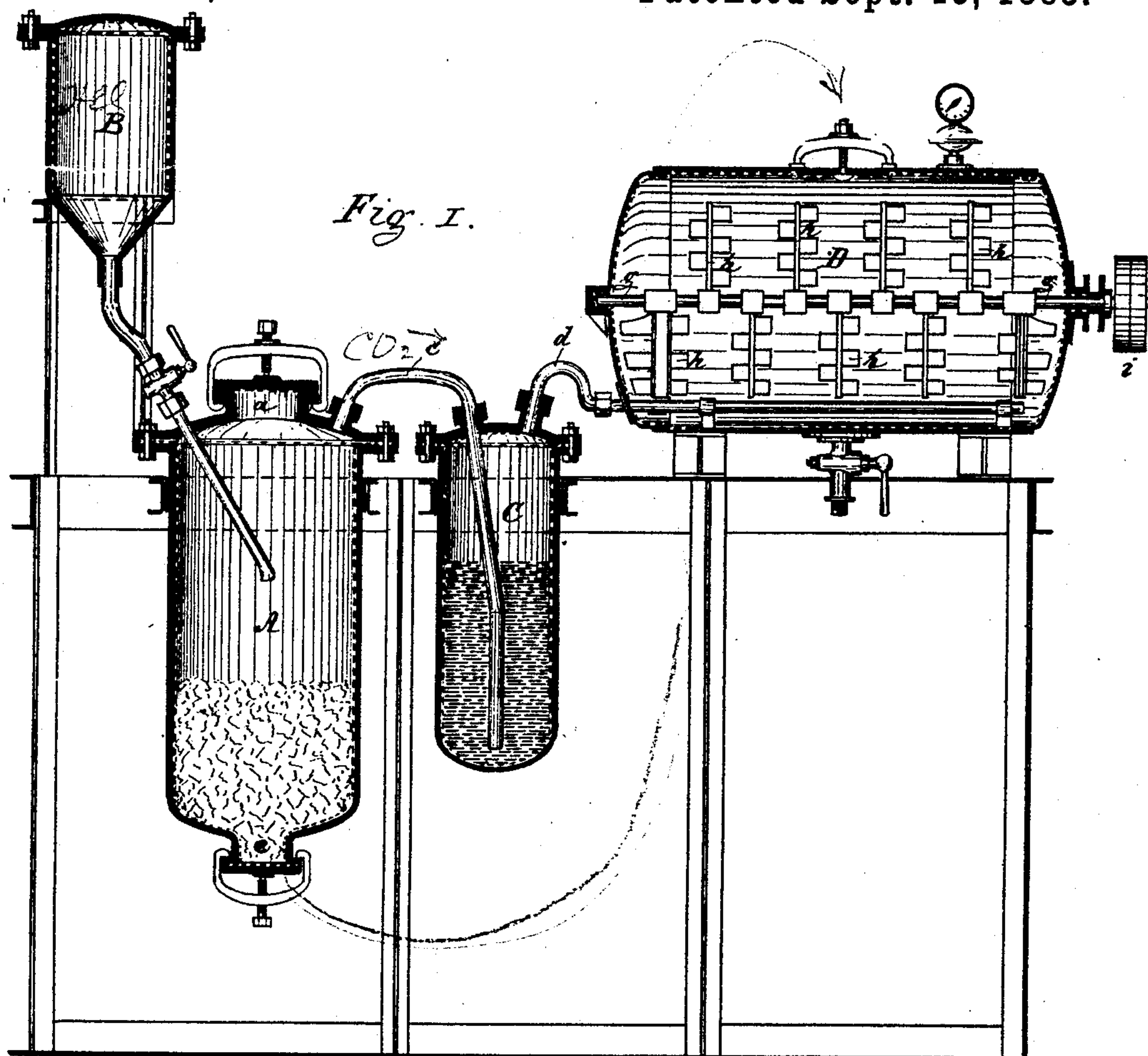
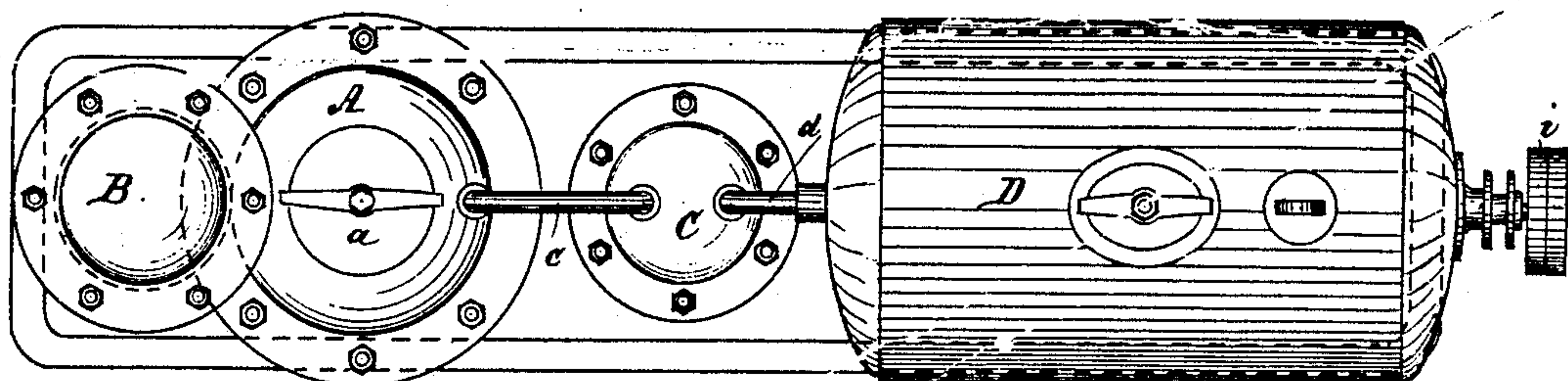


Fig. II.



Witnesses.
R. H. Roy,
W. A. Love

Inventor,
W. von Pittler
per Roeder & Brinck
Attorneys.

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UNITED STATES PATENT OFFICE.

WILHELM VON PITTLER, OF LEIPSIC, ASSIGNOR TO WEZEL & NAUMANN,
OF RENDUITZ, LEIPSIC, GERMANY.

ARTIFICIAL LITHOGRAPHIC STONE.

SPECIFICATION forming part of Letters Patent No. 326,254, dated September 15, 1885.

Application filed January 8, 1885. (No model.)

To all whom it may concern:

Be it known that I, WILHELM VON PITTLER, of Leipsic, Germany, have invented a new and Improved Artificial Lithographic Stone, and process of producing the same, of which the following specification is a full, clear, and exact description.

This invention relates to an artificial lithographic stone—that is to say, to a substitute for the ordinary lithographic stones now generally used.

The invention consists in covering metal plates with a solution of a powdered lithographic stone dissolved by muriatic acid and reunited with its carbonic acid; also, in the process for carrying my invention into effect.

The accompanying drawings represent the apparatus for producing the artificial lithographic stone. Figure I is a vertical longitudinal section of said apparatus. Fig. II is a top view of the same.

The letter A represents a tank which is filled through opening *a* with crushed or powdered lithographic stone. The opening *a* is then hermetically closed, and muriatic acid is conducted into tank A from vessel B. The acid will dissolve the stone, and the carbonic acid will be freed and flow into vessel C through pipe *c*. This vessel is filled with water, and the acid in passing through the same is relieved from impurities. Finally, the carbonic acid enters a mixing-tank, D, through pipe *d*. The dissolved stone in tank is removed through a bottom opening, *e*, and the muriatic acid is washed out. It is then thrown into mixing-tank D, to be remixed under pressure with the carbonic acid. The mixing is effected by mechanical means, which consists of a shaft, *g*, having radial stirring-blades *h*, and receiving motion from pulley *i*. Disilled water is also admitted into tank D, so that the resultant products will be a fluid mass. This mass is placed in hermetically-sealed

jars until it is used. All the vessels of the above apparatus should preferably be lined with lead.

In place of using ground lithographic stone, other stones—such as slate, silica, clay, and porcelain, which are not affected by acids—may be employed.

Before the mixture is applied to metal plates a small quantity of silicate of potassium, phosphorus, sulphur, and muriatic acid or chlorate of tin should be added. The same result can be obtained with salt of sodium, potassium, lithium, barium, and strontium.

Metal plates prepared with the above solution are adapted for etching, and are not affected by acids and colors.

I do not claim to have invented the mixture of ground stone with carbonic acid, as such a mixture is described in Patents Nos. 139,274 and 147,522, of D. M. Sprogle, and in Patents Nos. 149,682 and 153,020, of J. L. Rowland; but

I do claim—

1. As a new article of manufacture, a metal plate having a covering of crushed lithographic stone dissolved by muriatic acid and reunited with its carbonic acid, substantially as specified.

2. The process of producing artificial lithographic stone, which consists in crushing lithographic stone, liberating the carbonic acid, reuniting the stone with the acid by a mechanical mixer, and finally covering metal plates with the mixture, substantially as specified.

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

WILHELM VON PITTLER.

Witnesses:

JULIUS WEZEL,
HEINRICH LUSKE.