(No Model.)

H. R. v. HEIDER & J. SCHUSCHA.

MOVABLE FIRE BAR.

No. 471,695. Patented Mar. 29, 1892.

Fig. 1.

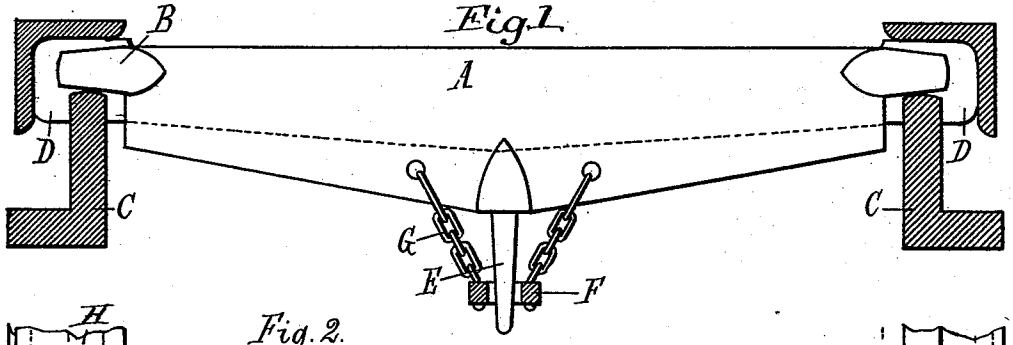


Fig. 2.

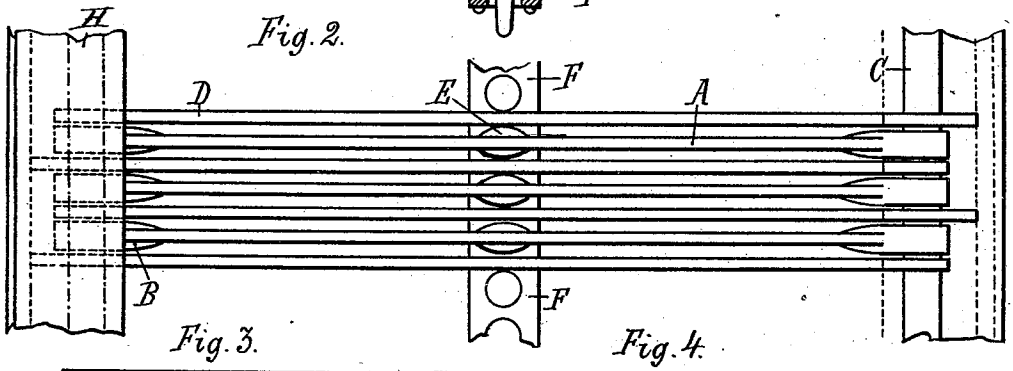


Fig. 3.

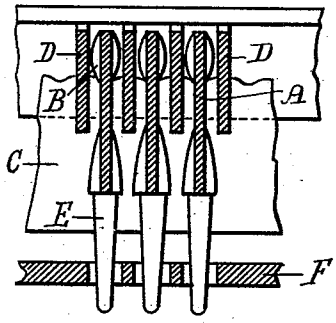


Fig. 4.

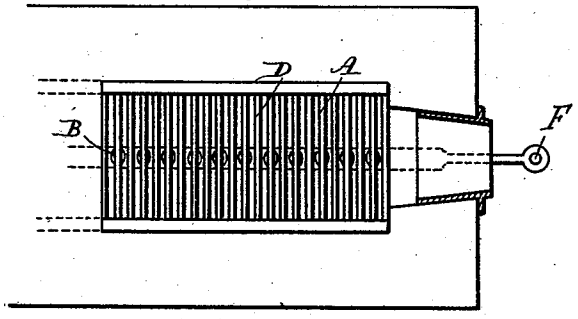
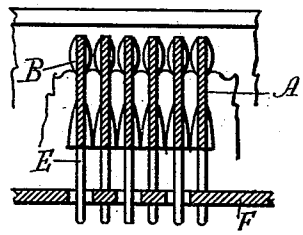
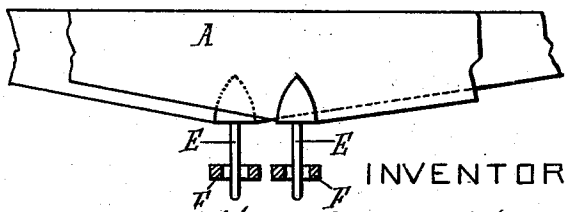


Fig. 5.





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UNITED STATES PATENT OFFICE.

HUGO RITTER V. HEIDER, OF VIENNA, AND JOHANN SCHUSCHA, OF VARPALOTA, AUSTRIA-HUNGARY.

MOVABLE FIRE-BAR.

SPECIFICATION forming part of Letters Patent No. 471,695, dated March 29, 1892.

Application filed January 29, 1890. Serial No. 338,463. (No model.)

To all whom it may concern:

Be it known that we, HUGO RITTER V. HEIDER, residing at Vienna, and JOHANN SCHUSCHA, residing at Varpalota, Austria-Hungary, both subjects of the Emperor of Austria-Hungary, have invented new and useful Improvements in Grates with Movable Fire-Bars, of which the following is a full, clear, and exact description.

The essential feature of the present invention is the means whereby a rocking motion is imparted to the fire-bars, which bars are supported freely at their journals by the grate-bearers. This arrangement enables us to obtain with every shaking of the tie-rod a one-sided and downward parting of the fire-bars, and will cause at the same time by friction and jerking a movement of the burning coal-bed. The ashes are shaken off the burning coal and fall through the opened grate, while the air which is also brought in motion by the movement of the flat grate-bars will easily penetrate the broken coal-bed.

In the drawings which form a part of this specification, Figure 1 is a side view of a rocking fire-bar. Fig. 2 shows a plan view of a part of a grate provided with our rocking grate-bar. Fig. 3 is a cross-section of Fig. 2. Fig. 4 shows a plan view of a grate with the tie-rod. Fig. 5 shows a cross-section of a grate wherein all bars are movable and a side view of two of the bars.

The grate-bars have the shape as represented in Fig. 1. Every alternate bar A is provided at both ends with an oval journal B and bears with these journals freely on the grate-frame C. Next to each of these journaled fire-bars—*i. e.*, between every two of them—a non-rocking bar D is arranged. The rocking bars A are provided at their lower end with vertical studs E, which are introduced into the corresponding holes of the tie-rod F, by means of which the rocking motion is imparted to the fire-bars. The tie-rod is suspended by means of four or six hanging ties or chains G to the fire-bars A and is extended through the door of the ash-pit. When this rod is moved out and inward, the fire-bars A make a slight rotary motion on their journals B. The upper edges of the bar will thus make an alternate motion, loosening the ashes and slag, which fall into the ash-pit. As shown in Fig. 5, all of the fire-bars can be made movable. In this case two tie-rods, connected alternately with every bar, are required.

Our invention can be also used for step-grates, and is consequently very proper for small coal and in general inferior kinds of coal, or for all fires which have not a sufficient air-draft.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

In a grate, the combination of the frame C, the bars A, having rocking journals B, mounted on the frame, studs E on said bars, rod F, engaging the studs, and chains G, sustaining said rod, substantially as set forth.

In witness whereof we have hereunto signed our names in the presence of two subscribing witnesses.

HUGO RITTER V. HEIDER.
JOHANN SCHUSCHA.

Witnesses:
F. WACHELODLY,
AVOR R. ARTZ.