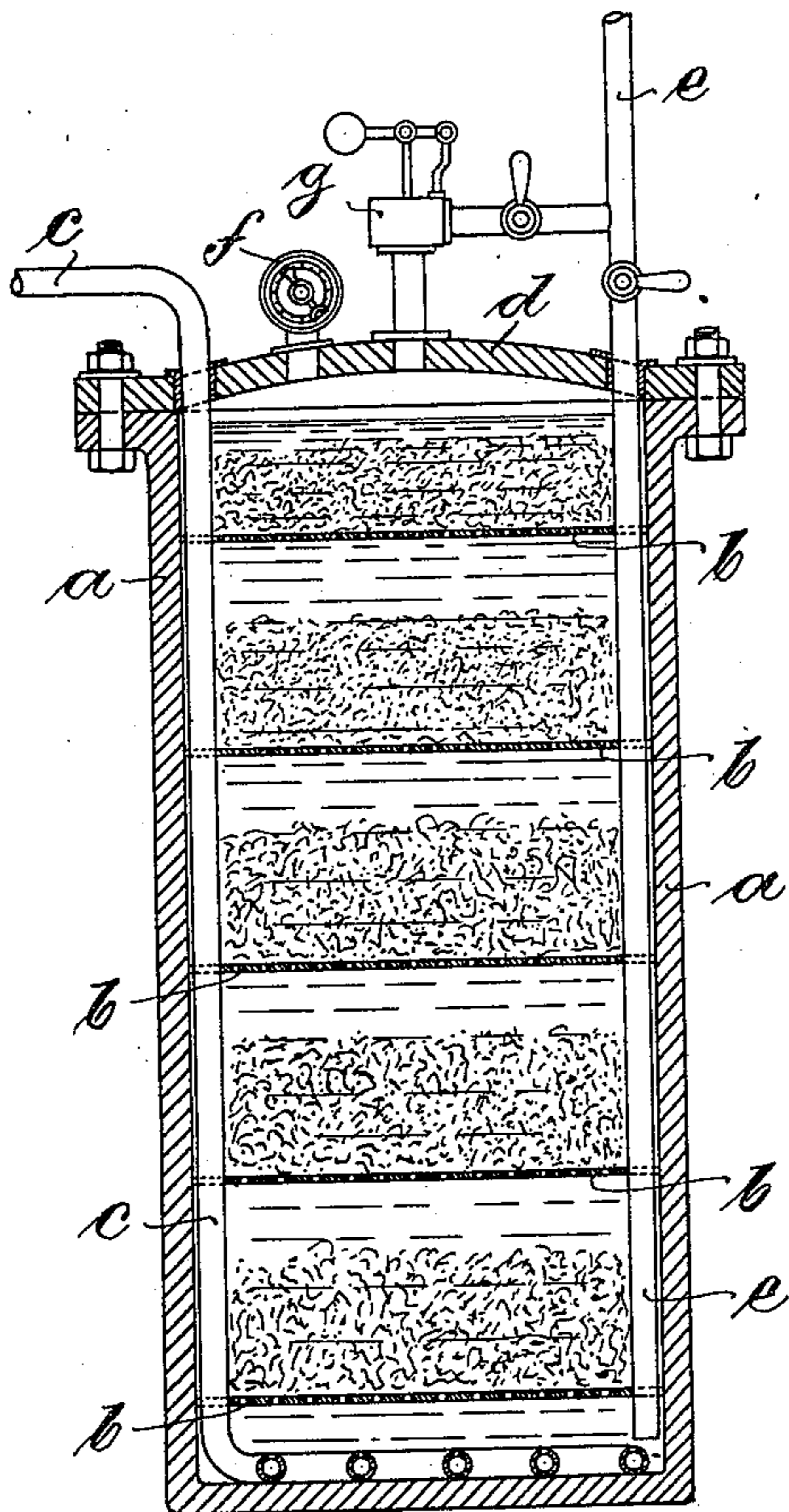


No. 861,345.

PATENTED JULY 30, 1907.

A. WULTZE.  
PROCESS OF MANUFACTURING LEAD ACETATE.  
APPLICATION FILED OCT. 31, 1904.



Witnesses:

Emil Kayser.  
Paul Wollenberg.

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by *[Signature]*  
Attorney.

# UNITED STATES PATENT OFFICE.

ADOLF WULTZE, OF CHARLOTTENBURG, GERMANY.

## PROCESS OF MANUFACTURING LEAD ACETATE.

No. 861,345.

Specification of Letters Patent.

Patented July 30, 1907.

Application filed October 31, 1904. Serial No. 230,768.

To all whom it may concern:

Be it known that I, ADOLF WULTZE, chemist, a subject of the King of Prussia, German Emperor, and a resident of 8 Salzufer, Charlottenburg, near Berlin, Kingdom of Prussia, German Empire, have invented a new and useful Process of Manufacturing Lead Acetate, of which the following is an exact specification.

My invention relates to a new and useful process of manufacturing lead-acetate.

10 In the processes hitherto known lead acetate was obtained either by dissolving litharge in acetic acid and crystallizing the solution, or the lead reduced to pieces was piled up, moistened by vinegar and then left to the action of air. The acetic lye obtained in this latter manner was then also crystallized.

20 A method of manufacturing lead acetate has become known, according to which acetic acid vapors are brought into contact with metallic lead and in order to insure that the metallic lead offers always a bright surface to the acetic acid vapors acting upon the lead for the purpose of forming lead acetate, lead liquor is sprinkled over the metallic lead for washing down the lead acetate.

25 The subject of my invention now is a process for obtaining lead acetate also from metallic lead but by a continuous process under employment of any quantity of air. The process consists therein, that loosely packed metallic lead either granulated or in wire form is heaped up in a closed receptacle and perfectly dipped into liquid acetic acid and simultaneously air under pressure is introduced.

30 The process is as follows: A receptacle of about 8 cb.m. in which perforated partitions are arranged is fed with reduced pieces of lead or granulated lead. The receptacle is then filled with diluted acetic acid and then closed, so as to withstand the pressure exerted. The pressure air is then introduced by means of a pump exerting a pressure of about 4 atmospheres. The whole reaction mass then heats itself to about the warmth of a hand and the acetic acid reacts with the oxid of lead. After the reaction is finished, the salt is pressed out of the pressure receptacle and new acetic acid is introduced, and so on. By this process the manufacture of acetate of lead in large quantities is realized: for example I bring in the receptacle at one time a charge of 45 25000 kilograms of lead and 7000 liter of acetic acid, and 3800 kilograms of acetate of lead are produced after the short time of 2 hours and 40 minutes.

It is of course easy to obtain at will neutral or basic lead acetate. The apparatus employed is a monte-jus 50 which is laid out with acid-proof materials.

In order to make my invention more clear, I refer to the accompanying drawing, which shows a convenient form of an apparatus for practicing my new process.

*a* is a receptacle, *b* are perforated plates arranged 55 within the same, upon which the lead is loosely packed.

*d* is a cover, *c* is a rubber tube for introducing the air, *e* is a further tube for pressing out of the receptacle the solution of salt, *f* is a manometer and *g* a valve for allowing the vinegar vapors mixed with air and pressed out 60 of the receptacle by the excess of pressure, to enter the tube *e* through which these vapors are led off to a place, where they can be used for other purposes.

The process for manufacturing acetate of lead in a closed apparatus has the advantage that the quantity 65 of air necessary can be introduced at will whereas in the methods hitherto used in which lead piled up was exposed to the action of vinegar only that quantity of air contained in the heaps of lead, was at disposal for the reaction. 70

My process has the further advantage that the solutions of salt arising can be conveniently managed. The solutions of salts which are for instance pressed out of the monte-jus can in my process at once be led over to a further monte-jus and can be treated therein with 75 carbonic acid, so as to give white lead. A further advantage consists therein that no acetic acid can be lost by evaporation.

Having thus fully described the nature of my invention, what I desire to secure by Letters Patent of the 80 United States is:—

1. Process for manufacturing lead-acetate consisting in feeding a vessel with finely divided lead, filling completely the vessel with acetic acid, closing the vessel and forcing air into the vessel up to a certain overpressure whereby 85 the converting of the acetic acid into lead-acetate takes place.

2. Process for manufacturing lead-acetate consisting in feeding a vessel with finely divided lead, filling completely the vessel with acetic acid, closing the vessel and forcing 90 air into the vessel up to an overpressure of about 4 atmospheres, whereby the converting of the acetic acid into lead-acetate takes place.

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

ADOLF WULTZE.

Witnesses:

HENRY HASPER,  
WOLDEMAR HAUPT.