

(No Model.)

D. L. SWINTON.

GRATE FOR STOVES AND FURNACES.

No. 328,438.

Patented Oct. 13, 1885.

Fig. 1.

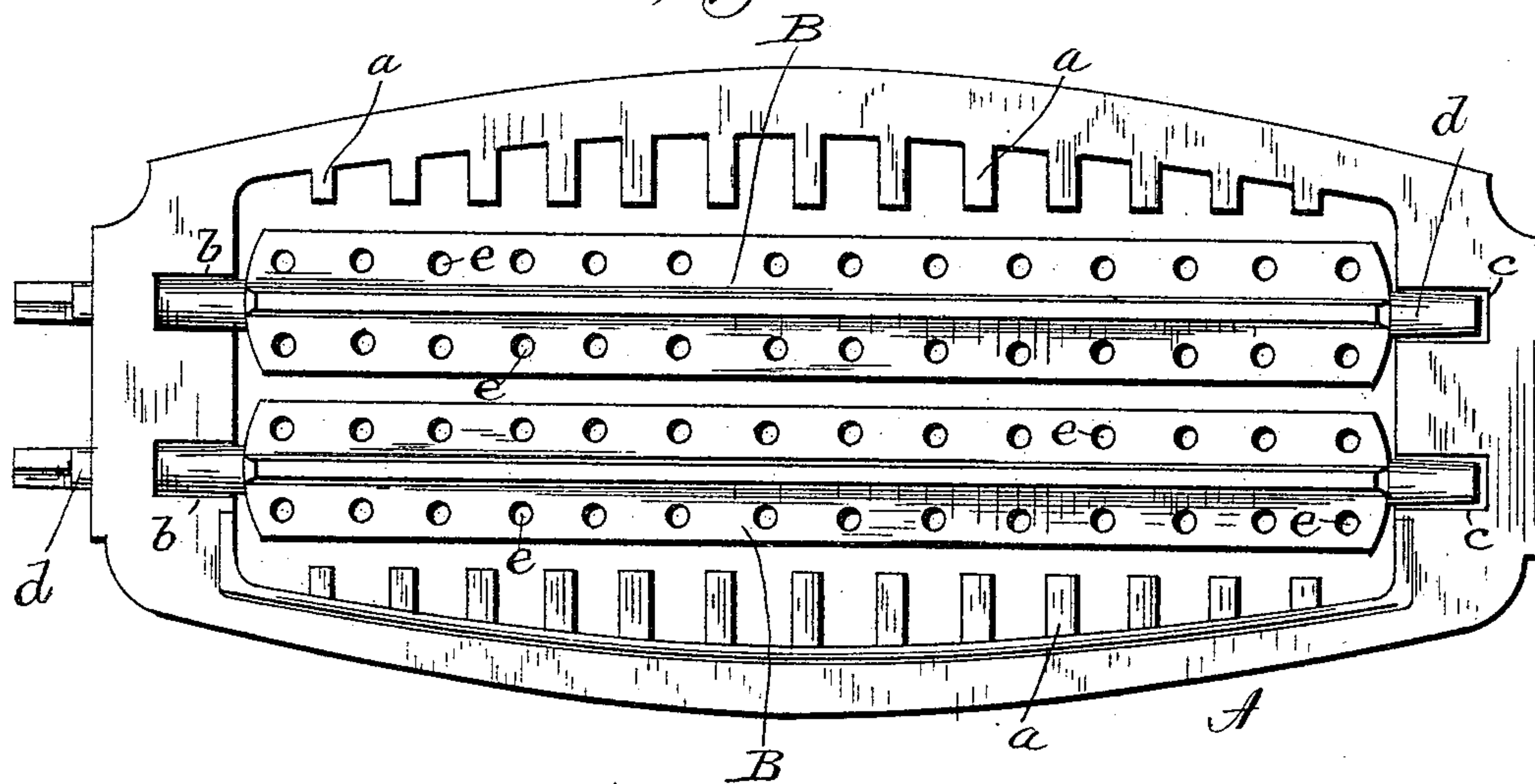
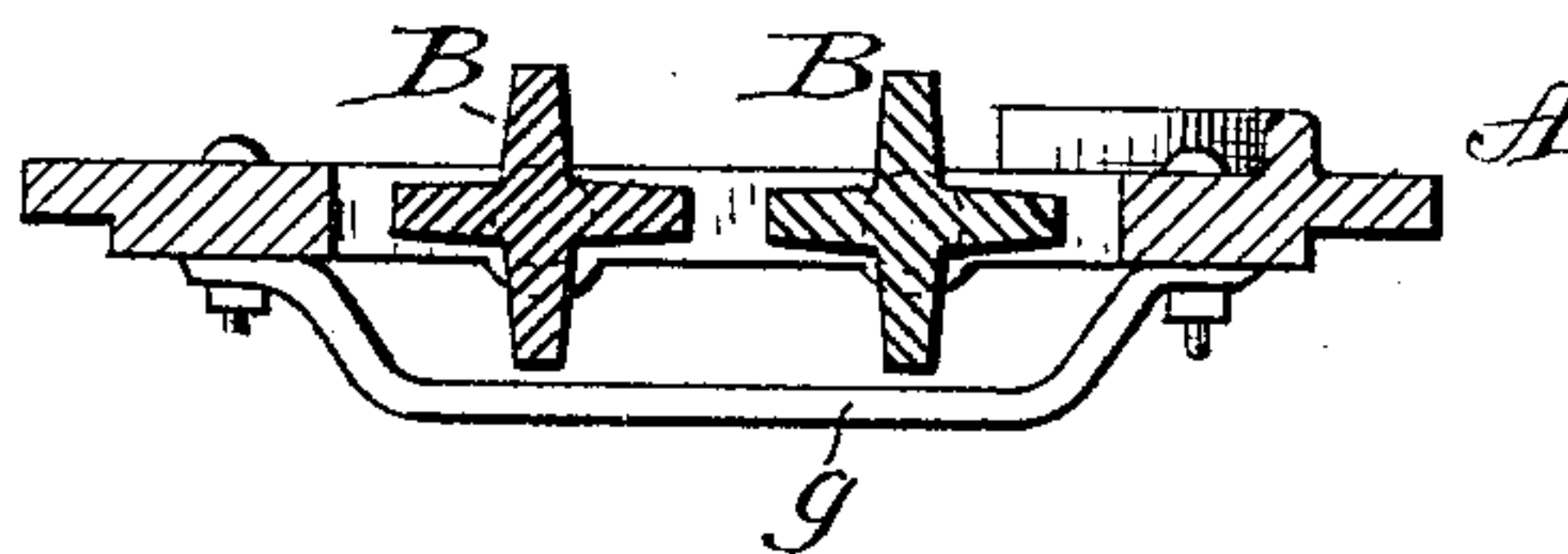


Fig. 2.



WITNESSES

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GRATE FOR STOVES AND FURNACES.

SPECIFICATION forming part of Letters Patent No. 328,438, dated October 13, 1885.

Application filed January 8, 1885. Serial No. 152,331. (No model.)

To all whom it may concern:

Be it known that I, DAVID L. SWINTON, a citizen of the United States, residing at Port Jervis, in the county of Orange and State of New York, have invented certain new and useful Improvements in Grates for Stoves and Furnaces, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in fire-grates adapted to various kinds of stoves and to hot-air and boiler furnaces. The object of my invention is to furnish a grate of simple construction, which can be readily placed in position, and is adapted to be so agitated that the fire may be kept clean at all times and free from ashes and clinkers, and the parts of which may be shaken independently in order that a certain part of the fire may be shaken separately, allowing the rest to remain comparatively undisturbed.

The invention consists in the novel combination and construction of the bars and frame, as fully hereinafter described.

Figure 1 is a plan view of a stove-grate. Fig. 2 is a cross-section thereof.

In the drawings, A represents the frame of a grate formed from a single casting and of oblong form, the front and back sides being preferably curved, as shown. Cast with the frame are two rows of projecting teeth, *a a*, the inner ends of which extend on a line parallel to the edge of the grate-bars when in position. In the ends of the frame are formed bearings *b c*, for the journals *d* of the grate-bars B. These bars are shown in plan view in Fig. 1 and in cross-section in Fig. 2. Each is cast in one piece, with four projecting ribs or flanges extending radially from the center, as shown. The journals *d* are rounded, and at one end project through the frame, where they are

squared to admit of being seized and turned by a suitable holder. The bars fit closely within the frame, and the upper bearing-surfaces of the side flanges are nearly in contact so that a close bed is formed for coal. Ordinarily nothing can drop between the bars; but the partial turning of one of them enlarges the spaces between such bars and between that particular bar and the teeth of the frame, permitting the passage of clinkers. In the side flanges of both bars are formed series of holes *ee*, which admit air to the fire, and thus aid in the combustion.

It will be seen that by this construction any portion of the fire can be shaken separately, while the remainder is left comparatively undisturbed.

For boiler and other large furnaces the grates may be built up in sections, each constructed in the manner described, so as to cover as great an area as may be necessary.

The grate-frame may be supported, as shown, by a curved brace, *g*, bolted thereto.

Having described my invention, I claim—

In a grate, the combination, with the grate-frame of greater width in the middle, and having its outer side edges curved from the center toward each end, each side being provided with a row of stationary teeth projecting inward, such teeth being of greater length in the central portion of the grate-frame, and having their inner faces in line, of journaled grate-bars having straight-edged perforated flanges or ribs, all substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

DAVID L. SWINTON.

Witnesses:

OBADIAH P. HOWELL,
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