(No Model.)

S. B. BATTEY.

GAS LIGHTER.

No. 409,727. Patented Aug. 27, 1889.

Fig. 1.

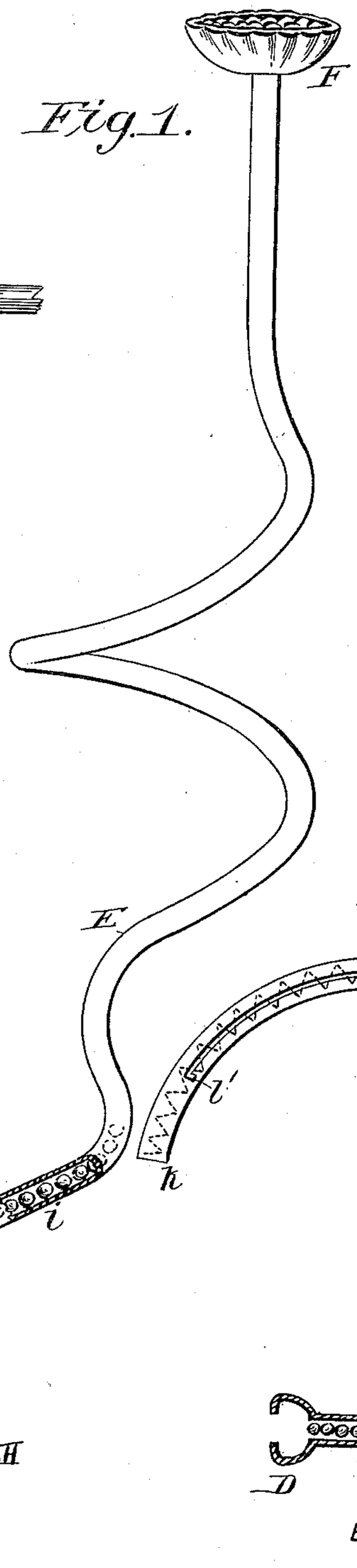


Fig. 2.

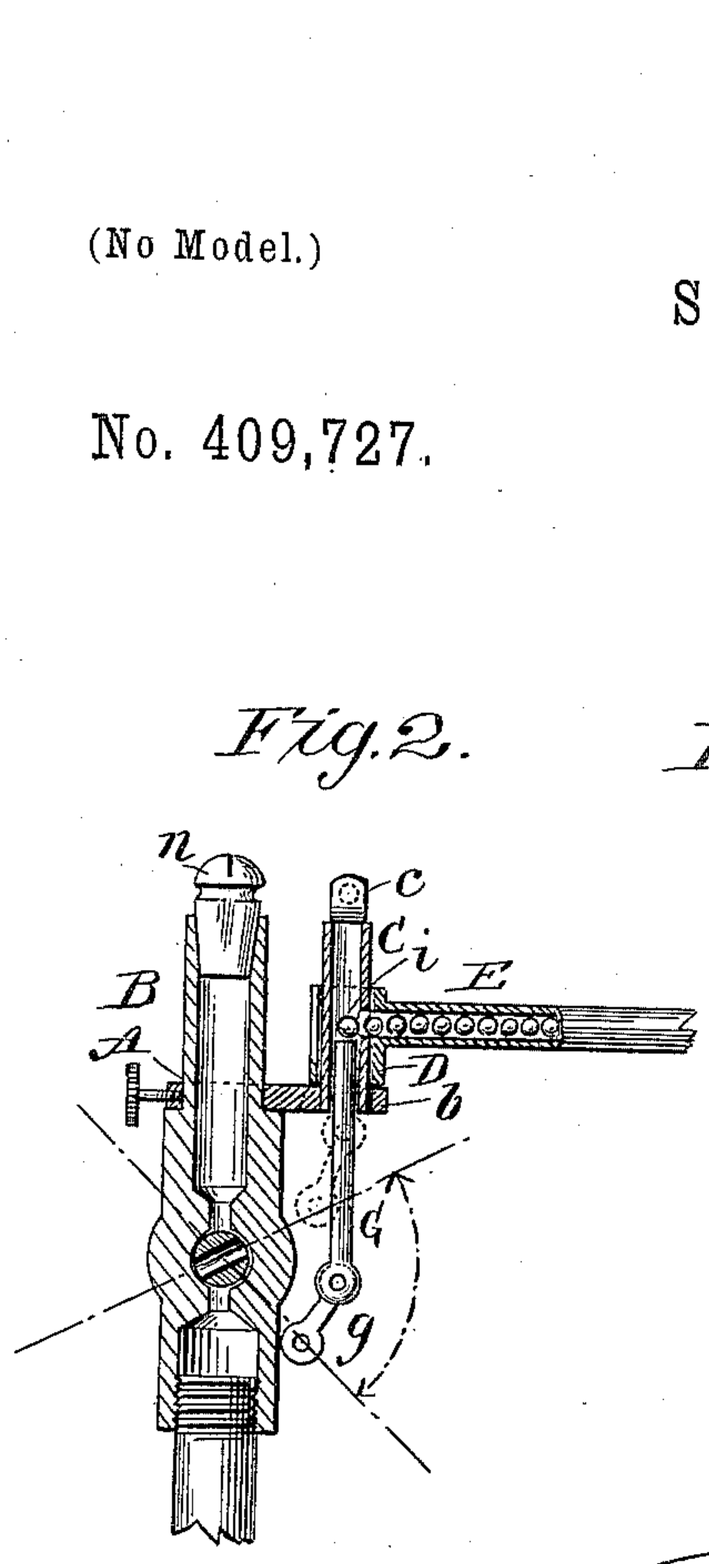


Fig. 3.

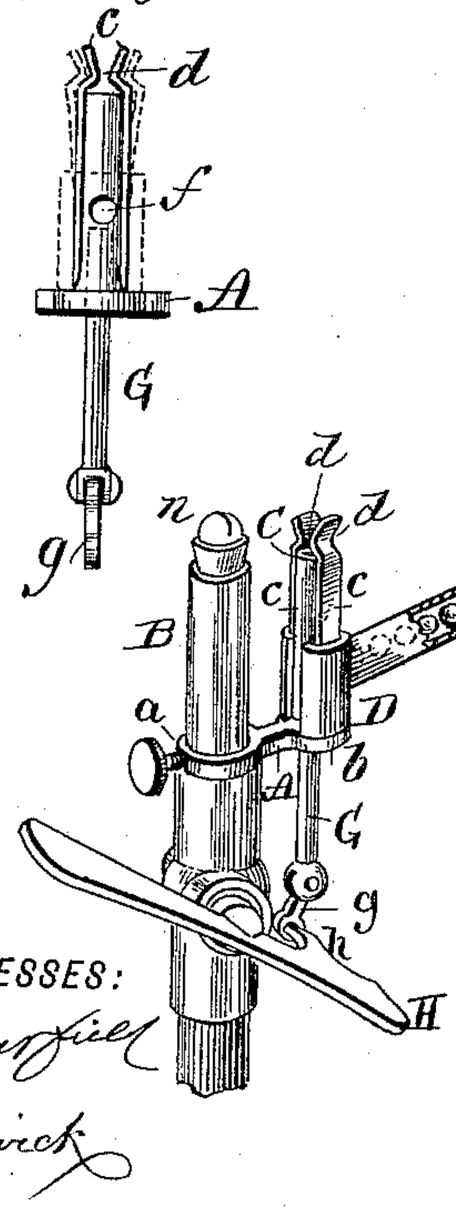


Fig. 4.

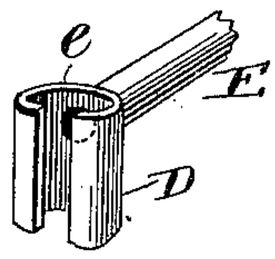
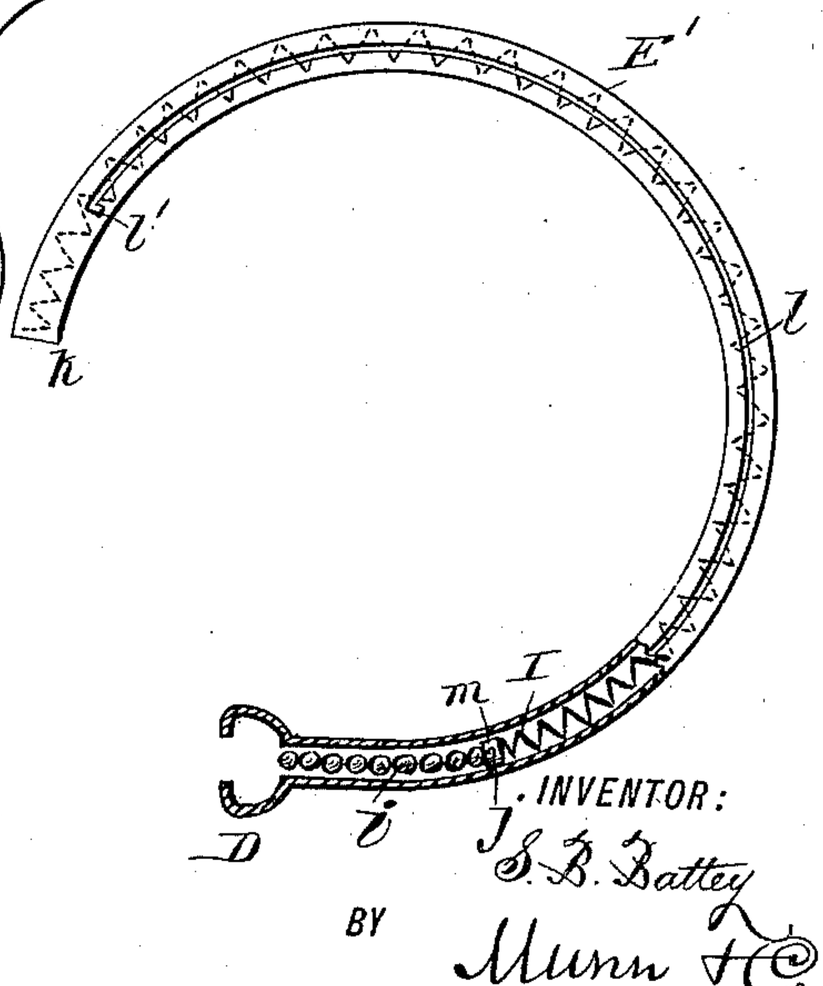


Fig. 5.



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GAS-LIGHTER.

SPECIFICATION forming part of Letters Patent No. 409,727, dated August 27, 1889.

Application filed July 31, 1888. Serial No. 281,539. (No model.)

To all whom it may concern:

Be it known that I, SUMTER B. BATTEY, of the city, county, and State of New York, have invented a new and Improved Gas-Lighter, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a perspective view, partly in section, of my improved gas-lighter. Fig. 2 is a vertical transverse section of the burner and lower part of the magazine-tube. Fig. 3 is a detailed front elevation of the igniter. Fig. 4 is a perspective view of the clamp for attaching the magazine-tube to the igniter, and Fig. 5 is a plan view of the magazine-tube provided with a spring-actuated follower.

Similar letters of reference indicate corresponding parts in all the views.

The object of my invention is to provide a simple and effective device for automatically lighting gas-jets by means of percussion-pellets.

My invention consists in the peculiar construction and arrangement of parts, as will be hereinafter fully described, and pointed out in the claims.

The arm A, which is provided at one end with an eye *a* fitted to the burner B, is provided at the opposite end with an eye *b*, in which secured the cylinder C. Upon diametrically-opposite sides of the said cylinder C, near the lower end thereof, are secured springs *c*, which extend upward parallel with the cylinder and are bowed inward over the upper end of the cylinder, forming convex surfaces *d*, arranged opposite and near each other above the upper end of the cylinder, the distance between the convex surfaces of the said springs being less than the diameter of the pellets used in igniting the gas.

To the cylinder C and springs *c* is fitted a clamp D, which closely embraces the lower ends of the springs and the cylinder, and in which is formed an aperture *e*, which coincides with a similar aperture *f* in the side of the cylinder C.

To the clamp D is secured a magazine-tube E, with its bore exactly opposite the aperture *e* of the clamp. The said tube E is curved upwardly and either bent into a spiral or left straight, as the case of the manufacturer or user may dictate; but the spiral form is preferred on account of compactness. The upper end of the magazine-tube E is provided with a hopper F, for convenience in filling.

To the cylinder C is fitted a piston G, which is connected by a link *g* with an arm *h* of the gas-key H, said piston G being adjusted relative to the gas-key so that it reaches the upper part of its stroke as the gas-key H begins to open and admit gas to the burner B.

When the upwardly-inclined tube E is employed, gravity is used to force the percussion-pellets *i* down the tube. As an equivalent of this device, I use the magazine-tube E′, (shown in Fig. 5,) in which the follower *j*, fitted to the tube E′, is pushed forward by the spiral spring I, which abuts against the closed end *k* of the said tube E′. The tube E′ is provided with a curved slot *l*, having a lateral notch *l′* at the end thereof, and the follower *j* is provided with a stud *m*, which projects through the slot *l* for convenience in drawing back the follower when it is desired to fill the magazine-tube E′, the follower being locked in a retracted position by the entrance of the stud *m* into the notch *l′*. When the piston G is drawn downwardly, as shown in Figs. 1 and 2, all of the percussion-pellets contained by the magazine-tube move forward by gravity in case the tube E is employed, or by the action of the spring I in case the magazine-tube E′ is employed, thus forcing one pellet into the cylinder C above the piston G in position to be forced upward whenever the key H is turned to let on the gas to the burner B. When the key H is so turned, the pellet *i* is forced upward into the position shown in dotted lines in Fig. 2, and as it passes between the springs *c* the friction due to the pressure of the springs ignites the pellet, and, the gas having been turned on by the movement of the key, the flash of the percussion-pellet ignites the gas issuing from the tip *n* of the burner. As the piston G ascends in the operation of carrying up a pellet it passes the mouth of the magazine-tube E, thereby effectually closing off all communication between the exploding pellet and the pellets in the magazine. When the gas is turned off, the piston G is withdrawn below

the aperture *f* in the cylinder C and another pellet is forced into the said cylinder in position to be pushed upward by the next movement of the piston G. The slit of the burner-tip *n* is preferably arranged transversely with reference to the magazine-tube E, so that the flame will not heat the tube and cause the ignition of the pellet *i* contained therein.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In a gas-igniter, the combination of the removable magazine-tube E, provided with the clamp D, the arm A, fitted to the burner B, the cylinder C, carried by the arm A, the friction-springs *c*, provided with bowed ends *d*, extending over the mouth of the cylinder C, the piston G, and a key H, substantially as specified.

2. In a gas-igniter, the combination, with the burner B, provided with gas-key H, of the arm A, attached to the burner B, the cylinder C, supported by the arm A, the springs *c*, attached to the cylinder C and provided with bowed ends *d*, projecting over the upper end of the cylinder, the clamp D, embracing the lower ends of the springs *c* and the cylinder C, the curved magazine-tube E, attached to the clamp D and provided with the hopper F, the piston G, fitted to the cylinder C, and the link *g*, connecting the piston G and key H, substantially as specified.

3. As an improved article of manufacture, a gas-igniter constructed and operated as herein described, the same consisting of an adjustable arm having one extremity adapted to fit adjustably upon the gas-burner, the other extremity of said arm having attached to it a pellet-cylinder provided with a side orifice for admission of igniting-pellets, a pellet magazine or tube adapted to fit upon or connect with the pellet-cylinder and deliver pellets thereto, igniting-springs arranged above the upper extremity of the pellet-cylinder, and a piston moving within said cylinder and operated by connections with the gas-key of the burner, so that when said key is closed the gas will be turned off and the piston brought below the pellet-orifice in the cylinder, so as to admit a pellet above the piston, and by the act of opening the key the gas will be turned on, and the piston will rise and push a pellet through and out of the cylinder between the springs, whereby the pellet will be ignited and the gas lighted, all as set forth.

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