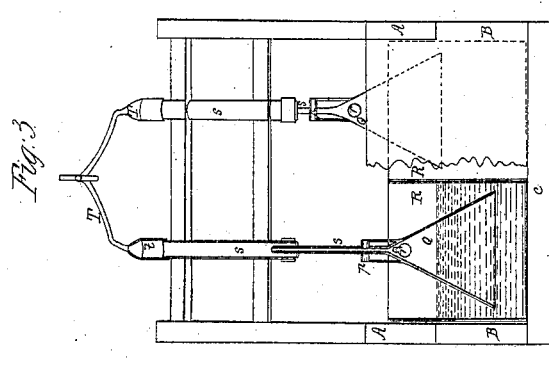
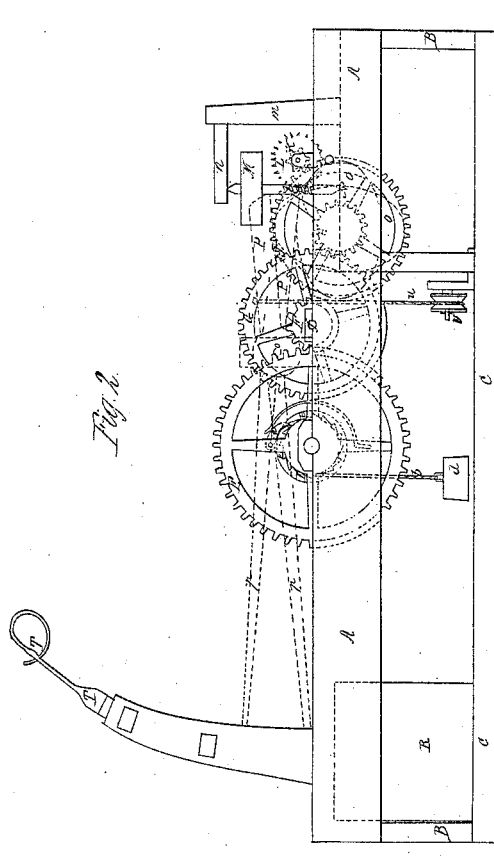
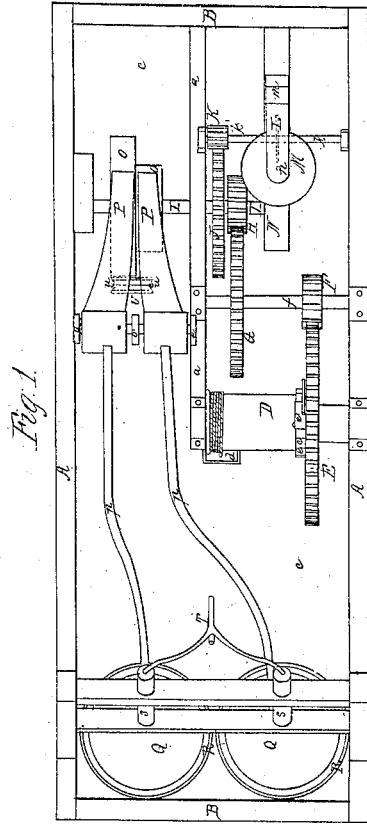


J. M. Burton,
House Ventilator.

N^o 1,298.

Patented Aug. 17, 1839.



UNITED STATES PATENT OFFICE.

JAS. M. BURTON, OF SALEM, GEORGIA.

VENTILATOR FOR ROOMS, &c.

Specification of Letters Patent No. 1,298, dated August 17, 1839.

To all whom it may concern:

Be it known that I, JAMES M. BURTON, of Salem, in the county of Clarke and State of Georgia, have invented a new and useful
5 Improvement in Machines for Ventilating Rooms, and that the following is a full and exact description thereof, reference being had to the drawings accompanying and making part of this specification, and the
10 same parts are designated by the same letters of reference in all the different figures.

Figure 1, of the drawing is a vertical projection, or top view of the machine. Fig. 2, is a side view, and Fig. 3, a view of the end
15 of the machine that contains the pumping, or blowing cylinders with one drawn in section to exhibit its internal arrangement.

A, Figs. 1, 2 and 3, represents the sides of the frame, secured to two end pieces B, that rest upon the platform C. This frame
20 is formed of any suitable material, as boards, or plank, in width about four tenths of its length, and one quarter of its length in height, but may be varied, both in size
25 and proportions, according to the quantity of air to be supplied, as circumstances require. Transversely near the center of the frame is placed a cylinder D, one end of its
30 axle resting upon the side of the frame A, and the inner end rests upon and confined loosely to the short longitudinal center timber *a*, as shown at Fig. 1.

A weight *d*, is suspended beneath the cylinder D, and is connected thereto by a cord
35 *b*, which is wound spirally upon the periphery of the cylinder, when the weight is drawn up, and as the weight descends by its gravity, it puts the cylinder D, in motion, which gives impulse to the machine. Upon the
40 axle of the cylinder D, near the outer end is placed loosely thereon a wheel E, which is caused to revolve by the ratchet wheel *e*, connected to the end of the cylinder, and operating upon the pawl *e'*, attached to the
45 wheel E, Figs. 1, and 2. The wheel E, connects with and gives motion to the pinion F, attached to the shaft *f*, placed parallel with axle of the cylinder D, as seen at Figs. 1 and 2. Near the inner end of the shaft *f*,
50 is secured another wheel G, which gives motion to the pinion H, secured near the inner end of the shaft I, Figs. 1 and 2. Within and near the pinion H, upon the shaft I, is attached a wheel J, that imparts motion to
55 the pinion K, upon the inner end of the

shaft *k*, and near the middle of this named shaft is secured a wheel L, with small pointed teeth, that give motion, to a screw, or worm, *l*, formed upon a vertical shaft, to the top of which is affixed a small balance
60 wheel M, for regulating the motion of the machine, as seen at Figs. 1 and 2.

The worm shaft *l*, is held in its vertical position by an arm *n*, which projects laterally from the stand *m*, while its lower end is
65 secured and turns in a step, which is placed in the short longitudinal piece N, as shown at Figs. 1 and 2.

At the side of the frame opposite that of the gearing, are placed the cams, and levers,
70 that give motion to the blowing cylinders, at the end of the machine opposite that of the gearing. The shaft I, to which the pinion H, is attached and gives motion, before described, is placed a little below the
75 top of the frame, and the journal on the inner or guard end, has its bearing at the timber N, and its outer journal in a stand secured to the side of the frame A, Fig. 1.

O, Figs. 1 and 2, are two, double acting
80 cams secured to the shaft I, near its outer end, and operate against the under side of the short end of the levers P, which have their fulcrum or bearings near the top of the stands *o*, which are raised above the top
85 of the frame, as shown at Fig. 1, (the cams and levers are represented in red line at Fig. 2).

The long end of the levers *p*, are connected to the top of the bellows cylinders *q*.
90 Figs. 1 and 3, the form of which is either funnel shaped, or that of a cylinder, with their lower ends open, and immersed in water contained in the vessels R, Figs. 1, 2
95 and 3.

r, Fig. 3, is a valve placed near the top of the bellows cylinder *q*, that opens inward, and admits the external atmosphere, when the cylinders ascend, and close the aperture
100 when the cylinders descend, and the water forces the air within the cylinders, out at the top through the tubes *s*, which are secured to the cylinders and communicate with the chambers of the stationary tubes *s*,
105 passing through a packing of leather or other substances, at the lower end of the tubes *s*, which prevent the escape of air therefrom as seen at Fig. 3. The stationary tubes *s*, are placed in a frame, that projects
110 above the frame of the machine, and are

curved, forming segments of a circle having the fulcrum of the levers for their center, Figs. 1, 2 and 3.

5 *t*, Fig. 3, is a valve placed at the top of the stationary tubes *s*, which closes as the cylinder descends and prevents the escape of air, from the branch pipe *T*, which conveys the air to its place of destination, Figs. 1, 2 and 3.

10 In the operation of the machine one of the cams *O* raises the lever *P*, and the opposite lever *P*, is depressed, by a cord *u*, passing under a pulley *U*, at the bottom of the machine, to which the cord is secured at
15 each end to the top of each of the levers *P*, Figs. 1 and 2. As the levers *P*, ascend the opposite end or long arm *p*, with the cylinder descends, and vice versa. The cams

have about twelve revolutions to one of the cylinder *D*, or such other number as preferred. 20

Having thus fully described the construction and operation I now proceed to point out those parts that are new and of my own invention. 25

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

The combination of the bell bellows or water vessels *R*, and the tubes *S* and *s*, the same being constructed and operated substantially in the manner herein set forth. 30

JAMES M. BURTON.

Witnesses:

I. W. HUBBARD,

C. H. A. SILBERGER.