No. 897,792. PATENTED SEPT. 1, 1908.

G. F. SILVEY.

GAS GENERATOR.

APPLICATION FILED SEPT. 19, 1907.

Fig. 1.

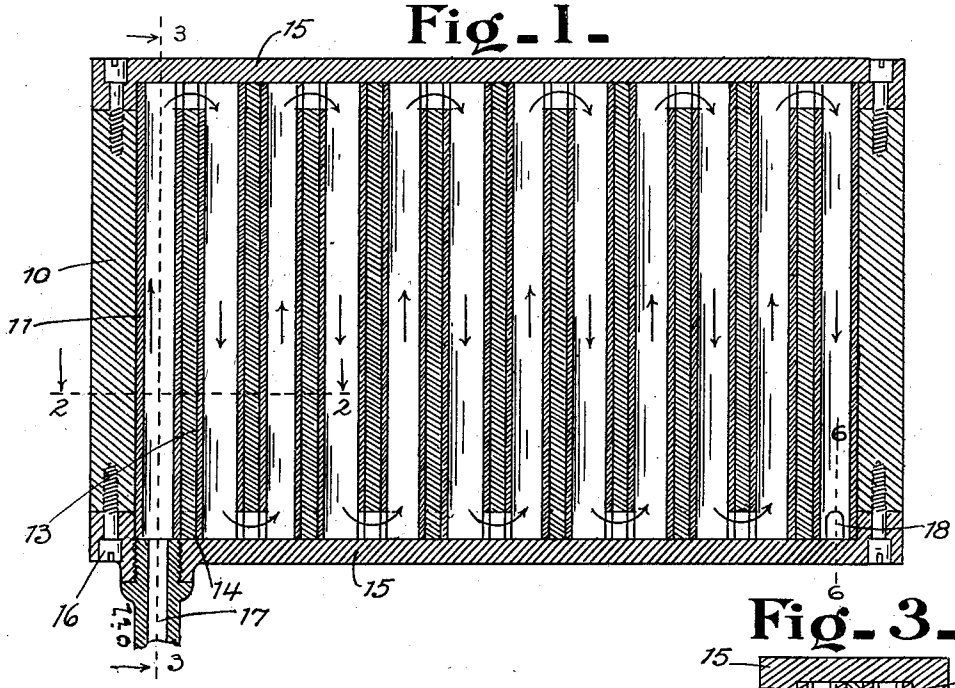


Fig. 3.

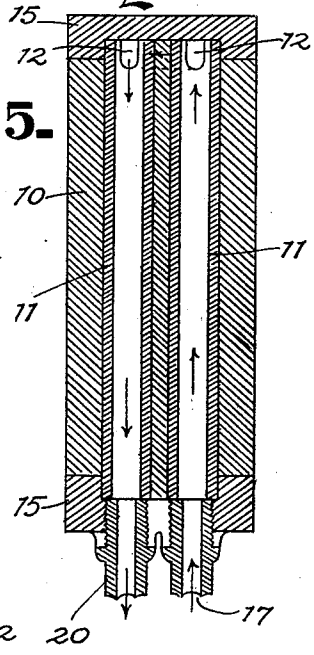


Fig. 2.

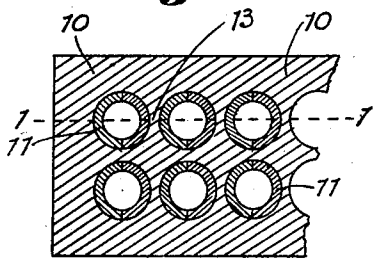


Fig. 4.

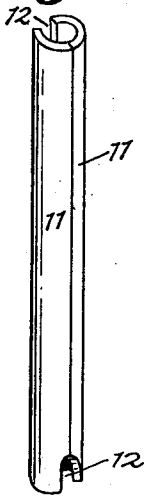


Fig. 5.

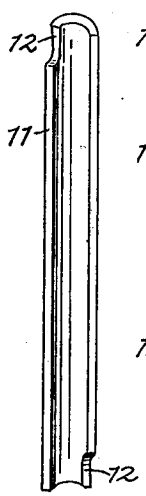
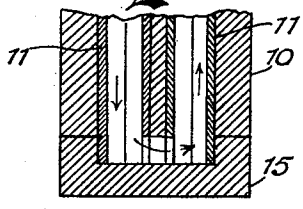


Fig. 6.



WITNESSES:

N. Allemong.

Olive Breeden

INVENTOR.

George F. Silvey.

BY

V. H. Lockwood.

ATTORNEY.

UNITED STATES PATENT OFFICE.

GEORGE F. SILVEY, OF ALEXANDRIA, INDIANA, ASSIGNOR OF ONE-FOURTH TO SAMUEL D. MONTGOMERY AND THREE-EIGHTHS TO SAMUEL W. MONTGOMERY, OF ALEXANDRIA, INDIANA.

GAS-GENERATOR.

No. 897,792. Specification of Letters Patent. Patented Sept. 1, 1908.

Application filed September 19, 1907. Serial No. 393,626.

To all whom it may concern:

Be it known that I, GEORGE F. SILVEY, of Alexandria, county of Madison, and State of Indiana, have invented a certain new and useful Gas-Generator; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like letters refer to like parts.

The object of this invention is to provide a simple and convenient device for the generation of gas from crude oil and the like.

One feature of the invention consists in providing a series of readily removable tubes that form the retort in which the oil is heated and the gas generated, so that the matter which may adhere or stick to the inner surface of said conduit or retort may be readily cleaned away and the excessive gumming up of the retort, as is the difficulty with most devices of the kind, be thus prevented and remedied. To this end the device is made up of a main casting with holes through it for said removable tubes and that communicate with each other, and removable side pieces to the casting for holding the tubes in place and forming a part of the conduit.

The nature of this invention will be understood from the accompanying drawings and the following description and claims.

In the drawings Figure 1 is a transverse section through the device on the line 1—1 of Fig. 2. Fig. 2 is a vertical section on the line 2—2 of Fig. 1. Fig. 3 is a vertical section on the line 3—3 of Fig. 1. Fig. 4 is a perspective view of one of the tubes. Fig. 5 is a perspective view of one section or half of a tube. Fig. 6 is a vertical section on the line 6—6 of Fig. 2.

In the first place, the device consists of a retort adapted to be placed over a burner or heater of some kind for converting the oil into gas. In detail there is a main casting 10 provided with a number of parallel holes arranged in series into which tubes 11 may be inserted and from which they may be readily removed. In the drawings there are shown two horizontal series of these holes in the casting 10, one series over the other. There need be but one series of said holes or there may be more than two, as desired. The tubes 11 are of the same length as the holes through the casting so that the ends of the tubes will be flush with the edges of the casting 10. The tubes may be integral or single, or they may be made of two longitudinal sections or halves, as shown. Each half or section of the tube 11 is cut away at 12 so that when the parts are put together as shown in Fig. 4, there will be a lateral opening 12 at each end of the tube, the opening at one end being diagonally opposite the opening at the other end.

The partitions 13 in the casting 10 located between the holes for the tubes 11 are cut away at each end at 14 to form a horizontal opening from one tube hole to the next one in the series. When the tubes 11 are in place, the openings 12 at the ends of the tubes register with the openings 14 in the partitions 13 alternately, as shown in Fig. 1. Side pieces 15 are then secured to the casting 10 by screws 16 so that they close the extreme end openings of all of the tubes. The crude oil enters a supply pipe 17 and passes through the first tube which is in line with said supply pipe and then passes to the next tube in the same horizontal plane and returns to the front side of the device so that there is a continuous and sinuous conduit causing the oil and gas to flow through said tube first from one side of the device to the other until it passes through one series of said tubes and then it passes down through a bottom opening 18 in one end pipe 11, an opening in the casting, through the opening 18 in the pipe 11 below, and thus enters the other series, here the lower series of pipes 11, and passes through its sinuous course to the outlet pipe 20. This forms a relatively long and sinuous conduit constituting the retort in which the oil is converted by heat into gas, and which very completely and thoroughly converts it into a pure, light and volatile gas that is readily and completely combustible. The adhesive substances and sediment in the oil collects within the tubes 11 so that at times it becomes necessary to clean the device. This is done by removing one of the side pieces 15 and pulling out the tubes 11, and since they are formed of longitudinal halves, they can be readily cleaned and replaced. Hence, it is impossible for this device, if properly cared for, to gum so as to choke. The tubes at their ends are adjacent the side pieces, so that when the latter are removed, a

part of the end of each tube will project so that pliers or one's fingers may readily grasp and withdraw them.

What I claim as my invention and desire to secure by Letters Patent is:

1. Means for generating gas from crude oil including a main frame with a series of holes therethrough, and removable tubes insertible in said holes for forming a conduit and retort, said tubes being formed of longitudinal sections, whereby the tubes may be readily removed and cleaned.

2. Means for generating gas from oil including a casting with a series of holes therethrough with the partitions between them cut away to cause communication between said holes, tubes removably insertible in said holes provided with side openings at their ends and diagonally opposite each other and that register with the openings between the holes in said casting, and side pieces removably secured to said casting for closing the ends of the tubes, whereby the series of tubes will form a sinuous conduit and retort.

3. Means for generating gas from oil including a casting with a plurality of series of holes therethrough with the partitions between the holes of each series cut away to give communication between said holes, and one series being placed above another series with communication between the end openings of said plurality of series, tubes removably insertible in said holes provided with side openings at their ends diagonally opposite each other and registering with the openings between the holes in said casting, and the tubes at the ends of the plurality of series being cut away at their ends to enable one series to communicate with another series, and side pieces removably secured to said casting for closing the ends of the tubes, whereby the series of tubes will form a sinuous conduit and retort.

In witness whereof, I have hereunto affixed my signature in the presence of the witnesses herein named.

GEORGE F. SILVEY.

Witnesses:

ARTHUR H. JONES,

INEZ D. JONES.