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PATENTED JULY 9, 1907.

G. C. EHLERS.
DAMPER ADJUSTING APPARATUS.
APPLICATION FILED OCT. 12, 1906.

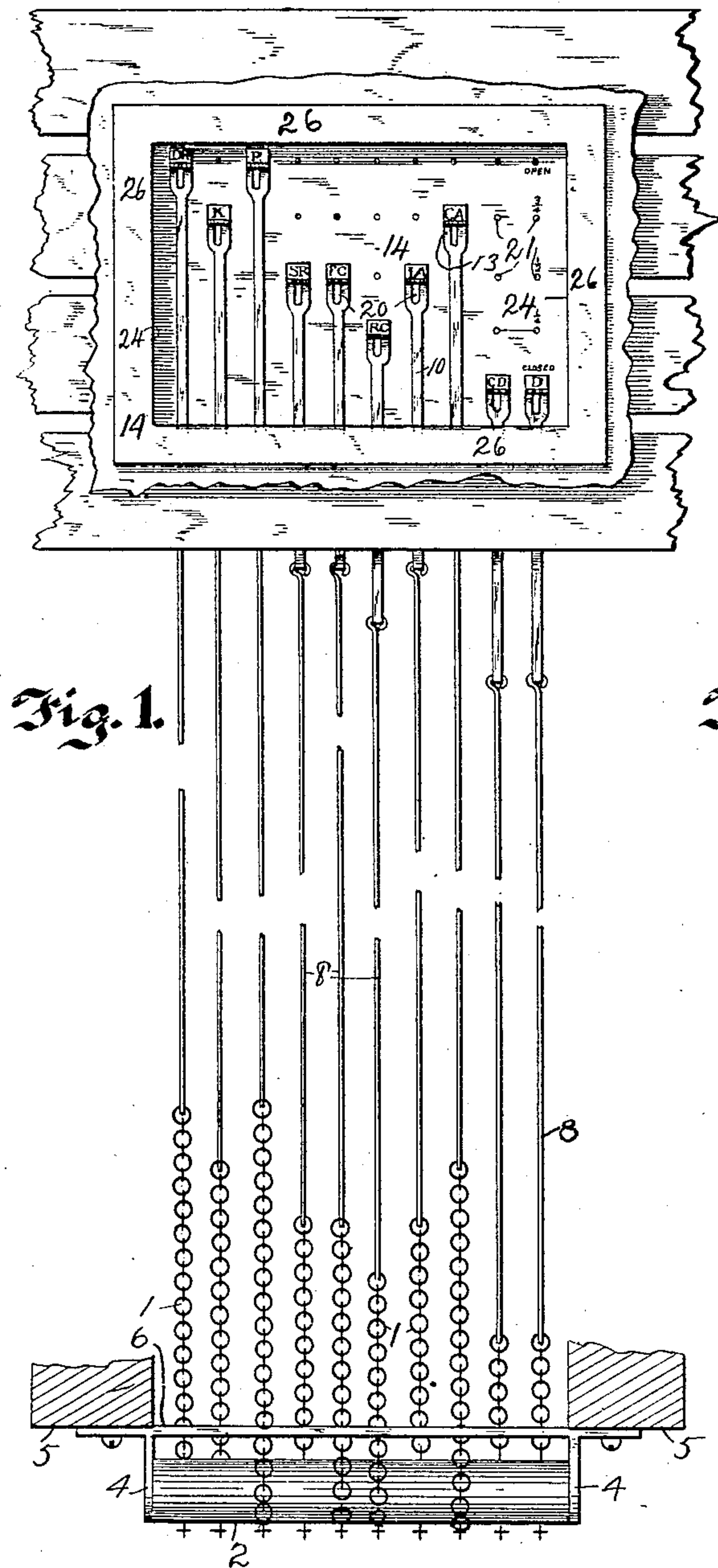


Fig. 1.

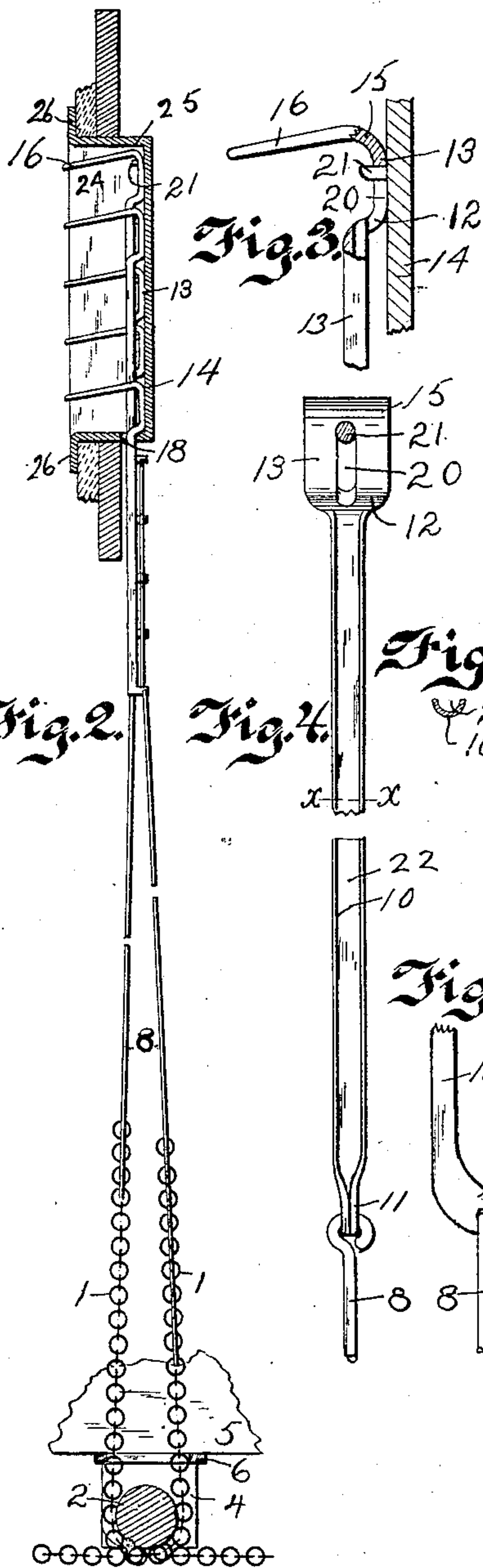


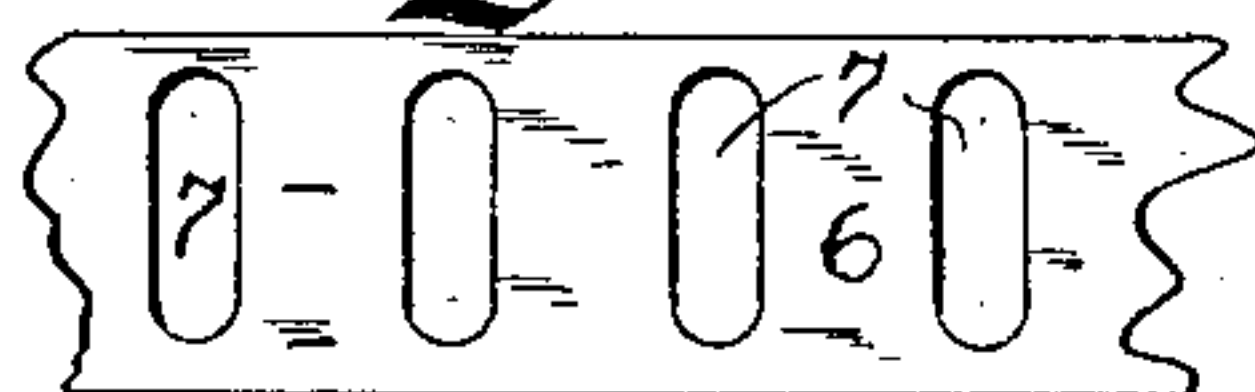
Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.



Witnesses

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UNITED STATES PATENT OFFICE.

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DAMPER-ADJUSTING APPARATUS.

No. 859,285.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed October 12, 1906. Serial No. 338,539.

To all whom it may concern:

Be it known that I, GEORGE C. EHLERS, a citizen of the United States, residing at Milwaukee, county of Milwaukee, and State of Wisconsin, have invented
5 new and useful Improvements in Damper-Adjusting Apparatus, of which the following is a specification.

My invention relates to improvements in damper adjusting apparatus with especial reference to that class of apparatus in which dampers located in the
10 basement runs of hot air pipes are adjusted from one or more upper floors.

Heretofore by reason of custom and cheapness, ordinary registers have been relied upon notwithstanding the waste of heat in the pipes and the danger
15 from fire where the registers are closed to such an extent as to prevent a proper air circulation, and in order to overcome the prevailing custom and induce the public to adopt a system with dampers in the basement it is necessary to provide extremely simple
20 and inexpensive apparatus which will be absolutely reliable in its operation and of light weight so that the dampers can be readily manipulated by small children.

The object of this invention is to provide such inexpensive apparatus which will be of light weight
25 and maximum strength for the weight of material used, and which will not catch on the plaster in wall spaces, or become disarranged or damaged with any ordinary use.

30 In the following description reference is had to the accompanying drawings in which,

Figure 1 is a front elevation of my invention as it is applied to the damper controlling chains of a furnace showing portions of the supporting wall of the building. Fig. 2 is a side elevation showing the indicator plate and the common guide roller in section. Fig. 3 is a detail view of the upper end portion of one of the damper adjusting bars part in vertical section in its relation to the indicator plate, a portion of which
35 is also shown in section. Fig. 4 is a detail rear view of a damper adjusting rod, showing the supporting pin in section, and its connection with the link rod. Fig. 5 is a side view of the lower end portion of the same parts shown in Fig. 4. Fig. 6 is a detail plan
40 view of a portion of the spacing plate. Fig. 7 is a cross sectional view of the adjusting bar drawn on line x-x of Fig. 4.

Like parts are identified by the same reference characters throughout the several views.

45 Damper actuating chains 1 are passed around a common cylinder 2 which is journaled in a bracket 4 which is secured to the joists 5 in the basement of

the building and is provided with a plate 6 having guide slots 7 through which the chains are passed and connected with link rods 8 which extend upwardly
55 in the wall spaces and are connected at their upper ends with the damper adjusting bars.

The damper adjusting bars are stamped from sheet metal, and in their intermediate portions 10 are U-shaped in cross section. At their lower ends the sides are
60 folded together as best shown at 11 in Fig. 4 and perforated for the reception of the link rod. The upper ends are flattened and are offset rearwardly to form a shoulder 12 and extended upwardly at 13 parallel with the wall plate 14, with the extremities curved
65 forwardly or outwardly and slightly downwardly at 15, and forming a handle 16. The bar passes through an aperture in a bottom flange 18 of the wall plate just below the shoulder 12 and the part 13 is provided with a slot 20 through which pins 21 on the plate 14
70 are adapted to project.

It will be observed that a row of pins 21 is provided for each bar, and that the end of each has an upwardly curved or rounded under surface adapted for contact with the rounded or curved portion 15 of the bar,
75 whereby, when the bar is lifted, the part 15 will be pushed outwardly by contact with the pin and pass above it to the position indicated in Fig. 3 when it will spring backwardly against the plate 14 and engage the pin in the slot. It will also be observed that
80 when the bar is lifted from one pin to the next, the lower pin or pins will be received in the groove 22 of the part 10 so that they will not push outwardly on the bar. The bar is formed of resilient metal and the apertures in the bottom flange 18 are so located that
85 the bar is normally held by this flange against the plate 14. The handle portions 16 of the bar are preferably marked or lettered on their inclined upper surfaces to indicate the room to which the corresponding damper pertains.
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The bottom flange 18 and the side and top flanges 24 and 25 are preferably provided with outwardly projecting margins 26 and the recess formed by the plate and flanges is preferably left open, although it may
95 be provided with a door if desired.

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

1. In a device of the described class, the combination with a wall plate provided with vertical rows of outwardly projecting pins and having a bottom flange provided with
100 apertures, corresponding with the rows of pins; a bar extending through each aperture and provided with a slot in its upper end portion in which the pins of the corresponding row are adapted to engage, said bar being U-shaped in cross section where it passes through the slot
105

and having said upper end portion flattened and arranged with the slotted portion extending along the wall plate, with its extremity curved outwardly therefrom.

2. In a device of the described class, the combination with a wall plate provided with vertical rows of outwardly projecting pins and having a bottom flange provided with apertures, corresponding with the rows of pins; a bar extending through each aperture and provided with a slot in its upper end portion in which the pins of the corresponding row are adapted to engage, said bar being U-shaped in cross section where it passes through the slot and having said upper end portion flattened and arranged with the slotted portion extending along the wall plate, and with its extremity curved outwardly therefrom,—said
- 10 apertures in the bottom flange being located at a distance from said wall plate and the slotted portion of the bar being offset rearwardly against the back plate, and adapted to yield when the portion above the slot passes over a pin.
3. In a device of the described class, the combination with a wall plate provided with vertical rows of outwardly projecting pins and having a bottom flange provided with apertures, corresponding with the rows of pins; of a bar extending through each aperture and provided with a slot
- 25 in its upper end portion in which the pins of the corresponding row are adapted to engage, said bar being U-shaped in cross section where it passes through the slot and having said upper end portion flattened and arranged with the slotted portion extending along the wall plate, with its extremity curved outwardly therefrom, and with
- 30 a slight downward inclination and having a broad downwardly inclined upper surface adapted to receive index letters or characters.
4. In a device of the described class, the combination with a wall plate provided with vertical rows of projec-
- 35 tions and having a bottom flange provided with a series of corresponding apertures,—of a damper actuating bar for each aperture, extending therethrough and provided with a channel extending longitudinally in its rear face adapted to receive the projections on the wall plate; the upper end
- 40 portion of said bar being flattened and offset rearwardly

along the wall plate and curved outwardly at its extremity; said rearwardly offset portion being provided with a slot leading to said channel and adapted to receive the projections on the wall plate.

5. In a device of the described class, the combination with a wall plate provided with vertical rows of projections and having a bottom flange provided with a series of corresponding apertures, of a damper actuating bar for each aperture extending therethrough and provided with a channel extending longitudinally in its rear face adapted to receive the projections on the wall plate; the upper end portion of said bar being flattened and offset rearwardly along the wall plate and curved outwardly at its extremity; said rearwardly offset portion being provided with a slot leading to said channel and adapted to receive the projections on the wall plate,—together with a link rod connected to the lower end of said bar and damper actuating chains secured to the lower end of the link rod.

6. In a device of the described class, the combination with a wall plate provided with vertical rows of projections and having a bottom flange provided with a series of corresponding apertures,—of a damper actuating bar for each aperture, extending therethrough and provided with a channel extending longitudinally in its rear face adapted to receive the projections on the wall plate; the upper end portion of said bar being flattened and offset rearwardly along the wall plate and curved outwardly at its extremity; said rearwardly offset portion being provided with a slot leading to said channel and adapted to receive the projections on the wall plate,—together with a link rod connected to the lower end of said bar and damper actuating chains secured to the lower end of the link rod, a roller supporting bracket provided with a slotted guide plate for the damper actuating chains, and a common guide roller journaled therein.

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

GEORGE C. EHLERS.

Witnesses:

LEVERETT C. WHEELER,
M. M. SCHULZ.