

(No Model.)

A. KREUSLER.
COMBINED STEAM GENERATOR AND HEATER.

No. 502,728.

Patented Aug. 8, 1893.

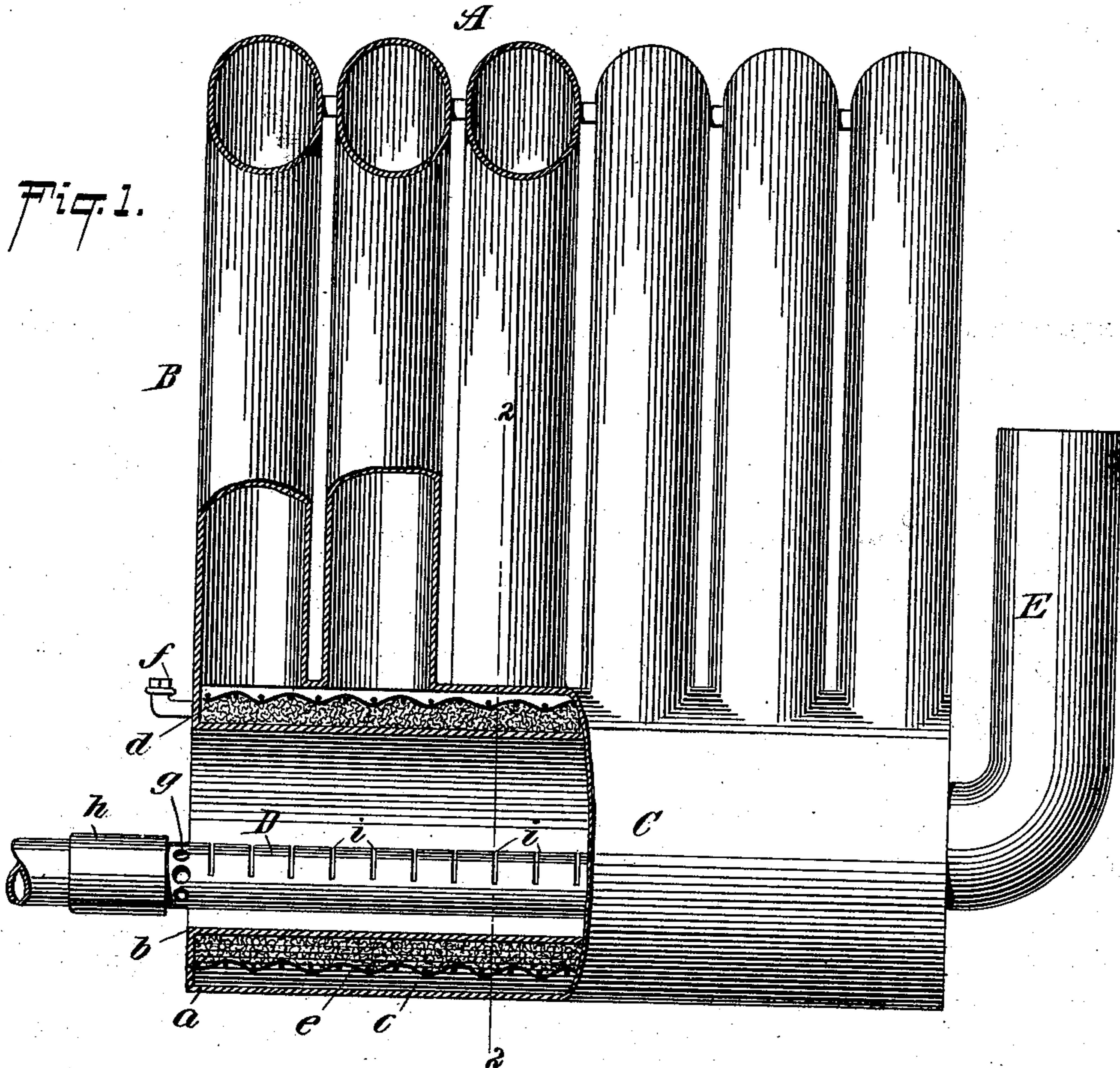
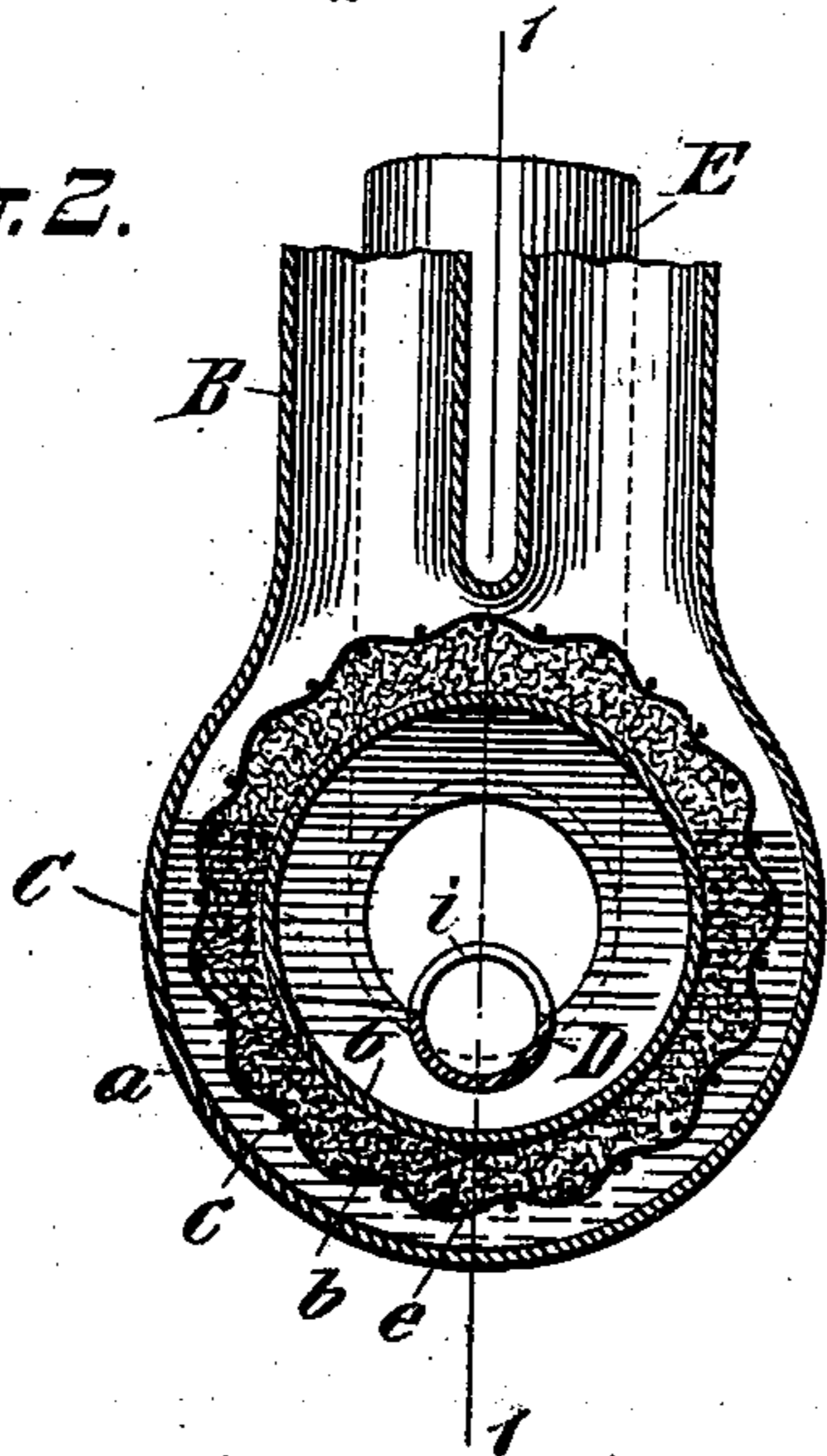


Fig. 2.



WITNESSES:

William Goebel.
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ARNOLD KREUSLER, OF STATEN ISLAND, NEW YORK.

COMBINED STEAM GENERATOR AND HEATER.

SPECIFICATION forming part of Letters Patent No. 502,728, dated August 8, 1893.

Application filed August 19, 1892. Serial No. 443,527. (No model.)

To all whom it may concern:

Be it known that I, ARNOLD KREUSLER, a citizen of the United States, and a resident of Staten Island, in the county of Richmond and State of New York, have invented a certain new and useful Improved Combined Steam Generator and Heater, of which the following is a specification.

My invention relates to a combined portable steam generator and radiator and consists of the elements hereinafter described and claimed.

My invention is illustrated in the accompanying drawings in which—

Figure 1 represents a side elevation partly shown in section on the plane of the line 1—1 of Fig. 2. Fig. 2 is a detailed sectional view on the line 2—2 of Fig. 1.

Like letters represent like parts.

A is a portable steam heating device consisting of a radiator B and a steam generator C. The steam generator C consists of an inner shell *b*, open at both ends inserted into the lower part of a radiator so as to leave a water space between said shell and the outer shell *a* and parts of the radiator. Within the space *c* is placed a capillary material *d*, such as asbestos which is held around the surface of the inner shell by a screen *e*. Into the inner opening of the shell *a* is placed a gas pipe D, with slots *i* cut crosswise, or it may be perforated. This pipe is set into the shell *a* as shown in Fig. 2 in such a manner that combustion can take place, and the flame striking the shell heats the same, while the capillary material carries the water all around the inner side of the shell and thus steam is quickly generated, which passes up into the radiating

tubes B. If desired for the purpose of carrying off the products of combustion and to utilize the water heat I attach a pipe E, but this is not essential. The gas pipe D is provided with the air inlets *g* and the air regulating collar *h*; any Bunsen burner can be used if of proper construction.

f is a water inlet, by means of which part of the space *c* can be filled; the steam condensing runs back into the space *c*.

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

1. A combined steam generator and radiator comprising in its construction horizontal inner and outer shells forming a water and steam space between them, capillary material located in said space, a radiator connected with the upper portion of said space, and means for heating the inner shell, substantially as and for the purpose described.

2. A combined steam generator and radiator comprising in its construction horizontal inner and outer shells forming a water and steam space between them, capillary material located in said space, a screen surrounding the capillary material and holding it in contact with the inner shell, a radiator connected with the upper portion of said space, and means for heating the inner shell, substantially as and for the purpose set forth.

Signed at New York, in the county of New York and State of New York, this 5th day of July, A. D. 1892.

ARNOLD KREUSLER.

Witnesses:

RICHARD LIPS,
JOHN T. LITTLE, Jr.