

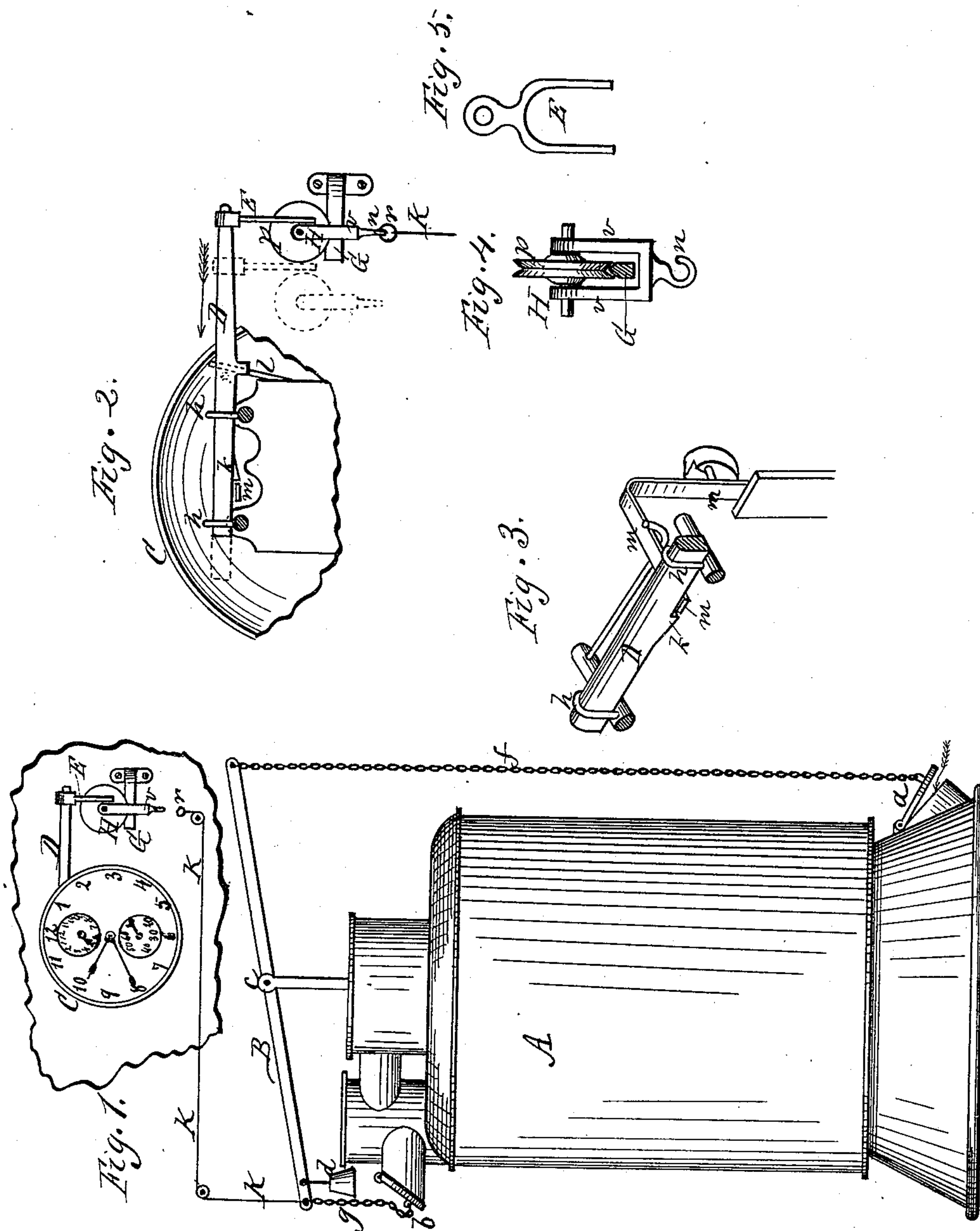
(No Model.)

R. BEACHMAN.

AUTOMATIC DAMPER REGULATOR.

No. 329,995.

Patented Nov. 10, 1885.



Attest.
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UNITED STATES PATENT OFFICE.

ROBERT BEACHMAN, OF LYONS, NEW YORK.

AUTOMATIC DAMPER-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 329,995, dated November 10, 1885.

Application filed January 10, 1885. Serial No. 152,461. (No model.)

To all whom it may concern:

Be it known that I, ROBERT BEACHMAN, of Lyons, in the county of Wayne and State of New York, have invented a certain new and useful Improvement in Damper-Regulators; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation of a steam-heating furnace with my improvement applied thereto. Fig. 2 is an elevation of the operating parts connected with the clock for regulating the dampers or valves. Fig. 3 is a perspective view of the escapement devices. Figs. 4 and 5 are elevations of the carrier and forked lever, looking at right angles to Figs. 1 and 2.

My improvement relates to means for operating the draft and cold-air valves in a steam-heater, hot-air furnace, stove, or other heating apparatus by means of a clock which at a given hour releases a bar and detaches a carrier, which is connected with the valves by lever-work and cords or chains, by which the shifting action is performed.

The invention consists in the combination of parts hereinafter more fully described.

In the drawings, A shows a steam-heating apparatus having an inlet-draft damper or valve, *a*, at the bottom, and a cold-air valve, *b*, at the top, arranged in a well-known manner. Instead of a steam-heater, a hot-air furnace, stove, or other heating apparatus may have the devices applied.

B is a lever at the top of the furnace, pivoted at *c*, and provided at one end with a weight, *d*, by which the lever is always thrown in one direction when not restrained. When in this position, the lower draft-damper, *a*, is opened to admit air to the fire by means of a connecting-chain, *f*, and the cold air damper *b* is closed to exclude the check-draft, said cold-air damper being connected with the lever by a chain, *g*. When the lever is reversed, of course the hot-air damper is closed and the cold-air damper is opened.

My improvement is as follows: C is a clock, having the same construction as an ordinary alarm-clock, that will release an escapement and sound alarm at any given hour at which it is set.

D is a bar, which slides freely in guides *h h* inside the clock, the outer end of the bar projecting outward beyond the clock and having attached at its outer end a forked lever, E, that stands down vertically. Inside the clock the sliding bar has a shoulder, *k*, which, when the bar is pressed back against a spring, *l*, engages with the ordinary escape-lever, *m*, of the clock, which holds it in position till the escape-lever is drawn back, when the bar springs inward under the pressure of the spring, drawing the forked lever E with it. The action of the escapement is precisely similar to that in a common alarm-clock, but the sliding bar is an extra attachment.

G is an arm, forming a track or way, secured at any suitable position near the clock and under the outer end of the sliding bar.

H is a carrier consisting of a frame, *v*, with a hook, *n*, on its under side, and a grooved wheel or truck, *p*, pivoted in the frame. When the bar is set, as before described, the carrier is fitted on the end of the track G, as shown in Fig. 2, with the forked lever E resting behind it; and in this position, when the sliding bar is released and springs backward the forked lever will draw the carrier off from the track and it will fall down.

K is a cord, chain, or other connection, attached to the end of the rock-lever B, where the weight is, thence extending up around pulleys or otherwise, and having a loop, *r*, in its end, which can be attached to the hook *n* of the carrier. When thus hooked in place, the rock-lever B will be raised so that the lower damper, *a*, will be closed and the upper damper, *b*, will be open. When the escapement is sprung, and the carrier is thrown off, as before described, then the rock-lever will fall, and the lower damper will be opened and the upper one closed.

The device is very simple and effective, and can be set to shift the dampers at any hour desired.

In some instances I design to reverse the arrangement—that is, make the shifting-bar throw the carrier off the track by a pushing action instead of a pulling one.

Having described my invention, I claim—

The combination, with a stove, hot-air furnace, steam-heater, or analogous heating apparatus having dampers, of the rock-lever B,

connected with the dampers by suitable connections, the cord or chain K, attached to the rock-lever, the track or way G, the carrier H, resting on the track, the fork E, resting behind the carrier, the sliding bar D, to which
5 the fork is attached, and the clock and escapement devices inside the clock, as shown and described, and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ROBERT BEACHMAN.

Witnesses:

R. F. OSGOOD,
JACOB SPAHN.