

No. 618,934.

Patented Feb. 7, 1899.

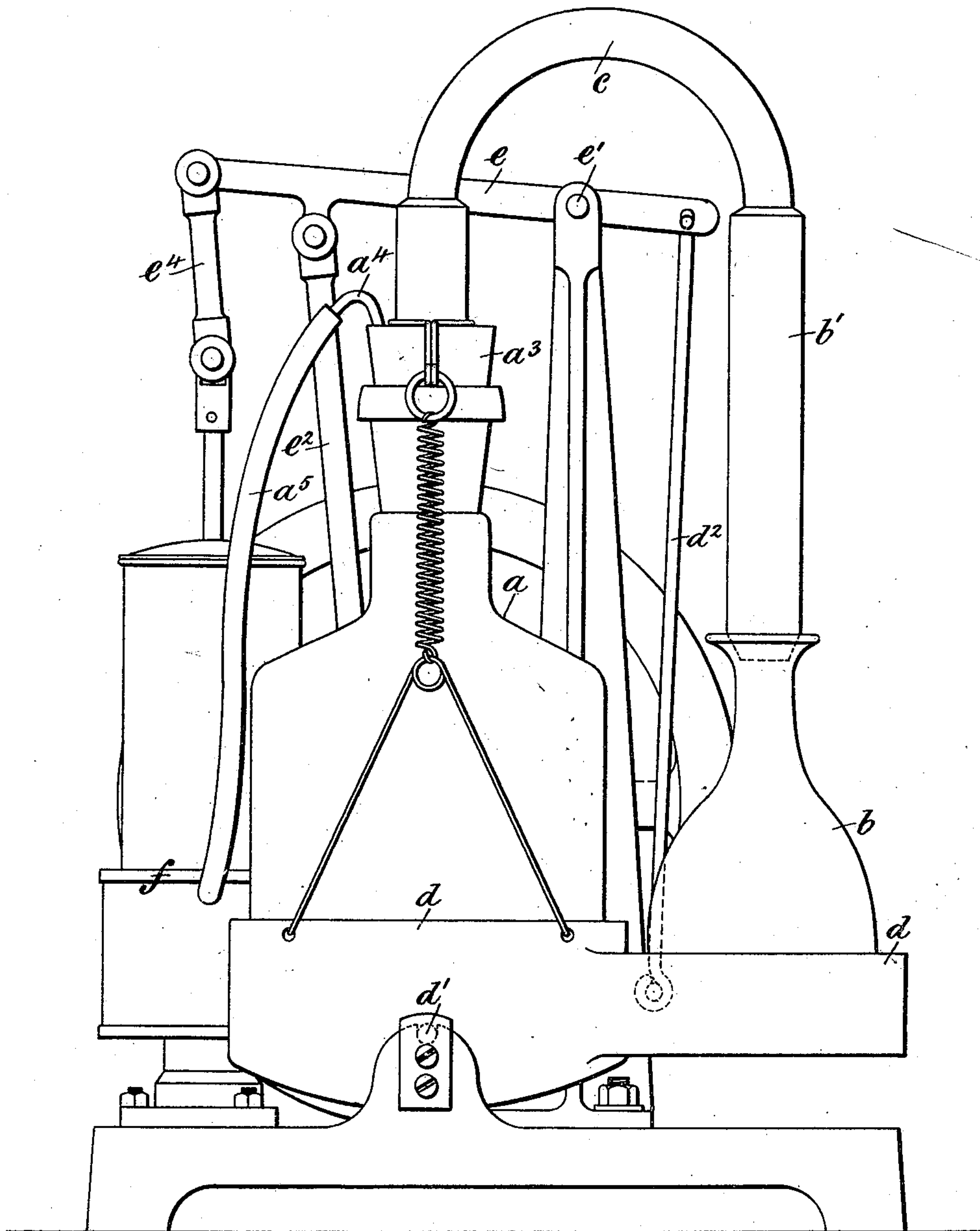
H. A. FLEUSS.
FREEZING MACHINE.

(Application filed Mar. 21, 1898.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.



Witnesses.

E. A. Baerck

Walter R. Tubbs

Inventor.

Henry Albert Fleuss,
By his Attorney,

Baldwin, Davidson & Wright

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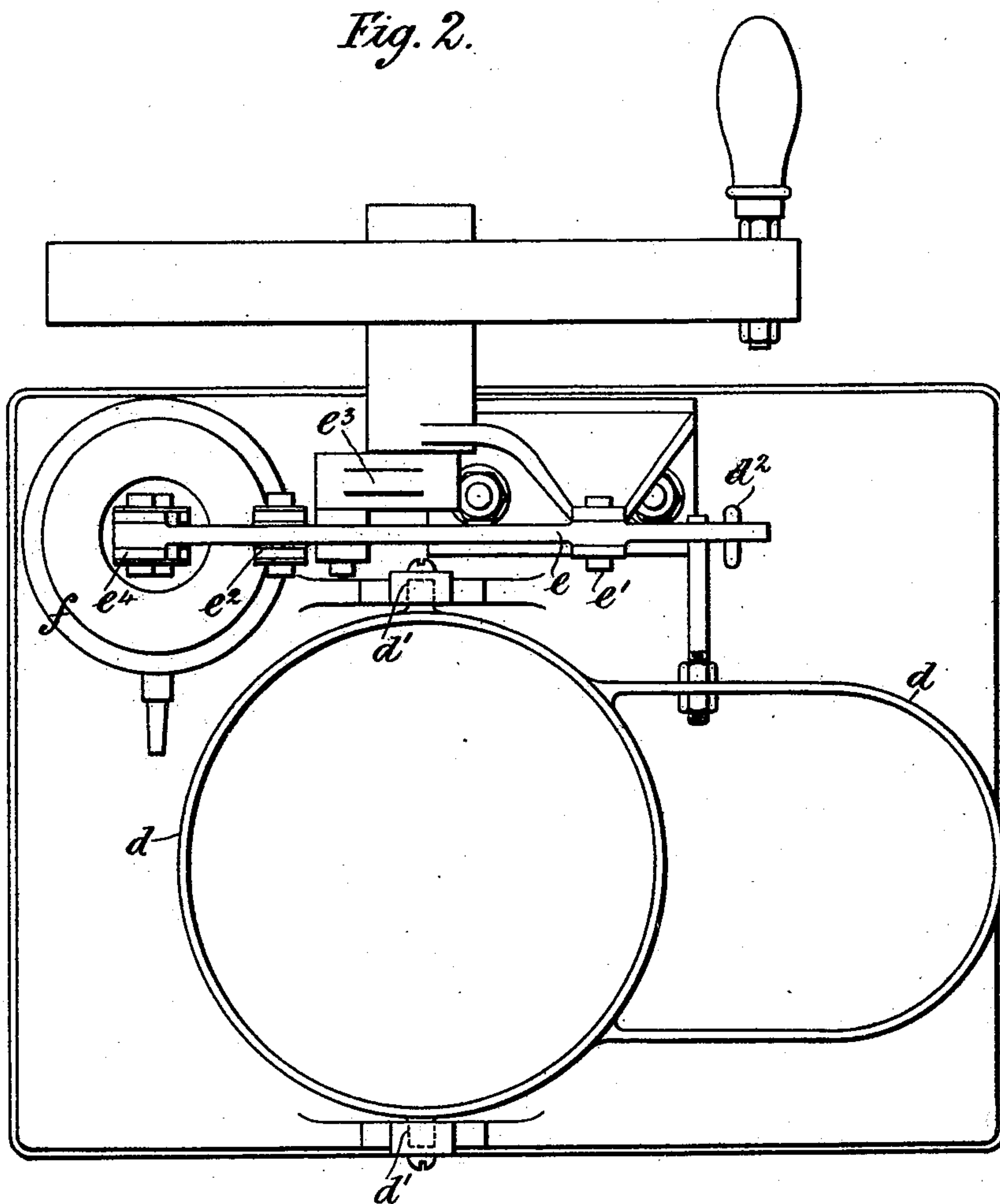
H. A. FLEUSS.
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(Application filed Mar. 21, 1898.)

(No Model.)

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Fig. 2.



Witnesses.

E. A. Bulloch,

Walter R. Tubbs.

Inventor.

Henry Albert Fleuss
By his Attorneys

Reuben Davidson Wright

No. 618,934.

Patented Feb. 7, 1899.

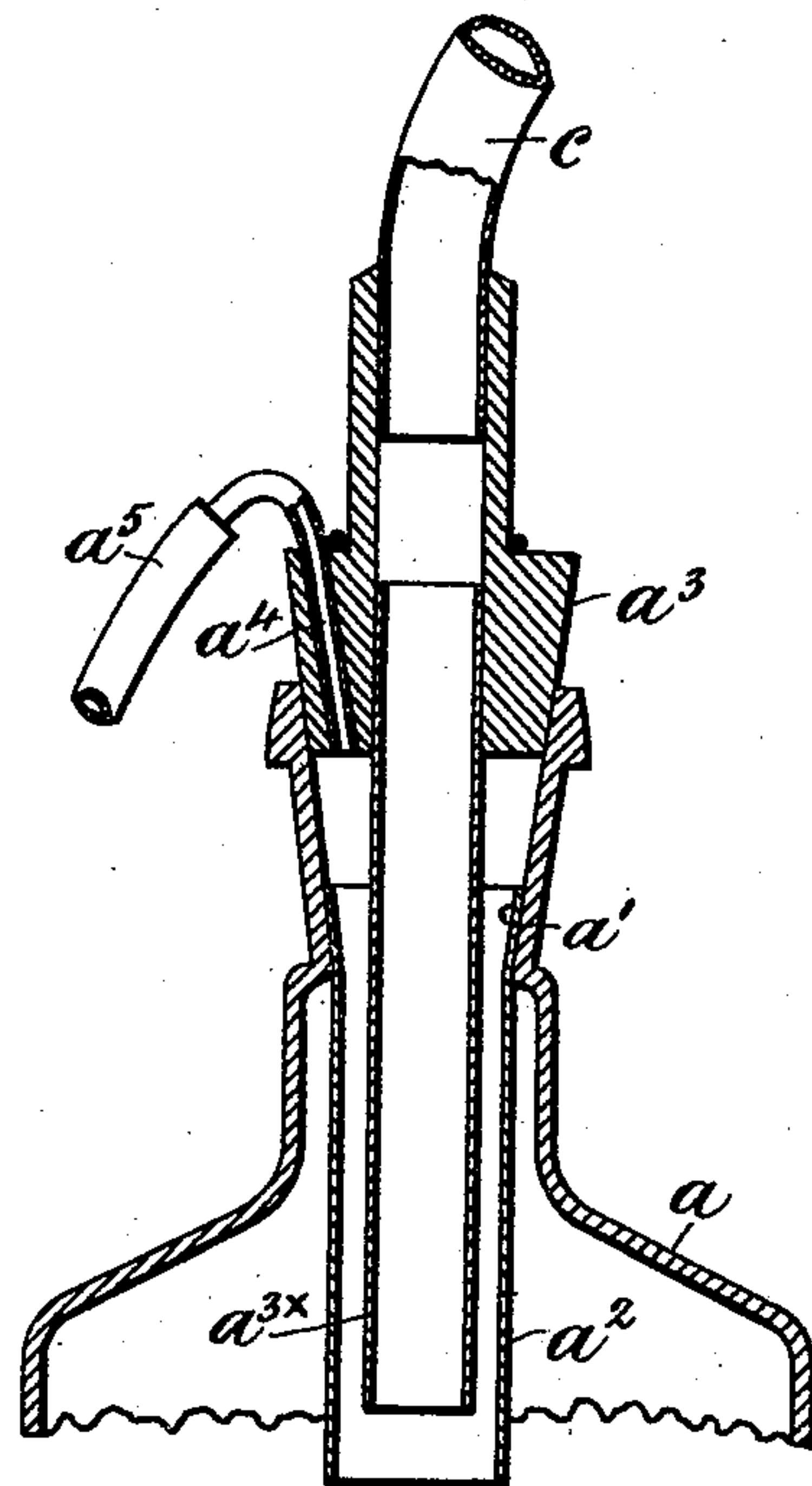
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(No Model.)

3 Sheets—Sheet 3.

Fig. 3.



Witnesses.

E. A. Bullock
Walter R. Tubbs.

Inventor.

Henry Albert Fleuss,
By his Attorneys,

Redwin Dickinson Wright.

UNITED STATES PATENT OFFICE.

HENRY ALBERT FLEUSS, OF LONDON, ENGLAND.

FREEZING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 618,934, dated February 7, 1899.

Application filed March 21, 1898. Serial No. 674,664. (No model.)

To all whom it may concern:

Be it known that I, HENRY ALBERT FLEUSS, engineer, a subject of the Queen of Great Britain, residing at The Priory, Knowle Green, 5 Staines, London, in the county of Middlesex, England, have invented a certain new and useful Freezing-Machine, of which the following is a specification.

These improvements relate to my well-known machines in which water is frozen by absorbing its vapor in sulfuric acid under a vacuum.

The object of the present invention is to agitate the water and the acid during the 15 process, thereby producing clearer ice and hastening the process by exposing a larger surface of acid.

Figure 1 is a rear elevation, and Fig. 2 a plan with the bottles removed, of a machine 20 constructed according to this invention. Fig. 3 is a section of the upper part of the vessel *a*, containing sulfuric acid.

The vessel *a*, containing the sulfuric acid, (which is preferably covered with basket-work,) and the vessel *b*, containing the water to be frozen, together with the connection *c* between them, are supported on a base *d*, preferably in the form of a cast-iron trough of sufficient size to receive all the acid should 30 the bottle *a* break. The base *d* is mounted on trunnions *d'* and is connected by the rod *d²* to the beam *e*, pivoted at *e'* and caused to oscillate in the usual way by the connecting-rod *e²* to the crank *e³*.

35 *e⁴* is the connecting-rod to the pump *f*.

The acid-bottle *a* has a wide mouth with a conical seating-ground inside. The bottom of this seating receives a cone *a'*, formed around the outside of the top of a tube *a²*, 40 which hangs down into the bottle. The object of this tube is to throw down any splashes of acid and prevent them from reaching the suction-pipe. The top of the seating receives a stopper *a³*, preferably of dermatine, a tight joint being made with vaseline. This stopper carries a downwardly-projecting tube *a^{3x}*. Made in one piece with the stopper is an upwardly-projecting tube, which receives one 45 end of the bent-pipe *c*, whose other end fits into the top at a dermatine tube *b'*, fitting

into a seat in the top of the water-bottle *b*. Above the seat is a small trough to receive water for making a tight joint. The above-described connection between the acid and water bottles has a certain flexibility, so that 55 the water-bottle *b* can be readily taken in and out. The stopper to the acid-bottle *a* has a second tube *a⁴* passing through it, which is connected to the pump *f* by a flexible pipe *a⁵*.

When the bottles *a* and *b* have been 60 charged, respectively, with acid and water, they are put in place on the tray *d* and their stoppers are inserted. The pump *f* is then started, forming a vacuum in the bottles and oscillating the tray *d*, so agitating the con- 65 tents of the bottles. The sulfuric acid absorbs the vapor given off by the water and the evaporation from the latter cools and ultimately freezes it, as is well understood.

What I claim is—

1. The combination of an acid-bottle, a water-bottle, a pump, pipes connecting the bottles and pump, a pivoted stand supporting the bottles, and a connection between the stand and a moving part of the pump. 70 75

2. The combination of an acid-bottle, a water-bottle, a pump, pipes connecting the bottles and pump, a pivoted trough supporting the bottles, and a connection between the trough and a moving part of the pump. 80

3. The combination of an acid-bottle, a water-bottle, a pump, stoppers for the bottles, a pipe connecting the stoppers, a tube forming a continuation of the pipe and projecting downward into the acid-bottle, a second tube 85 surrounding the first and supported in a seat below the stopper, and a pipe passing through the stopper and connected to the pump.

4. The combination of an acid-bottle, a water-bottle, a pump, stoppers for the bottles, a 90 pipe connecting the stoppers, a tube forming a continuation of the pipe and projecting downward into the acid-bottle, a second tube surrounding the first and supported in a seat below the stopper, a pipe passing through the 95 stopper and connected to the pump, a pivoted stand supporting the bottles, and a connection between the stand and a moving part of the pump.

5. The combination of an acid-bottle, a wa- 100

ter-bottle, a pump, stoppers for the bottles, a
pipe connecting the stoppers, a tube forming
a continuation of the pipe and projecting
downward into the acid-bottle, a second tube
5 surrounding the first and supported in a seat
below the stopper, a pipe passing through the
stopper and connected to the pump, a pivoted

trough supporting the bottles, and a connection between the trough and a moving part of the pump.

HENRY ALBERT FLEUSS.

Witnesses:

FRED C. HARRIS,

FREDK. C. WEATHERBY.