No. 752,165. PATENTED FEB. 16, 1904.

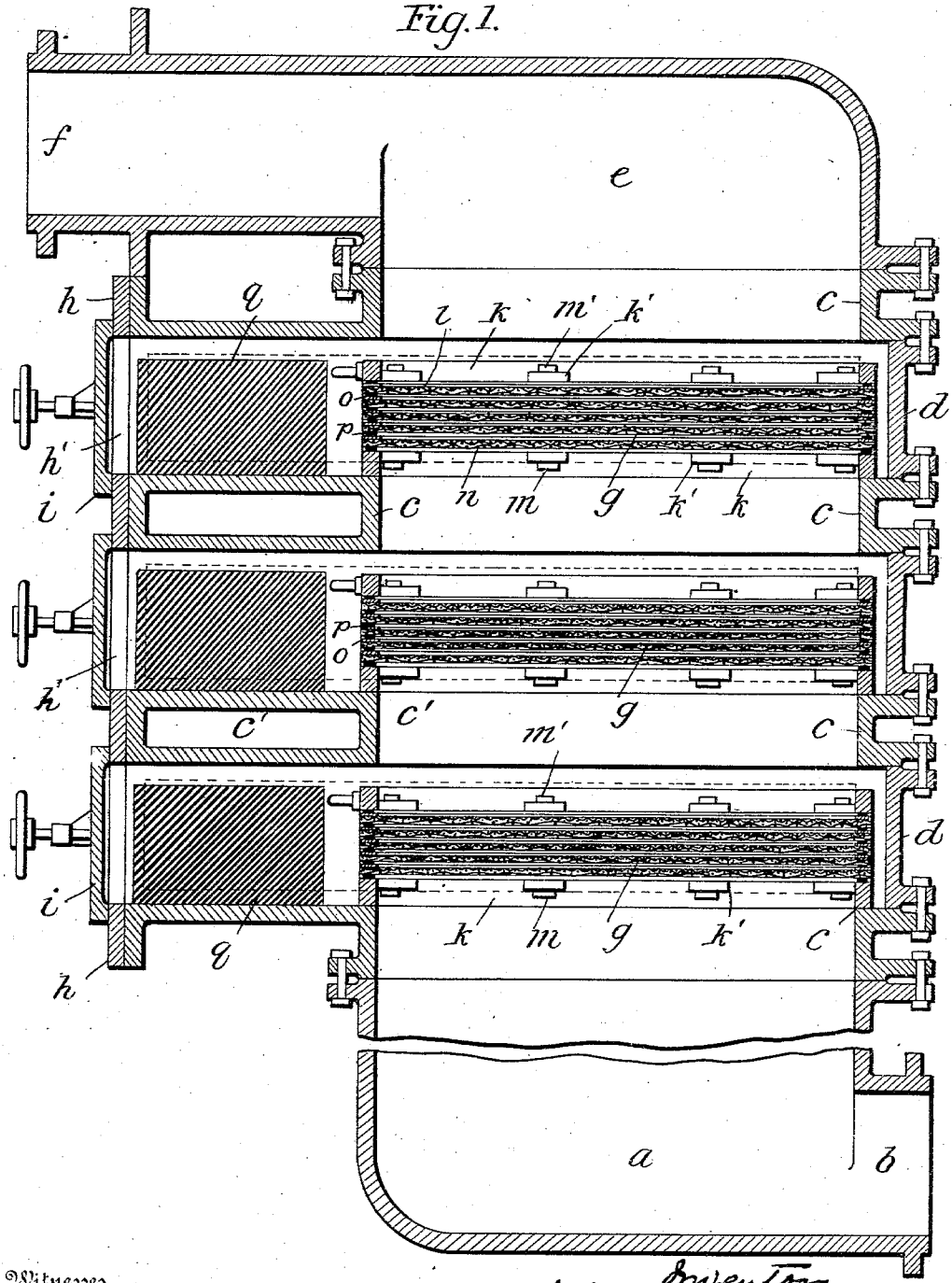
W. HASENBACH.

CONTACT APPARATUS FOR THE PRODUCTION OF SULFURIC ANHYDRID.

APPLICATION FILED APR. 28, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



Witnesses
Jos. Arnold
E. Farrington

Inventor
Wilhelm Hasenbach
By Arthur Freeman
Attorneys

No. 752,165. PATENTED FEB. 16, 1904.

W. HASENBACH.

CONTACT APPARATUS FOR THE PRODUCTION OF SULFURIC ANHYDRID.

APPLICATION FILED APR. 28, 1902.

NO MODEL. 2 SHEETS—SHEET 2.

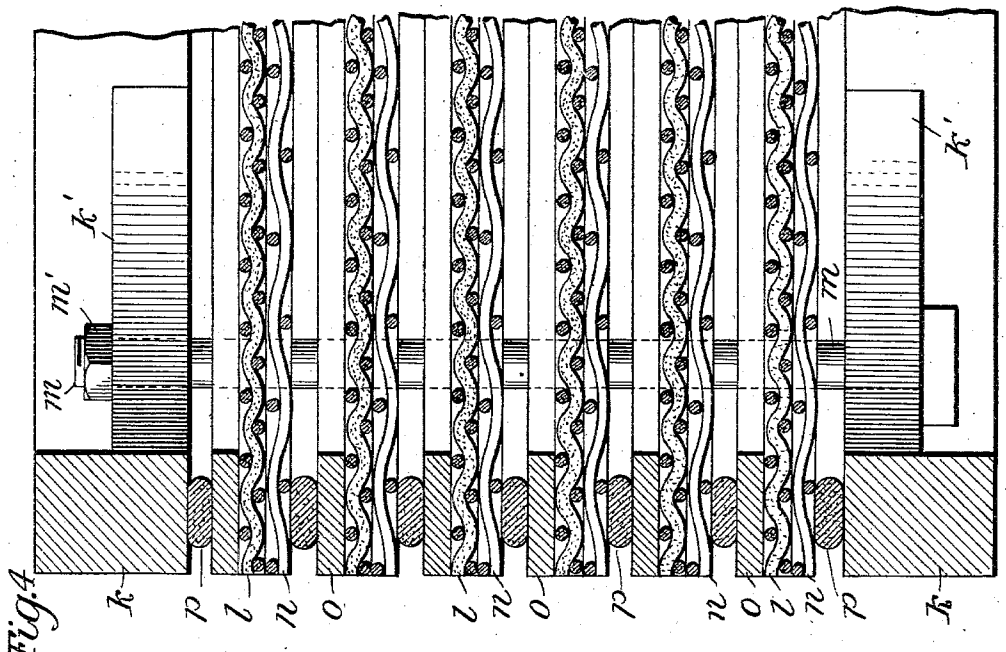


Fig. 4.

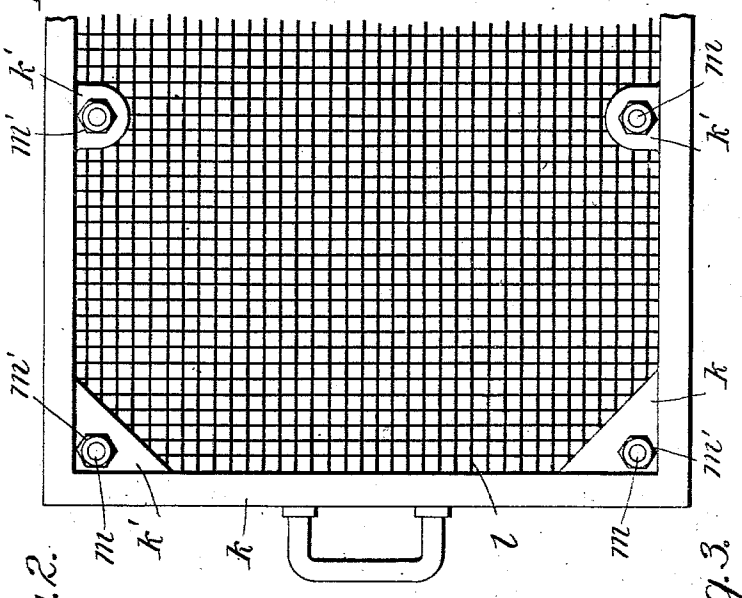


Fig. 2.

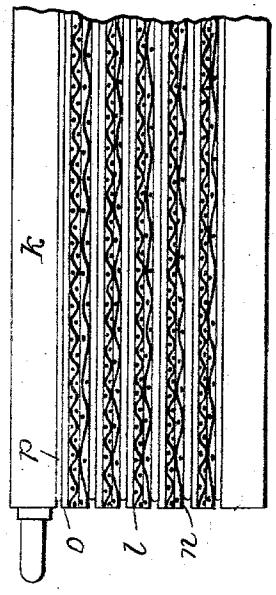


Fig. 3.

Witnesses
J. G. Stinkel
E. Hanninx

Inventor
Wilhelm Hasenbach
by Fred Freeman
Attorneys

No. 752,165. Patented February 16, 1904.

UNITED STATES PATENT OFFICE.

WILHELM HASENBACH, OF MANNHEIM, GERMANY, ASSIGNOR TO VEREIN CHEMISCHER FABRIKEN IN MANNHEIM, OF MANNHEIM, GERMANY.

CONTACT APPARATUS FOR THE PRODUCTION OF SULFURIC ANHYDRID.

SPECIFICATION forming part of Letters Patent No. 752,165, dated February 16, 1904.

Application filed April 28, 1902. Serial No. 105,070. (No model.)

To all whom it may concern:

Be it known that I, WILHELM HASENBACH, a subject of the German Emperor, and a resident of and having my post-office address at Mannheim, Germany, (Chemische Fabrik Wohlgelegen,) have invented certain new and useful Improvements in Contact Apparatus for the Manufacture of Sulfuric Anhydrid, of which the following is a specification.

This invention relates to a contact apparatus for the production of anhydrous sulfuric acid in which platinized woven fabrics are employed.

I am aware that the use of platinized woven fabrics for the above purpose is not broadly new, since it is disclosed in British Patent No. 24,748 of 1899.

The object of the present invention is to provide a contact element made up of a plurality of separated and supported sheets of platinized fabric which may be readily inserted in or removed from the apparatus without interrupting the flow of gas therethrough and which will insure an intimate and uniform contact of the gas with the platinized fabric in its passage through the apparatus.

The invention will be fully described hereinafter, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section of an apparatus embodying my invention. Fig. 2 is a plan view of a portion of a contact element made in accordance with my invention. Fig. 3 is a section of Fig. 2. Fig. 4 is a section, on enlarged scale, to more clearly illustrate the construction of an element.

The apparatus consists of a cast-iron casing, preferably rectangular in cross-section and made up of sections bolted together. The lower section *a* is provided with a gas-inlet *b* and the upper section *e* with a gas-outlet *f*, and between these sections a series of sections *c* and *d* are arranged in such manner that the sections *c* project inwardly beyond the sections *d*, thereby forming guides and supports for the contact elements *g*, as indicated at *c'*. It may be stated that in practice the casing will be inclosed with brickwork to prevent radiation of heat, and as it is necessary to provide openings for the insertion or withdrawal of the elements the sections *c* and *d* extend beyond the sections *a* and *e* at what may be termed the "front" of the apparatus, and the sections *d* are open at this side. A plate *h* is secured to the front edges of the sections *c* in any suitable manner and provided with openings *h'*, which register with the open ends of the sections *d*, and these openings are closed by the removable covers *i*. In order to prevent cooling of the contact element at its side near the door, an insulating-block *q* is loosely inserted in the forwardly-extending portion of each section *d* and supported upon the section *c* below it, as clearly shown in Fig. 1. There may be as many elements *g* as desired in the apparatus, three being shown in the present case, and each may be easily and independently removed from the apparatus through its own door and a new element inserted in its place without stopping the flow of gas through the casing.

The contact elements *g* are each constructed as follows: There are two rectangular cast-iron frames *k*, provided with a series of inwardly-projecting lugs *k'*, and between these frames are clamped a series of sheets of suitably-prepared asbestos fabric, (indicated by *l*,) each sheet being supported by a sheet of wire-netting *n*. There is also a thin wrought-iron frame *o* and asbestos packing *p* between adjacent layers of asbestos fabric and supporting wire-netting, and asbestos packing *p* is also inserted between the respective frames *k* and the adjacent layer of asbestos fabric and supporting-wire. Bolts *m* pass through opposite lugs *k'* of the frames *k*, and when the nuts *m'* on such bolts are tightened up the fabric, wire-netting, frames *o*, and packings *p* will be tightly clamped between the frames *k* and tight joints formed around the edges of the element, so that the gas will be compelled to pass up through the several layers of fabric. For the purpose of preventing any leakage of gas around the elements *g* the upper surface of each section *c* is machined, as is also the lower surface of the lower frame

k of each element, and a gas-tight joint will thus be formed between the contacting surfaces of each element and its support.

The special advantages of my invention consist in the considerably-reduced resistance of the elements to the passage of the gas, in the prevention of the upward or downward deflection of the platinized fabric, and in the possibility of exchanging the contact elements quickly and without interruption in the working of the plant.

Having described the invention, I claim—

1. A contact element for the production of anhydrous sulfuric acid, consisting of a pair of supporting-frames, a plurality of sheets of platinized fabric, and wire-netting arranged between adjacent sheets of platinized fabric, said fabric and netting being clamped between and supported by said frames, substantially as set forth.

2. A contact element for the production of anhydrous sulfuric acid, consisting of upper and lower supporting-frames, a plurality of sheets of platinized fabric between said frames, spacing-frames between adjacent sheets of fabric, wire-netting also between adjacent sheets, and means for clamping the supporting-frames together, substantially as set forth.

3. A contact element for the production of anhydrous sulfuric acid, consisting of upper and lower supporting-frames, a plurality of sheets of platinized fabric between said frames, spacing-frames between adjacent sheets of fabric, wire-netting also between adjacent sheets, asbestos packing interposed between adjacent spacing-frames and also between the supporting-frames and the adjacent spacing-frames, and means for clamping the supporting-frames together, substantially as set forth.

4. In an apparatus for the production of anhydrous sulfuric acid, the combination with a casing having gas inlet and outlet passages, a series of inwardly-projecting ledges forming supports, and a series of openings in one side, of contact elements slidably supported by said ledges and the contacting surfaces of the ledges and elements forming gas-tight joints, and each element being separately removable through one of said openings in the casing, and detachable means for closing said openings, substantially as set forth.

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

WILHELM HASENBACH.

Witnesses:

JACOB ADRIAN,

ALBERT SCHÜLE.