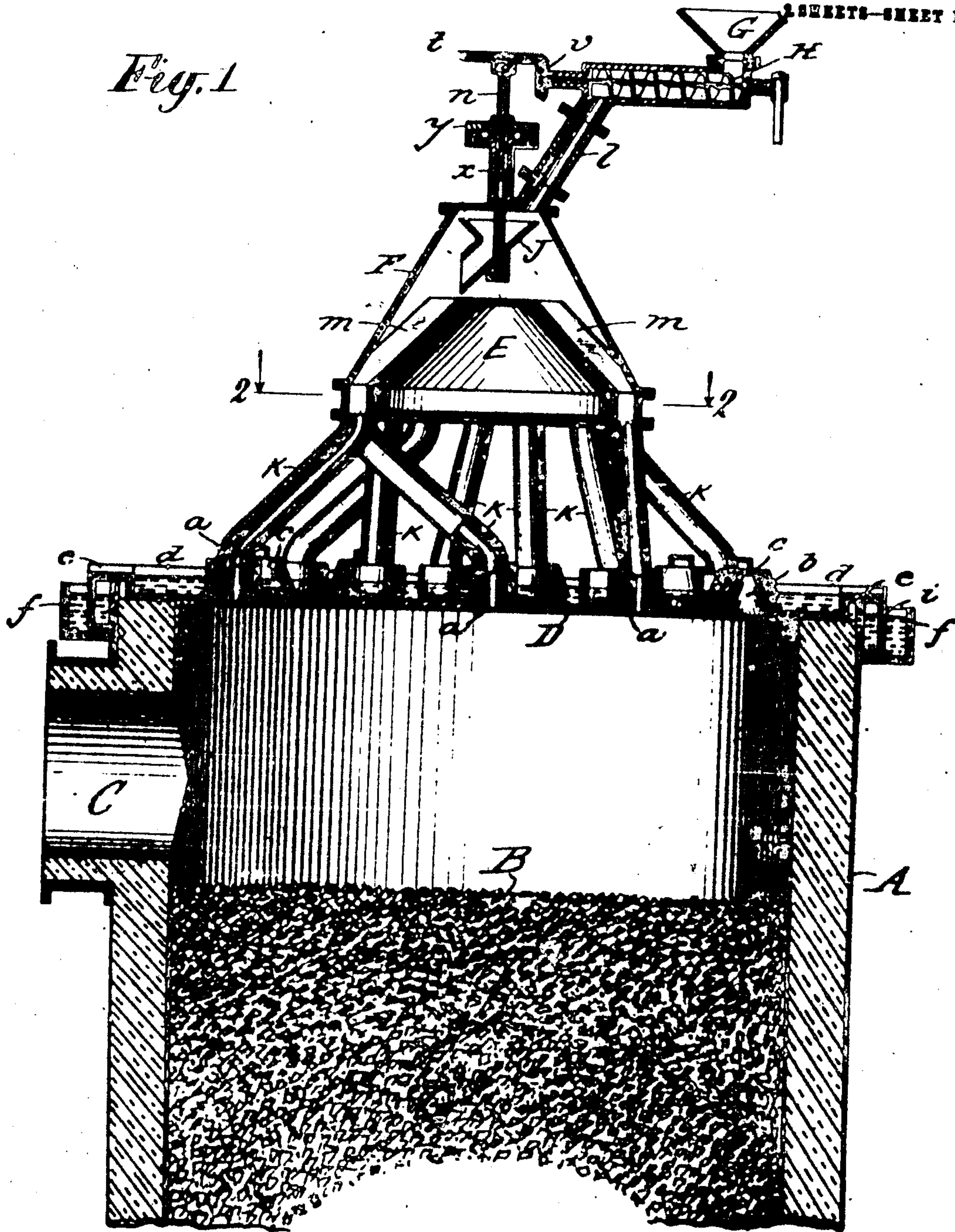


G. C. STONE & R. H. DODD.  
GAS PRODUCER.  
APPLICATION FILED JULY 27, 1909.

955,615.

Patented Apr. 19, 1910.  
SHEETS—SHEET 1.

Fig. 1



WITNESSES:

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3 SHEETS—SHEET 1.

Fig. 2.

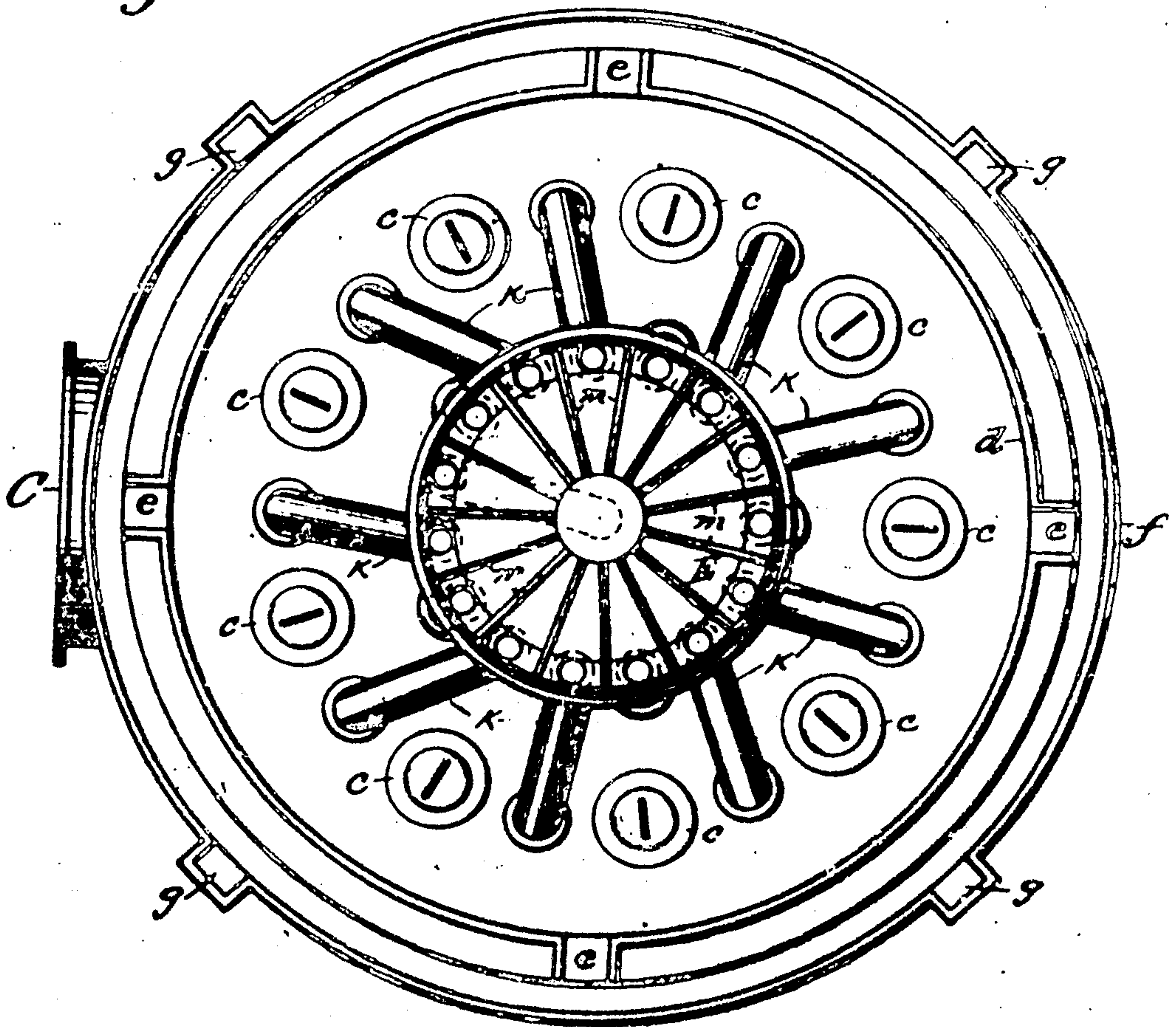
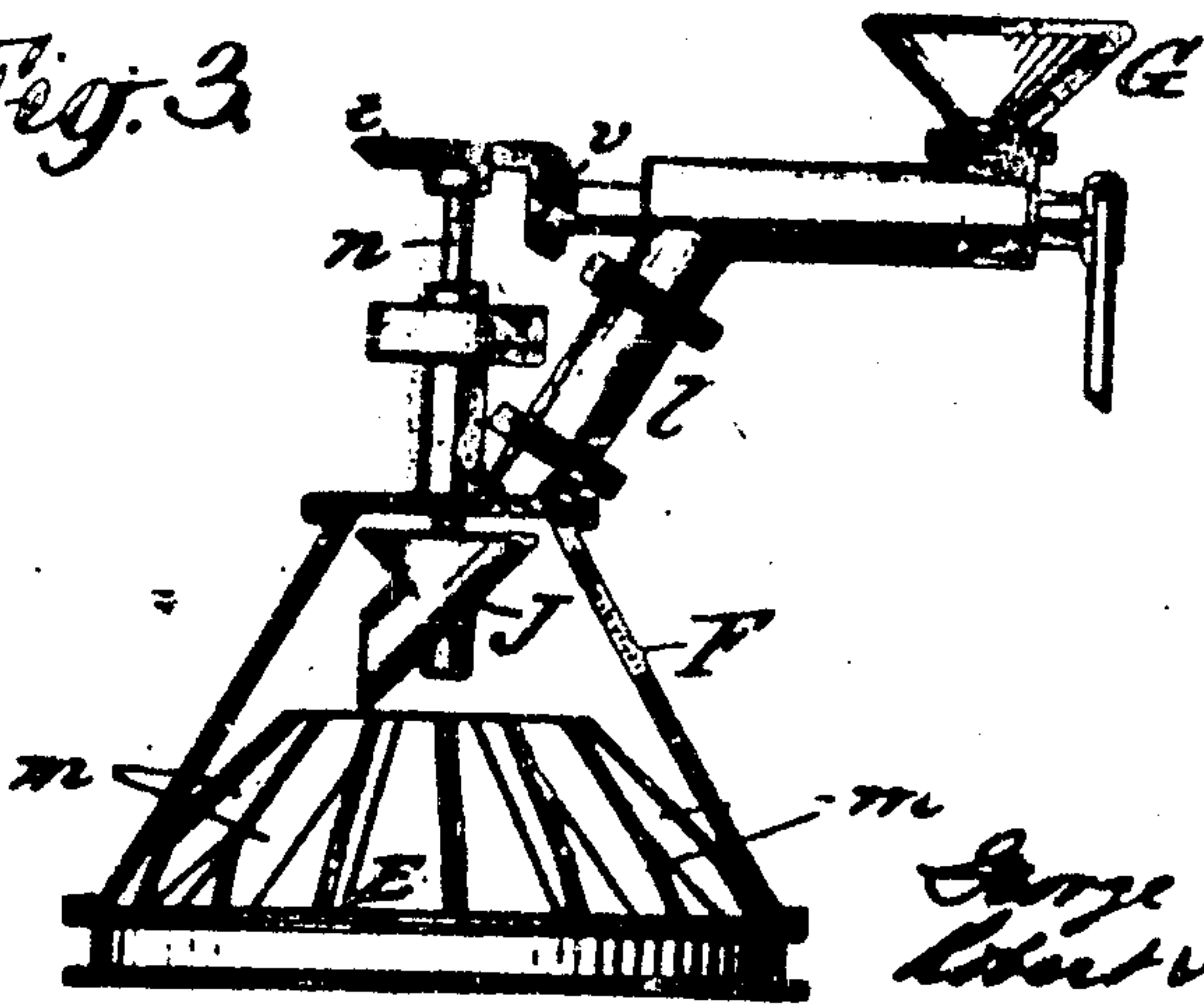


Fig. 3.



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# UNITED STATES PATENT OFFICE.

GEORGE C. STONE, OF NEW YORK, N. Y., AND ROBERT H. DODD, OF PALMERTON,  
PENNSYLVANIA.

GAS-PRODUCER.

955,615.

Specification of Letters Patent.

Patented Apr. 19, 1910.

Application filed July 27, 1909. Serial No. 509,810.

To all whom it may concern:

Be it known that we, GEORGE C. STONE and ROBERT H. DODD, citizens of the United States, residing at New York city, in the county and State of New York, and at Palmerton, county of Carbon, and State of Pennsylvania, respectively, have invented certain new and useful Improvements in Gas-Producers; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

In an application for Letters Patent filed by us of even date herewith, we have illustrated and described devices for feeding fuel to a gas producer, wherein the cover of the producer is provided with a multiplicity of fuel inlet ports whose inlet ends are brought into proximity to each other and in an annular row, so that they may the more conveniently be supplied with the fuel to be employed for charging the producer. In said copending application, moreover, we have shown a particular construction of cover plate appropriate to this general arrangement and especially adapted for keeping down the temperature of the cover plate and effectually sealing its stoking ports and the joints which connect the fuel feed ports with the fuel feed pipes.

In the present invention, we have retained these features of construction shown in our said copending application, but have adopted a modified means for supplying the fuel to the inlet ends of the pipes.

In the accompanying drawings, Figure 1 represents the upper portion of a gas producer of any suitable type, provided with the feeding devices of our present invention, the parts being shown mainly in section; Fig. 2 represents a sectional top plan view taken upon a plane indicated by the line 2—2 of Fig. 1; Fig. 3 represents the upper portion of the feed devices, the parts being shown in elevation, with the exception of the protecting hood which is shown in section.

Similar letters of reference indicate similar parts throughout the several views.

Referring to the drawings, A indicates the gas producer, which may be, for instance, of the usual Taylor type. B indicates the charge of fuel therein, and C the outlet for the gases generated in the pro-

ducer. We have not thought it necessary or essential to illustrate the construction of the lower part of the producer, as it may be of any suitable or desired type commonly used in large operations and wherein it is desirable to maintain substantially uniform conditions.

The cover of the producer is preferably a cast iron plate D, having cast integrally therewith a multiplicity of upwardly projecting nipples or inlet ports *a*, distributed with substantial uniformity over the surface of the plate, as, for instance, in a plurality of concentric rows surrounding a central nipple. Conveniently interspersed with the outer row of these fuel inlet ports or nipples is arranged a row of stoking ports *b* having removable covers *c*, so that the surface of the charge is readily accessible through the stoking ports, for the insertion of the usual stoking tool. The cover is further provided with an outlying raised flange *d* having overflows *e* which discharge into an outer trough *f* having take-offs *g* into which trough a dip-flange *i* of the cover plate projects. In this manner, the stoking ports may be readily sealed by water, as indicated, and the water will likewise serve to keep down the temperature of the fuel inlet ports so as to prevent any possible obstruction thereof by coking of the fuel. The inlet ports or nipples *a* further serve as a spigot connection to the socket ends of a series of fuel feed pipes *k*, the socket and spigot joints being likewise water-sealed. These fuel feed pipes *k* extend upwardly in such manner that their inlet ends are in proximity to each other and in a row. The arrangement of the inlet ends is annular and preferably circular, so that they may the more readily be supplied with fuel from above.

In our copending application, hereinbefore referred to, the supply of fuel to the inlet ends of the fuel feed pipes *k* was, under conditions of equal distribution, substantially simultaneous. In the present instance, however, we have arranged to supply the fuel *seriatim* from one inlet end to another of the series, through the intermediacy of a revolving spout which discharges thereinto; and, in order to lessen the sweep or extent of space traversed by the lower end of the spout, we have interposed between its discharge end and the ap-



nular row of inlet ends of the pipes *k* an incline *E* provided with a series of guides *m* which direct the flow of fuel into said inlet ends respectively as the spout revolves, scattering being prevented by the hood *F*. The revolving spout *J* is mounted upon a rotary shaft *n* whose driving gear *t* intermeshes with a gear *v* on the shaft of the feed screw *H* which forwards the fuel from the hopper *G* into the chute *l*, the feed screw shaft being driven from any suitable source of power. The shaft *n* passes through an elongated bearing *x* and is supported thereon by a collar *y* which rests upon ball bearings, as shown in Fig. 1.

The parts being constructed and arranged as described, the mode of operation of the invention is as follows:—The fuel to be fed to the producer is forwarded from the hopper *G* by means of the feed screw *H* and passing downwardly through the chute *l* enters the revolving spout *J*, whose speed of revolution relatively to the speed of the feed screw *H* depends upon the relative diameter of the gears *v*, *t*. As the spout *J* rotates it supplies the fuel to the inlet ends of the pipes *k*, one after another, and is assisted in so doing by the guides *m* and the incline *E*. From the inlet ends of the pipes *k* the fuel is distributed correspondingly over the surface of the charge in the producer.

Having thus described our invention, what we claim is:—

1. A gas producer provided with a cover having a multiplicity of fuel feed ports distributed over its surface, a corresponding series of fuel feed pipes communicating with said ports and having their inlet ends arranged in an annular row and a rotating spout for supplying the inlet ends in succession; substantially as described.

2. A gas producer provided with a cover having a multiplicity of fuel feed ports distributed over its surface, a corresponding series of fuel feed pipes communicating with said ports and having their inlet ends arranged in an annular row, a rotating spout for supplying the inlet ends in succession, and an incline upon which the spout discharges before the fuel reaches said inlet ends; substantially as described.

3. A gas producer provided with a cover having a multiplicity of fuel feed ports distributed over its surface, a corresponding series of fuel feed pipes communicating with said ports and having their inlet ends

arranged in an annular row, a rotating spout for supplying the inlet ends in succession, and an incline upon which the spout discharges before the fuel reaches said inlet ends, the incline being provided with guides for directing the flow of fuel into the pipes; substantially as described.

4. A gas producer provided with a cover having a multiplicity of fuel feed ports distributed over its surface, a corresponding series of fuel feed pipes communicating with said ports and having their inlet ends arranged in an annular row, a rotating spout for supplying the inlet ends in succession, an incline upon which the spout discharges before the fuel reaches said inlet ends, and an outlying hood inclosing the incline and within which the spout rotates; substantially as described.

5. A gas producer provided with a cover having a multiplicity of fuel feed ports distributed over its surface, a corresponding series of fuel feed pipes communicating with said ports and having their inlet ends arranged in an annular row, a rotating spout for supplying the inlet ends in succession, an incline upon which the spout discharges before the fuel reaches said inlet ends, an outlying hood inclosing the incline and within which the spout rotates, and a fuel supply pipe discharging into the rotating spout; substantially as described.

6. A gas producer provided with a cover having a multiplicity of fuel feed ports distributed over its surface, a corresponding series of fuel feed pipes communicating with said ports and having their inlet ends arranged in an annular row, a rotating spout for supplying the inlet ends in succession, an incline upon which the spout discharges before the fuel reaches said inlet ends, an outlying hood inclosing the incline and within which the spout rotates, an inclined fuel supply pipe discharging into the rotating spout, and a hopper and feed-screw pipe supplying said inclined pipe, the feed screw and the shaft of the rotating spout being geared together; substantially as described.

In testimony whereof we affix our signatures, in presence of two witnesses.

GEORGE C. STONE.  
ROBERT H. TODD.

Witnesses:

JOHN C. PENNIE,  
LAURA B. PENFIELD.