No. 836,853. PATENTED NOV. 27, 1906.

C. F. ANDERSON.

TIME CONTROLLED DAMPER.

APPLICATION FILED JAN. 20, 1906.

Fig. 1.

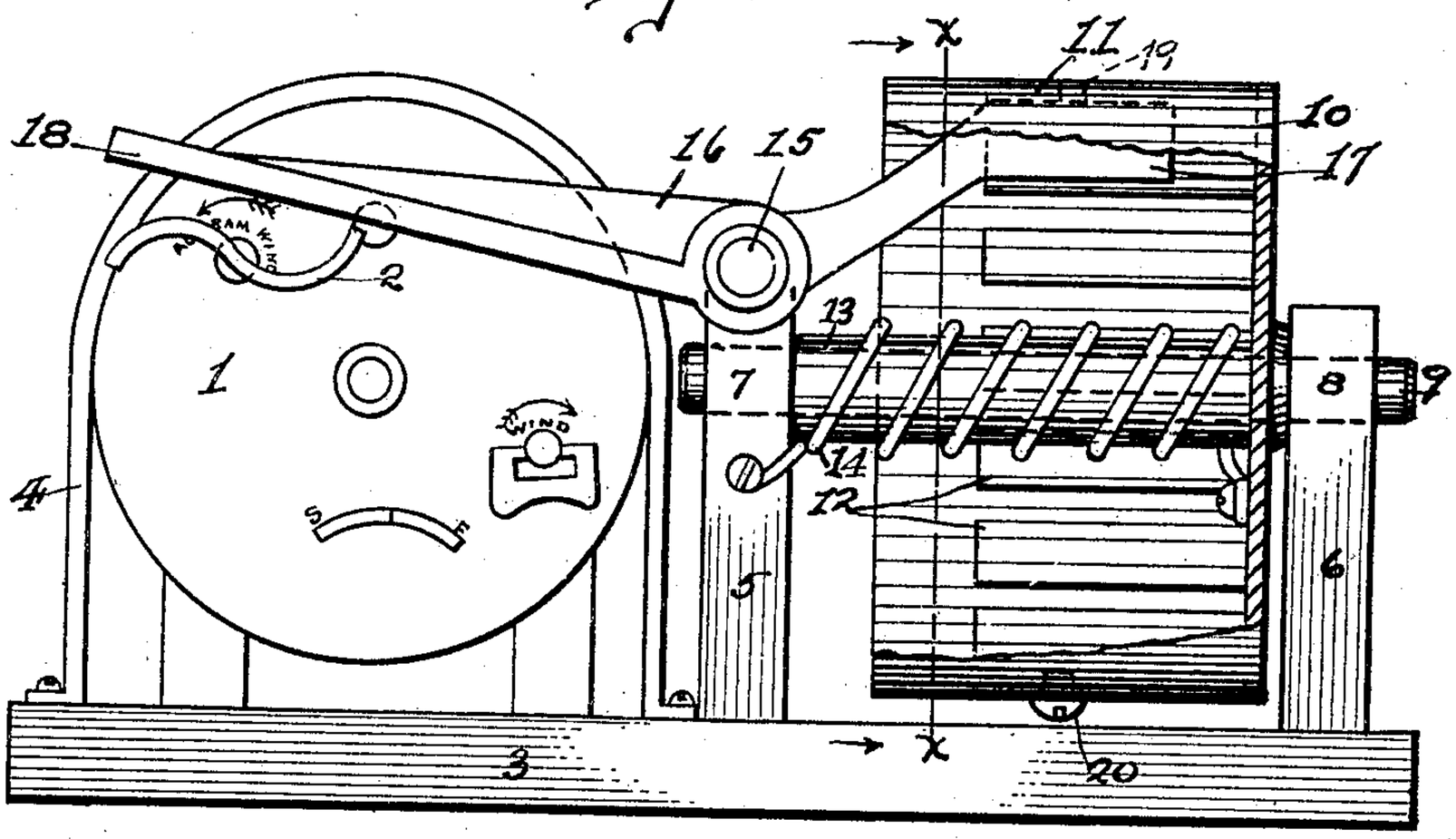



Fig. 2

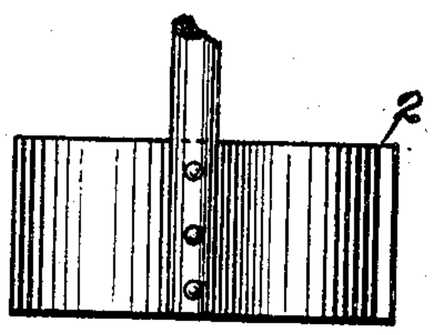
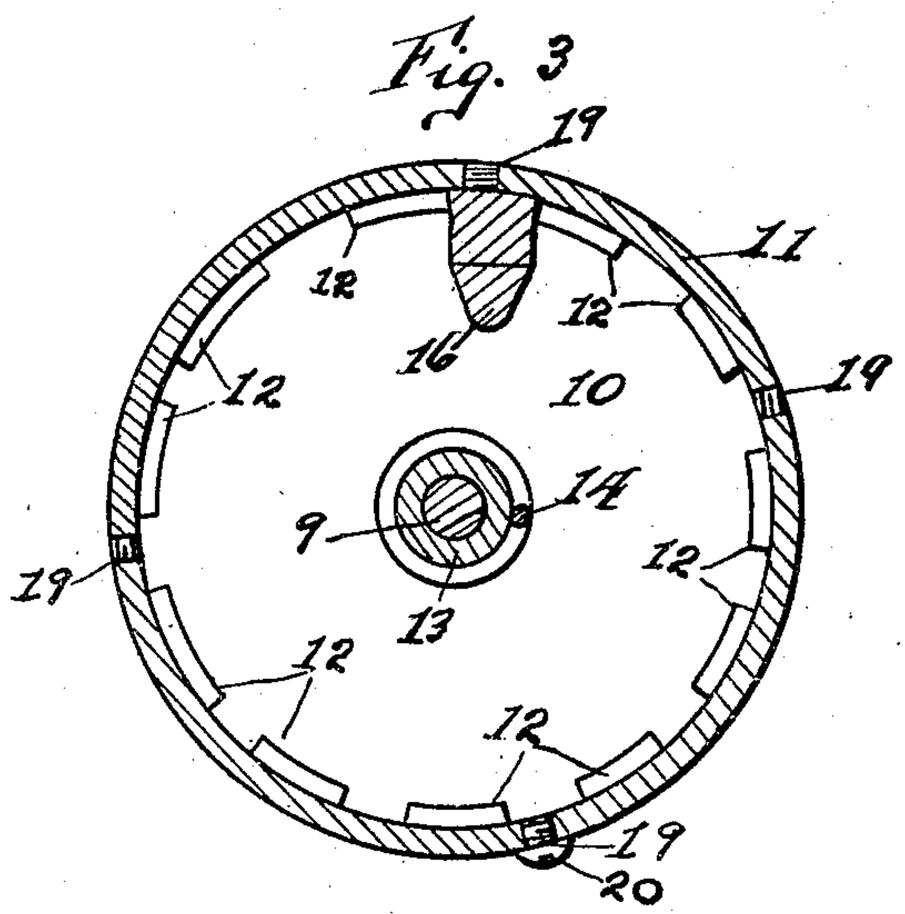



Fig. 3

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# UNITED STATES PATENT OFFICE.

CARL F. ANDERSON, OF CHICAGO, ILLINOIS.

## TIME-CONTROLLED DAMPER.

No. 836,853. Specification of Letters Patent. Patented Nov. 27, 1906.

Application filed January 20, 1906. Serial No. 296,947.

*To all whom it may concern:*

Be it known that I, CARL F. ANDERSON, a citizen of the United States, residing in Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Time-Controlled Dampers, of which the following is a specification.

My invention relates to that class of devices in which it is desired to open or close apertures automatically at desired intervals of time and may be used in connection with the opening and closing draft-dampers in a furnace, or it may be put to many other similar uses—for example, where it is desired to feed poultry or other stock at a desired point of time my device may be used for opening or closing the feed-boxes.

My invention has for its object to accomplish the desired result in a simpler and less expensive manner than is accomplished by any of the devices now on the market and to provide a device which will be efficient and very little liable to get out of order.

My method of accomplishing the foregoing may be more readily understood by having reference to the accompanying drawings, which are hereto annexed and made a part of the specification, in which—

Figure 1 is a side elevation of my improved device with a part of the ratchet-wheel broken away to show the interior construction. Fig. 2 is a plan view of the cam-lifting lever. Fig. 3 is a cross-section taken on the line X X in Fig. 1.

Similar reference-numerals refer to similar parts throughout the entire description.

In the drawings, 1 is an alarm-clock which may be of ordinary construction, with the exception that it is provided with my improved cam-lifting device 2, which is attached to the winding-pinion for the alarm. The clock is mounted upon a base-plate 3 and is secured in position by means of a strap 4 or any other convenient method. At one side of the clock are located upwardly-extending lugs 5 and 6. The upper ends of these lugs form bearings 7 and 8 to carry a shaft 9, on which is mounted the ratchet-wheel 10. This wheel is formed with an annular rim 11, the inner surface of which is provided with ratchet-teeth 12, the hub of the said wheel being rotatable upon the shaft 9. The wheel 10 is provided with an extended hub 13, which provides a suitable bearing for the shaft 9. On the interior of the wheel and around its hub I locate a coiled spring 14, one end of which is secured to the lug 5, the opposite end being attached to the inner wall of the wheel 10, so that when the latter is rotated by hand the spring exerts a backward tension which will cause it to rotate in the opposite direction the instant it is released. At the top of the lug 5 is mounted a pin or pivot 15. This pin has mounted and movable thereon a pawl 16, one end 17 of which acts as a dog or pawl to engage the ratchet-teeth in the inner face of the annular rib 11. The opposite end 18 rests upon the cam 2. Internally-threaded apertures 19 are provided at suitable distances in the face of the annular rim 11, one of said apertures having a screw mounted therein, the various apertures being provided so as to regulate the fastening-point of the chain or wire through the medium of which it is desired to open or close apertures without the necessity of having to cut or destroy the chain or wire.

The operation of the device is as follows: Where the device is used in connection with a furnace having a draft-damper at its lower front door and a check-damper in its pipe, one of which is to be closed when the other is open, the chains attached to the respective dampers are wound around the wheel 10 and attached thereto by the screw 20. The alarm-clock is then set at the desired hour or minute when it is desired to open the check-damper and close the draft-damper, and the wheel 10 is rotated so that the spring is exerting considerable tension against the pawl 16, being prevented from rotation by the engagement of the said pawl with the ratchet-teeth. When the desired time has been reached, the clock will go off and in going off will rotate the winding-pinion, to which is attached the cam 2. This will raise the end 18 of the pawl 16 and disengage its opposite end from the ratchet-teeth, so that the spring will cause the said wheel to rotate and will unwind the chain and lower the desired door and wind up the other chain and raise the other door or damper.

Although I have described the device in connection with a furnace, it will be obvious that it can be used in innumerable places where it is desired to time the opening or closing of an aperture.

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

1. In a device of the character described, the combination with an alarm-clock, of a

base-plate upon which said clock is mounted; lugs extending upwardly from said plate, said lugs having journal-bearings therein, in which is mounted a shaft; a ratchet-wheel mounted on said shaft having an annular rim extending from one side thereof; ratchet-teeth cast or formed upon the inner face of said annular rim; a pawl mounted upon one of said lugs, one end of said pawl being adapted to engage the ratchet-teeth on the inner face of said annular rim, its opposite end being engaged by a lifting-cam mounted upon the winding-pinion of the alarm of the said clock; and spring-actuated means to produce a tension on said wheel, for the purpose set forth, substantially as described.

2. In a device of the character described, the combination with an alarm-clock, of a base-plate upon which said clock is mounted; lugs extending upwardly from said plate, said lugs having journal-bearings therein, in which is mounted a shaft; a ratchet-wheel mounted on said shaft having an annular rim extending from one side thereof; ratchet-teeth cast or formed upon the inner face of said annular rim; a pawl mounted upon one of said lugs, one end of said pawl being adapted to engage the ratchet-teeth on the inner face of said annular rim, its opposite end being engaged by a lifting-cam mounted upon the winding-pinion of the alarm of the said clock; and a coiled spring surrounding the hub of the said wheel; one end of which is rigidly attached to the bearing-lug, its opposite end being fastened to the wheel.

3. In a device of the character described, the combination with an alarm-clock, of a base-plate upon which said clock is mounted, said clock being provided with a lifting-cam mounted upon and rotated by the winding-pinion of the alarm; lugs extending upwardly from said plate, said lugs having journal-bearings therein, in which is mounted a shaft; a ratchet-wheel mounted on said shaft having an annular rim extending from one side thereof; ratchet-teeth cast or formed upon the inner face of said annular rim; a pawl mounted upon one of said lugs, one end of said pawl being adapted to engage the ratchet-teeth on the inner face of said annular rim, its opposite end being engaged by a lifting-cam mounted upon the winding-pinion of the alarm of the said clock; and a coiled spring surrounding the hub of the said wheel, one end of which is rigidly attached to the bearing-lug, its opposite end being fastened to the wheel.

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