

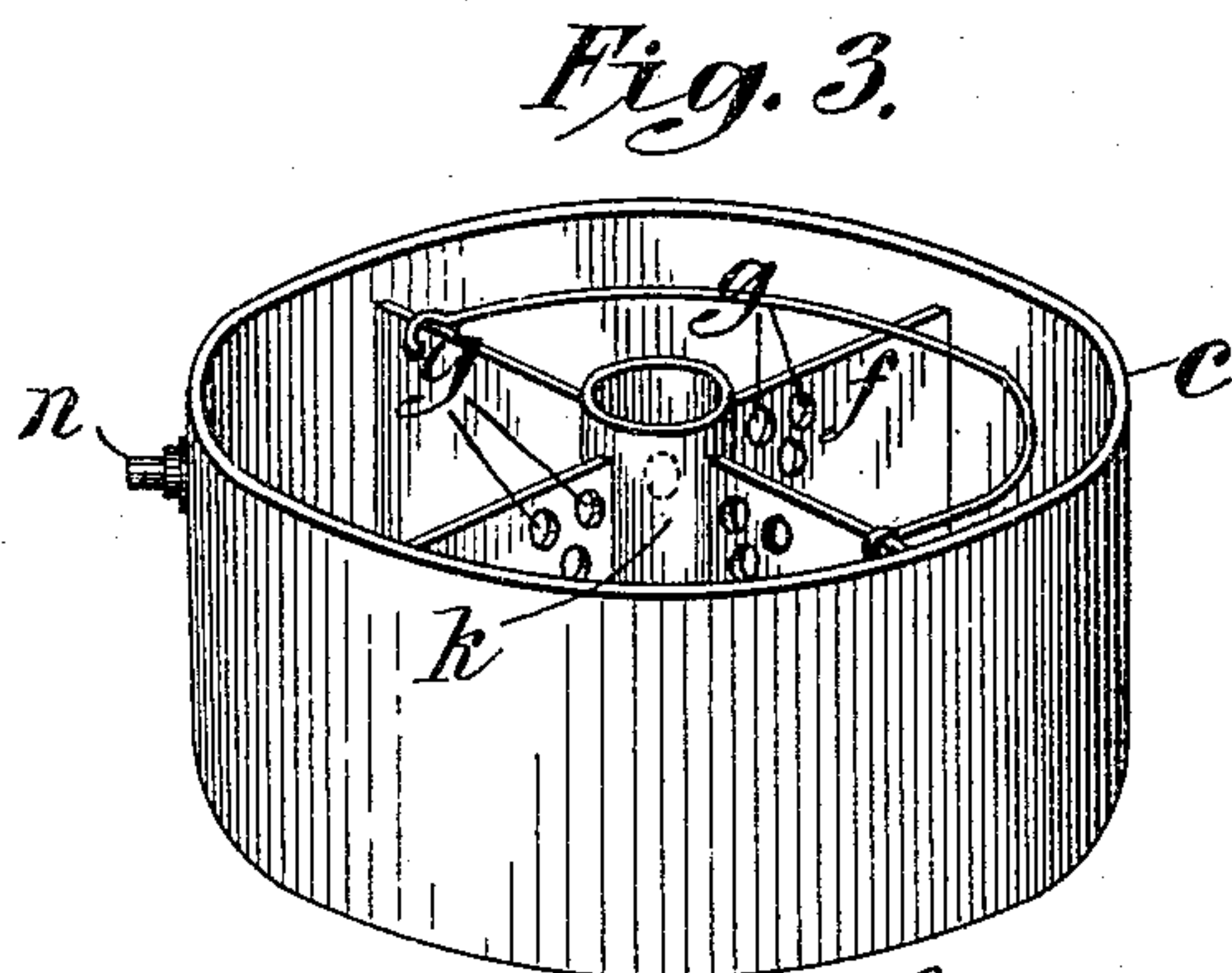
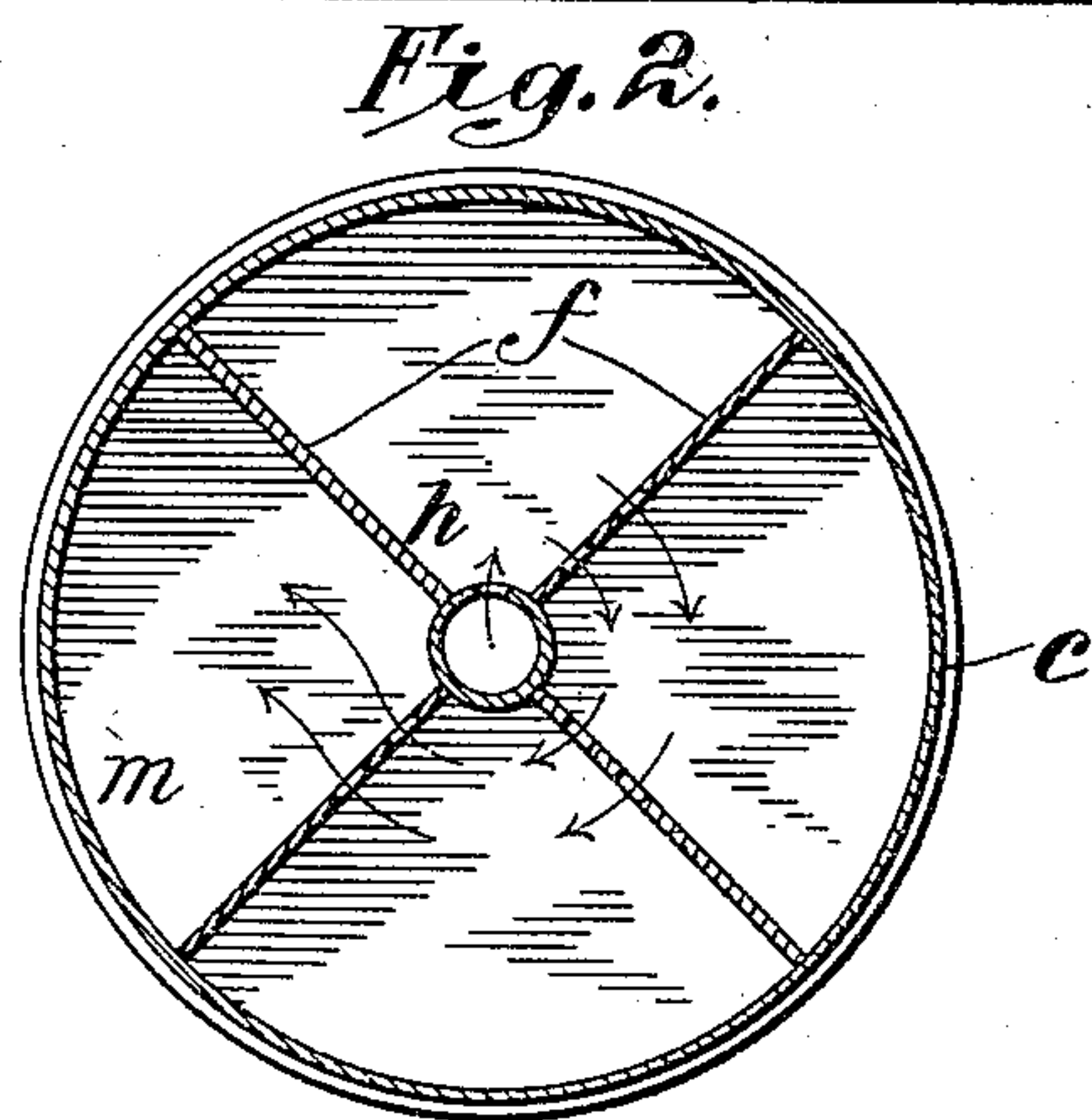
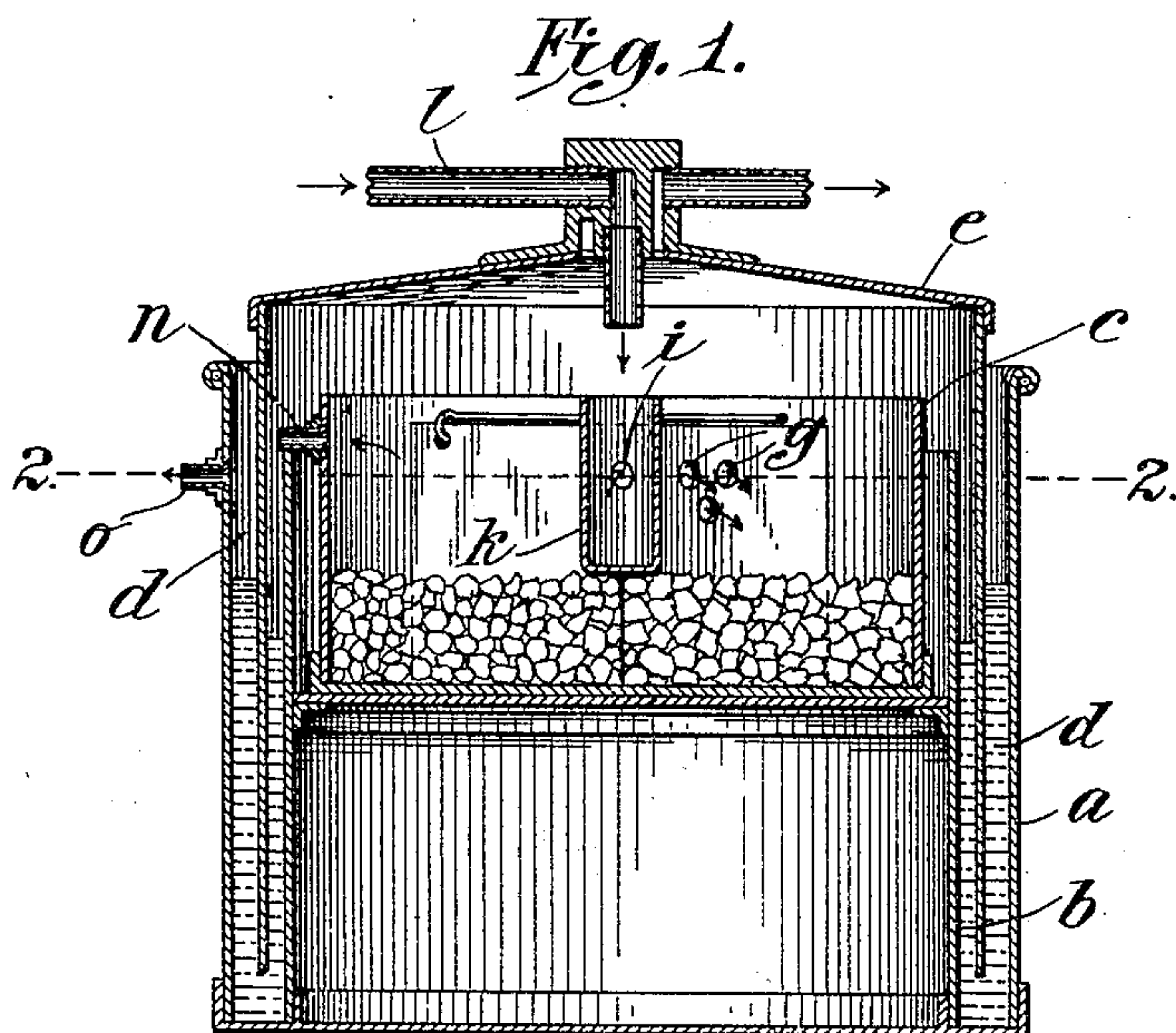
No. 773,860.

PATENTED NOV. 1, 1904.

J. W. FEATHERSTONE.
ACETYLENE GAS GENERATOR.

APPLICATION FILED MAY 19, 1904.

NO MODEL.



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JAMES W. FEATHERSTONE, OF BARKER, NEW YORK.

ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 773,860, dated November 1, 1904.

Application filed May 19, 1904. Serial No. 208,656. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. FEATHERSTONE, a citizen of the United States, residing at Barker, in the county of Niagara and State of New York, have invented certain new and useful Improvements in Acetylene-Gas Generators, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof.

This invention relates to acetylene-gas generators. In some such generators it is preferable to introduce the carbide into the generator in a pail or other container, a pail of fresh carbide being introduced in place of the pail of consumed carbide as fast as the consumption of carbide may require. In these apparatuses the complete consumption of carbide is generally indicated by the appearance of the lights, which begin to grow dim as the gas from which they are supplied ceases to be generated; but it happens oftentimes that a clogging of the pipes or some other derangement of the apparatus operates to produce the same effect, so that the dimming of the lights cannot be relied upon as a safe criterion of the consumption of the contained carbide.

It will be obvious that the dismantling of the generator during the generation of gas in order to replenish the carbide is attended with danger, particularly when done at night, as is often necessary, by the aid of a lighted lamp. It is accordingly one object of this invention to provide a more reliable and safer test of the condition of the carbide within the generator than that furnished by the character of the light supplied from the generator.

Another object of the invention is to maintain the container support or holder free from water, so that a new container may be quickly and easily inserted without having first to pump out the apparatus.

Further objects of the invention consist in generally improving the apparatuses of the nature referred to.

The several features of the invention will be described hereinafter in connection with the drawings, which illustrate a convenient embodiment of the same in an acetylene-gas generator, and in which—

Figure 1 is a view in central vertical section

of the generator. Fig. 2 is a horizontal sectional view through the carbide-container, and Fig. 3 is a view in perspective of the carbide-container.

The outer shell or body *a* of the generator is preferably cylindrical in shape and has secured thereto within the same a cylindrical receptacle or holder *b* to receive and support the pail of carbide *c*. Between the supporting-receptacle *b* and the outer shell there will accordingly be formed an annular space *d*, into which a cylindrically-shaped hood or gasometer *e* extends, a small quantity of water being preferably provided in the annular space in order to seal the lower edge of the gasometer or hood to prevent the leakage there of the generated gas.

The carbide pail or container *c* extends above the sides of the receptacle *b* and is preferably divided into a plurality of sections by partitions *f*, in all but one of which near the top are openings *g*, through which communication between the adjacent sections is established. The water is introduced into the first section *h* in any convenient way, preferably from an opening *i* in a cup *k* in the center of the pail, and into which water is fed gradually from a supply-pipe *l*, entering through the top of the hood, the water dropping from the end of said pipe into the cup. The pressure or head of water, it will be understood, must be sufficient to overcome the pressure of the gas in the apparatus. It will be clear that the water will fill first the section *h*, then the adjacent section through the openings *g*, and so on, until the last section *m* is reached. When the carbide is entirely consumed, the water entering the carbide-pail will cease to be decomposed and will fill the pail up to an outlet *n*, which is preferably made flaring, as indicated in the drawings, to prevent its being clogged by impurities in the carbide or by lime which may exist in the pail. The partitions in the carbide-pail do not extend to the top of the pail, and in this way all the carbide is sure to be covered by water before it overflows through the outlet *n*, as just described. This outlet is arranged to discharge into the annular space *d*, whereby the water which would otherwise overflow from the container or pail into the re-

ceptacle or holder runs down into the water in the annular space d . Extending through the outer shell a , at a point below the top of the receptacle or holder, is another discharge-pipe o , also preferably having a flaring opening, and when the water in the outer receptacle rises to this point it is discharged therethrough.

The operation of the improved generator will be understood from the foregoing. When the carbide has been entirely consumed, the continuing feeding of the water into the carbide-pail will cause a discharge through the outlet-pipe n into the annular space d , as above described, which will in turn cause the water in said annular space to rise to the pipe o , from which it will be discharged. In this way it will be clear that the consumption of the carbide may be conveniently indicated.

It will be obvious that many changes may be made in the construction of the generator without departing from the spirit of the invention, and accordingly the invention is not limited to the precise form here shown and described.

I claim as my invention—

1. In an acetylene-gas generator, the combination of an outer shell, a carbide-container supported within the outer shell, means to supply water to the container, an outlet for the water near the top of the container, and an outlet for the water in the shell.

2. In an acetylene-gas generator, the combination of an outer shell, a carbide-container, means to support the container forming a space between the container and outer shell, means to supply water to the container, an outlet for the water near the top of the container discharging into said space, and an outlet in the shell below the outlet in the container.

3. In an acetylene-gas generator, the combination of an outer shell, a carbide-container, a receptacle to receive the container forming a space between itself and the outer shell, means to supply water to the container, an outlet from and near the top of the container discharging into said space and an outlet from said space through the outer shell and below the outlet from the container.

4. In an acetylene-gas generator, the combination of a cylindrical outer shell, a carbide-container, a cylindrical receptacle within the shell for holding the container, the sides of which extend above the sides of the receptacle,

said receptacle and shell forming an annular space, means to supply water to the container, an outlet near the top of the container discharging into said annular space and an outlet from said space through the shell and below the top of the receptacle.

5. In an acetylene-gas generator, the combination of an outer shell, a sectional carbide-container having communications between the several sections, and supported within the outer shell, means to supply water to the container, an outlet from near the top of the container and an outlet for the water in the shell.

6. In an acetylene-gas generator, the combination of an outer shell, a carbide-container, partitions in said container dividing it into sections, all of said partitions except one having openings therein whereby water may be circulated through the sections successively, means to support the container forming a space between the container and the outer shell, means to supply water to the first section of the container, an outlet for the water near the top of the last section discharging into said space, and an outlet in the shell.

7. In an acetylene-gas generator, the combination of an outer shell, a carbide-container, means to support the carbide-container forming a space between the container and outer shell, a hood in said space, means to supply water to the container, an outlet for the water near the top of the container discharging into said space, and an outlet in the shell.

8. In an acetylene-gas generator, the combination of a cylindrical outer shell, a carbide-container, a cylindrical receptacle within the shell for holding the container, the sides of which extend above the sides of the receptacle, said receptacle and shell forming an annular space, a hood extending within the annular space and surrounding the container, means to supply water to the container, an outlet from near the top of the container discharging into said space, and an outlet from said space through the shell below the top of the receptacle.

This specification signed and witnessed this 14th day of May, A. D. 1904.

JAMES W. FEATHERSTONE.

In presence of—

JOHN O'MALLEY,
T. STEWART.