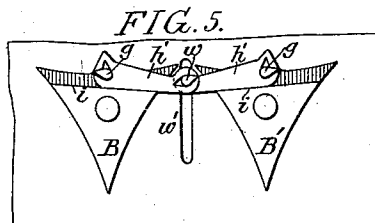
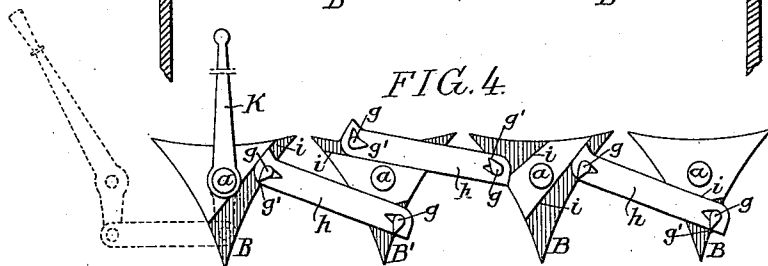
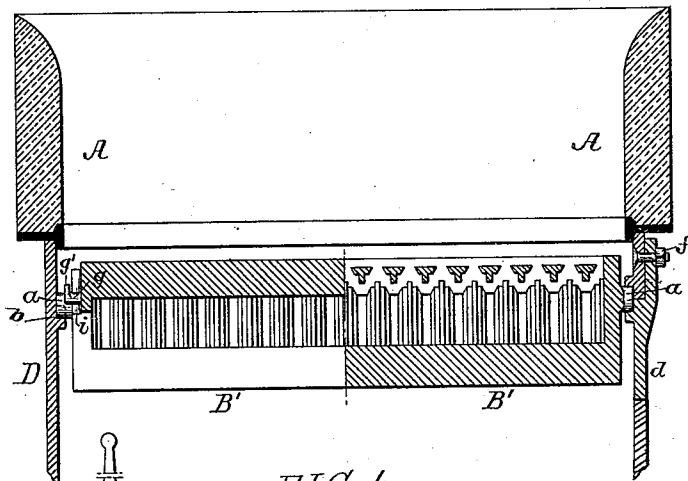
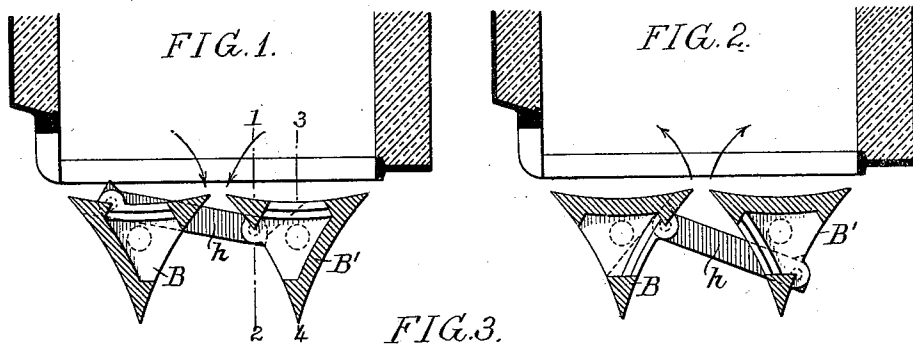


(No Model.)

A. SLOAN.
GRATE FOR STOVES, RANGES, OR FURNACES.

No. 562,255.

Patented June 16, 1896.



Witnesses:
Hamilton D. Turner.
Alex. Barkoff

Inventor:
Alexander Sloan
by his Attorneys
Howson & Howson

UNITED STATES PATENT OFFICE.

ALEXANDER SLOAN, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JOHN D. GREEN, OF SAME PLACE, AND LEWIS PUGHE, OF SCRANTON, PENNSYLVANIA.

GRATE FOR STOVES, RANGES, OR FURNACES.

SPECIFICATION forming part of Letters Patent No. 562,255, dated June 16, 1896.

Application filed September 15, 1890. Serial No. 365,037. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER SLOAN, a citizen of the United States, and a resident of Pittston, Luzerne county, Pennsylvania, have invented certain Improvements in Grates for Stoves, Ranges, or Furnaces, of which the following is a specification.

One object of my invention is to furnish simple and reliable means for connecting the different sections of a shaking or dumping grate so as to effect the simultaneous movement of said sections without the employment of toothed segments or like gears, a further object being to insure the free circulation of air through the grate, and a still further object being to provide for so hanging the grate that the grate can be readily removed without disturbing the casing of the stove. These objects I attain in the manner herein-after set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional view of part of the fire-pot of a stove with a grate comprising two sections constructed in accordance with my invention. Fig. 2 is a similar view showing the sections of the grate in a different position. Fig. 3 is a longitudinal section of said fire-pot and grate with part of the ash-pit casing, one half of the grate being in section on the line 1 2, Fig. 1, and the other half being in section on the line 3 4, Fig. 1. Fig. 4 is a diagram showing a grate composed of four sections constructed in accordance with my invention. Fig. 5 is a view illustrating a modified plan of operating the grate-sections.

In Figs. 1 and 2, A represents the fire-pot of a stove or range, which may be of any desired character or dimensions.

The grate shown in Figs. 1 and 2 consists of two sections B B', each of which is of triangular or hollow prismoidal form, and is preferably concave on its faces, two of these faces being barred or grated, and the third being open for the free discharge of ashes from the grate, but the bars of one face of the grate being in line with the spaces between the bars of the other face, as shown in Fig. 3, so that the bars forming the angles or corners of the grate are properly braced and stiffened, and strength thereby secured with-

out unduly contracting the passages formed in the grate for the upward flow of air from the ash-pit to the body of fuel.

Each grate-section has, at each end, a trunnion *a*, the trunnion at one end of the grate being adapted to a socket *b*, formed in the ash-pit casing D, while the trunnion at the opposite end of the grate is mounted in a detachable plate *c*, which is adapted to an opening in said ash-pit casing and is secured by means of a bolt *f*, so that it can be removed when it is desired to remove the grate, the plate in such case being dropped down, so as to permit the other trunnion to be removed from its socket.

On one end of each of the grate-sections B B', or on both ends of the same, if desired, is a projecting pin or stud *g*, and the pin of one section of the grate is connected to that of the other section by means of a link *h*, the openings in said links for the reception of the pins having notches at one side, and the pins being provided with lugs *g'*, which pass through the notches in the link-openings in fitting the links to the grate-sections, but in the use of the grate are out of line with said notches, so as to prevent the accidental detaching of the links.

The pins of the two sections of the grate are so located with respect to the axis of rotation of said grate-sections that when power is applied to one of said sections to rock the same, the other section will rock in a corresponding manner, that is to say, when, in the grate shown in Figs. 1 and 2, the section to which power is applied is rocked inwardly, the other section will likewise rock inwardly, as shown by the arrows in Fig. 1, the two sections likewise rocking outwardly at the same time. By this means the thorough agitation of the mass of fuel resting on the grate can be effected, and the ashes may be dumped from the center of the fire in the same manner as with the usual dumping or shaking grates.

On each section of the grate are stop-lugs or shoulders *i*, which, by contact with the links, insure the stoppage of the movement of the grate-sections when the concave faces of the same are uppermost, or there may be but one of these stops on each grate-section, namely,

that which acts when the grate is in its normal position, or the stop or stops may be formed upon but one of the sections instead of upon both.

5 In Fig. 4 I have shown a series of four grate-sections connected in accordance with my invention, and operated by power applied to one of said sections, which power may be applied by means of a handle *k*, applied directly to the trunnion of the grate, as shown by full lines in Fig. 4, or by means of an independent lever-and-link connection, as shown by dotted lines in said figure.

15 In Fig. 5 I have illustrated a modified plan of connecting the grate-sections, so as to insure simultaneous movement of the same, each of said sections in this case having a link *h'*, and the two links being connected at a point midway between the grate-sections to an operating pin or rod *w*, this rod being guided in a suitable slot *w'* in the stove-casing, so that on imparting vertical movement to the rod, the rocking of the grate-sections on their axes will be effected.

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

1. The within-described grate for stoves, ranges or furnaces, said grate comprising two

or more sections of triangular or hollow prismoidal form, each section having two sides 30 grated and one side open from end to end, substantially as specified.

2. The within-described grate for stoves, ranges or furnaces, said grate consisting of 35 two or more sections each of triangular or hollow prismoidal form, having two sides grated and one side open from end to end, the bars of one grated side being in line with the spaces between the bars of the other grated side, substantially as specified. 40

3. The combination of the series of grate-sections having link-and-pin connections, and having said pins so located in respect to the axes of the grate-sections as to cause correla- 45 tive movement of the said sections, with stops for the links, formed by shoulders or projections on the ends of said grate-sections whereby other than normal movements of the grate-sections are prevented, substantially as specified. 50

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALEXANDER SLOAN.

Witnesses:

S. P. FENN,
F. H. KYTE.