S. B. Palmer,

Blow Pipe,

No. 15,774. Patented Sept. 23, 1856.

Fig: 1

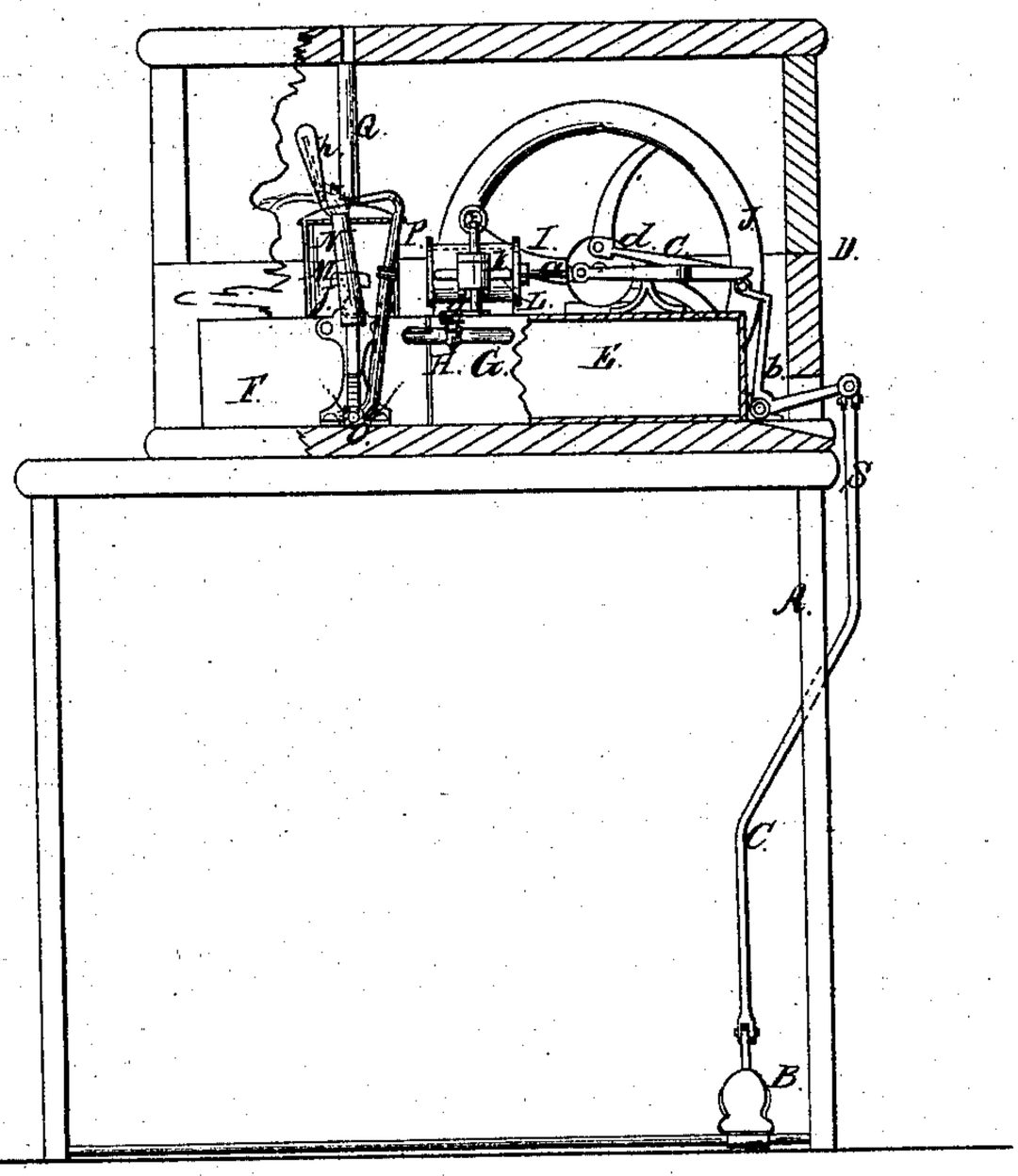


Fig: 2.

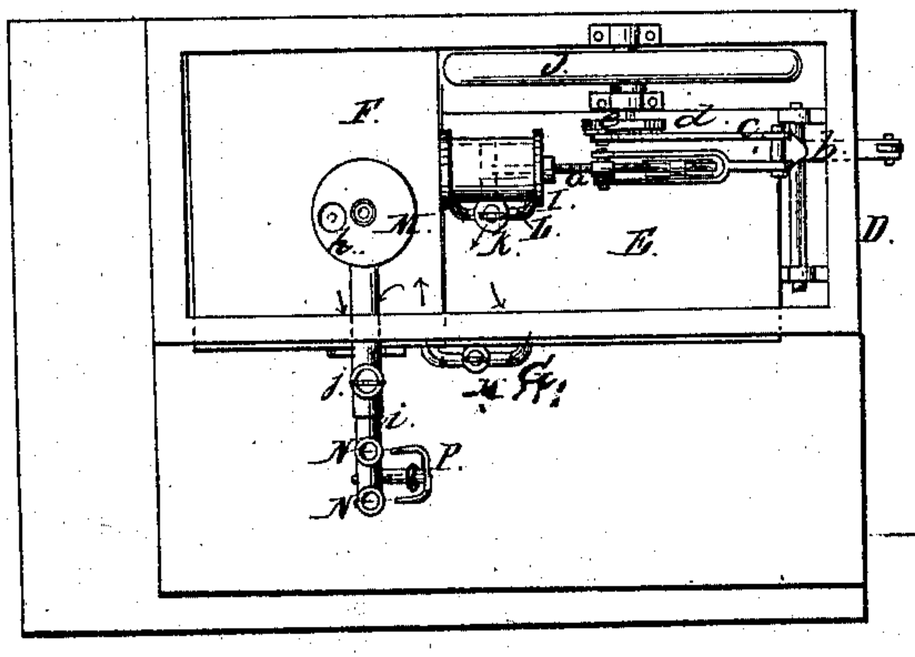
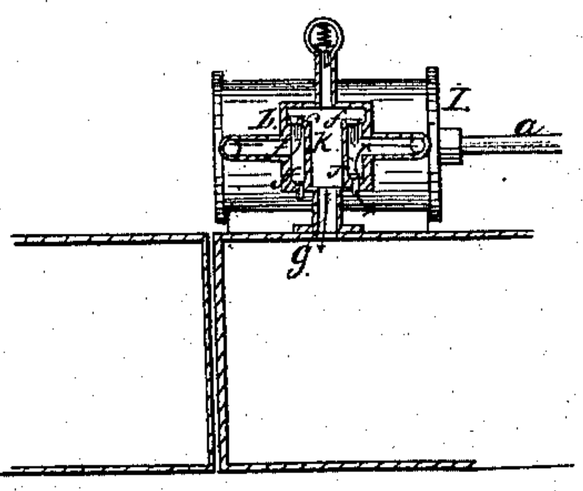


Fig: 3.



UNITED STATES PATENT OFFICE.

STEWART B. PALMER, OF TULLY, NEW YORK.

IMPROVEMENT IN BLOW-PIPES.

Specification forming part of Letters Patent No. **15,774**, dated September 23, 1856.

To all whom it may concern:

Be it known that I, STEWART B. PALMER, of Tully, in the county of Onondaga and State of New York, have invented a new and useful Improvement in Blow-Pipes for the Use of Dentists and other Artisans; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which--

Figure 1 is a front view of my improvement, the casing and one of the wind chests being partially broken away or removed in order to show the invention. Fig. 2 is a plan or top view of the same. Fig. 3 is a detached view of the pump and a portion of the two wind-chests, the valve-chamber of pump being bisected through its center.

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

My invention consists in the employment or use of two wind-chests which are connected by a small pipe provided with a faucet and arranged in relation with the pump and blow-pipe, as will be presently shown, whereby a stream or jet of air of equal volume is forced in a regular or even manner from the nozzle of the blow-pipe.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a stand, framing, or bench having a treadle, B, at its lower part.

C is a pitman attached to the treadle.

D is a rectangular case or box having within it two wind-chests, E F, placed side by side. The wind-chests may be constructed of metal or wood, and are connected or communicate with each other by a small pipe, G, provided with a faucet or stop-cock, H. (See Figs. 1 and 2.)

On the top of the chest E a pump, I, is placed, the piston-rod *a* of which is connected with a bell-crank, *b*, to which the pitman C is attached. The crank *b* is connected by a pitman, *c*, to a crank-pulley, *d*, on a shaft, *e*, which has a fly-wheel, J, upon it.

K is a valve-box connected by a pipe, L, with the pump-cylinder, said pipe communicating with each end of the cylinder. The valve-box is provided with four valves, *f*, and is connected with the wind-chest E by a pipe, *g*.

M is the reservoir, containing burning-fluid or alcohol, placed on the top of the wind-chest F, said reservoir being provided with a glass vessel, *h*, to show when the reservoir is filled.

N N are wick-tubes connected by a pipe, *i*, with the reservoir M, the tubes being at the outer side of the case D and the pipe *i* being provided with a faucet, *j*.

O is a pipe which is connected with the lower part of the chest F, and to the outer end of this pipe a nozzle, P, is attached. This nozzle is provided with a slide, so that it may be raised or lowered, and the pipe O is allowed to turn or rock, so that the end of the nozzle may be moved nearer to or farther from the flame, as desired.

The piston of the pump I is operated by the treadle, and the wind is forced into the chest E and through the pipe G into the chest F, and passes from the chest F through the pipe O into the nozzle P. In consequence of the connection of the chest F with the chest E by means of the pipe G the wind is forced out of the nozzle P in a continuous and equal stream or jet, the vibrations of the piston of the pump which forces the wind intermittently into the chest E being overcome by the pipe G, which keeps the chest F supplied with wind from the chest E, the chest F serving as a reservoir from which a continuous current or stream equal in velocity passes through the pipe O.

The passage of the wind through the pipe G may be checked or increased or diminished by regulating the faucet H.

The above improvement has been practically tested and operates well. The whole affair is portable, economical to manufacture, and there are no parts liable to get out of repair.

The reservoir M may be filled through a pipe, Q, which passes through the top of the case D.

I do not claim, separately, the pump, nor the mode of operating the same, nor do I claim the arrangement of the nozzle, for these have been used in similar or analogous devices; but,

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

The two wind-chests E F, connected by the pipe G, provided with the faucet H, when said chests thus connected are arranged and used in connection with the pump I, reservoir M, wick-tubes N N, and nozzle P, connected with the pipe O, substantially as described, for the purpose specified.

STEWART B. PALMER.

Witnesses:

S. M. FARNHAM,

JO B. SHEERAR.