

G. W. GEISSENHAINER.
GRATES.

No. 183,456.

Patented Oct. 17, 1876.

Fig. 1.

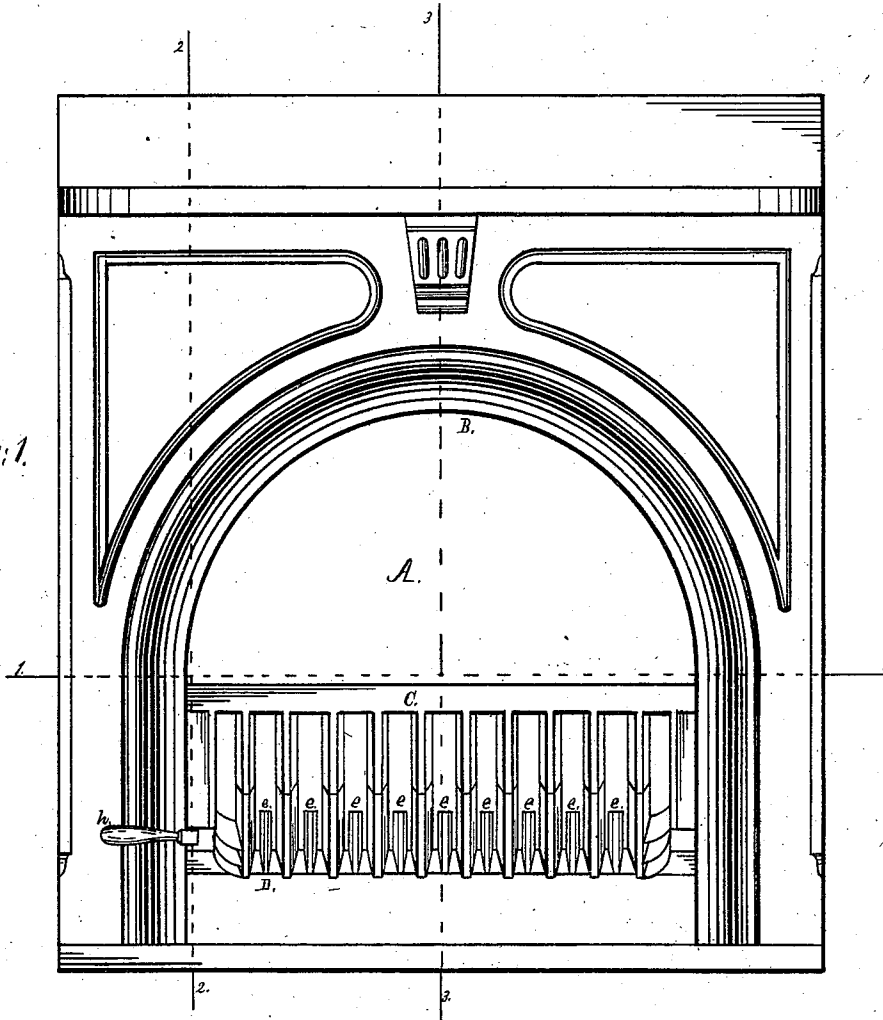
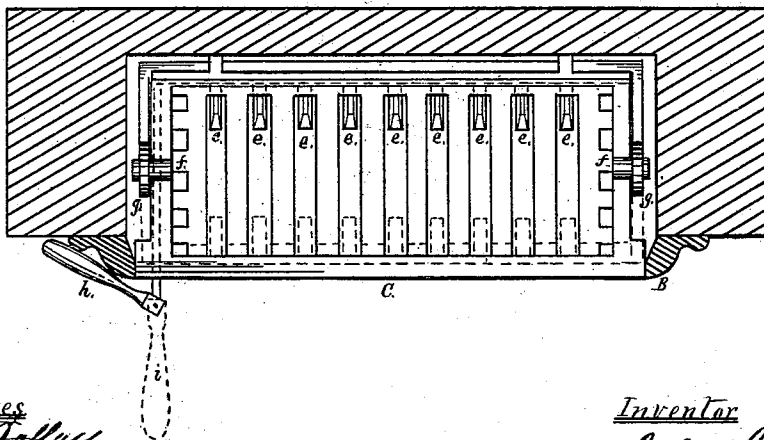


Fig. 2.



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Fig. 3.

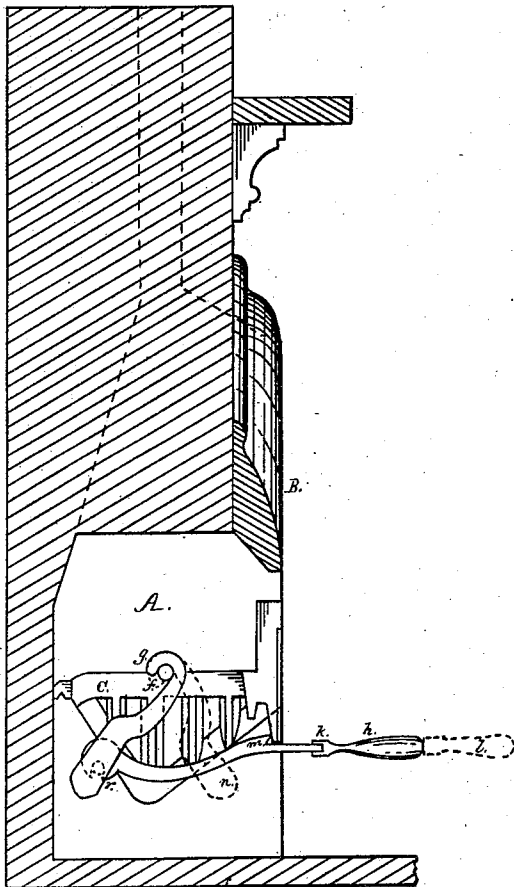


Fig. 4.

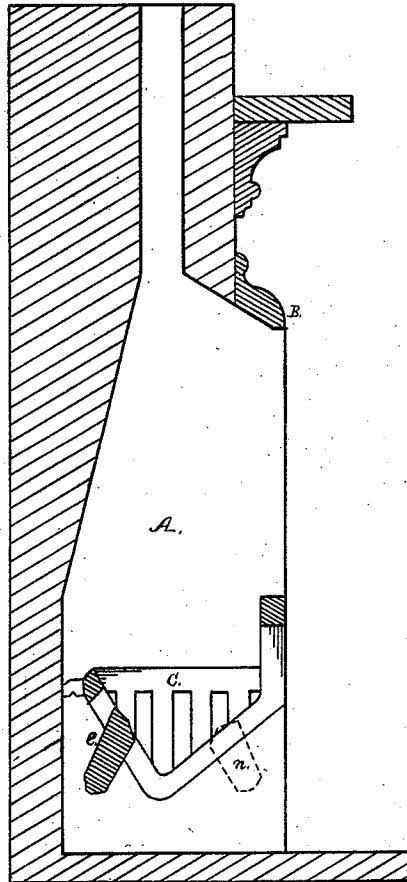
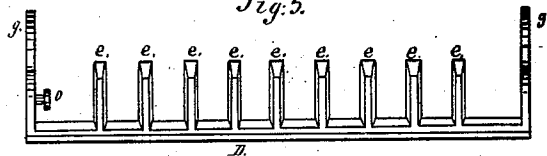


Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE W. GEISSENHAINER, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO
W. W. WALLACE, OF SAME PLACE.

IMPROVEMENT IN GRATES.

Specification forming part of Letters Patent No. **183,456**, dated October 17, 1876; application filed
October 18, 1875.

To all whom it may concern:

Be it known that I, GEORGE W. GEISSENHAINER, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Grates; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in pivoting a sweeping-bar with relation to the grate so that a swinging motion can be imparted to it, and the ashes, cinders, and other refuse of combustion freed and cleaned from between the bars of the grate, and the fire exposed to an under-current of air.

To enable others skilled in the art with which it is most nearly connected to make and use my invention, I proceed to describe its construction and operation.

In the accompanying drawings, which form a part of my specification, Figure 1 is a front view of a fire-place furnished with my improved grate. Fig. 2 is a horizontal section of the same at line 1 of Fig. 1. Fig. 3 is a vertical section of the same at line 2 of Fig. 1. Fig. 4 is a vertical section of the same at line 3 of Fig. 1. Fig. 5 is a front view of the sweeping-bar used for cleaning and clearing the spaces between the bars of the grate.

In the accompanying drawings, A represents an ordinary fire-place. B represents the grate front or arch, which is also of the ordinary construction. The grate C is hooked to the arch B in usual manner, and is held in its proper position in the fire-place A by the common means used for that purpose. The upper bars of the ends of the grate C are provided with trunnions *f*, upon which are hooked the bars *g*, having hooks adapted in size and form to the trunnions *f* of the grate C. The hook-bars *g* project vertically from the ends of the sweeping-bar D, from which project a series of short cleaning-points, *e*, which are arranged on the bar D so as to come between the bars of the grate C. On one side of one of the hooked bars *g* is a wrist-pin, *o*, upon

which is hooked the inner end of the operating-lever *h*, which is pivoted at *k* so that it can be turned back against the arch B, as indicated in Figs. 1 and 2. The lever *h* is provided with a catch, as indicated at *m*, which catches on the front of the grate, as shown in Fig. 1. The lever may pass through an opening made in arch B, and then be hooked on the wrist-pin *o*, as indicated at *r*. The opening in arch B will serve as guide for the lever *h*, and will prevent it from dropping down on the hearth or fender.

The operation of my improved grate is as follows: The operator takes hold of the handle or lever *h*, turns it into the position represented in Fig. 3. He then presses it downward to relieve the catch *m*, and then draws the lever *h* forward, which will draw forward the sweeping-bar D, causing the vertical points *e* to clear the spaces between the bars of the grate C.

It will be observed that in changing the position of the sweeping-bar to the point indicated by the dotted lines *n*, by simply drawing the lever *h* forward, as indicated by the dotted lines *l*, the grate will be freed from ashes and other refuse of combustion, and the under surface of the fire in the grate exposed to the upward draft of air. It will also be observed that by a single sweep of the bar D the grate is cleaned from ashes, and the fuel in the grate agitated, all of which is accomplished in a second of time.

Having thus described my improvement in grates, what I claim as of my invention is—

1. The combination of the sweeping-bar D, pivoted on trunnions *f*, and the grate, substantially as herein described, and for the purpose set forth.

2. The lever *h*, constructed in two parts, hinged together, and pivoted on the trunnion *o*, in combination with sweeping-bar D and grate C, substantially as described, and for the purpose set forth.

G. W. GEISSENHAINER.

Witnesses:

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