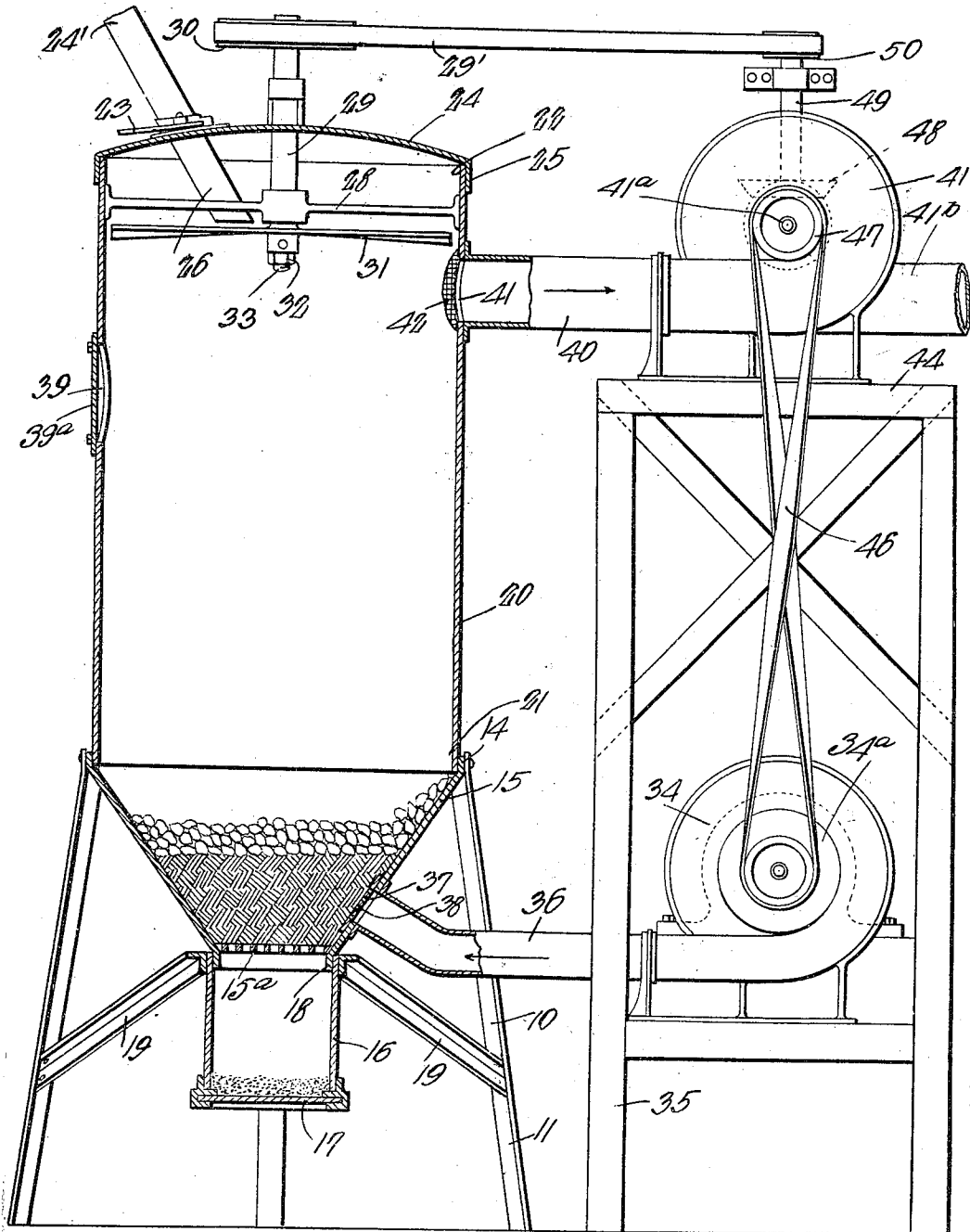


W. HAMMICK.
GAS PRODUCER.

APPLICATION FILED JULY 16, 1912.

1,060,755.

Patented May 6, 1913.



Witnesses

J. R. Giney
S. H. Wilcox

Walter Hammick Inventor
by *C. A. Snow & Co.* Attorneys

UNITED STATES PATENT OFFICE.

WALTER HAMMICK, OF PITTSBURG, KANSAS.

GAS-PRODUCER.

1,060,755.

Specification of Letters Patent.

Patented May 6, 1913.

Application filed July 16, 1912. Serial No. 709,751.

To all whom it may concern:

Be it known that I, WALTER HAMMICK, a citizen of the United States, residing at Pittsburg, in the county of Crawford and State of Kansas, have invented a new and useful Gas-Producer, of which the following is a specification.

The device herein disclosed is adapted to be used for the making of gas, and the invention aims to provide novel means for creating a draft and for disposing of the gas, and to provide novel mechanism whereby the aforesaid means, and a coal trimmer, may be actuated simultaneously.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

The drawings show a side elevation partly in section of the complete apparatus.

In the drawings, 20 designates a cylindrical furnace, the lower terminal 21 of which is embraced by the flange 14 of a conical fire box 15, provided with a grate 15^a, the lower flange 18 of the fire box being received in the upper end of an ash pit 16, the lower end of which carries a slidable ash door 17. Legs 10 are provided, and the flanges 11 of the legs are secured to the parts 14 and 21 of the fire box 15 and the furnace 20 respectively. Braces 19, which may be angle irons, connect the legs 10 with the upper end of the ash pit 16.

The upper terminal 22 of the furnace 20 is closed by a cover 24 provided with a flange 25 which embraces the furnace. The cover 24 is provided with an obliquely disposed intake chute 24', the passage of coal through the same being controlled by a shutter 23 which is pivotally supported on the cover 24.

In the side wall of the furnace 20 there is a stoke opening 39, controlled by a closure 39^a. The closure may be provided with an opening, across which a plate mica extends to permit the gas producing operation to be observed.

The last specified details are well known in the art and need no illustration.

A spider 28 is connected peripherally to the furnace 20, at a point adjacent the up-

per end of the furnace. The discharge end 26 of the intake chute 24' extends below the spider 28. The spider supports a shaft 29, the lower terminal of which is reduced and screw threaded as at 33, to receive a nut 32 engaging the hub of a coal leveler 31 which is keyed to the shaft 29. The hub of the leveler 31 engages the hub of the spider 28 and thus the shaft 29 is held against upward movement. The leveler 31 is shaped like the propeller wheel of a vessel.

A draft through the furnace 20 is maintained by a fan 34 driven by a motor 34^a mounted upon a frame 35, there being a conduit 36 connecting the fan 34 with an opening 37 in the fire box 15, the opening 37 being protected by a screen 38 which prevents ash and braize from entering the conduit 36.

The gas is removed through a conduit 40 which communicates with an opening 41 disposed adjacent the upper end of the furnace 20, the opening being protected by a screen 42 which prevents the ash or braize from entering the conduit 40. Suction is created in the conduit 40 by a fan 41' having an outlet 41^b. The fan 41' is supported by the upper bar 44 of the frame 35. The fan 41' is driven from the motor 34^a by a belt 46 which passes over a sheave 47 secured to the shaft 41^a of the fan 41'. Beveled gears 48 connect the shaft 41^a with an upright shaft 49 carrying a sheave 50 which drives a belt 29 the belt 29' being trained about a sheave 30 whereby rotation is imparted to the coal leveler 31. It will be noted that by this construction the fans 41' and 34 and the coal leveler 31 may be driven from a common source of energy which may be the motor 34^a, the same being of any suitable character.

In practical operation, an initial charge of coal is placed in the fire box 15, and the fire is lighted. Subsequently, the coal is fed through the chute 24' although the coal may be fed through the opening 39 if desired. The coal, passing through the discharge end 26 of the chute 24', is delivered below the spider 28 and upon the leveler 31 which, rotated rapidly, will distribute the coal within the furnace 20. The ashes forming upon the grate 15^a will drop into the ash pit 16, the slidable door 17 permitting the removal of the ashes at any time. When the motor 34^a is in operation, the belt 46 will be actuated, rotation being imparted to the sheave 47 and to the shaft 41^a of the fan 41'. When

the shaft 41^a of the fan 41' is actuated, rotation will be imparted to the shaft 49, through the medium of the intermeshing beveled pinions 48. When the shaft 49' is rotated, rotational movement will be imparted to the shaft 49 and to the coal leveler 31 through the medium of the pulleys 30 and 50 and the belt 29'. The motor 34^a, of course, drives the fan 34. The fan 34 creates a forced draft to the coal in the fire box 15, and the fan 41' creates a suction which draws away the gas, the gas being discharged through the outlet 41.

What is claimed is:

- 15 A gas producer comprising a furnace, a fire box connected with the furnace; a spider extended transversely of the furnace; a primary shaft journaled in the spider; a leveler secured to the primary shaft; a frame; a

suction fan supported on the frame and including a shaft; a draft fan supported upon the frame; a conduit connecting the draft fan with the fire box; a conduit connecting the suction fan with the furnace; a motor operatively connected with the draft fan; means for connecting the motor with the suction fan shaft; a secondary shaft disposed parallel to the primary shaft; means for operatively connecting the secondary shaft with the suction fan shaft; and a belt connecting the primary and secondary shafts.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WALTER HAMMICK.

Witnesses:

JNO. W. SHAW,
S. W. LONTKOWSKY.