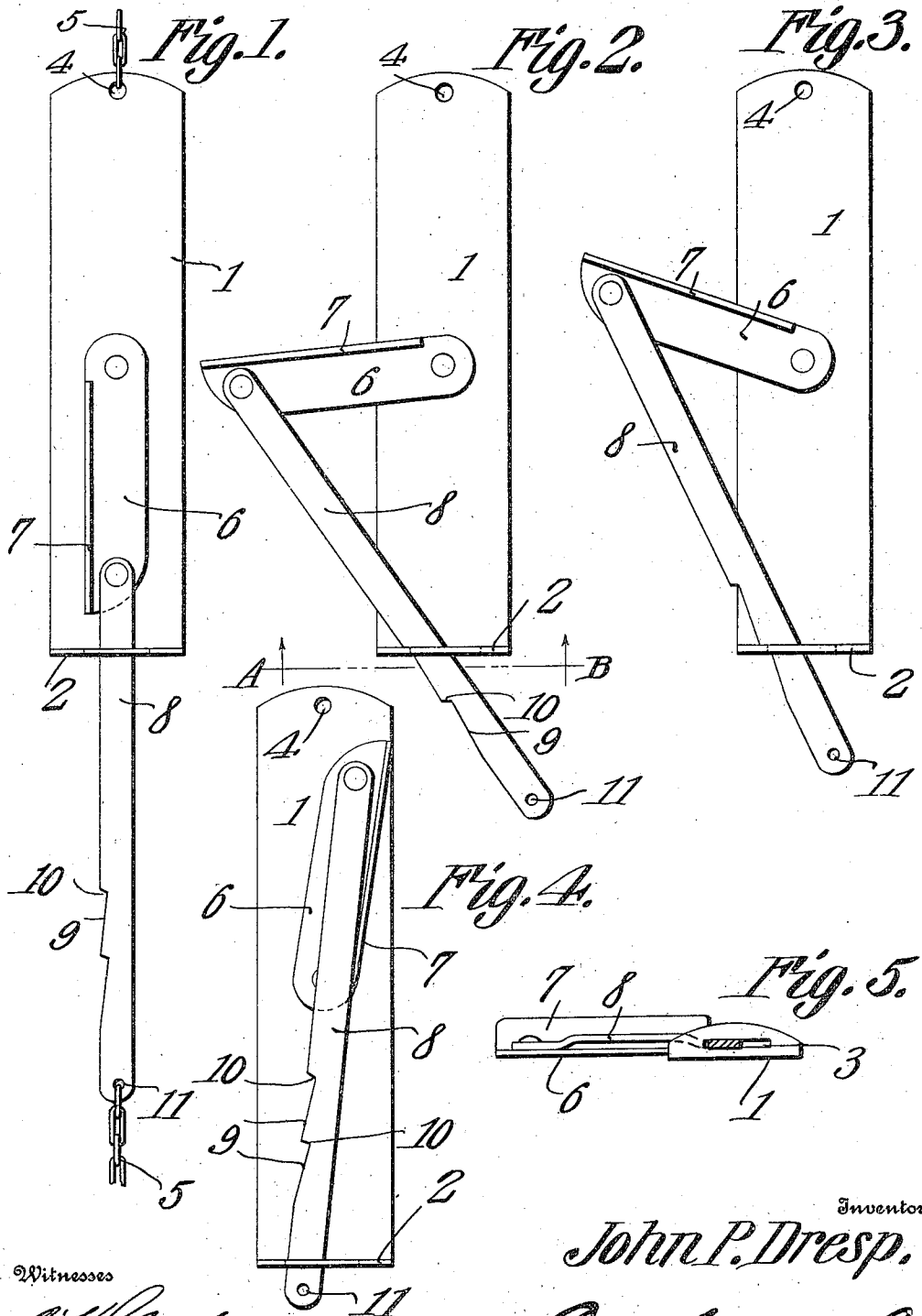


J. P. DRESP.
 ADJUSTING MEANS FOR FURNACE REGULATORS.
 APPLICATION FILED APR. 21, 1909.

945,766.

Patented Jan. 11, 1910.



Witnesses

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UNITED STATES PATENT OFFICE.

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ADJUSTING MEANS FOR FURNACE-REGULATORS.

945,766.

Specification of Letters Patent.

Patented Jan. 11, 1910.

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To all whom it may concern:

Be it known that I, JOHN P. DRESP, a citizen of the United States, residing at Beatrice, in the county of Gage and State of Nebraska, have invented a new and useful Adjusting Means for Furnace-Regulators, of which the following is a specification.

This invention has reference to improvements and adjusting means for furnace regulators and relates more particularly to a take up or eccentric for the chains or strands leading from the regulator mechanism to the draft controlling parts of the furnace.

The present invention is designed to be used in connection with a furnace regulator of the type shown in U. S. Patent 870,028 granted to W. L. Hager on November 5, 1907, for improvement in furnace regulators. The regulators are provided with two chains one of which leads to the check damper of the furnace, and the other to the draft door at the ash pit. Lengthening the check chain delays the opening of the check damper and permits the fire to burn harder while the shortening of the chain causes the damper to open more promptly and check the fire correspondingly. Lengthening the chain attached to the draft valve of the ash pit door allows this valve to close more quickly thus checking the fire and lowering the temperature. Shortening the chain opens the draft and the furnace expands to a greater extent before it can close the draft thus causing an increase in the heat.

The object of the present invention is to provide a means for lengthening and shortening these chains at will so that the operator may without the use of tools lengthen or shorten either chain independently of the other to the desired extent and thus have complete control over the operation of the regulator.

The present invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawings forming a part of this specification in which drawings—

Figure 1 is an elevation of the adjusting means or eccentric in extended position. Figs. 2 and 3 are similar views showing difference of adjustment at intermediate positions. Fig. 4 is a similar view showing the eccentric in the contracted position. Fig. 5 is a cross section on the line A—B of Fig. 2.

Referring to the drawings, there is shown

a plate 1 of general rectangular shape longer than wide and having one end upturned as indicated at 2, this upturned end being provided with a slot 3 immediately to one side of and parallel with the corresponding face of the plate 1. The end of the plate 1 remote from the end 2 is formed with the perforation 4 for the attachment of a chain 5 coming from a suitable regulator such as shown in the aforesaid Letters Patent and extending to either the ash pit draft door or to the air check valve or damper of the smoke pipe as the case may be.

Pivoted to the plate 1 about midway of its length is a swinging arm 6 upturned along one edge as indicated at 7 and attached to this arm at the end remote from its pivot is a strip 8. This strip 8 is of such a width and length as to extend through the slot 3 and on one edge of the strip 8 there are formed notches 9 having one portion gradually inclined to the length of the strip and ending in an abrupt shoulder 10. The end of the strip 8, remote from its pivot connection to the arm 6 is formed with an opening 11 for attachment of the chain 5, the continuity of which latter is broken for the insertion of the adjusting means or eccentric shown in the drawings, a suitable length of the chain being removed for this purpose, if the regulator is already installed, but on new installations the chain sections are originally made of the proper length.

The plate 1, arm 6, and the strip 8 may be all stamped from sheet steel and the pivot connection between one end of the arm 6 and the plate 1 and between the other end of the arm 6 and the strip 8 may be made of suitably headed rivets.

The number of the notches 9 in the strip 8 may vary from one to as many notches as may be desired, but usually two notches will be found sufficient. With two notches there are provided four steps of adjustment, varying from the full expansion of Fig. 2 to the full contraction of Fig. 4 with the two intermediate steps shown in Figs. 2 and 3. When the parts are in the position shown in Fig. 1 then the members 6 and 8 are in alignment with the connection between the regulating mechanism and the particular fire controlling means of the furnace are in the most extended position and consequently the regulator must pass through its greatest movement in order to control the fire and

the draft and the check valves will not move together but one will close before the other will open. If the eccentric in the elongated position be in the check chain, then the movement of the check damper will be delayed and the fire will burn harder. If the eccentric in the elongated position be in the chain attached to the draft valve or door then the door will close more quickly and the fire will be checked at a lower temperature. Shortening the eccentric to the position shown in Figs. 2 or 3 will of course change the control while shortening the eccentric to the position shown in Fig. 4, will, if it be in the check chain cause the quick checking of the fire, and if in the draft chain the draft will close at a later period in the operation of the regulator and the heat be thereby increased. In the position shown in Figs. 2 and 3, one of the notches 9 has its shoulder 10 in engagement with the end wall of the slot 3 and the pulling of the chain 5 only tends to lock the parts more firmly in position. When the eccentric is in its shortest position as shown in Fig. 4, then the pivoted end of the strip where connected to the arm is to one side of the pivot connection of the arm 6 and the strip 8 is in engagement with the upturned edge of the arm 6 thus locking the arm and the strip 8 in the position shown and the pulling of the chain only serves to more firmly hold the parts in position. It will be understood that two of these eccentrics are used with one regulator so that by a proper adjustment of both of the eccentrics the fire of the furnace can be controlled with a great nicety. The elongated position of the eccentric in Fig. 1 is intended to maintain the draft and check valves closed while fuel is being replenished thus preventing the escape of smoke into the furnace room when the feed or fuel door is open. The use of the two eccentrics gives a wide range of adjustment and the fire may be checked at night to cause it to burn with less vigor than is desired in the daytime.

The adjusting means or eccentric is equally useful with furnaces of different makes and weight and when the draft doors and the dampers vary in weight.

Of course the size of the device and the proportions of the parts may be changed as may be found desirable and the number of the notches may be large or small as needed for different conditions.

The notches on the strip or bar 8 and the

turned up or otherwise formed end of the plate 1 through which the bar extends coact to form a latch for holding the parts in adjusted positions as shown in Figs. 2 and 3.

What is claimed is:

1. An adjusting means or eccentric adapted to be interposed in the check and draft chains of furnace regulators comprising a plate provided with a latch member at one end and the other end adapted to be attached to the check or draft chain, a pivoted arm on the plate and a strip or bar hinged at one end to the end of the arm remote from the pivot of the latter, said strip or bar having one edge notched to coact with the latch member of the plate, and having the free end provided with means for attachment to the check or draft chain.

2. An adjusting means or eccentric adapted to be interposed in the check and draft chains of furnace regulators comprising a plate having one end upturned and slotted and the other end adapted to be attached to the check or draft chain, a pivoted arm on the plate, and a strip or bar hinged at one end to the end of the arm remote from the pivot of the latter, said strip or bar extending through the slot in the upturned end of the plate and having one end notched to coact with one edge of the slot in the upturned end of the plate and having the free end provided with means for attachment to the check or draft chains.

3. An adjusting means or eccentric adapted to be interposed in the check and draft chains of furnace regulators comprising a plate having one end upturned and slotted and the other end adapted to be attached to the check or draft chain, a pivoted arm opposite the plate having one side upturned, and a strip or bar hinged at one end to the end of the arm remote from the pivot of the latter, said strip or bar extending through the slot in the upturned end of the plate and having one end notched to coact with one end of the slot in the upturned end of the plate and having the free end provided with means for attachment to the check or draft chain.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN P. DRESP.

Witnesses:

G. H. FROLICK,
J. A. KEES.