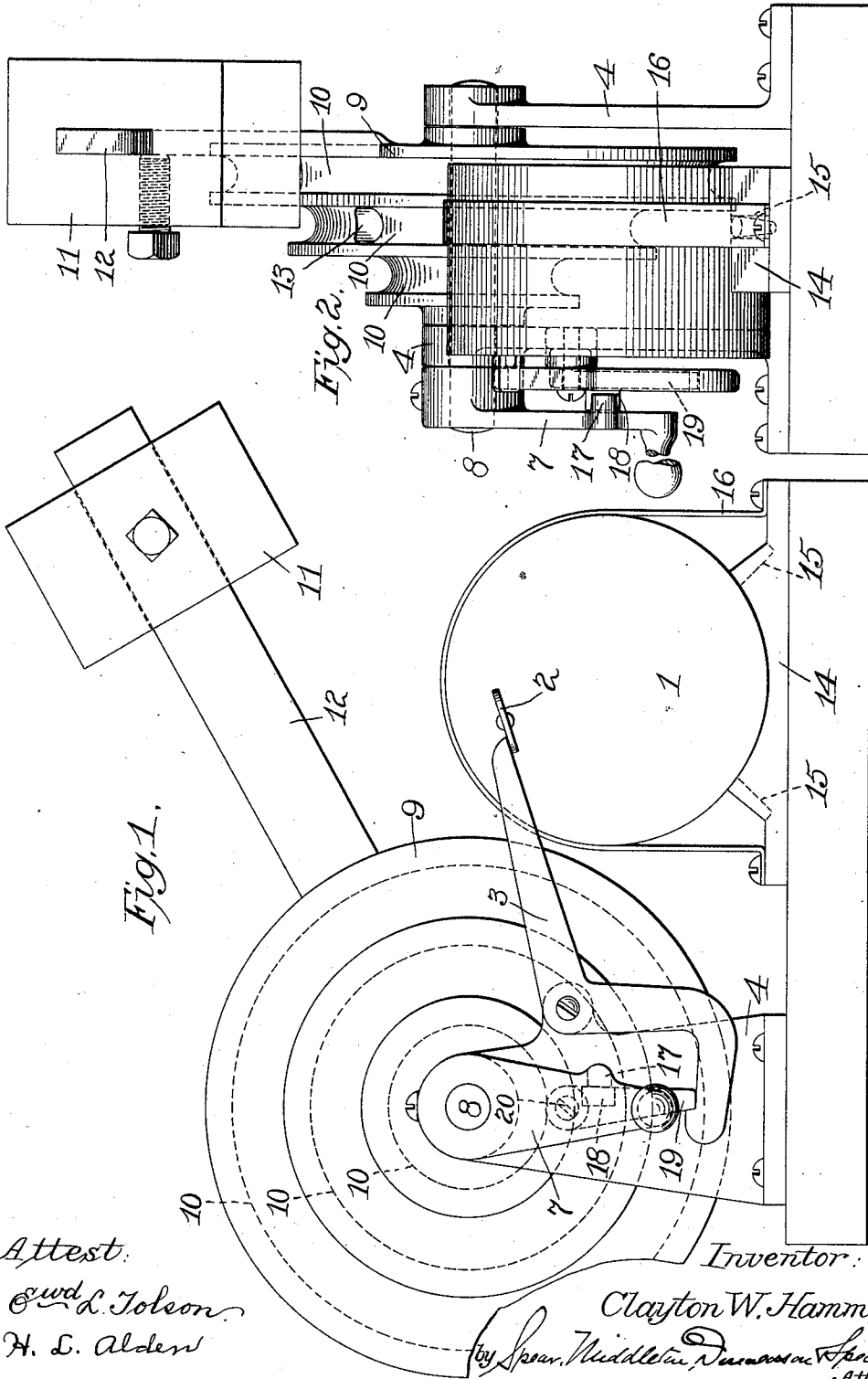


C. W. HAMM.
DAMPER REGULATOR.
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1,058,581.

Patented Apr. 8, 1913.



Attest:
Edw. L. Tolson
H. L. Alden

Inventor:
Clayton W. Hamm,
by Spear, Middleton, Deane and Spear,
Attys

UNITED STATES PATENT OFFICE.

CLAYTON W. HAMM, OF YORK, PENNSYLVANIA, ASSIGNOR OF ONE-THIRD TO WILLIAM E. KOCH AND ONE-THIRD TO CHARLES ZULLINGER, BOTH OF YORK, PENNSYLVANIA.

DAMPER-REGULATOR.

1,058,581.

Specification of Letters Patent.

Patented Apr. 8, 1913.

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To all whom it may concern:

Be it known that I, CLAYTON W. HAMM, a citizen of the United States, residing at York, Pennsylvania, have invented certain new and useful Improvements in Damper-Regulators, of which the following is a specification.

My invention relates to damper regulators, and to that particular type in which time mechanism releases a connection controlling operating means for the damper.

The invention consists in the features and combination and arrangement of parts hereinafter described and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of the invention, and Fig. 2 is an end view.

In these drawings 1, indicates an ordinary alarm clock having the button 2 at the rear, which, as in ordinary practice, is set in motion when the alarm mechanism goes off. Or in other words, which is turned when a certain time is reached. This button controls a lever 3, which in turn controls a damper operating mechanism. This operating means consists of a compound pulley 9, of general cone form, it having a plurality of separate grooves 10, of different diameters. This drum is under the influence of a weight which may be arranged in different ways, as for instance, by a weight 11, adjustably mounted on an arm 12, which is attached to the drum or a weight may be used, attached to a chain passing over the drum. The different surfaces or grooves 10, of the drum afford means for attachment by chains or other connections leading off to the several dampers of the furnace or furnaces, and these chains may be attached in any suitable manner, as for instance, by providing openings, as at 13, in the bottom of the grooves 10, through which the ends of the chains may be passed, to be held on the interior of the drum by a ring or other form of enlargement attached to the chain. The drum is hollow, so that access may be readily had from one end to the interior for the attaching of the chains as just described.

It will be understood that when the drum is released from the controlling lever, and is rotated under the action of its weight, the chain which is attached to the larger portion of the cone will be given a greater movement than that attached to either of the smaller

diameters of the cone and thus the one element may be employed to transmit different degrees of movement to different dampers. The clock is supported on a base 14, which base has recesses at 15, diverging from each other to receive the divergent legs of the clock, and I employ also a band 16 passing over the clock and screwed to the base 14 to hold the clock securely in position.

The drum is fixed on a shaft 8, mounted upon the standards 4, and the shaft has fixed thereto a crank arm 7, by which the drum may be rotated so as to be re-set. For holding the drum ready for action, I provide a lug 17 on the crank arm, which engages a lug 18 on a latch 19, which is pivoted to the standard 4, at 20, the said latch depending from said pivot and being engaged at its free end by the hooked end of the controlling lever 3.

It will be observed that the lug on the crank arm engages the lug on the latch at a point close to the pivot of the latch so that the strain to which the latch is subjected, will be borne partly by its pivot and partly by the hooked end of the lever 3 engaging the free end of the latch.

By this construction, while the device will effectually resist the strain and wear, it will be rendered sensitive to operation by the release of the lever 3. That is to say, a large portion of the strain will be borne by the pivot of the latch and the engaging parts of the latch and lever 3 will be under more sensitive contact than would otherwise be the case, and the parts will be subjected to less wear at this point. When the lever 3 is moved by the clock mechanism and its hooked end thrown down, the latch will be turned on its pivot, thus releasing the crank arm and the drum so that the damper may be operated by the connection extending from the drum.

It will be noticed that the stand for the clock is provided with a recess curved to fit the circular form of the clock casing.

It will be observed that the lever 3 is of peculiar form in that one arm extends laterally from its pivot to engage the clock mechanism while the other arm extends downwardly from the pivot and thence laterally terminating in a hooked end which engages the latch. The construction and arrangement of parts is such that the pivot of the lever 3 is in a plane between parallel

planes passing respectively through the shaft 8 and the hooked end of the lever 3. This brings said pivot along side of the arm 7 and at a point between the end of the latch and the center of the drum. It will be seen from this construction that pressure exerted by the drum will tend to swing the lever 3 clockwise and thus the hooked end of the lever will tend to rise under this pressure resulting in a firmer contact between said hooked end and the end of the latch according as the pressure from the drum may be increased. In other words, when the lever is in contact with the end of the latch the pressure of the drum instead of tending to release the lever from the latch has the contrary effect, because it tends to swing the lever in such direction that contact will be rendered more secure.

I claim as my invention:—

1. In combination in a damper regulator, a shaft arranged to turn one way, an arm connected to and turning with said shaft, and having an axially extending lug, a trigger pivoted nearer the axis of said arm than said lug is placed, and coacting with said lug to hold said arm and shaft, time-controlled means for releasing said trigger, and a member mounted on the shaft for the attachment of connections leading to the damper, substantially as described.

2. In combination, a turnable member for operating a connection leading to the damper, a shaft therefor, a lever pivotally

mounted and having a hooked end, a member engaging the hooked end of said lever for holding the said turnable member, a time releasing mechanism engaging the other end of said lever, the pivot of said lever being located in a plane between parallel planes passing through the center of the turnable member and the hooked end of said lever whereby pressure from the turnable member will tend to move the hooked end of the lever toward the center of the turnable member into firmer engagement with the said member, substantially as described.

3. In combination, a turnable member for receiving the connection leading to the damper, a time releasing mechanism located at one side of the turnable member, a lever pivotally mounted having one arm extending laterally from the pivot and engaged by the time releasing mechanism, the other arm of said lever extending downwardly and laterally from its pivot and terminating in a hook, and a member for holding the turnable member, said member engaging the hooked end of the lever, the pivot of the lever being located in a plane intermediate of parallel planes passing through the center of the turnable member and the hooked end of the lever, substantially as described.

In testimony whereof, I affix my signature in presence of two witnesses.

CLAYTON W. HAMM.

Witnesses:

EDWARD J. LOUCKS,
S. G. STINE.