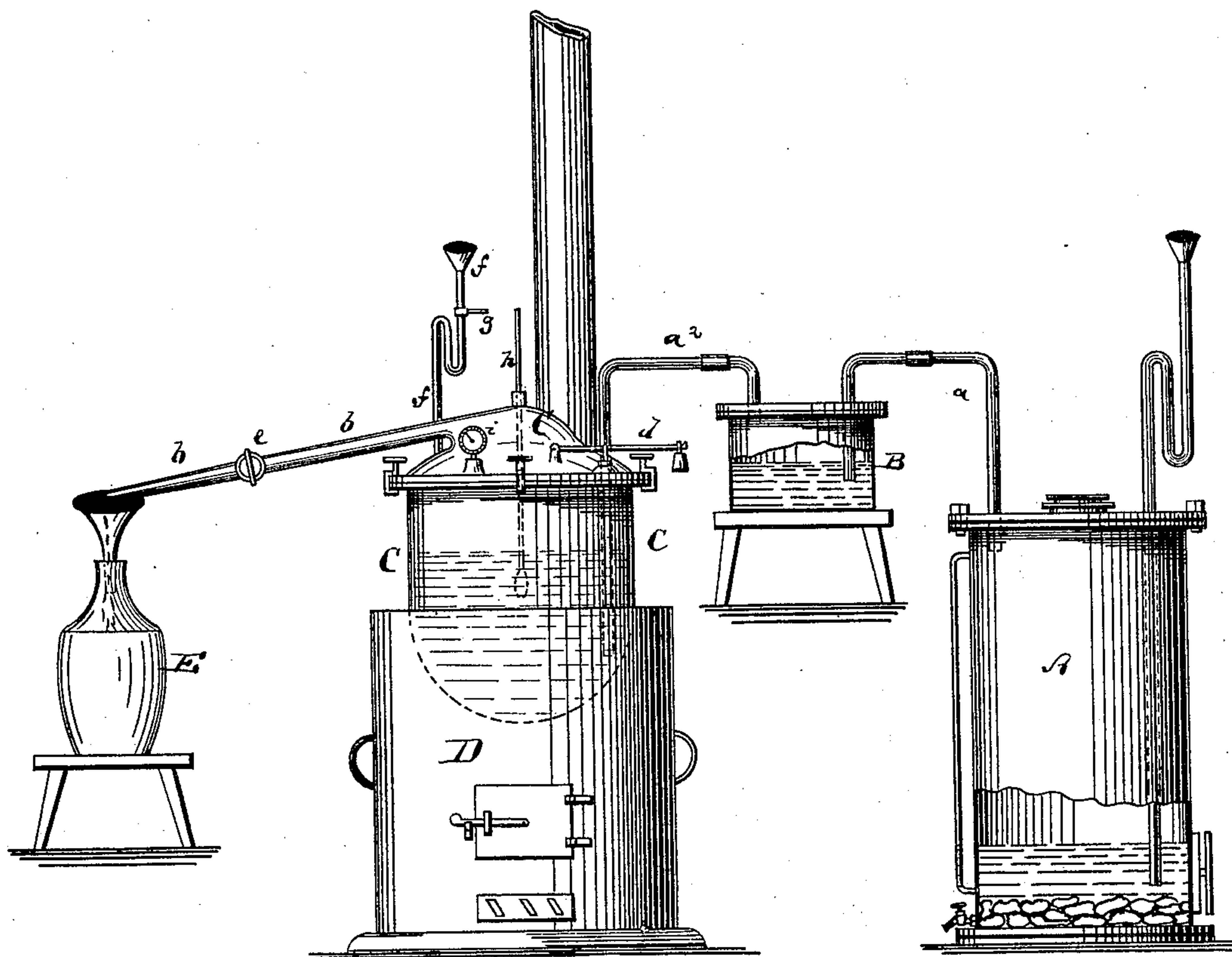


W. E. GRAF.

Process of Producing Salicylic Acid.

No. 166,863.

Patented Aug. 17, 1875.



Witnesses:

A. Moraga.
O. F. Heidner.

Inventor

W. E. Graf
by his attorney
A. B. Bensen

UNITED STATES PATENT OFFICE.

WILHELM EHRENFRIED GRAF, OF NEW YORK, ASSIGNOR TO HIMSELF AND
SAMUEL W. CANFIELD, OF PIERMONT, N. Y.

IMPROVEMENT IN PROCESSES OF PRODUCING SALICYLIC ACID.

Specification forming part of Letters Patent No. **166,863**, dated August 17, 1875 ; application filed
June 22, 1875.

CASE B.

To all whom it may concern:

Be it known that I, WILHELM EHRENFRIED GRAF, of the city of New York, in the county and State of New York, have invented a new and Improved Process of Producing Salicylic Acid, of which the following is a specification:

The drawing represents a side elevation, partly in section, of the apparatus which I prefer to use in carrying my invention into effect.

The object of this invention is to improve the method heretofore proposed and introduced of manufacturing salicylic acid from a mixture of carbonic acid, carbolic acid, and an alkali; and my invention consists in distilling the carbolic acid under pressure—*i. e.*, in a closed still or vessel, containing also the alkali, and charged with the carbonic acid, as hereinafter more fully described.

In the drawing, the letter A represents a carbonic-acid-gas generator of suitable kind, discharging its product through a pipe, *a*, into a washer, B, whence the pure carbonic-acid gas passes through a pipe, *a*², into the still or boiler C. This still or boiler is charged with caustic soda or other alkali, and with carbolic acid, in the usual proportions employed in the manufacture of salicylic acid, and is placed on an oven or heater, D, whereby its contents are heated to the requisite degree. The carbonic-acid gas entering the heated contents of the still through the pipe *a*² mingles with the same, and thus the salicylate of soda, or other salicylate of alkali, is produced, which, upon its removal from the still, is boiled in

water to remove the superfluous carbolic acid, and finally exposed to the action of muriatic acid, in which the salicylic acid forms as a white precipitate.

None of the proceedings hereinabove described do I claim to have invented; but my invention consists in boiling the ingredients in the still C under pressure, and in thereby obtaining a more perfect commingling of the ingredients, and a consequent greater yield of salicylic acid, than when boiling in an open still, and losing in a vaporous state many particles of carbolic acid and soda.

Of course the still or boiler should have a means of discharging surplus vapors, and I therefore prefer to provide its neck or discharge-pipe *b* with a cock, *e*. When this cock is opened, the still or boiler may discharge into a vessel, E, whence the contents may be poured back into the still or boiler through a pipe, *f*, having a cock, *g*. The still or boiler C should also have a safety-valve, *d*, and a thermometer, *h*; but I do not here lay claim to any arrangement of apparatus, as I claim and here desire to secure by Letters Patent—

The process herein described of manufacturing salicylic acid by conducting carbonic acid from a generator into a closed still, which contains a mixture of carbolic acid and an alkali, while its contents are heated, substantially as specified.

W. E. GRAF.

Witnesses:

A. V. BRIESEN,
E. C. WEBB.