

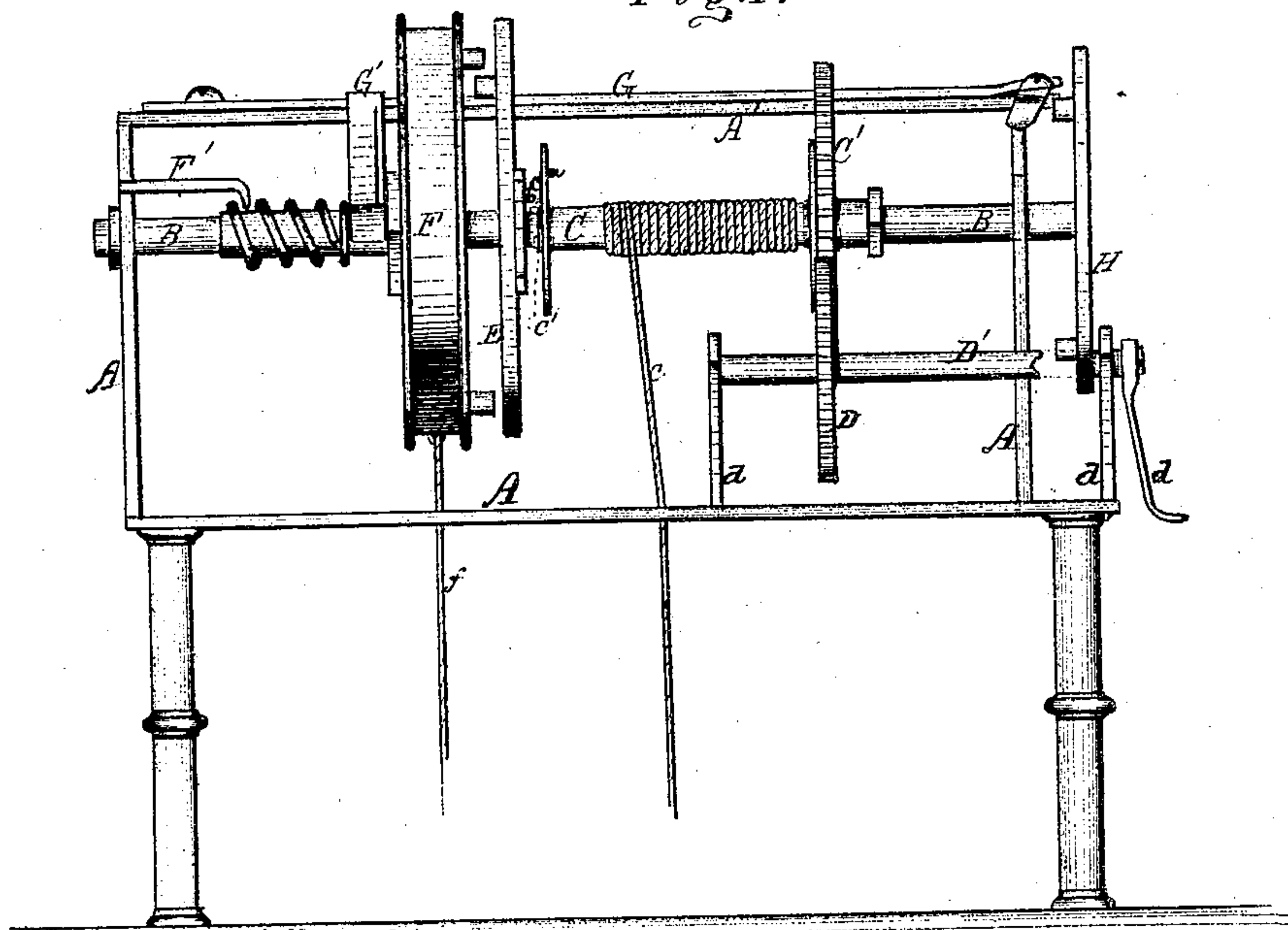
*P. Kelly,*

*Carburetor.*

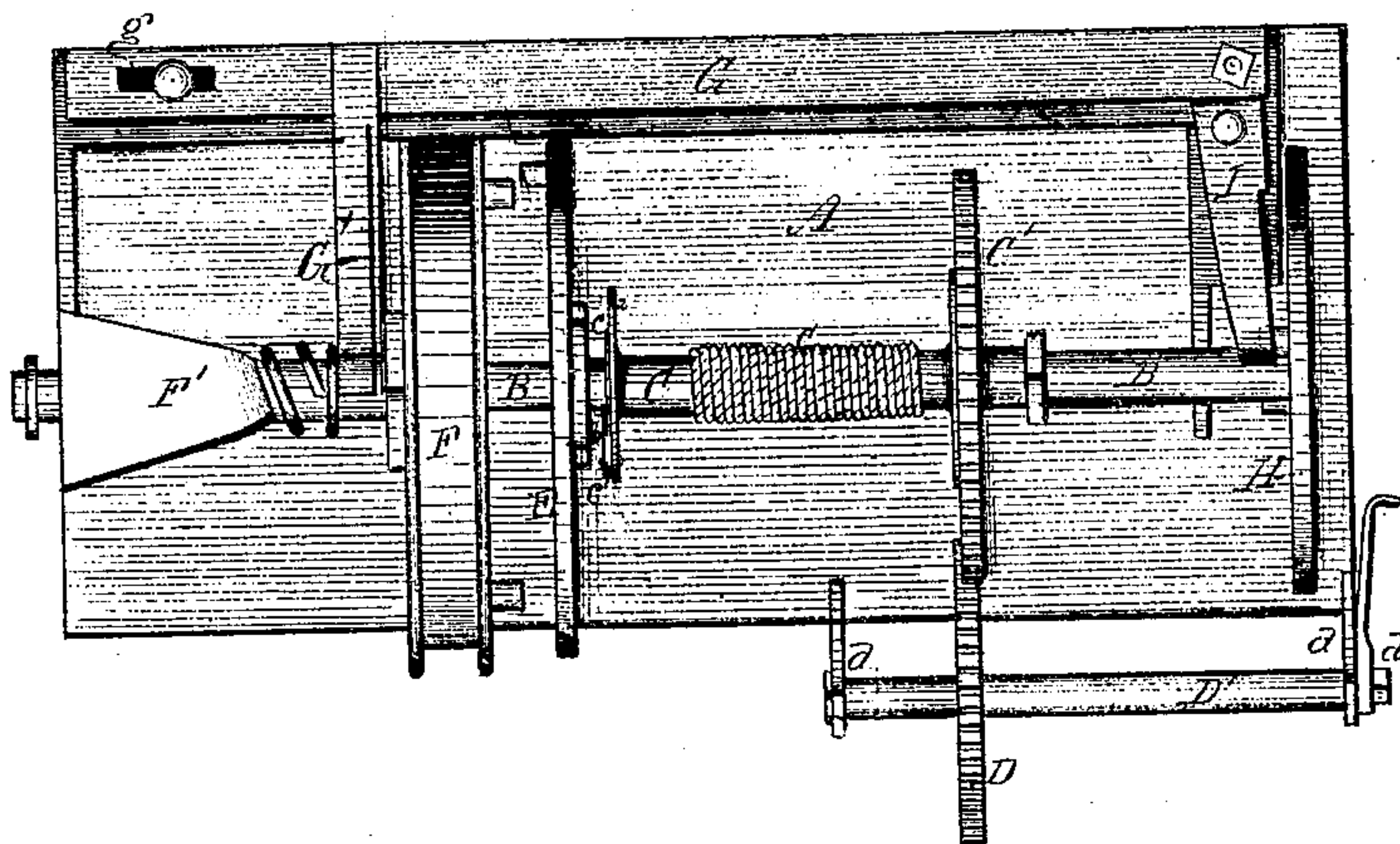
*No. 96,704.*

*Patented Nov. 9. 1869.*

*Fig: 1.*



*Fig: 2.*



*Witnesses*

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G. F. Clauson*

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# United States Patent Office.

PATRICK KELLY, OF DAYTON, OHIO.

Letters Patent No. 96,704, dated November 9, 1869.

## IMPROVED MACHINE FOR SUPPLYING AIR TO CARBURETTORS.

The Schedule referred to in these Letters Patent and making part of the same.

### *To all whom it may concern:*

Be it known that I, PATRICK KELLY, of Dayton, in the county of Montgomery, and State of Ohio, have invented a new and useful Apparatus for Operating Air-Pumps, and for other purposes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 represents a front elevation of the apparatus, showing the sheave or wheel, to which the weighted piston of an air-pump may be attached, in position to be operated upon by the driving-portion of the machine.

Figure 2 represents a plan view thereof, showing the position of the sheave at the moment it is liberated from the clutch, the driving-parts being locked the same instant.

Corresponding letters refer to corresponding parts in the several figures.

My invention relates to an apparatus for operating air-pumps or bellows for supplying air for portable gas-generators, and for other purposes; and

My improvement consists in the construction, combination, and arrangement of the parts constituting the machine, as hereinafter more fully described.

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

A, in the drawings, represents the frame, which may be constructed of any suitable material, and may have the form shown, or any such form which shall adapt it to receive and support the working-parts of the machine.

B is a horizontal shaft, having its bearings in the ends of the frame, and having a revolving motion only.

C is a flanged drum of suitable length, upon which a rope, *c*, is to be wound, the loose end of said rope, which may be passed over pulleys placed at any required elevation, being provided with necessary weights to give motion to the drum, and through it to the other parts of the machine. This drum is placed loosely upon the shaft B, about midway between the ends of the frame, and held in position thereon in any convenient manner. It is permitted to turn on the shaft in but one direction, and if turned in the opposite direction, *i. e.*, the direction in which the weighted cord *c* tends to revolve it, a pawl, *c'*, pivoted to the outside of one of its flanges, shall engage with a projection, *b*, on the shaft, or a ratchet-wheel secured thereon, and thus revolve the shaft and parts secured thereto.

The pawl is held to its work by a spring, *c''*, in the usual manner.

To the outside of the other flange of the drum, a spur-wheel, *C'*, is secured, which meshes into, and is driven by another spur-wheel, *D*, which is secured

upon a countershaft, *D'*, said shaft having its bearings in standards *a* projecting from the frame, and having upon its outer end a crank, *d*, by which it may be revolved by hand, when it becomes necessary to wind up the rope *c*.

E is a clutch, which is to be firmly secured upon the main shaft B, near the drum. It may be constructed as shown in the drawings, it being a disk with a projecting pin, which pin shall come in contact with pins on the opposite face of the sheave F, and revolve this whenever and as long as the distance between the disk and the sheave is less than the length of such pins.

F represents a sheave, to which the end of a rope, *f*, is secured, the other end of which is fastened to a weighted piston of an air-pump, or other device. It is placed opposite the clutch on the shaft B, being capable of rotary and horizontal motion thereon, and, in this instance, is constructed with projecting pins upon its face, opposite such clutch, for the purpose stated.

Upon its other side it is provided with an elongated hub, upon the outer portion of which a scroll is to be formed, into which a catch, *F'*, fastened to the frame, hooks, for the purpose of gradually withdrawing the sheave from the clutch while revolved thereby, and again pushing it within the influence of such clutch while revolved in the opposite direction.

The hub has also a groove formed around it, near the face of the sheave, for the reception of the arm of the slide G, soon to be described.

In the present instance I have shown the sheave to be so constructed and arranged, that during each period it is locked to the clutch, it shall perform a half revolution, and consequently raise the device, which may be attached to it, a distance equal to half its periphery.

This arrangement may, of course, be varied as circumstances may require.

G represents a sliding bar, attached at one end to a hooked lever, I, and having near its other end an arm, *G'*, extending from it, and lying in the groove around the hub of the sheave F. The slide is attached to a cross-bar of the frame by a screw-bolt passing through a slot in the slide, by means of which slot it is capable of sliding back and forth with the sheave.

H represents a disk of suitable diameter, which is firmly secured upon the outer end of the shaft B. The inner face of this disk has, in this instance, two projecting pins, which shall alternately be caught by the hooked lever I at the moment when the sheave has been liberated from the clutch, thereby suspending the action of the weighted cord *c*, until by its counter-revolution, the sheave is again locked to the clutch, which movement shall so operate on the lever I, by means



of the slide G, as to unlock the disk H, and consequently the shaft B, at the instant the above takes place.

I represents the hooked lever above alluded to, which is fulcrumed upon a stud on one end of the frame, and is operated by the sliding bar G, in the manner above set forth.

The machine operates as follows:

The sheave being in the position shown in fig. 1, the driving-portion of the apparatus is unlocked, and is at once set in motion by the weighted cord c, the clutch engaging with the sheave, and turning it in the direction of the arrow.

In its revolution the sheave winds upon itself the rope f, which, when at its other end fastened to the weighted piston of an air-pump, raises said piston. In performing this revolving motion, the sheave is gradually drawn away from the clutch by means of the catch and the scroll upon its hub, and released as soon as a half revolution has been performed. The horizontal movement of the sheave has at the same time brought the hook-lever, by means of the slide, into position for locking the driving-parts of the machine; and at the instant the sheave is released from the clutch, these parts are locked, the weighted piston falls and discharges the air which has been inhaled,

and revolves the sheave in a direction opposite to that when turned by the clutch, thereby returning it to the position shown in fig. 1. At the moment the sheave assumes this position, the driving-parts become unlocked, and the former is operated upon by the latter, as before.

The weighted cord c is to be wound up from time to time.

Having thus described my invention,

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

1. A machine for operating air-pumps, and for other purposes, constructed and operated substantially in the manner herein set forth.

2. The combination of a driving-mechanism with the clutch E, sheave F, catch F', slide G with arm G', lever I, and disk H, all arranged to operate substantially in the manner set forth.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

PATRICK KELLY.

Witnesses:

SOLOMON BOOKWALTER,  
BENJAMIN BEST.