No. 742,198. PATENTED OCT. 27, 1903.

W. JOSTEN.

FURNACE WITH AUTOMATIC FEEDING.

APPLICATION FILED MAY 19, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

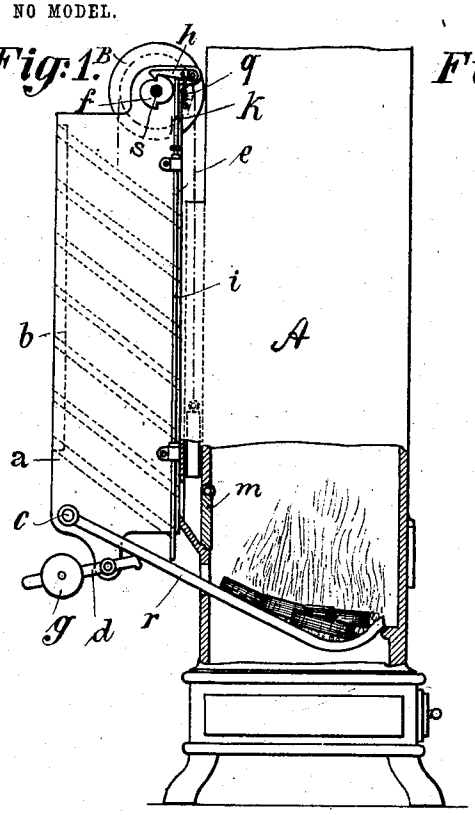


Fig. 2.

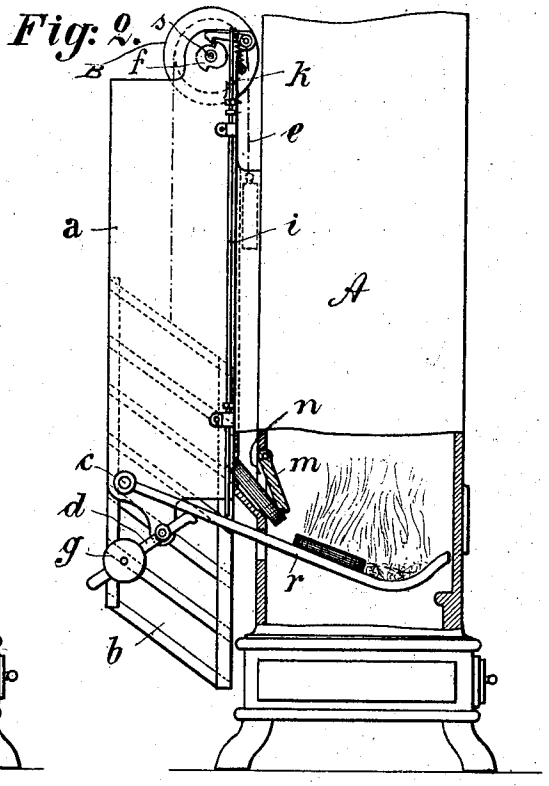


Fig. 7.

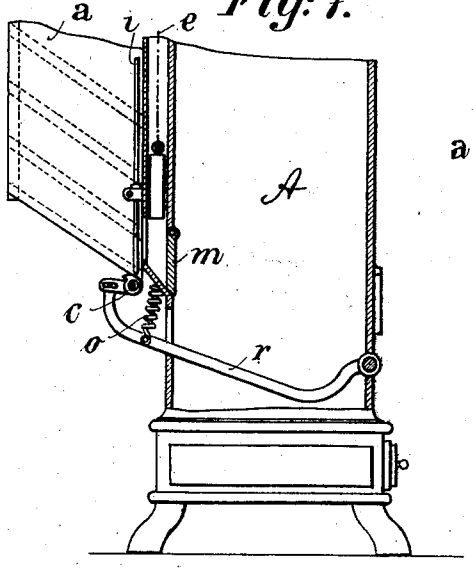
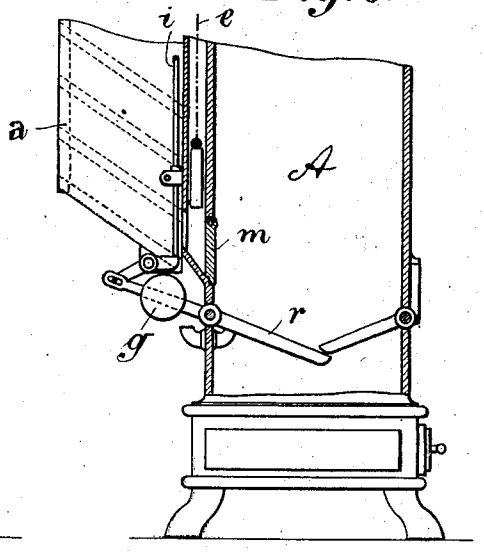


Fig. 8.



Witnesses:
Edward Rau.
William Schulz.

Inventor.
Wilhelm Josten
by his attorney
Paul Bakewell

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 742,198. PATENTED OCT. 27, 1903.

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FURNACE WITH AUTOMATIC FEEDING.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

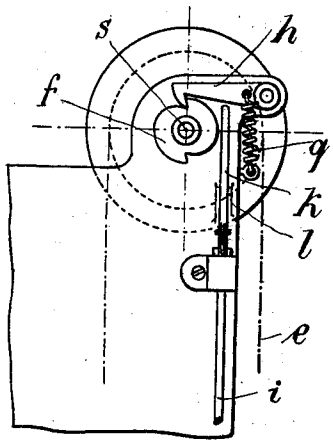


Fig. 4.

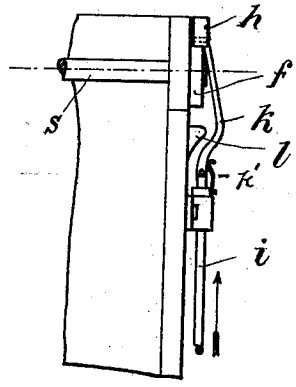


Fig. 5.

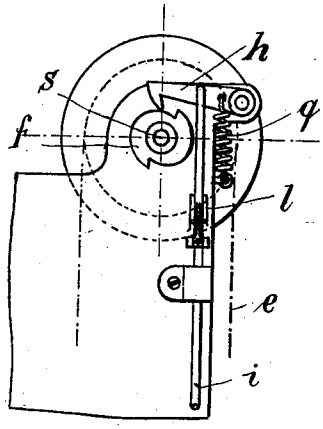
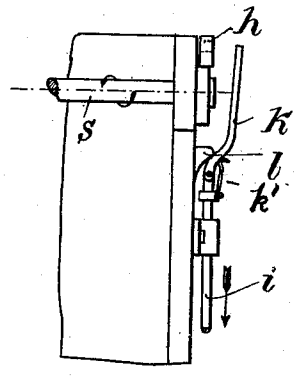


Fig. 6.



Witnesses
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 742,198. Patented October 27, 1903.

UNITED STATES PATENT OFFICE.

WILHELM JOSTEN, OF NEUSS, GERMANY.

FURNACE WITH AUTOMATIC FEEDING.

SPECIFICATION forming part of Letters Patent No. 742,198, dated October 27, 1903.

Application filed May 19, 1903. Serial No. 157,855. (No model.)

To all whom it may concern:

Be it known that I, WILHELM JOSTEN, a citizen of the German Empire, residing at Neuss-on-the-Rhine, Germany, have invented a new and useful Construction of a Device for the Automatic Feeding of Furnaces with Fuel, of which the following is a specification.

My invention refers to devices for effectuating an automatic feeding of furnaces with the necessary fuel by the construction herein described, and illustrated by the figures on the drawings submitted herewith. The principal part is the grate, on hinges or otherwise movable, the fuel-supply being stored in a box attached on the outside of the stove or furnace to allow a convenient charging. The said box is provided with a receptacle divided into several small compartments through which the fuel is to pass. The compartments are kept in their proper positions by means of a catch until the fuel on the grate supplied through one of the former is so far consumed that the grate being relieved of the weight of so much of the fuel as has been combusted and being actuated by a weight or spring, as hereinafter described, will be lifted and the aforementioned catch disengaged for an instant, a short movement of the receptacle being caused thereby just far enough to bring the compartment next in turn to a mouth through which the fuel is dropped upon the grate.

In the accompanying drawings, Figure 1 is a longitudinal section of a stove provided with my improved fuel-feeding apparatus, showing the grate lowered. Fig. 2 is a similar section with the grate raised. Figs. 3 to 6 are details of the detent mechanism; Fig. 7, a longitudinal section of a modification of the apparatus, and Fig. 8 a longitudinal section through a further modification.

In the stove A (represented by Fig. 1) the grate *r* suspends at its extended end from a hinge *c* or other suitable hold attached in the rear side of the box *a*, containing the slidable receptacle or magazine *b*, provided with a series of superposed inclined pockets or compartments. A weight *g* is provided catching below the extension of the grate or the grate itself by a suitable lever *d* and compelling the latter to make an upward movement when the fuel holding it down has been sufficiently consumed. At the same time a detent mechanism or catch disengages for a moment and allows the moving downward of the receptacle *b*, as aforementioned. (See also Fig. 2.)

The details of the catch are illustrated more particularly in Figs. 3 to 6.

On the spindle *s* of a drum B, over which is directed a chain *e*, carrying the receptacle *b*, there is a ratchet-wheel *f*, into which engages a pawl *h*, actuated by a spring *q*. Below the said pawl there is a perpendicular bar *i* on the box *a*, which at its upper end has a movable piece *k*, also actuated by a spring *k'*, the effect being that when the bar *i* is raised from the grate *r* the said piece *k* catches below the said pawl *h*, throws the latter out of engagement with the ratchet-wheel *f*, and is instantaneously pressed aside by a projection *l*, Figs. 5 and 6. After the receptacle *b* has thus been allowed to descend for the height of one compartment the pawl *h* reengages the ratchet-wheel *f*, so that the receptacle is relocked in position. In this way a layer of fuel is delivered to the mouth *n* of the fire-door *m* and will glide down upon the grate *r* along the inclined bottom of the compartment.

In Fig. 7 the grate *r* is retained in the front of the stove and the lift is effectuated by a spring *o* instead of by a weight when the fuel has been consumed. The said spring may be so set that it can be adjusted to make the pressure exerted by it more or less strong at wish, and thus the thorough combustion of the fuel may be regulated before the feeding of a new charge is effected.

In Fig. 8 a grate is provided which consists of two halves. In this case both of the latter are permitted to make a downward movement, whereupon the receptacle *b* will disengage. This figure shows the parts of the grate in lowered position, which is the position after the feeding of fuel.

The grate might as well be retained in the side wall laterally from the fuel-magazine, or it may suspend like the beam of a balance, or it may be so arranged that its entire surface will descend.

What I claim as my invention, and desire to protect by Letters Patent, is—

1. A fuel-feeding apparatus composed of a

movable grate, a slidable magazine having a number of compartments, a magazine-locking device, and means controlled by the grate for releasing said locking device, substantially as specified.

2. A fuel-feeding apparatus composed of a movable grate, a slidable magazine having a number of compartments, a drum from which the magazine is suspended, a pawl and ratchet for locking the drum, and a rod operated by the grate and adapted to release the pawl, substantially as specified.

Signed by me at Dusseldorf, Germany, this 4th day of May, 1903.

WILHELM JOSTEN.

Witnesses:
WILLIAM ESSENWEIN,
PETER LIEBER.