

(No Model.)

R. S. T. CISSEL.

SHAKING ATTACHMENT FOR GRATES.

No. 314,108.

Patented Mar. 17, 1885.

Fig. 1.

Fig. 5.

Fig. 6.

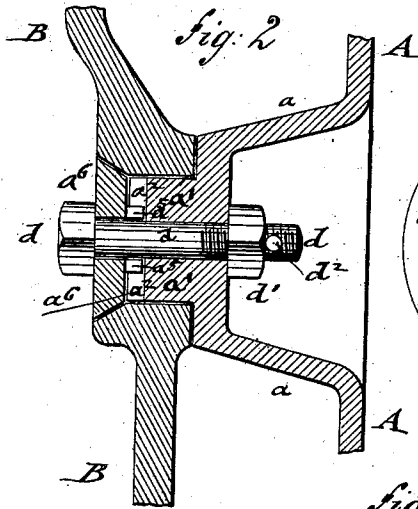
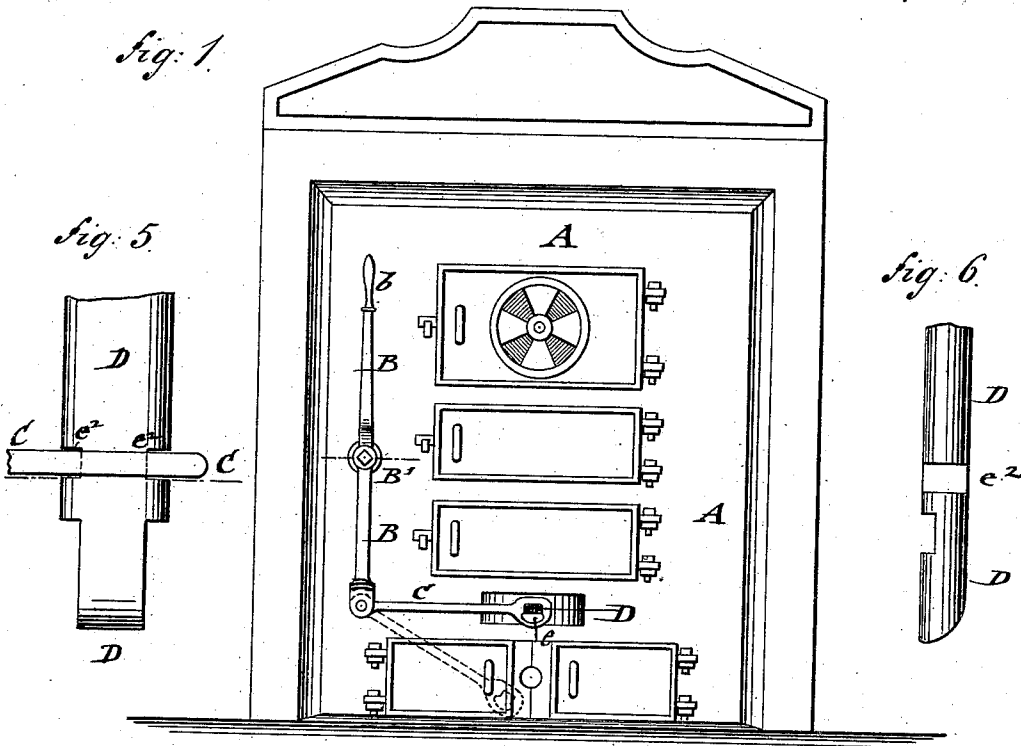


Fig. 3.

Fig. 4.

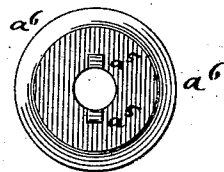
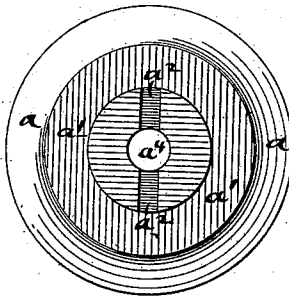
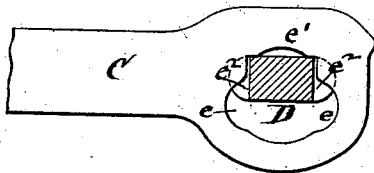


Fig. 7.

WITNESSES:
A. Schehl.
Otto Risch.



INVENTOR
Richard S. T. Cissel
 BY *Gayle & Pape*
 ATTORNEYS.

UNITED STATES PATENT OFFICE.

RICHARD S. T. CISSEL, OF ELIZABETH, NEW JERSEY.

SHAKING ATTACHMENT FOR GRATES.

SPECIFICATION forming part of Letters Patent No. 314,108, dated March 17, 1885.

Application filed August 14, 1884. (No model.)

To all whom it may concern:

Be it known that I, RICHARD S. T. CISSEL, of Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Shaking Attachments to Furnaces, of which the following is a specification.

This invention has reference to an improved shaking attachment to furnaces by which the shaking of large-sized grates and the clearing of the ashes from the same is accomplished with great facility without necessity of stooping down and applying the shaker to the end of the shaker-rod; and the invention consists of an upright shaking-lever that is fulcrumed to the front wall of the furnace at one side of the fire-doors of the same, said lever being connected by a pivot-rod with the shaker-rod and detachably applied to the recessed end of the shaker-rod by a slot contracted at its upper part.

The invention consists also of the construction of the fulcrum for the shaking-lever.

In the accompanying drawings, Figure 1 represents a front elevation of a heating or other furnace with my improved shaking attachment. Fig. 2 is a detail vertical section of the fulcrum of the shaking-lever. Figs. 3 and 4 are details, respectively, of the shaker-rod and of the pivot-rod connecting the shaking-lever with the shaker-rod of the grate; and Figs. 5, 6, and 7 are details showing the connection of the shaker and rod of the grate with the pivot-rod of the shaking-handle.

Similar letters of reference indicate corresponding parts.

A in the drawings represents the front wall of a heating or other furnace of any approved construction.

B is a shaking-lever that is fulcrumed to the front wall, A, preferably at the left side of the doors of the same. The lower end of the fulcrumed lever B is connected by a pivot-rod, C, with the shaker-rod D. The upper part of the shaking-lever B is preferably bent forward near the fulcrum B', so that the handle *b* of the same is at a greater distance from the front wall, A, than the lower part of the lever B, whereby the handle *b* clears the doors and their handles, so as to prevent any injury to the fingers by contact with the same. The

fulcrum B' of the shaking-lever B is shown in detail in Figs. 2, 3, and 4, and consists of a conical part, *a*, having a raised seat, *a'*. A diametrical recess, *a²*, extends across the face of the raised seat *a'* at both sides of the central perforation, *a⁴*, of the same, and serves to receive the lugs *a³* of a beveled washer *a⁵*, which is attached to the raised seat *a'* by a bolt, *d*, or interior nut, *d'*, and a locking-pin, *d²*. A circular portion of the shaking-lever B is fitted to the seat *a'* and beveled at its edge for the washer *a⁵*. Its inner edge is rectangular, so as to fit onto the face of the conical part *a* and raised seat *a'*, as shown in Fig. 2. In this manner the lever B is supported at some distance from the front wall, A, without being liable to get detached therefrom.

If it be desired to remove the lever, it is simply necessary to unscrew the nut from the screw-bolt *d* and remove the same, after which the lever and the retaining-washer can be removed.

The lower forked end of the shaking-lever B is pivoted to the rod C, the opposite end of which is provided with a recess, *e*, having a contracted upper portion, *e'*, that engages recesses *e²* at opposite sides of the shaker-rod D, as shown clearly in Figs. 5, 6, and 7. By shaking the lever B the shaker-rod D follows the motion of the same, as it is connected thereto by the pivot-rod C; but when it is desired to pull out the shaker-rod, so as to dump the grate the pivot-rod C is lifted, so that it can be released by the wider part of the recess *e* from the shaker-rod and detached therefrom, as shown in dotted lines in Fig. 1.

By means of the shaking-lever B the shaking of heavy grates with a heavy load of coal can be accomplished with great facility without requiring the disagreeable stooping down in attaching the shaker and operating the grate.

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

1. The combination, with the front wall of a furnace having a raised seat, of a shaking-lever fulcrumed to said seat, a pivot-rod connected to the lower end of the lever, and a shaker-rod, the outer end of the pivot-rod having a recess with a contracted upper por-

tion that engages side recesses of the shaker-rod, substantially as set forth.

2. The combination, with the front wall of a furnace having a conical part, *a*, and raised seat *a'*, of a washer, *a''*, locked to the seat, a connecting screw-bolt, *d d'*, and a shaking-lever, *B*, fitted by a circular portion to said seat and retained by a side washer, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

RICHARD S. T. CISSEL.

Witnesses:

PAUL GOEPEL,
CARL KARP.