

No. 741,737.

PATENTED OCT. 20, 1903.

R. THAYER.
TORCH.

APPLICATION FILED JAN. 13, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

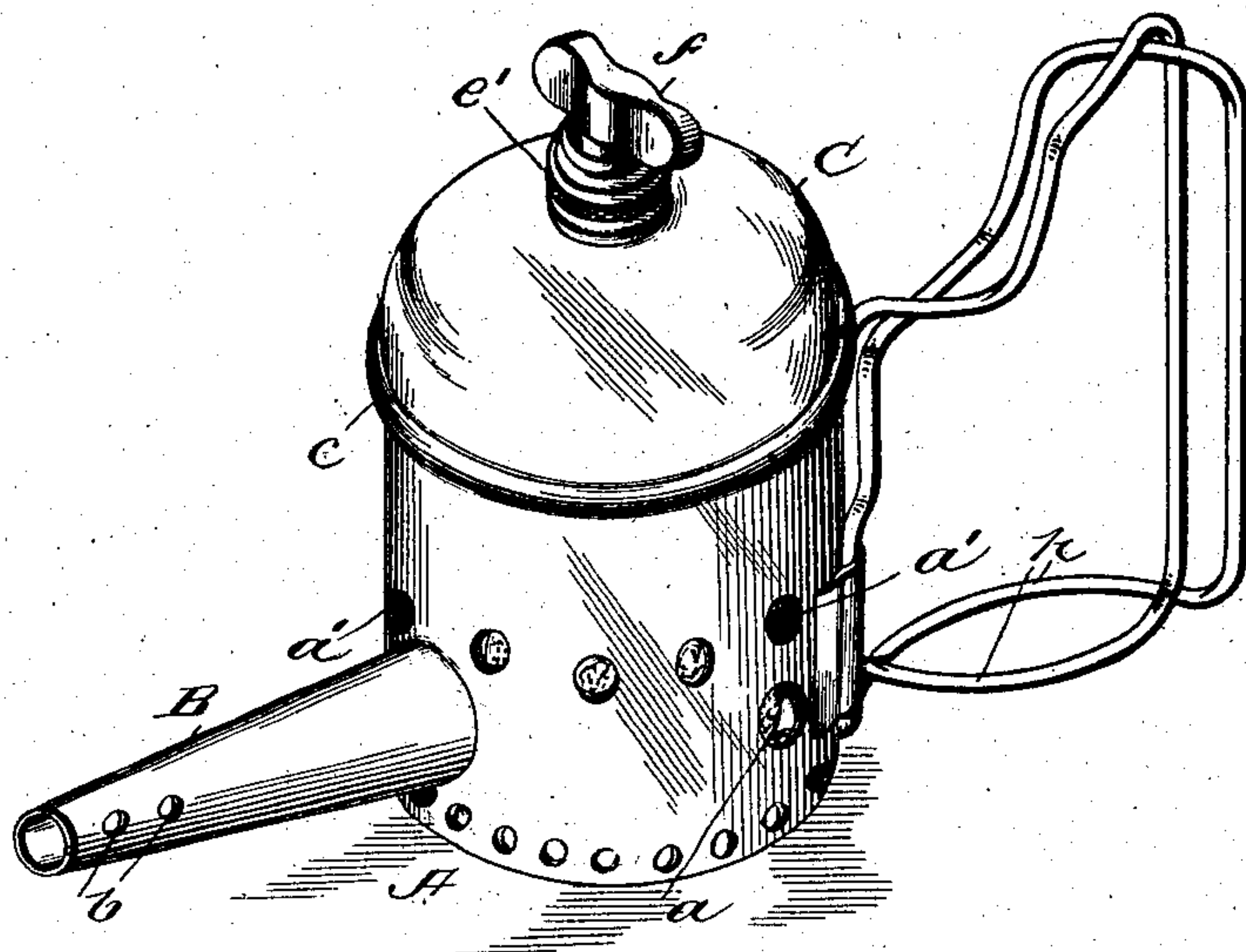
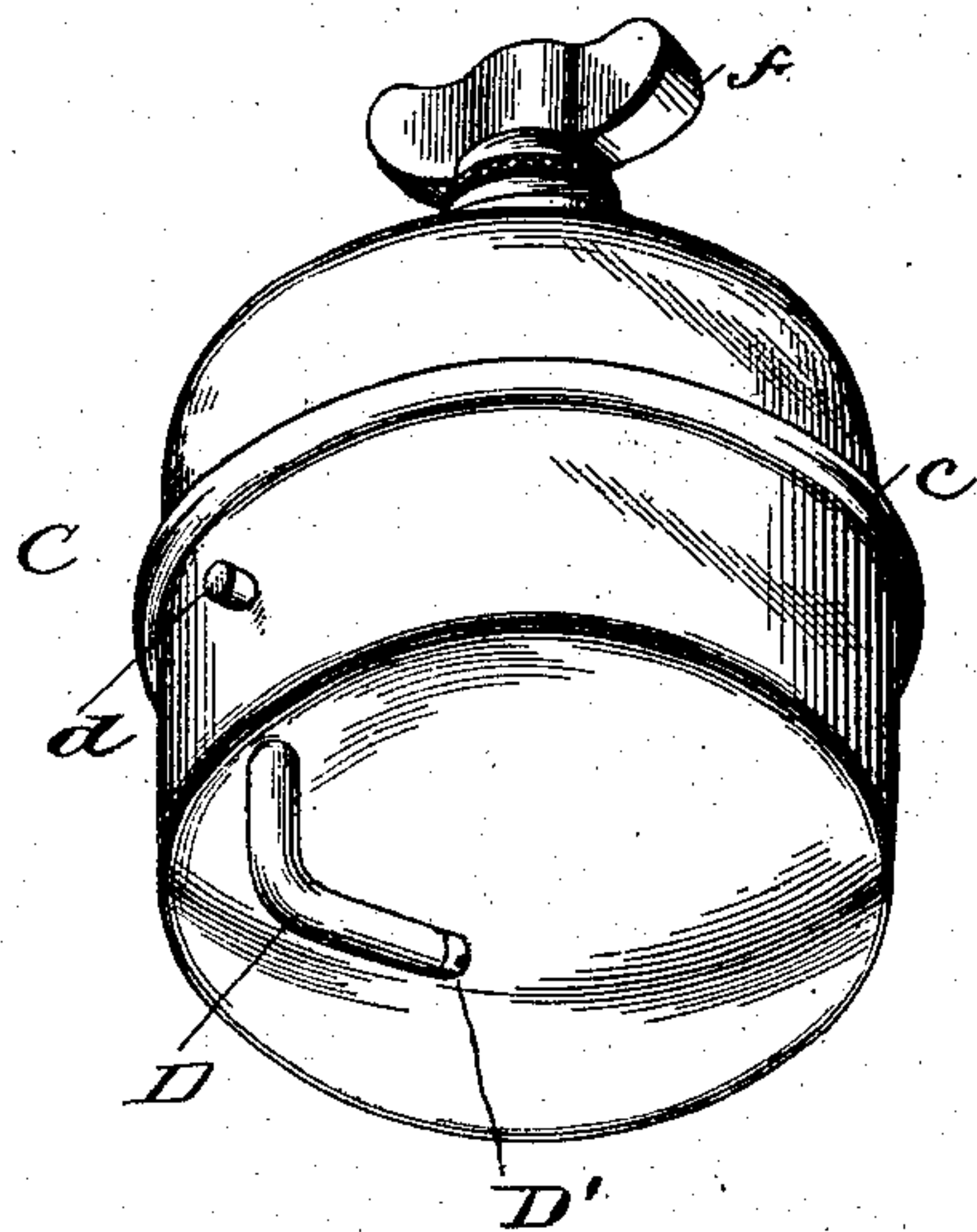


Fig. 2.



Inventor

Russell Thayer.

Witnesses

W. A. Williams.

Geo. H. Richmond.

By

Augustus B. Stoughton.

Attorney.

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2 SHEETS—SHEET 2.

Fig. 3.

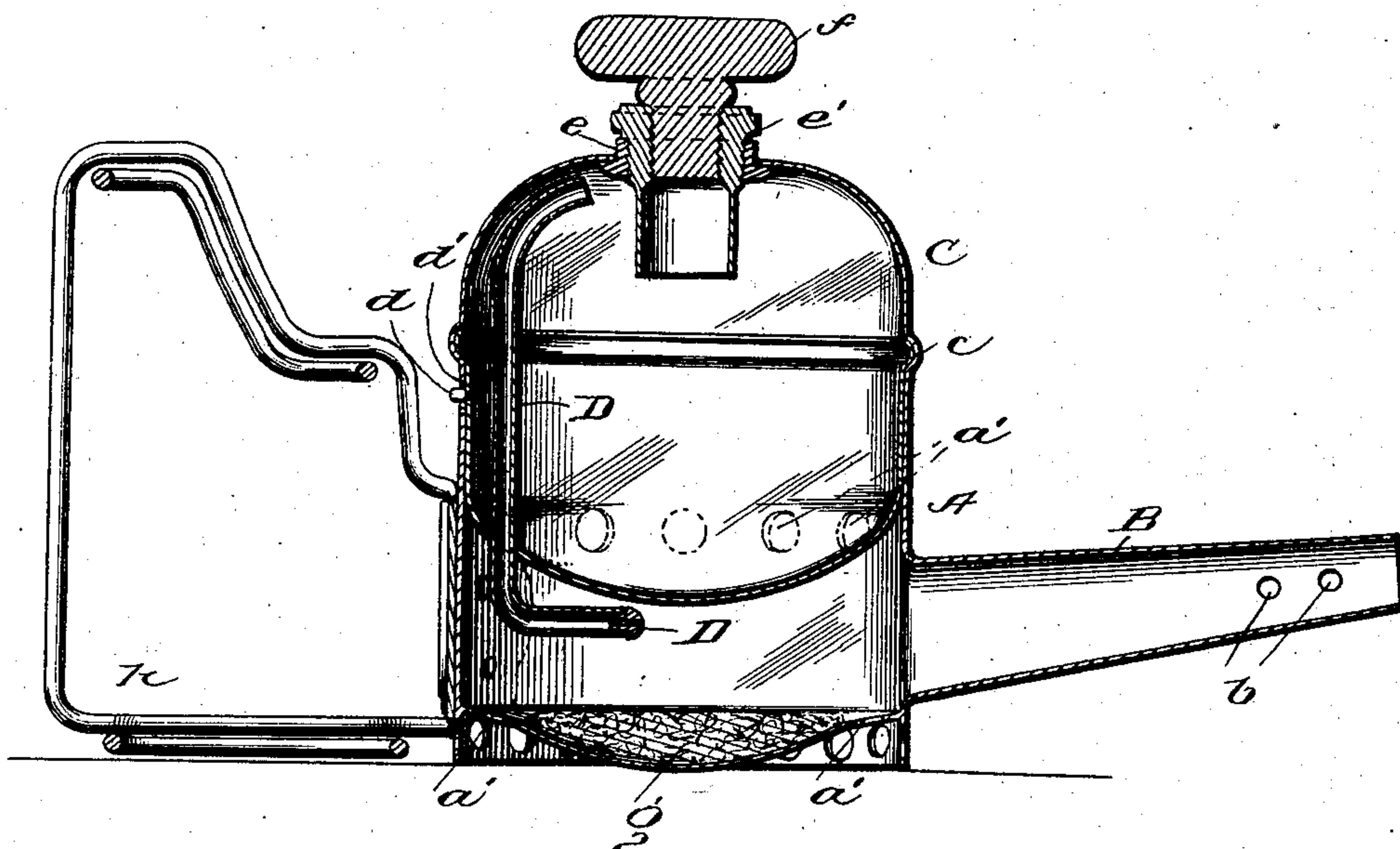
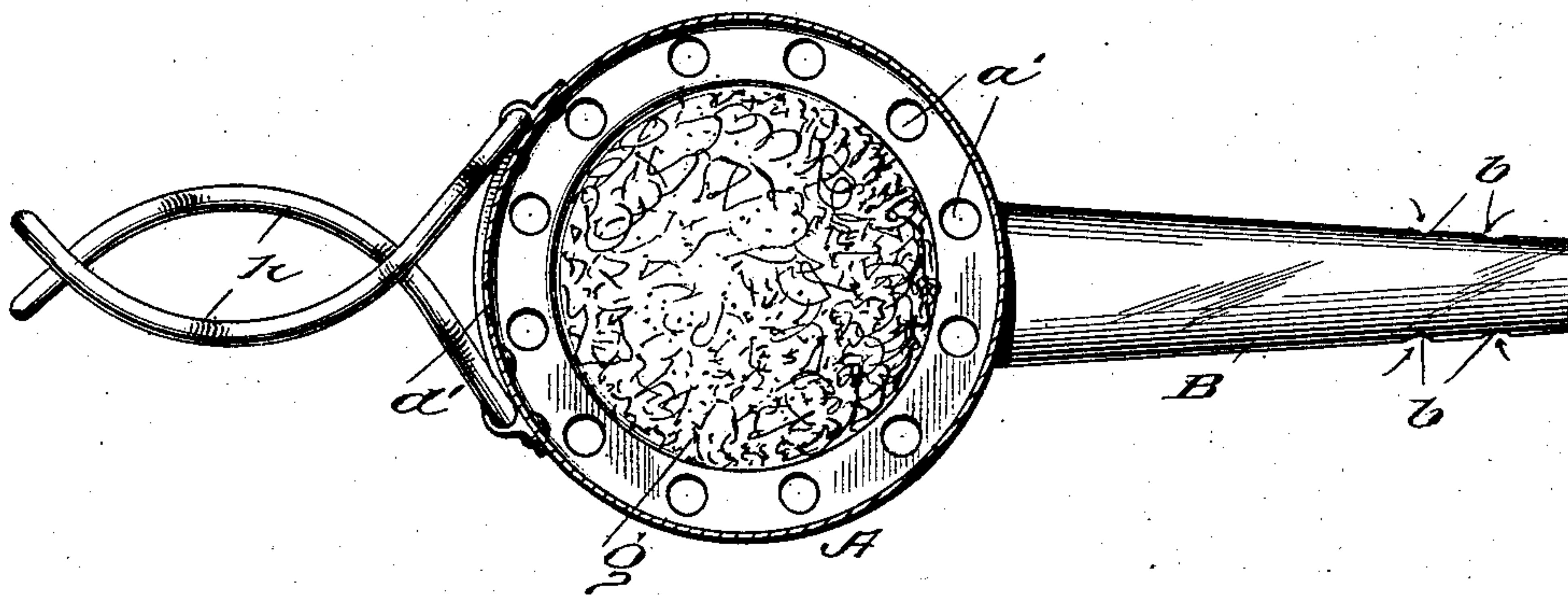


Fig. 4.



Inventor

Russell Thayer.

Witnesses

W. A. Williams

J. A. Richmond.

By

Augustus B. Stoughton

Attorney

UNITED STATES PATENT OFFICE.

RUSSELL THAYER, OF PHILADELPHIA, PENNSYLVANIA.

TORCH.

SPECIFICATION forming part of Letters Patent No. 741,737, dated October 20, 1903.

Application filed January 13, 1903. Serial No. 138,888. (No model.)

To all whom it may concern:

Be it known that I, RUSSELL THAYER, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Torch, of which the following is a specification.

One object of the invention is to provide a torch which will project a flame of intense heat and which may be used, for example, in connection with hydrocarbon incandescent lighting for preheating purposes or which may be used as a painter's breamer and for other kindred purposes in the arts.

A further object is to provide a superior heating-torch which shall be simple in construction and efficient in operation and whereof the torch or heating flame shall be maintained by vapor supplied from a generator and shall itself act to vaporize the fluid and maintain the pressure in said generator, whereby an intensely-hot flame is produced at an extreme economy of operation and without the care and attention that have been heretofore required due to the essential employment of a secondary or sub flame to heat the generator and maintain the pressure therein.

The nature, characteristic features, and scope of the invention will be more clearly understood from the following description, taken in connection with the accompanying drawings, forming a part hereof, wherein—

Figure 1 is a perspective view of a torch embodying features of my invention. Fig. 2 is a similar view of the vapor-generator. Fig. 3 is a vertical sectional view of the torch, and Fig. 4 is a top view of the support or casing.

Referring to the drawings, A represents a suitable support or casing consisting of bottom and side walls, the latter equipped with a lighting-opening *a*, air-inlet openings *a'*, and an outlet or flame tube B, through which the heating or torch flame is projected. The flame-tube B is or may be provided near its discharge end with air-inlet openings *b*.

C represents a suitable font-body or vapor-generator adapted to be seated in the top of the support or casing A and having a head or shoulder *c*, which rests upon the top of the casing and serves to position the generator in respect to the casing.

d d' designate the respective members of

a suitable interlock, which is or may be a bayonet connection, for securing the generator and casing in detachable relation. The generator or font-body is provided with a spud *e*, which receives the filling-nipple *e'*, by which the generator may be supplied with a suitable combustible fluid, the nipple being provided with an internal screw-thread to secure the thumb-stem *f*. The bottom of the generator is curved to accommodate the upper series of ventilating-openings *a'* of the support or casing and has penetrating it a vapor-feed tube D, extending inside the generator to near the top thereof or above the maximum level of the fluid and provided outside the generator with a tip or nozzle D' in substantial alinement with the funnel or flame tube. The space inclosed by the walls of the casing A and the bottom of the generator constitutes a combustion-chamber of which the outlet or flue is said flame-tube. The bottom of the burner body or casing is depressed or provided with a concavity which is or may be supplied with asbestos wicking *g* and constitutes a suitable starting device.

A suitable handle is provided, which may consist of the coincident hinged members *h*, arranged to close upon the torch-body.

The operation of the device may be described as follows: The font-body or generator C is supplied with a suitable combustible fluid—for example, alcohol—to about two-thirds its capacity, and a small quantity of the fluid is poured upon the wicking *g*. The latter is thereupon ignited by introducing a light through the lighting-opening *a*. Sufficient pressure is thus created in the generator to force a stream of vapor from the tip or nozzle D' across the space below the generator into the flame-tube. This vapor is automatically ignited, and a portion of the heat thereby engendered acts to vaporize the fluid in the font-body and to maintain a head of vapor therein, so that a constant and considerable pressure of vapor is obtained at the discharge-tip without the use of an auxiliary or sub burner.

It will be obvious to those skilled in the art to which my invention appertains that modifications may be made in details without departing from the spirit thereof. Hence I do not limit myself to the precise construction

and arrangement of parts hereinabove set forth and illustrated in the accompanying drawings; but,

5 Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

10 1. A self-heating torch comprising a vapor-generator a vapor-tube disposed interiorly thereof and penetrating the bottom of the generator with its outlet disposed transversely of said bottom, and a support for the generator, said support having a tubular extension disposed in line with said outlet, substantially as described.

15 2. A self-heating torch comprising a vapor-generator, having a filling-nipple and a closure therefor, a vapor-tube arranged interiorly of the generator with its outlet end penetrating the bottom of the generator and provided with a discharge-nozzle, and a support 20 for the generator having a tubular extension disposed in line with said discharge-nozzle,

the arrangement being such that the flame at the nozzle heats the generator and maintains a head of vapor therein whereby the flame is 25 projected through said tubular extension, substantially as described.

3. A self-heating torch comprising a vapor-generator, a vapor-tube disposed interiorly thereof with its outlet end penetrating the 30 bottom of the generator and provided with a discharge-nozzle, a support provided with a lighting-opening and with a tubular extension alined with said nozzle, and an interlock whereby the generator and its support 35 may be secured in detachable relation, substantially as described.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

RUSSELL THAYER.

Witnesses:

F. H. MACMORRIS,

F. B. RANKIN.