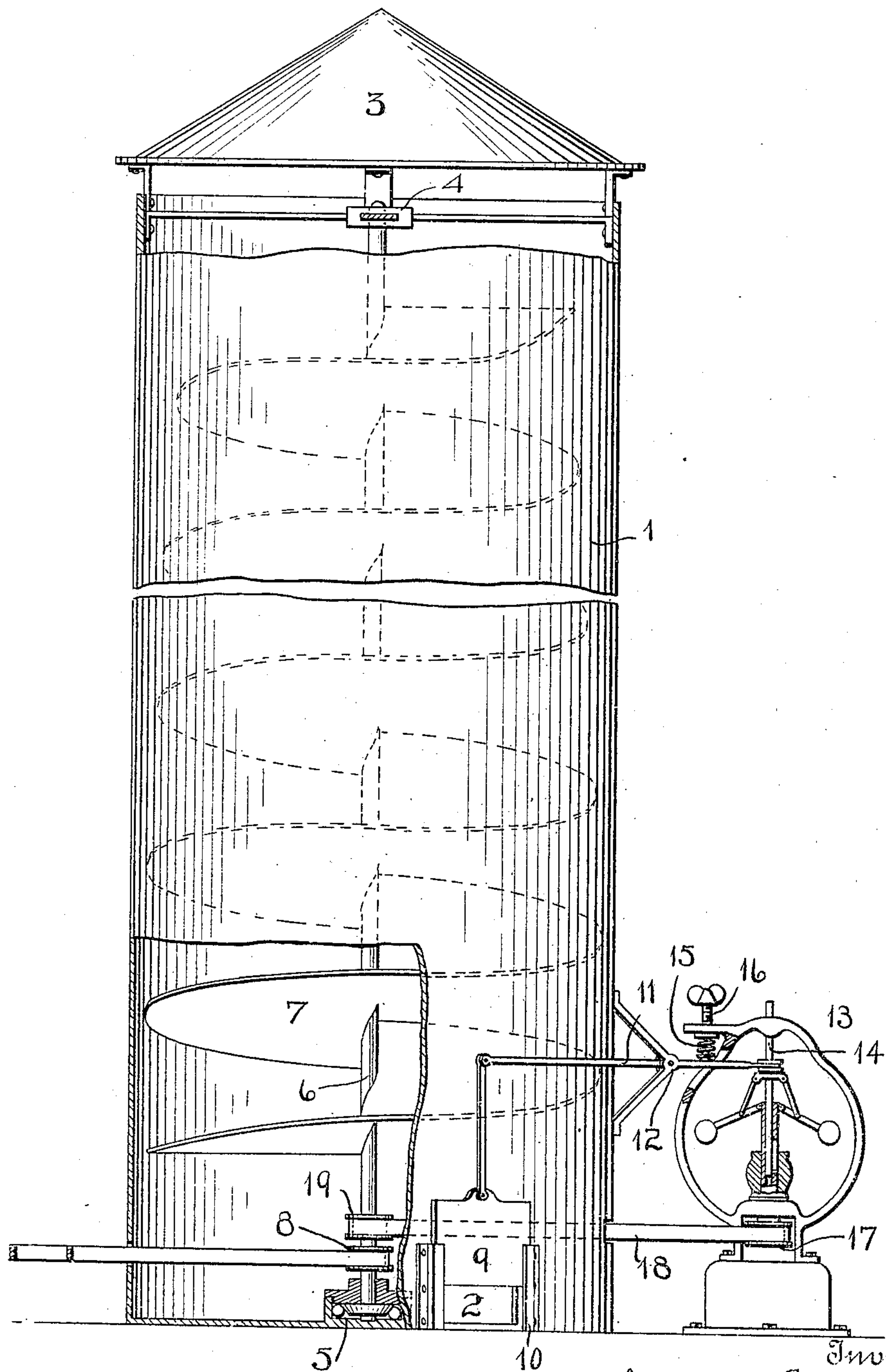


No. 838,687.

PATENTED DEC. 18, 1906.

A. CHARBONNEAU.
MOTOR.

APPLICATION FILED JUNE 14, 1906.



Witnesses
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TO FELIX J. CHARBONNEAU, OF WORCESTER, MASSACHUSETTS.

MOTOR.

No. 838,687.

Specification of Letters Patent.

Patented Dec. 18, 1906.

Application filed June 14, 1906. Serial No. 321,727.

To all whom it may concern:

Be it known that I, AUGUSTIN CHARBONNEAU, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Motors; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is an improved motor operated by an ascending current of air, steam, or other medium; and it consists in the construction, combination, and arrangement of devices hereinafter described and claimed.

The accompanying drawing is a perspective view, partly in section, of my improved motor.

The stack 1 is here shown as of cylindrical form with an opening or intake 2 at its base for the admission of air, exhaust-steam from an engine, heated products of combustion from a furnace, or other medium which will ascend through the stack, and hence create a draft therethrough. Above the stack is a cap 3. In bearings 4 5 at the upper and lower ends of the stack are journaled the upper and lower ends of the shaft 6 of a motor-screw 7, the blade of which projects radially from the shaft and is disposed in an ascending spiral thereon from near its lower end to near its upper end. The bearing at the lower end of the shaft is here shown and is preferably a ball-bearing. A pulley 8 is secured to the motor-screw shaft near the lower end thereof.

It will be understood that the ascending draft through the stack will act upon the spiral wing or blade of the motor-screw and cause the latter to revolve. Power may be transmitted from the motor-screw to a machine which it is desired to drive thereby by means of a power-belt of usual form and the pulley 8.

In order to regulate the speed and power of the motor, I provide a gate 9, which is movable to vary and control the effective area of the intake-opening. The said gate 9 is here shown as vertically movable, guides 10 being provided therefor to facilitate the vertical

movement thereof. The gate is operated by a lever 11, mounted at 12, and which lever is operated by a centrifugal governor 13 of usual form, the vertically-movable sleeve or element 14 on the governor-shaft being connected to said lever 11. A tension-spring 15 bears on the lever 11, and its tension may be regulated by means of a screw 16. A pulley 17 on the governor-shaft is driven by a belt 18 and a pulley 19 on the motor-screw shaft. When the speed of the motor-screw becomes excessive, the governor and lever operate to partly close the gate, and when the speed of the motor decreases the governor and lever open the gate to a corresponding extent, so as to supply an increased quantity of air or other medium to the stack.

From the foregoing description, taken in connection with the accompanying drawing, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined by the appended claim.

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

The herein-described motor comprising a stack having an intake-opening on one side, near the bottom, and vertical guideways on opposite sides of said opening, a gate operative in said guideways, a motor-screw mounted to be revolved in the stack by an ascending current, a centrifugal governor driven by the motor-screw, a lever connected to a movable element of the governor and to the gate, to operate the latter, a spring coacting with said lever, and means to vary the tension of said spring, substantially as specified.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

AUGUSTIN CHARBONNEAU.

Witnesses:

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FELIX J. CHARBONNEAU.