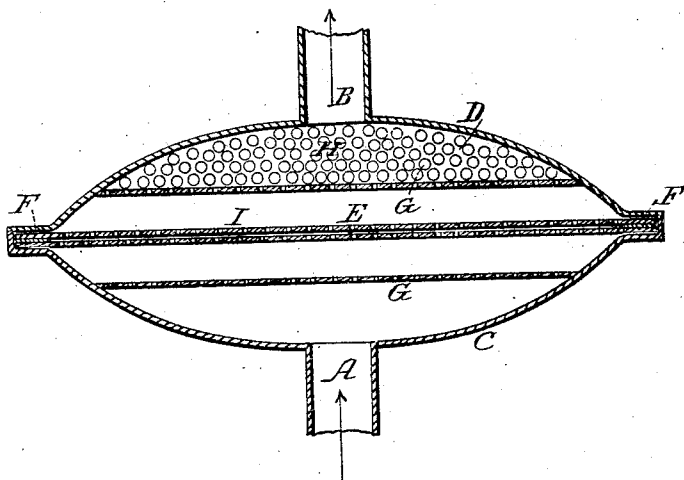


J. F. BOYNTON.

Safety Apparatus for Gas Machines and Carburetors.

No. 58,055.

Patented Sept. 18, 1866.



Witnesses.

J. J. Coombs.  
O. S. Baker.

Inventor

John F. Boynton.

# UNITED STATES PATENT OFFICE

JOHN F. BOYNTON, OF SYRACUSE, NEW YORK.

IMPROVED SAFETY APPARATUS FOR GAS-MACHINES AND CARBURETERS.

Specification forming part of Letters Patent No. **58,055**, dated September 18, 1866.

*To all whom it may concern:*

Be it known that I, JOHN F. BOYNTON, of the city of Syracuse, in the county of Onondaga, in the State of New York, have made a new and useful invention for preventing the explosion of hydrocarbon vapors when mixed with atmospheric air and explosive gases, of which the following is a specification.

It is well known that when hydrocarbon vapors are mixed with certain proportions of atmospheric air an explosive mixture is formed, from which serious damages may result. In cases where hydrocarbon liquids are used for carbureting gas or air explosive mixtures are liable to be formed, and the flame may pass back through the gas-pipe into the reservoir and produce an explosion. It has long been known that the flame of burning gas may be extinguished by close contact with metal or other good conductor of heat. It is on this principle that the miner's or Davy's safety-lamp is constructed. Safety oil-cans are also made on this principle.

Now, my invention consists in interposing, in a gas-pipe, between the burner and the carbureter or oil-reservoir a safety device, or enlargement of the pipes, which will arrest the flame in passing up the pipe from the point of ignition. This device consists in dividing up the channel in any convenient manner, so as to extinguish the flame by bringing it in con-

tact with a large surface of cold metal or other good conductor or absorbent of heat.

The following drawing will explain the device: A, the entering-pipe; B, the exit; C, the lower convex surface; D, the upper convex surface; E, the one or more perforated plates of metal; F, a section of circular disk separating the plates; G G, the upper and lower diaphragms; H, the space occupied by the fragments of metal, or their equivalents; I I, the space between plates.

Instead of the arrangement above shown, an enlarged cavity in the pipe filled with shot, metal filings, nails, scraps of metal, sand, &c., will extinguish flame by suddenly absorbing heat from it.

That which I wish to secure by Letters Patent is stated in the following claim, to wit:

A safety device composed of a body of cooling material, as metal or other good conductor of heat, interposed between the burner and carbureter, and so arranged as to present an extensive surface or series of surfaces to the carbureted air on its passage to the burner, thereby keeping it at a temperature below the point of ignition.

JOHN F. BOYNTON.

Witnesses:

J. J. COOMBS,  
O. S. BAKER.