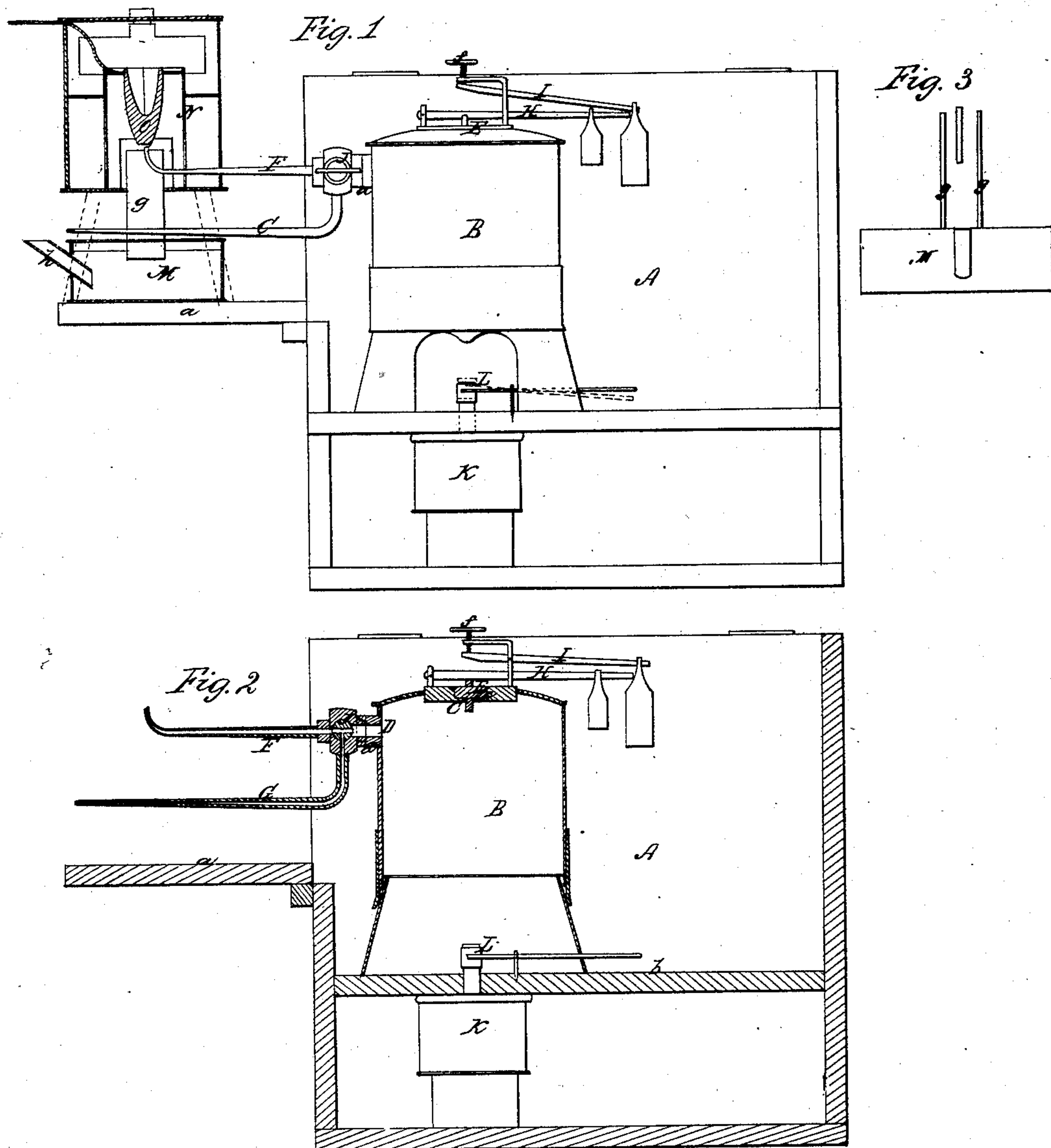


E. Conway, Blow Pipe,

Nº 17,727.

Patented July 7, 1857.



UNITED STATES PATENT OFFICE.

EDWARD CONWAY, OF DAYTON, OHIO.

IMPROVED ALCOHOL BLOW-PIPE.

Specification forming part of Letters Patent No. 17,727, dated July 7, 1857.

To all whom it may concern:

Be it known that I, EDWARD CONWAY, of Dayton, in the county of Montgomery and State of Ohio, have invented a new and useful Improvement in Alcohol Blow-Pipes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of a blow-pipe with my improvements. In this view it is represented as being used for performing the two operations of melting and soldering at one and the same time. Fig. 2 is a vertical central section of the same. Fig. 3 represents a detached view of a lamp adapted for use in connection with the blow-pipe when the two operations of melting and soldering are performed at one and the same time.

Similar letters of reference in each of the several figures indicate corresponding parts.

The object of my improvement is, first, to avoid all danger from explosions; second, to enable a person to regulate with the greatest nicety the amount of pressure through its jet-tubes without reducing the size of the inlet orifices of the same; third, to afford facilities for performing the soldering process with either a small or large sized jet-tube, and, fourth, to afford facilities for performing the two processes of soldering and melting at one and the same time.

The nature of my invention consists in the use of a compound regulator consisting of two weighted levers and a set-screw in combination with an alcohol-boiler, which has two jet-tubes of unequal bore, one branching off from and running nearly parallel with the other, and the two communicating at one time or separately with the boiler by means of a three-way cock, whereby by simply turning the screw of the regulator and adjusting the three-way cock from one tube to another the amount of pressure in the boiler and the size and force of the jet through the tubes can be regulated to suit the work being performed to the greatest nicety and with facility.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents a wooden box made with a hinged front and top, which may be raised together and thrown back, so as to expose the whole interior of the box. This box also has a hinged side, which can be thrown down and made to serve as a shelf, as shown at *a*, Figs. 1 and 2. It likewise has a shelf or partition, *b*, for the alcohol-boiler to rest upon, and also for separating said boiler from the heating-lamp.

B is the alcohol-boiler. It, as usual, is furnished with two outlets, C and D. Over the outlet C a safety-valve, E, is arranged in a seat, *c*, of the top, and in the outlet D the end of the hollow shank *d* of the jet-tubes F G is inserted. The safety-valve is kept to its seat by a weighted lever, H, which is controlled in the extent of its movement by another lever, I, which is more heavily weighted than it. The required distance between the two levers may be regulated in a moment by a set-screw, *f*, as will be evident from the drawings. By this arrangement the safety-valve will always remain in perfect order, as none of the parts are exposed to the action of the heated vapor, as in the lamp patented by Lawson in 1856, in which the springs soon lose their elasticity and allow the valves to rise to too great an extent. The lever also enables the operator, by a simple turn of the screw, to reduce or increase the pressure through the jet-tubes to any extent desired.

J is a three-way cock for shutting off and keeping up the communication between the boiler and the jet-tubes. It is constructed so that only one or both tubes may communicate at the same time with the boiler.

The jet-tube F is made with a larger bore than G, as it is designed for melting or use in heavy soldering. The tube G branches off at right angles from F, and stands under and with its end some distance forward of the same, so that it may be used with convenience for soldering while the melting process is going on.

K is the spirit-heating lamp arranged under the partition *b*, with its tube passing up through the same.

L is the sliding collar for regulating the flame. By raising this collar, as shown in red, the flame will be confined and its intensity lessened.

M is the soldering and melting lamp. It has two wick-tubes, *g g*, projecting from its top, and one, *h*, from its side. N is the melting-furnace, and O the crucible. The lamp and furnace rest on the shelf *a*, as shown, and the jet-tube F passes into the furnace and up between the two wick-tubes *g*, and jet-tube G terminates near the wick-tube *h*, as shown. By having the jet-tube F discharge its vapor between two flames great intensity of heat is secured, and gold can be melted in the crucible at the start in five minutes without the aid of charcoal, so as to be run into any shape desired.

This blow-pipe is admirably adapted for dentists' and jewelers' use, as it enables them to perform the two processes—melting and solder-

ing—at the same time or separately in a very small compass and in a moment of time without any danger of having their health impaired or persons injured by explosions and escape of vapor into the room.

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

The use of the compound regulator H I *f* of the safety-valve, in combination with the tubes F G and three-way cock J of the boiler, all arranged and operating as herein described, and for the purposes set forth.

EDWARD CONWAY.

Witnesses:

J. W. DIETRICH,

JOHN CROWE.