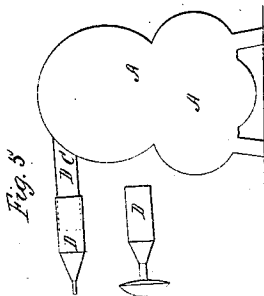
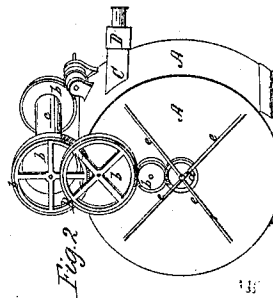
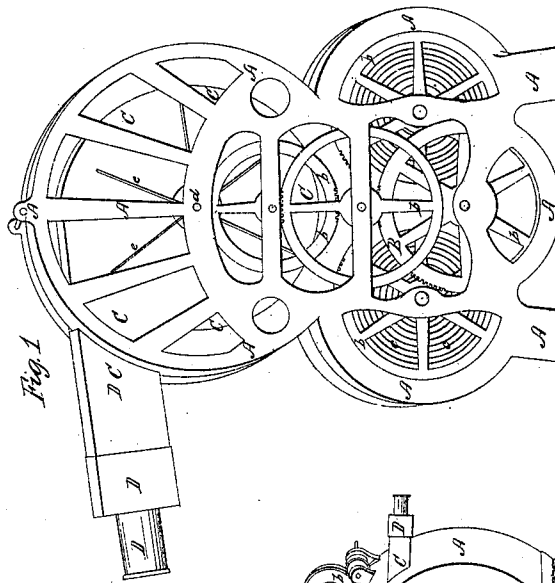
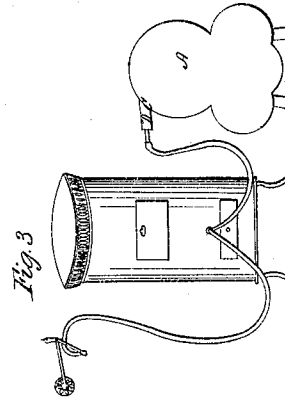
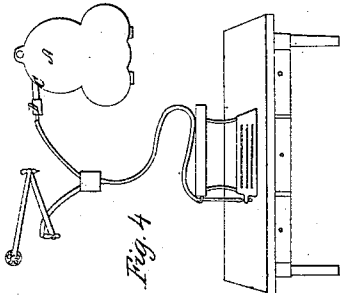


M. Pinner,

Blow Pipe,

N^o 53,181.

Patented Mar. 13, 1866.



Witnesses;
Carl Pinner
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Inventor;
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UNITED STATES PATENT OFFICE.

MORITZ PINNER, OF NEW YORK, N. Y.

IMPROVED SELF-ACTING BLOW-PIPE.

Specification forming part of Letters Patent No. 53,181, dated March 13, 1866.

To all whom it may concern:

Be it known that I, MORITZ PINNER, of the city of New York, in the county and State of New York, have invented a new and Improved Self-Acting Blow-Pipe; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, in which like letters denote like parts in all the figures.

But before entering upon that description I will name the object of this invention, which is a twofold one, to wit, first, to produce, by a very simple self-acting mechanism, a continuing and conductible jet or current of air; and, second, to exhaust air, as in ventilating and other processes. For these purposes I combine gear-wheels with a fan in any known or desirable manner, surround the fan with a cylinder or air-drum in such a way as to draw or suck air into that drum, and connect the drum with spouts, tubes, and similar contrivances, so as through them to conduct the air out of that drum into any desired space or thing. The jet of air thus easily produced can be used for many different purposes, and as an illustration I will name here a few of them.

a, mechanical purposes, such as blowing air into a jet of gas or gaseous substances by means of tubes, for heating sad-irons, stoves, crimping-machines, hat and bonnet presses, &c., thus cheapening such heating processes by burning the oxygen of the air along with the gas or its equivalent; blowing air, bellows-like, into stoves, furnaces, fire-places, &c., so as to start or intensify flames, or upon heated bodies so as to cool them; blowing air into a flame for soldering purposes, as often done by workers in metal; blowing glass; blowing into vessels containing fluids partly congealed, such as molasses, oil, &c., so as to cause such fluids to flow easier out of such vessels.

b, agricultural purposes, such as cleaning grain by blowing air into it, so as to separate its parts by specific gravity; and the same process can also be applied to mining by blowing air into powdered ore, so as to separate its parts, too, by specific gravity.

c, artistic purposes, such as blowing air into musical instruments—organs, flutes, &c.—or drawing air out of such instruments so as to lessen the volume of air contained in them. In the

latter case such blow-pipe could be placed inside of such musical instrument, so as to conduct the spout of the blow-pipe, and with it the exhausted air, to the outside of such instrument.

d, sanitary purposes, such as blowing cool air upon a wound, a sore place, or upon the human body while eating, writing, sleeping, &c.; blowing air into a person rescued from drowning; blowing hot air into a bed or other thing by placing the body of such blow-pipe into a vessel containing hot air, allowing only the spout of such blow-pipe, or a flexible or other tube connected therewith, to pass to the outside of such hot-air vessel; ventilating houses, rooms, ships, &c., by fastening into their walls one or more of such blow-pipes, with their spouts turned so as to blow fresh air into or foul air out of any desired place, &c., the wall in some cases replacing the drum C or frame A.

Any one of such blow-pipes could by turns serve numerous purposes, and would thus prove a valuable article in every family, office, shop, studio, hospital, restaurant, &c.

To enable others skilled in the art to make and use my invention, I will now more in detail describe the construction of the same and the mode and manner of its operation.

A in the accompanying drawings denotes a frame containing either the whole apparatus, excepting the spout D, as in Figure I, or merely the fan *e*, as in Fig. II. In the latter case the frame A serves also the purpose of the drum C.

B denotes the gearing or clock-work, which in Fig. I is inside and in Fig. II outside of the frame A. That clock-work consists of gear-wheels *b* and springs *c*, as in Fig. I, or of cord and weights instead of springs, as indicated by the cord-holder *c c* in Fig. II.

C denotes a cylinder or air-drum, containing the fans or wings *e*, which are fastened to a shaft, *d*, and which latter revolve in and connect the two opposite sides of the frame A.

D denotes a spout connected with the drum C, and through which the jet of air is conducted as desired.

The springs *c*, on being wound up, set the wheels *b* in motion. These wheels again operate upon one another, and by means of a

pinion cause the shaft *d*, and with it the wings or fan *e*, to revolve inside the drum *C*. By the motion of that fan *e* air is drawn into that drum *C* through holes left in the center of the sides of that drum, and that air, by the continued revolving motion of the fan *e*, is compressed and driven about within that drum *C* until it reaches and escapes through the spout *D*. That spout *D* could be supplied with a stop-cock, so as to use more or less air at a time, and the volume of air emanating from this blow-pipe can also easily and in quick succession be regulated by pressing with the arm, foot, or in any other way upon a flexible tube or bag connected with the spout *D*, through which the air may happen to be conducted, similarly to the manner in which air-bags for blowing purposes are sometimes used.

It will at once be seen that a great variety of modifications in the construction of this blow-pipe could be devised without changing its principle. The volume of air and the running time required in specific cases, as well as the particular uses to which this blow-pipe is to be applied, will have to determine the details of construction—*i. e.*, the material, size, shape, and number, as well as the placing and connecting, of parts; and to illustrate more fully some few of the applications of this blow-pipe, as above indicated, I refer once more to the accompanying drawings, in which—

Fig. I shows the blow-pipe as above described. Fig. II shows this blow-pipe of a shape resembling that of a gas-meter and arranged for cords and weights, as partly described hereinbefore. Fig. III shows the blow-pipe in connection with a gas-stove, air being blown into the gas after it reaches the stove. Fig. IV shows this blow-pipe in connection with a sad-iron to be heated by a combined jet of gas and air. Air and gas meet and mix in a drum and, combined, enter and heat the iron. Fig. V shows this blow-pipe with a narrow spout, *D*, as it might be used for soldering or glass-blowing purposes. Fig.

VI shows the spout *D* as it might be used in connection with this blow-pipe for conveying hot or cold air shower-like.

I am well aware that several contrivances already exist for operating a fan by gear-wheels; but none of them are so constructed as to constitute a blow-pipe. They can neither be used for giving changeable directions to the current of air they produce, nor can they change the volume of such air, nor can they be used for exhausting air, all of which my blow-pipe will do. My invention therefore, although possibly resembling those contrivances to some extent, is nevertheless distinct in principle and superior as well, for it can do the work for which they are intended and a great deal more besides.

Having thus described my blow-pipe and the mode and manner of constructing and operating it, I claim as my invention, and desire to secure by Letters Patent, the following, to wit:

1. A self-acting or automatic blow-pipe operating substantially as herein set forth.
2. An automatic blowing-machine that could be used for supplying or exhausting air, or both alternately.
3. The combination of an automatic blowing-machine with a gas-jet or its equivalent, so as to produce a manageable and easily transferable flame, substantially as described.
4. The combination of the devices herein described, or their equivalent, for heating sad-irons, stoves, and other articles; for soldering, glass-blowing, and other industrial and domestic operations; for producing a blow-pipe heat, and for the various other objects and purposes hereinbefore set forth and described.
5. The combination of an automatic fan with an air-chamber, substantially as described.

MORITZ PINNER.

Witnesses:

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