A. L. GOODENOW.

FURNACE REGULATOR.

APPLICATION FILED JUNE 23, 1909.

961,226. Patented June 14, 1910.

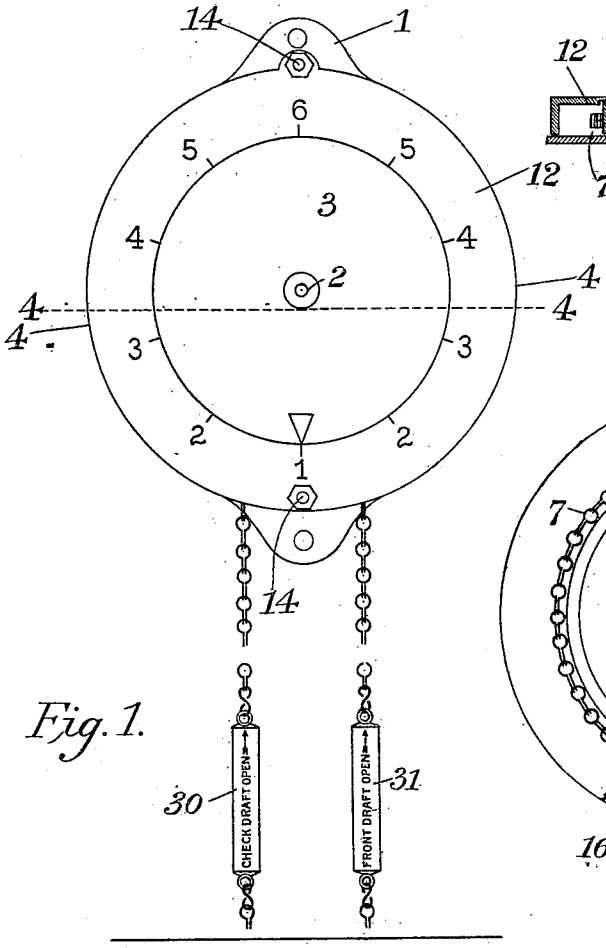


Fig. 1.

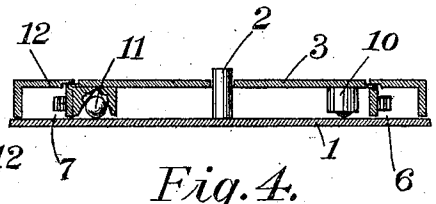
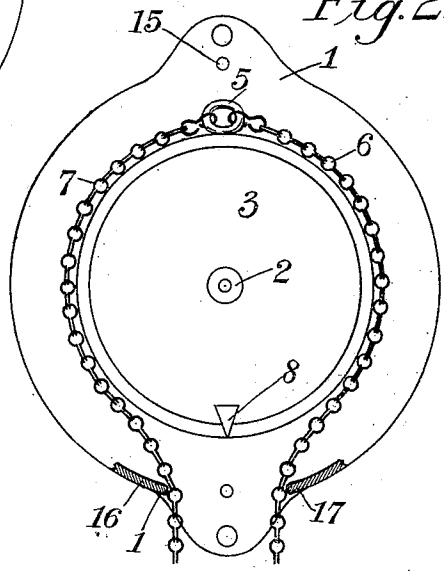


Fig. 4.

Fig. 2.



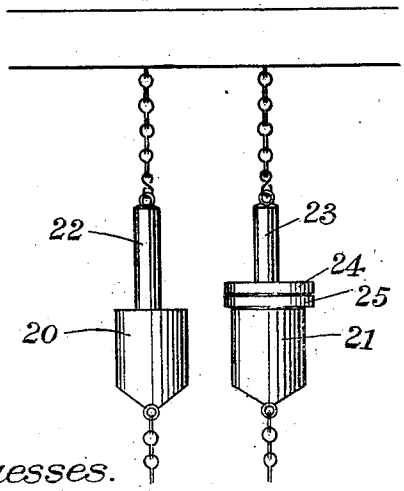
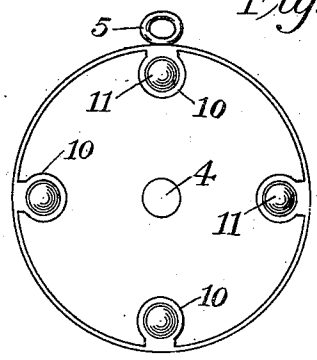


Fig. 3.



Witnesses.

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FURNACE-REGULATOR.

961,226. Specification of Letters Patent. Patented June 14, 1910.

Application filed June 23, 1909. Serial No. 503,784.

To all whom it may concern:

Be it known that I, ALBERT L. GOODENOW, a citizen of the United States, residing at 136 Brinckerhoff avenue, Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Furnace-Regulators, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to an improved furnace regulator, and I declare that the following is a full, clear, concise and exact description thereof, sufficient to enable one skilled in the art to make and use the same, reference being had to the accompanying drawing in which like reference characters refer to like parts throughout.

The invention consists in the construction and combination of the several coöperating and co-acting members whereby the air draft and the check draft of a furnace may be operated from different positions or stations to open either and close the other and maintain them in such position, or in intermediate positions of either or both of them, weights being provided which may be adjusted or graduated to the conditions involved in the location of the station to which the chains run and the amount of friction and the weight of the several connecting members.

Other features of the invention will appear herein.

In the drawings Figure 1 is a front view of the device with parts broken away. Fig. 2 is a front view of a portion of the device showing the support of the chain, the face plate being removed, but a part of it shown in section. Fig. 3 is a reverse view of the central disk. Fig. 4 is a cross section taken on line 4—4 of Fig. 1.

Referring to the figures in detail, 1 represents a base apertured for mounting the device on the wall and having a central stud 2.

3 is a disk centrally bored as at 4 and adapted to be revolubly mounted on the stud 2. The disk 3 is of the form as indicated in Fig. 4 and at a given point on the periphery is mounted an eye 5 to which are connected the oppositely extended chains 6 and 7. At a given point on the face of the disk is the indicator point 8. The peripheral wall of this disk is such as to allow free movement of the chains without binding on the base 1 or the top, to be described. In the hollow of the disk, at suitable points, are formed receptacles 10 for the bearing balls 11 which carry the disk on the base 1.

The cover is shown at 12 and is of disk form with the center removed so that it can be placed on the base overlapping the edge of the disk 3 with the face of the disk flush or substantially flush with the face of the cover 12. The cover is suitably supported on the base by bolts 14 in holes 15 and thus holds the disk 3. Its face adjacent to the edge of the disk 3 is marked with numerals as indicated in Fig. 1 to indicate the position of the draft and check. In Fig. 2 are shown broken portions of the vertical walls of the cover indicated by 16 and 17 showing how the end of the vertical wall is formed to provide a free running surface for the chains.

It will be observed by reference to Fig. 2 that there is a swing of the disk in either direction, to operate the check or draft, equal to the distance from the point where the eye is shown to the point where the eye will be when drawn downward to the lowest possible point and which movement will open one door to the limit under such arrangement as is shown. The arrangement may be different as will be evident by supposing that the disk is turned, in assembling the device, so that the eye is at the bottom and one chain runs from it, without slack, to one closure member which is in closed position, the other chain being carried around the disk. It will be seen that by revolving the disk it can make substantially a complete revolution and the lift or fall of each chain will be substantially the circumference of the disk and about twice as much as with the former arrangement.

In order that the weight of the doors and the chain connecting thereto may be equalized and friction allowed for, I provide at some suitable position means for effecting the counterbalance. Such means is here shown, in Fig. 1, by weights 20 and 21 which consist of a base portion with shanks 22 and 23 in each on which are supported removable weights 24 and 25 which may be added or removed to such extent as may be necessary. At 30 and 31 are shown grips of any suitable form bearing a legend appropriate to the function of the chain to which it is connected, as for instance to indicate which chain to use to operate the check draft and which to operate the front draft.

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

1. A furnace regulator comprising a fixed base, a chain-carrying disk revolubly mounted thereon having its edge offset to provide a riding surface for regulating chains or the like, said chains or the like, a cover having a face portion of ring-like form and a peripheral wall vertical to the face, the said face and the opposite base and the peripheral wall and the offset edge of the disk forming a chamber wherein the chains are confined in their travel, the peripheral wall of the cover being cut out to provide an opening for the passage of the chain, the terminal edges of said wall forming bearing and guiding surfaces for the chains, substantially as described.

2. A furnace regulator having a fixed base, a disk revolubly mounted thereon, the disk having ball-cups opening against the base and balls therein bearing on the base, chains carried on the disk, the same having a peripheral wall for the support of the chains, and a cover having a peripheral wall inclosing the disk and the chains thereon but having a passage therethrough for the chains, the passage being of less extent than the diameter of the disk whereby either chain may be given an extent of movement substantially equal to the circumference of the disk, substantially as described.

3. A device of the character described consisting of a revoluble disk with its edge upset in the form of a peripheral wall, chains carried on the wall of said disk, oppositely disposed abutments having a comparatively small space between them for the passage of the chains whereby the revolution of the disk is effective to shift the chains a distance substantially equal to the circumference of the disk and adjustable weighting members on the chains and forming a part thereof, the same comprising a shank connected to the links of each chain and a base on the shank adapted to support added weights, substantially as described.

4. A furnace regulator consisting of a plurality of chains or the like carried from the furnace drafts to a series of stations and a revoluble disk at the farthermost of said stations, the chains being attached thereto, means forming part of the chains adapted to receive a given number of weights to effect proper counterbalance according to the weight of the draft to be operated and of the chains and means guiding the chains in comparative proximity to the disk whereby the revolution of the disk shifts the chains an amount substantially equal to the circumference of the disk, substantially as described.

5. A furnace regulator having a fixed base with a central stud, a disk revolubly mounted on the base and having its edge upset in the form of chain supporting walls, antifriction balls and means supporting said antifriction balls between the base and the disk, a cover overlapping the disk and adapted to be secured to the base, the cover having walls resting on the base and cut away for the passage of chains, and chains mounted on the disk adapted by revolution of the disk to operate the furnace members connected therewith, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

ALBERT L. GOODENOW.

Witnesses:

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ELEANOR T. DE GIORGI.