F. S. Dumont.

Air-Compressing Apps's.

No. 89,390. Patented Apr. 27, 1869.

Fig. 2.

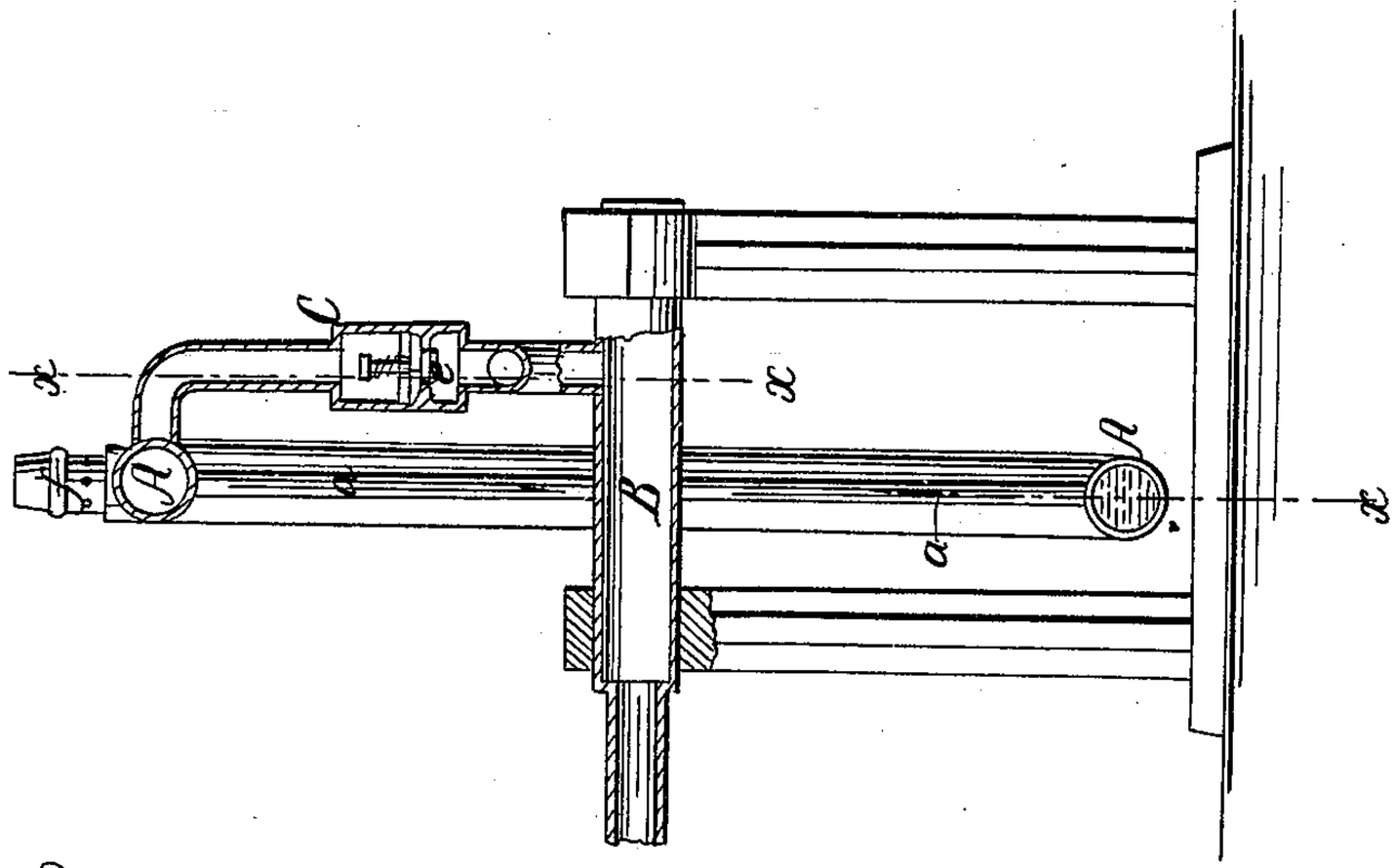
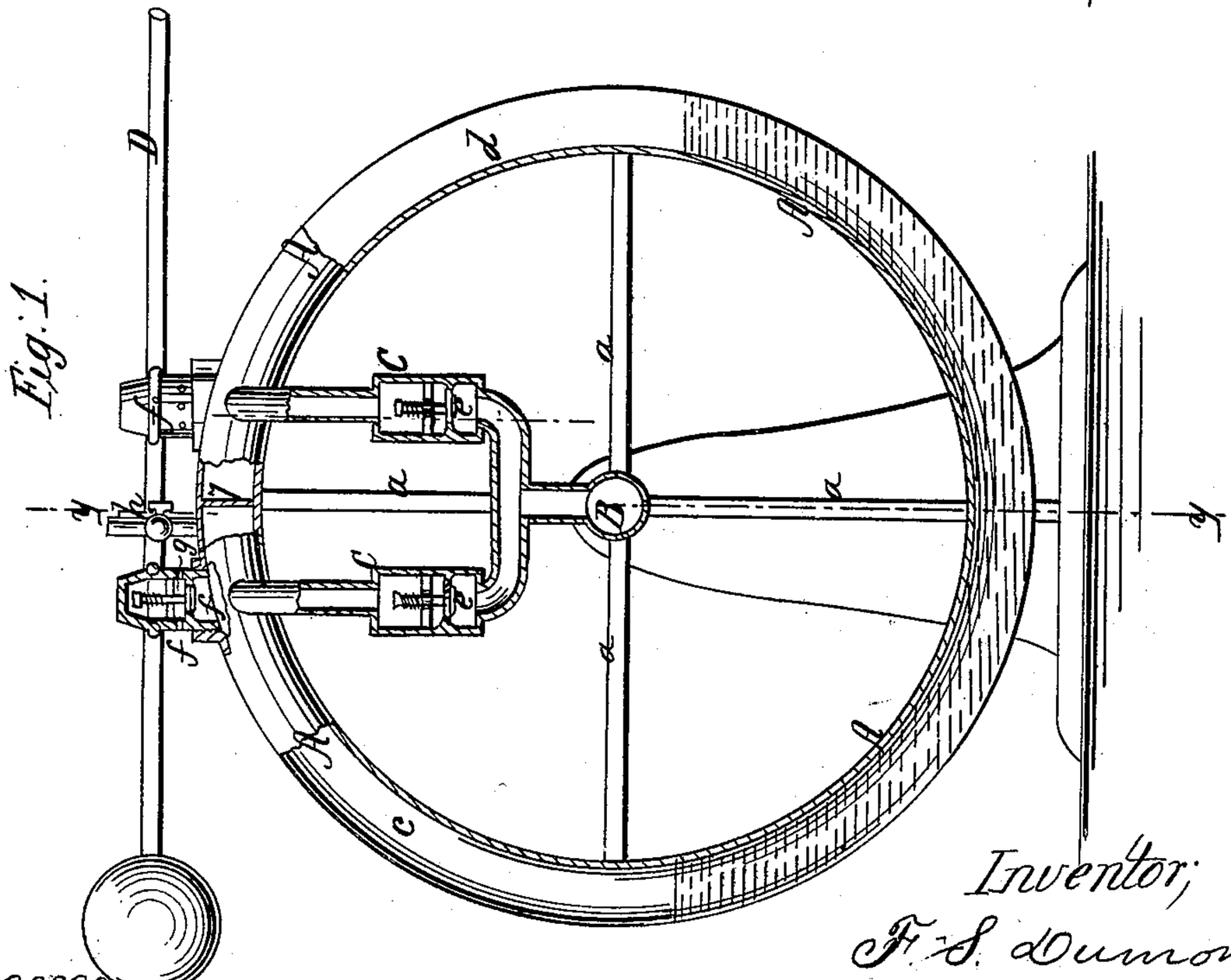


Fig. 1.



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Letters Patent No. 89,390, *dated April* 27, 1869.

IMPROVEMENT IN APPARATUS FOR COMPRESSING AIR.

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, FRANÇOIS SIMEON DUMONT, of the city, county, and State of New York, have invented a new and improved Apparatus for Compressing Air; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a front view, partly in section, of my improved apparatus for compressing air, the plane of section being taken in the line *x x*, fig. 2.

Figure 2 is a sectional elevation of the same, taken on the plane of the line *y y*, fig. 1.

Similar letters of reference indicate corresponding parts.

This invention relates to an improved apparatus for compressing air; and

It consists in the peculiar construction of the same, as will be hereinafter more fully described.

A, in the drawing, represents a hollow ring, or an annular vessel, made of sheet-metal, or other suitable material, and secured by means of spokes, or arms *a a*, concentrically to a tubular shaft, B, which has its bearings in suitable fixed posts, standards, or pendants.

The interior of the vessel A is vertically above the axle B, divided by means of a partition, *b*, as shown in fig. 1.

The shaft or vessel is provided with a suitable lever, or other equivalent device, for imparting rocking motion to it. The lower part of the vessel A is filled with water or other suitable liquid, through a tube, *h*, as shown in fig. 1, whereby two air-compartments, *c* and *d*, are formed in the upper part of the vessel A, above the water-line.

Each of these compartments is, by means of a tube, C, connected with the tubular axle, B, as is clearly shown in fig. 1.

In each tube C is arranged a valve, *e*, of suitable construction, said valves being, by means of a spring, or otherwise, held against their seats from below, so that they can be opened by pressure from above, and are closed when such pressure ceases.

Each compartment *c d* is connected by a tube, or aperture *f*, with the atmosphere on the outside, a valve, *g*, in said aperture, preventing air from entering the vessel, unless the pressure from without is stronger than that on the inside.

As the vessel is oscillated, the water will rise alternately in the compartments *c d*, and will shorten them, thereby driving the air contained therein, or at least a portion of it, through the tube C, into the hollow axle B, the pressure brought against the air in the compartment causing the valve *e* to open.

As soon as the water recedes from the compartment, the valve *e* instantaneously closes, and that in the other compartment opens.

When the water recedes from a compartment, a partial vacuum is produced in such compartment, causing the valve *g*, that pertains thereto, to open, and to let in fresh air, said valve closing as soon as the motion of the vessel is again reversed.

In this manner a continuous, uninterrupted stream of any kind of gas or water is forced by the apparatus into a room or receptacle, either to be compressed or for other purposes, as hereinbefore set forth.

Having thus described my invention,

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

The machine for compressing air, consisting of the hollow annular vessel A, divided by the partition *b*, above the water-line, into two compartments, *c d*, each provided with an air-aperture, *f*, and valve *g*, and communicating with the hollow axle B, by means of the pipes C C, containing valves *e e*, all arranged and operating as described for the purpose specified.

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Witnesses:

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