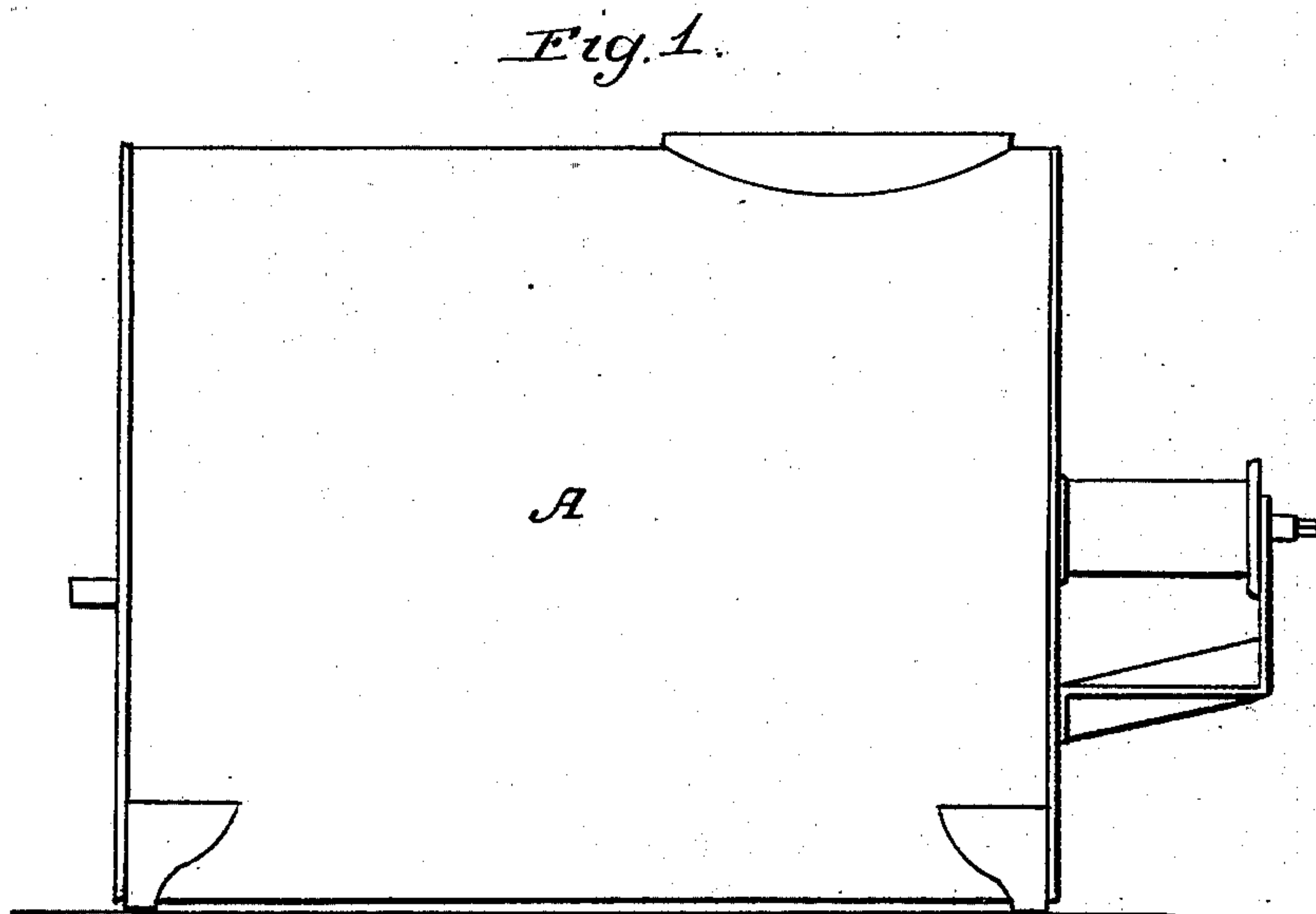
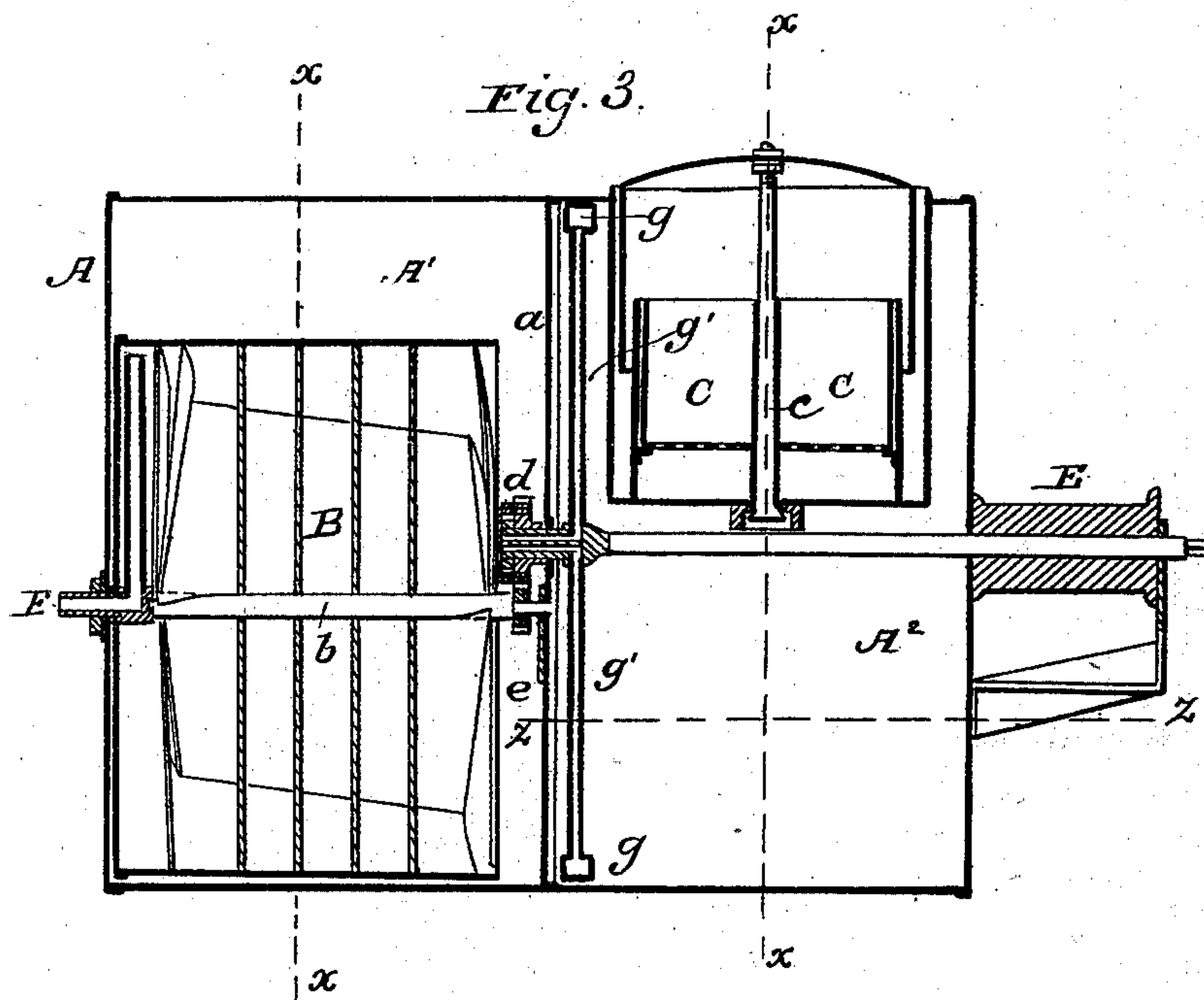


L. STEVENS.

Combination Apparatus for Carbureting Air.

No. 68,666.

Patented Sept. 10, 1867.



Witnesses:
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2 Sheets—Sheet 2.

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Fig. 4.

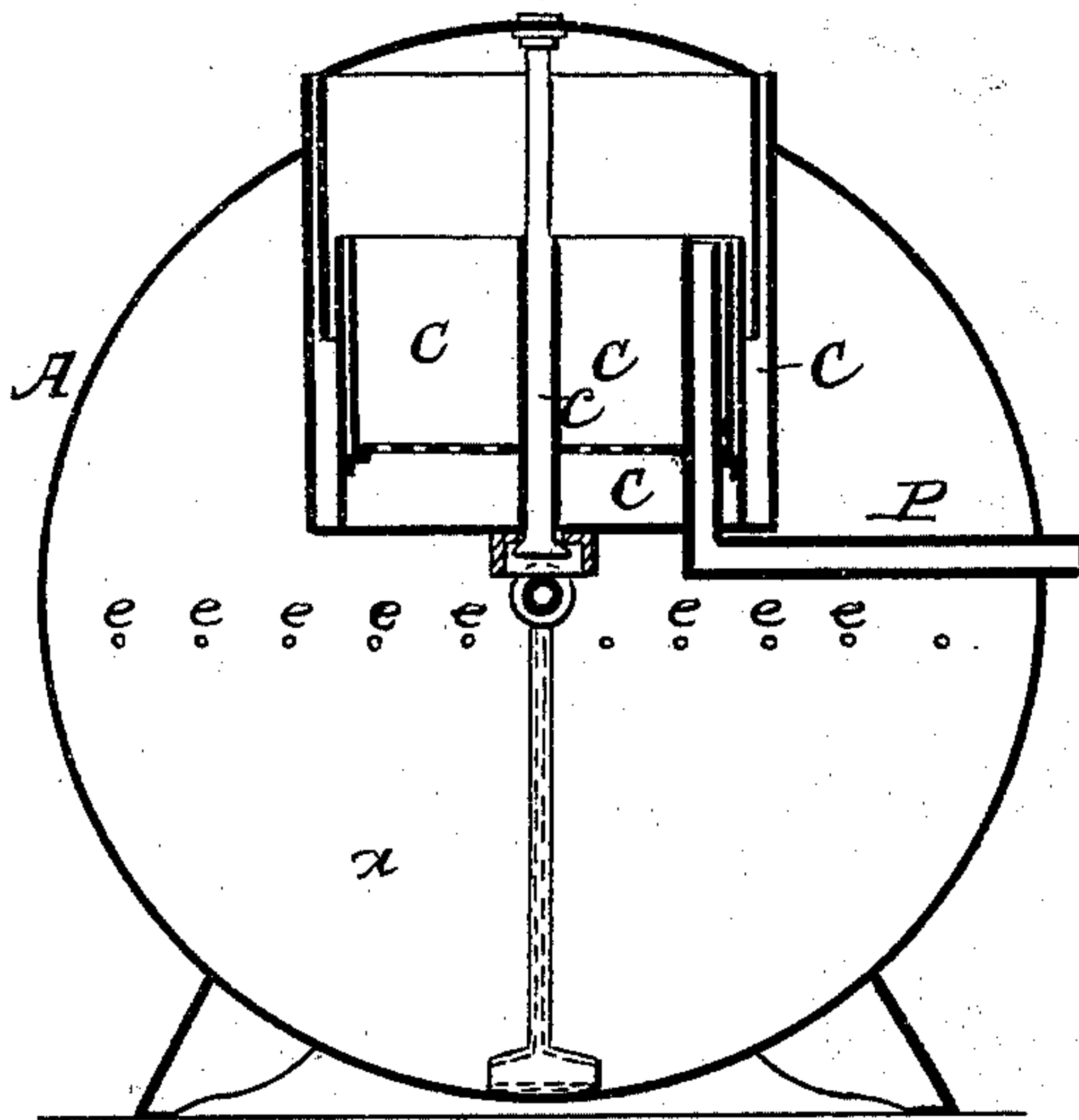


Fig. 5.

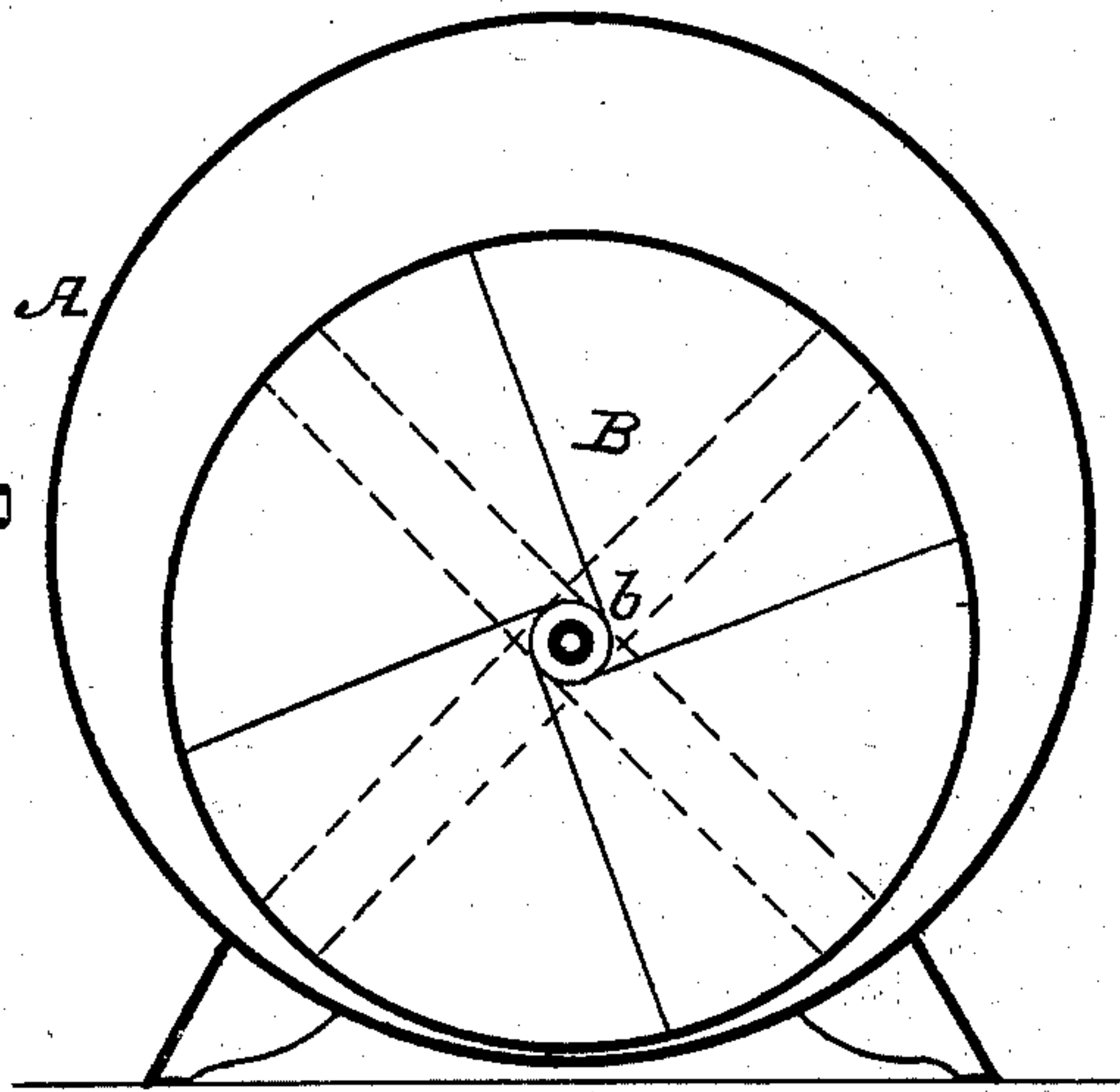
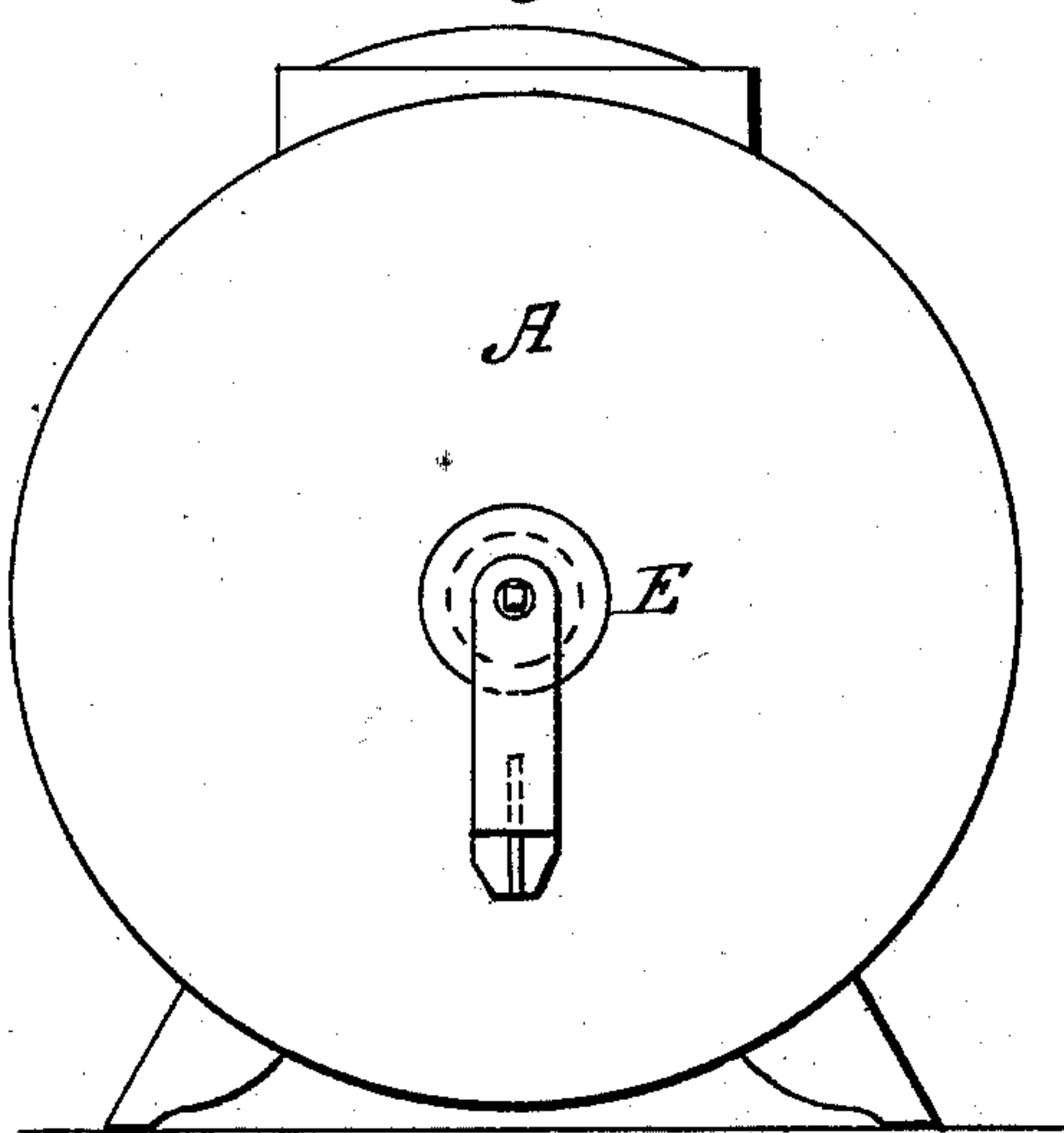


Fig. 2.



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UNITED STATES PATENT OFFICE.

LEVI STEVENS, OF FITCHBURG, MASSACHUSETTS.

IMPROVED COMBINATION APPARATUS FOR CARBURETING AIR.

Specification forming part of Letters Patent No. 68,666, dated September 10, 1867.

To all whom it may concern:

Be it known that I, LEVI STEVENS, of Fitchburg, in the county of Worcester and State of Massachusetts, have invented a new and Improved Combination Apparatus for Carbureting Air; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 represents a side elevation of my invention. Fig. 2 is an end elevation of the same. Fig. 3 is a longitudinal vertical section of the same through its center. Fig. 4 is a cross-section of the same through the line *x x* of Fig. 3. Fig. 5 is a similar cross-section through the line *y y* of Fig. 3.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in the use of a new device for regulating the flow of the carbureting-fluid into and preserving it at the proper level in the carbureting-chamber of an apparatus which combines the meter-wheel and regulator patented by me April 9, 1867, and June 11, 1867.

In order that others skilled in the art to which my invention appertains may be enabled to make and use the same, I will proceed to describe it in detail.

In the drawings, A represents the wall of a metallic cylinder, the interior of which is divided by a partition, *a*, into two nearly equal chambers, A' A², the former of which contains the meter-wheel and the latter the apparatus for regulating the flow of carbureted air from the instrument to the burners.

B is the meter-wheel, and is similar in construction and operation to the meter-wheel covered by my patent of April 9, 1867, to which reference is to be had for a more particular description of this wheel.

C is the apparatus for regulating the escape of the carbureted air to the burners, and is similar in construction and operation to the apparatus for the same purpose described in my Letters Patent of June 11, 1867, to which reference is to be had for a more particular description. The shaft *b* of the meter-wheel bears at a point below the center of the partition *a*, and gears with a pinion, *d*, on the end of a shaft, D, which bears exactly at the center of the partition, and of the end wall A of the cylinder. The shaft D extends through

the center of the chamber A², projecting through the partition *a* to support the pinion *d*, and through the end wall of the cylinder to support a spool, E, to which power is applied to slowly revolve the shaft D, and by means of the pinion to rotate the meter-wheel also.

Both chambers, A' and A², are partially filled with the carbureting-fluid, the fluid rising in the chamber A' to the holes *e e e* in the partition and in the chamber A² to about the line *z z* of Fig. 3.

Air is introduced to the upper part of chamber A' through the pipe F, the outer portion of which may be extended to any part of the building to receive and supply pure dry air to the apparatus. The carbureted air is discharged from the apparatus through the pipe P. As the carbureting-fluid is vaporized in the chamber A' and the vapor conducted away to the regulating apparatus C the fluid will gradually be exhausted in chamber A' and must be supplied from chamber A². This is accomplished by cups *g g*, fixed at the end of bent tubular arms *g' g'*, communicating with chamber A', as shown in Fig. 3, and attached to the shaft D, so as to revolve with it. At every revolution of the shaft the cups *g g* are filled with the fluid, which, when they rise, runs down through the tubular arm and is discharged into the chamber A'. Should they feed the fluid to the chamber A' too rapidly the surplus will run back through the holes *e e e*. The fluid will thus always be kept at its proper level in the chamber A'.

The spool E may be fixed to the shaft D in such a manner that a cord and weight may be used as the motive power, and the apparatus may be wound up like a watch.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination of the cups *g g* with the tubular arms *g' g'*, attached to the revolving shaft D so as to rotate with it, and bent at their inner extremity so as to discharge their fluid contents into the chamber A', all constructed, combined, and arranged substantially in the manner and for the purpose set forth.

LEVI STEVENS.

Witnesses:

NATHAN K. ELLSWORTH,
L. HILL.