

S. VAN SYCKEL.

Improvement in Relieving Oil-Stills of Gas, &c.

No. 126,503.

Patented May 7, 1872.

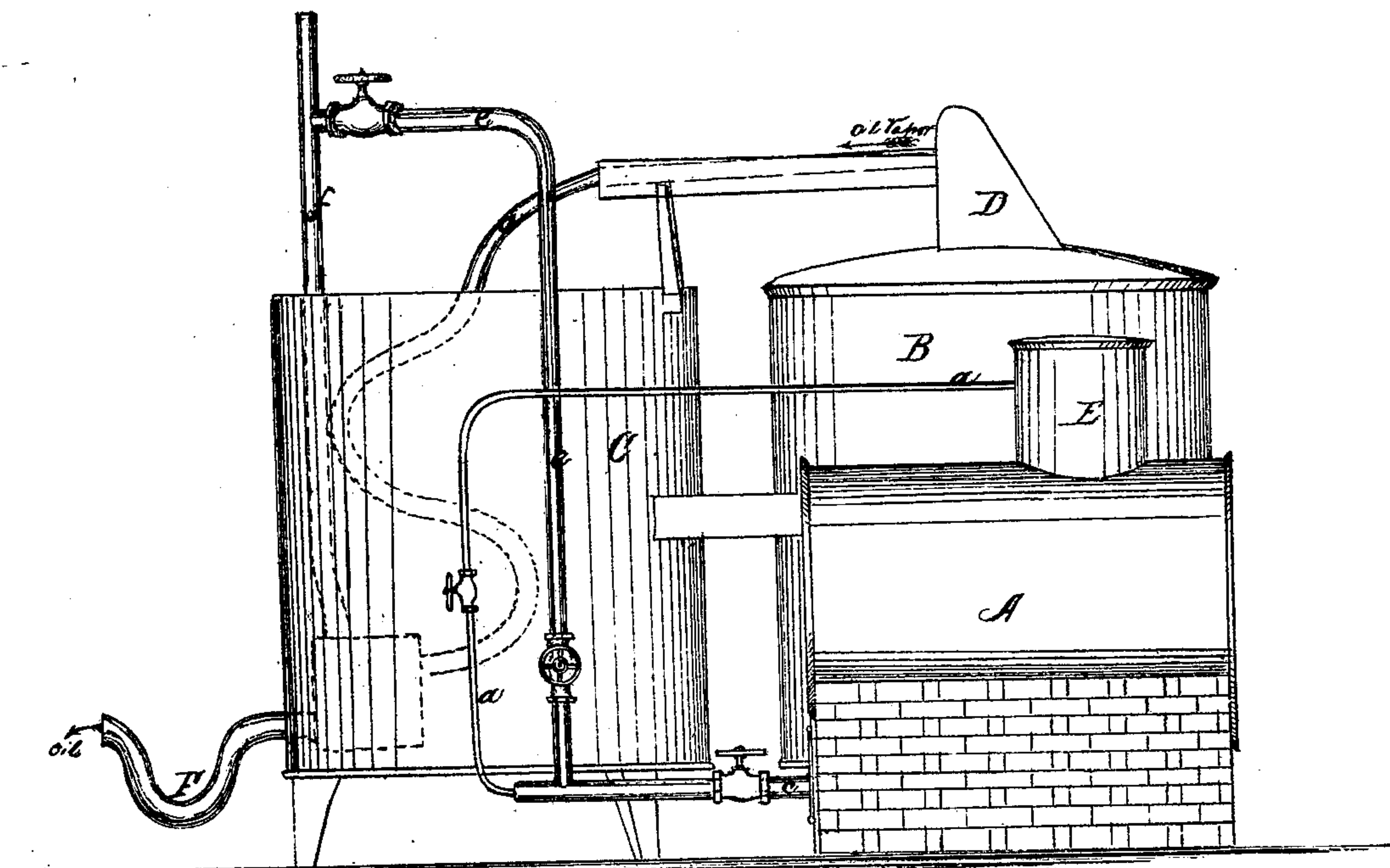
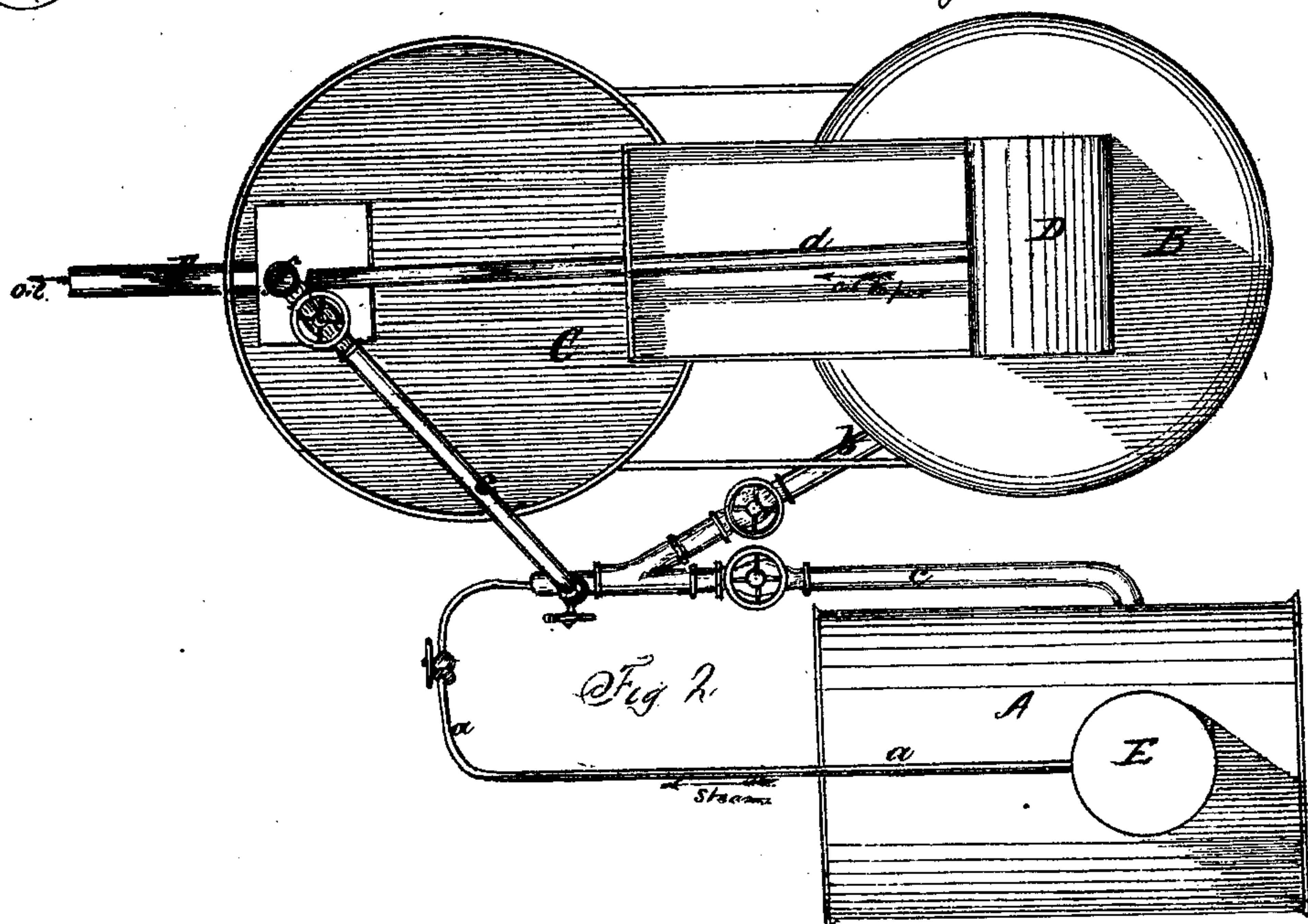


Fig. 1.

Witnessed } Edward E. Osborn
J. P. Crawford

Hausyckel } Inventor.
By *C. A. M. G. R. A. T. Y.*



@Fig 2.

UNITED STATES PATENT OFFICE.

SAMUEL VAN SYCKEL, OF TITUSVILLE, PENNSYLVANIA.

IMPROVEMENT IN RELIEVING OIL-STILLS OF GAS, &c.

Specification forming part of Letters Patent No. 126,503, dated May 7, 1872.

SPECIFICATION.

I, SAMUEL VAN SYCKEL, of Titusville, in the county of Crawford and State of Pennsylvania, have invented certain new and useful Improvements in Relieving Oil-Stills of Gas and other inflammable products and utilizing the same, of which the following is a specification:

Nature and Objects of the Invention.

In the process of refining oil the light gases from the oil in the receiver have been heretofore led off through an escape-pipe and allowed to escape into the atmosphere at a distance from the still, for the reason that from their highly inflammable nature they were not considered valuable enough to balance the risks attending their management; but this disposition of the gases was likewise attended with considerable risk, as the air would at times become so charged with explosive vapors that it was dangerous to approach the neighborhood of a still with a light.

My invention has for its object to utilize this waste and dangerous material, remove the risks and dangers attending the process of refining, and render it perfectly safe; and to this end it consists in arranging a steam-pipe in such relation to the still and condenser that it shall draw off the gases from the reservoir into which the oil as refined is received, and the combined steam and gas thrown into the furnace and burned with or in place of the fuel.

Description of the Drawing.

Figure 1 is a side elevation of a still, condenser, and boiler, with my invention arranged and combined therewith. Fig. 2 is a top view of the same.

General Description.

The furnace and still are constructed in the ordinary manner, the oil-reservoir being arranged in the condenser-tank C at the end of the worm *d*. From the top of the reservoir rises the pipe *f*, through which the gases from the oil have been allowed to escape. To this pipe I connect the pipe *e*, which extends over the tank, and is bent down and connected with

the pipe *c*. Through this pipe *e* the gas from the pipe *f* is conducted. The end of the pipe *c* is connected with the steam-pipe *a* leading from the dome E of the boiler A, so that it operates to draw the gas from the pipe *e* and inject it into the furnace beneath the boiler by means of the jet of steam from the pipe *a*. An additional pipe, *b*, is connected to the pipe *c*, and with the furnace beneath the still B, so that the gas may be used in either furnace or in both, as desired. These pipes are provided with valves, as shown in the drawing; and the end of the pipe *f* may be supplied with a weighted valve to relieve the reservoir from too great pressure, or it may be left open; but in no case should it be permanently closed.

In drawing the gas from the reservoir, the valve in the steam-pipe *a* is first opened and then the valve in the gas-pipe *e*, so that the jet of steam will force the gas through the pipe *c* into the boiler-furnace, and through the pipe *b* into the furnace beneath the still, or into one pipe alone by closing the valve in the other. The valve in the gas-pipe *e* should always be kept closed, except when the steam is injecting the gas into the pipe *c*, as otherwise there would be danger of the gas flowing back in an ignited state into the reservoir.

By thus removing the gas from the oil it will be of a purer quality, and will be found to stand the fire-test of 110° more perfectly than heretofore.

I am aware that jets of steam and gas from oil-wells have been combined; and also crude petroleum for fuel; and I do not claim such combinations; but

What I do claim, and desire to secure by Letters Patent, is—

Relieving an oil-still of its gas and inflammable products by means of a current or currents of steam acting upon the gas for the twofold purpose of drawing the gas from the reservoir and forcing it into the furnace with the steam, to be burned and utilized, substantially in the manner described and specified.

SAMUEL VAN SYCKEL.

Witnesses:

ANDREW B. HOWLAND,
J. H. HEIVLY.