No. 874,341. PATENTED DEC. 17, 1907.

R. M. JACKSON.

COMBINED GENERATOR AND BURNER.

APPLICATION FILED APR. 10, 1907.

2 SHEETS—SHEET 1.

Fig. 2.

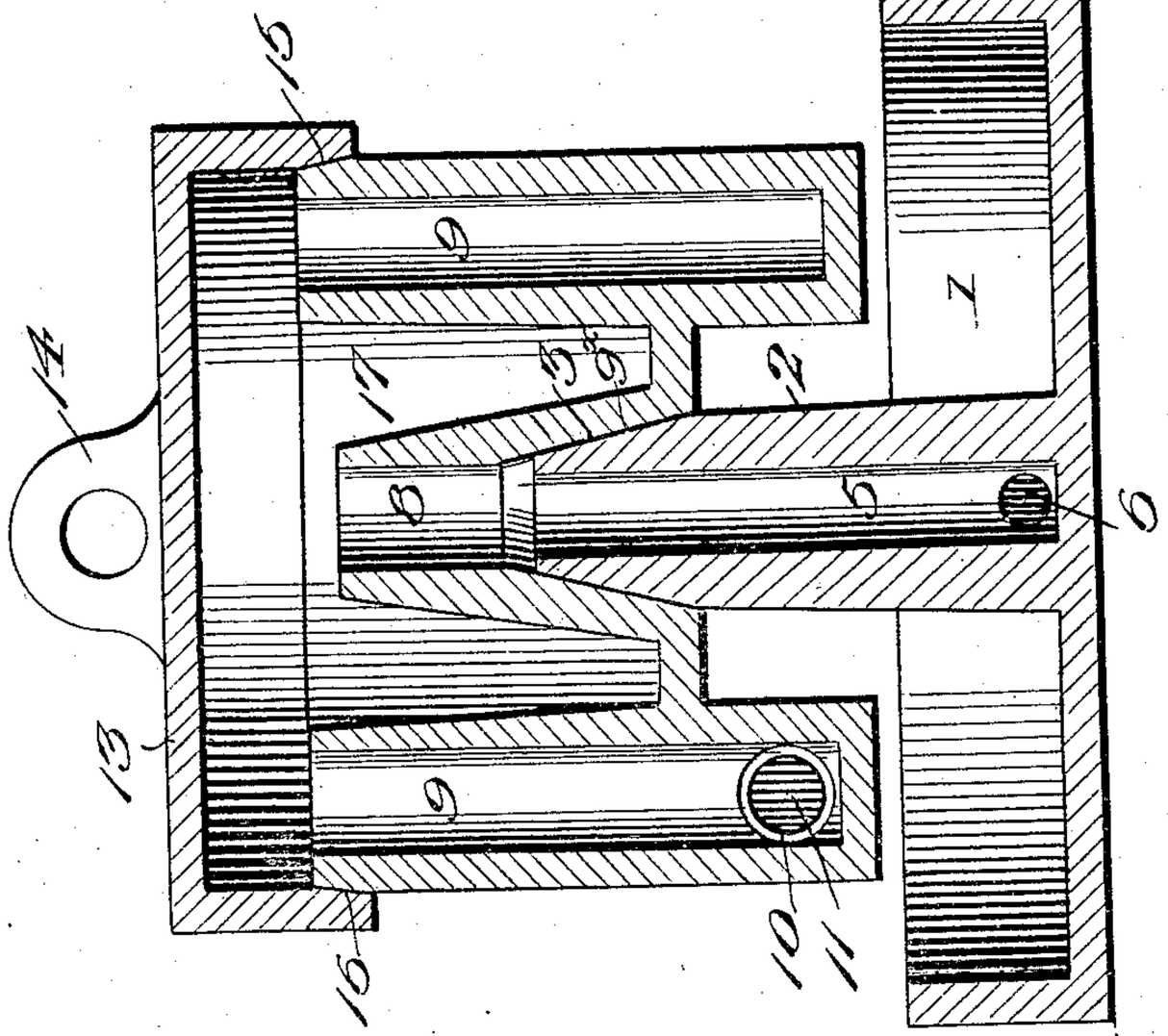
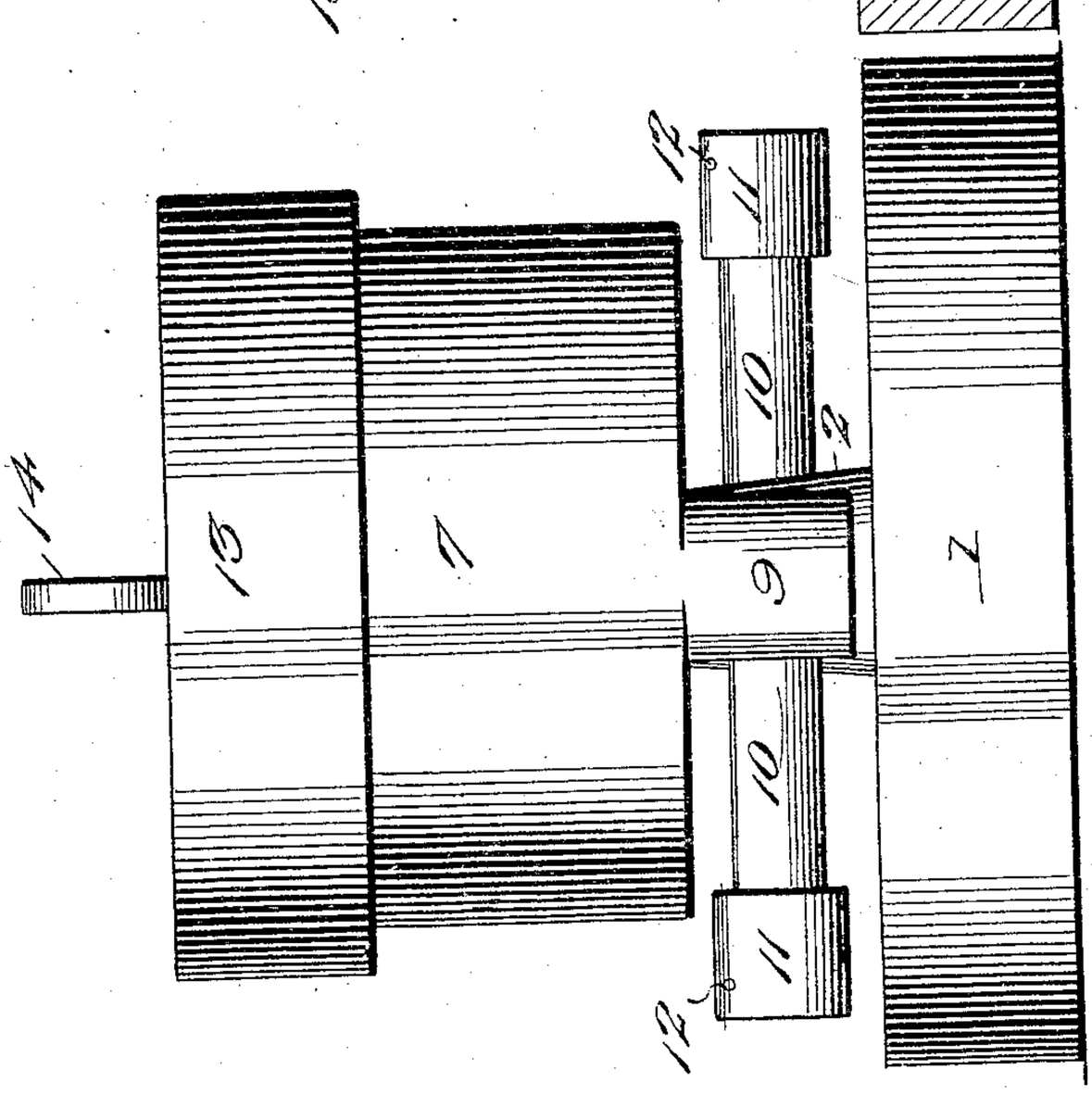


Fig. 1.



Witnesses
Wm. Koerth.
E. F. Bunyea

Inventor
Ralph M. Jackson,
By Victor J. Evans
Attorney

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2 SHEETS—SHEET 2.

Fig. 3.

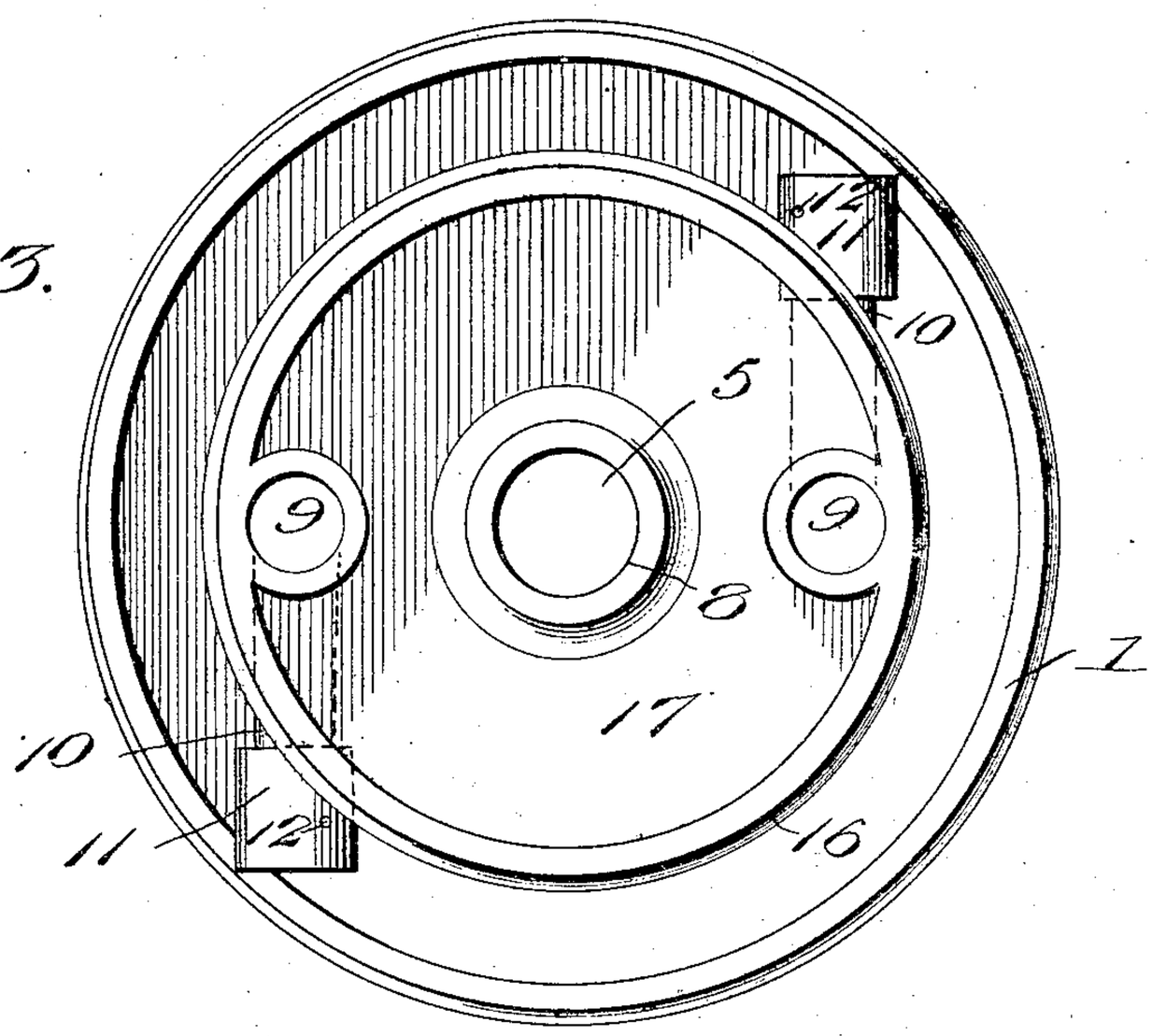
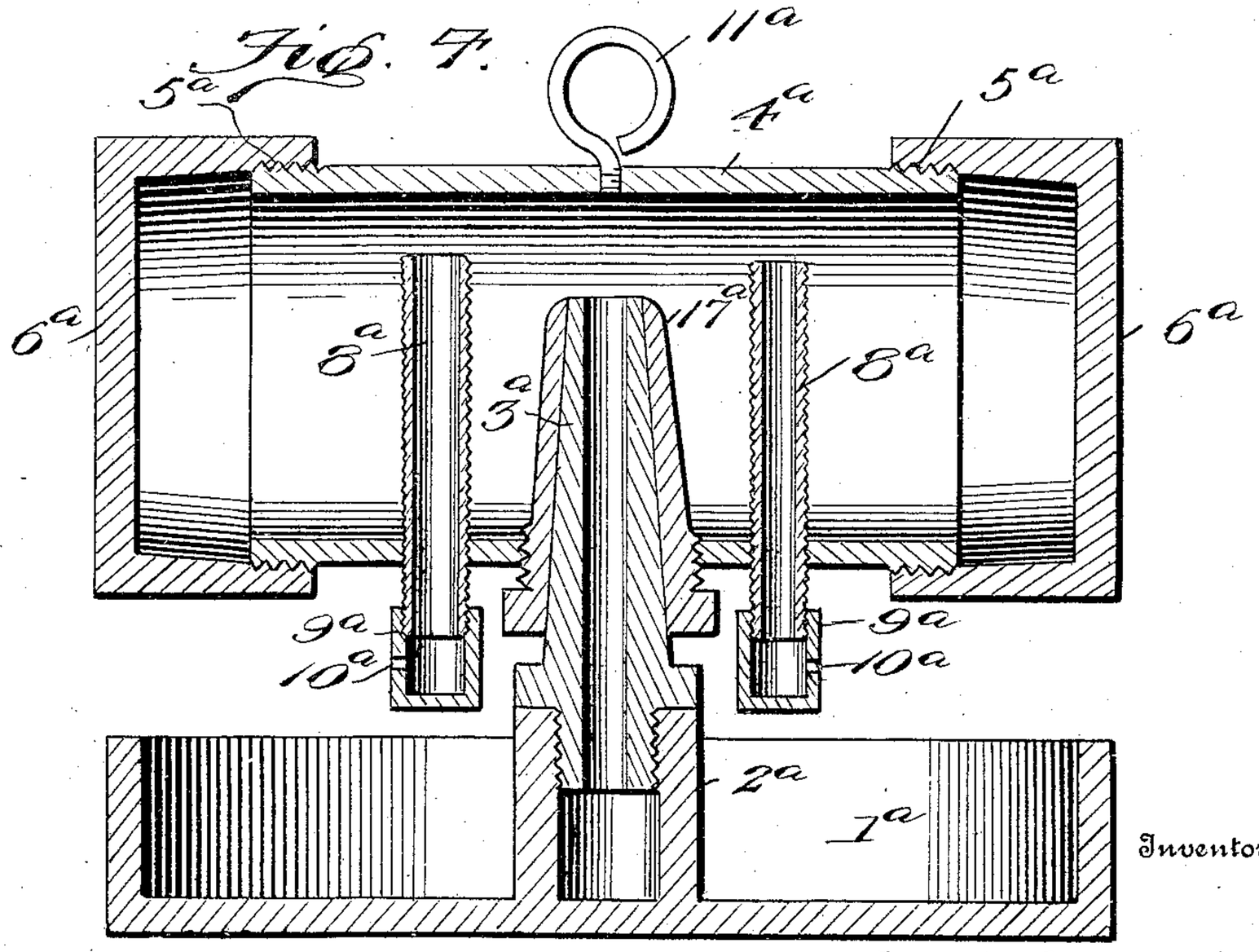


Fig. 7.



Witnesses
Wm. J. Koerth.
E. L. Bruyea.

Inventor
Ralph M. Jackson,
By Victor J. Evans
Attorney

UNITED STATES PATENT OFFICE.

RALPH M. JACKSON, OF FULLERTON, CALIFORNIA.

COMBINED GENERATOR AND BURNER.

No. 874,341. Specification of Letters Patent. Patented Dec. 17, 1907.

Application filed April 10, 1907. Serial No. 367,422.

To all whom it may concern:

Be it known that I, RALPH M. JACKSON, a citizen of the United States of America, residing at Fullerton, in the county of Orange and State of California, have invented new and useful Improvements in Combined Generators and Burners, of which the following is a specification.

This invention relates to combined generators and burners for distillate oils, and one of the principal objects of the same is to provide simple and efficient means for detaching the retort and burner from the starting pan and supply pipe.

Another object of the invention is to simplify the construction of combined gas generators and burners for distillate oils, and to provide means whereby the parts may be readily separated for cleaning.

These and other objects may be attained by means of the construction illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation of a combined generator and burner made in accordance with my invention. Fig. 2 is a central vertical section of the same. Fig. 3 is a plan view of the same with the cover removed. Fig. 4 is a central vertical section of a modified form of generator and burner.

Referring to the drawings for a more particular description of my invention, in Figs. 1, 2 and 3, the numeral 1 designates the starting pan provided with a vertical tubular extension 2, the upper end of which is tapered as at 3 and communicating with the bore 5 of the tube 2 is a supply pipe 6 for the distillate oil. The retort consists of a casing 7 having an inwardly extending nozzle 8, the walls of said nozzle being tapered, as at $9^{\times}$, to engage the tapering portion 3 of the tube 2, as shown more particularly in Fig. 2, the frictional engagement being such as to insure a sufficiently tight joint for the purpose designed. At opposite sides of the casing 7, vertical gas chambers 9 are provided and secured to the lower ends of these tubular chambers and projecting preferably in opposite directions, are the burner tubes 10, said burner tubes being provided with caps 11 having perforations 12 forming gas jets. A cover 13 provided with a central perforated lug 14 is fitted to the casing 7, said casing being tapered at its upper edge, as at 15, and the lower edge of the cover being slightly flared, as at 16, to form a frictional joint.

The operation of my invention as thus far described may be briefly referred to as follows: A sufficient quantity of oil being ignited in the starting pan 1, and oil being fed through the supply pipe 6 will rise in the retort through the bore 5 in the tube 2 and through the nozzle 8 into the generating chamber 17 where it is converted into gas which passes down through the gas chambers 9, and out through the burner tubes 10 and through the jet openings 11, said jet openings being suitably disposed under the retort to heat the same to continuously generate the gas after it has been started.

Referring to Fig. 4 which shows a modified form of my invention, the starting pan 1^a is provided with a central tubular connection 2^a provided with interior threads, and a tapering nozzle 3^a is connected to the tube 2^a. The retort consists of a transversely extending tube 4^a threaded at its opposite ends as at 5^a and provided with threaded caps 6^a fitted on the ends of the tube 4^a. Fitted in the lower side of the tube 4^a is a flaring nozzle 17^a in which is seated the nozzle 3^a connected to the starting pan 1^a. Threaded gas tubes 8^a are fitted in the lower sides of the tube 4^a and provided with adjustable caps 9^a, said caps having jet orifices 10^a. Secured to the top of the tube 4^a is a suspending loop 11^a.

The operation of the modification is similar to that described in relation to Figs. 1, 2 and 3, provision being made however in the construction shown in Fig. 4 for readily cleaning the parts whenever required.

From the foregoing it will be obvious that the generator and burner can be quickly detached from the starting pan since they are not connected by screw threads, the retort merely fitting upon the tubular extension of the starting pan, while the parts can be readily detached for cleaning and the device as a whole, is very simple and compact.

Having thus described the invention, what I claim is:

A generator and burner of the class described comprising a retort having an inwardly extending nozzle, the inner wall of which is flaring, a tube communicating with

the supply pipe and having a smooth tapered end to fit the nozzle, a cover for said retort and oppositely disposed gas chambers extending below the lower wall of the retort and provided with burner tubes, said tubes being provided with burner caps having jet orifices.

In testimony whereof, I affix my signature in presence of two witnesses.

RALPH M. JACKSON.

Witnesses:
E. E. BALCOM,
ROSE ROBINSON.