

(No Model.)

2 Sheets—Sheet 1.

J. BRISTLY.
GRATE.

No. 571,506.

Patented Nov. 17, 1896.

Fig. 1.

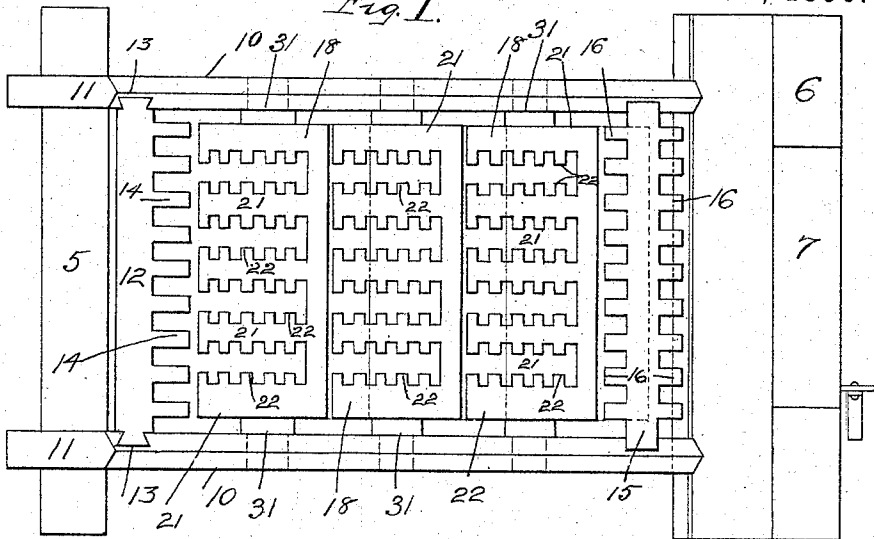


Fig. 2.

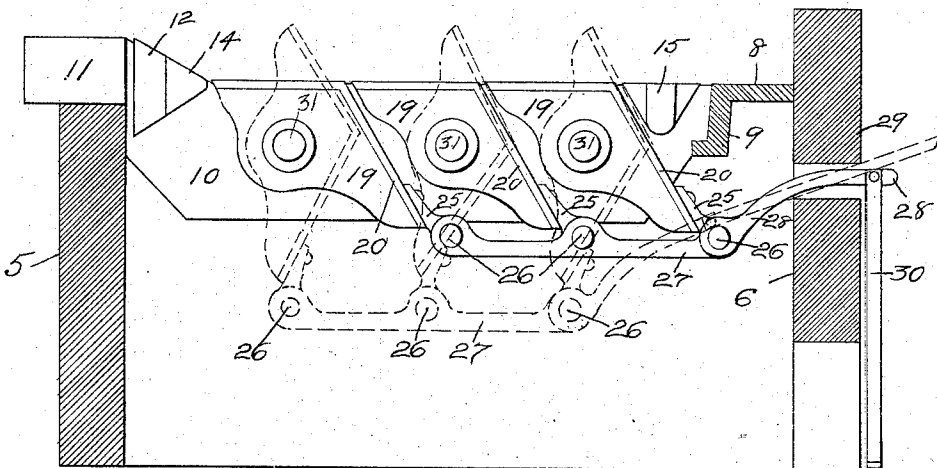
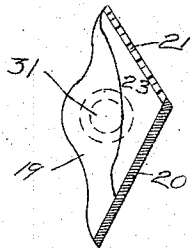


Fig. 3.



WITNESSES

J. M. Danielson Jr.
C. G. G. G.

INVENTOR

Joseph Bristly
BY
Edgar Tate & Co.
ATTORNEYS.

(No Model.)

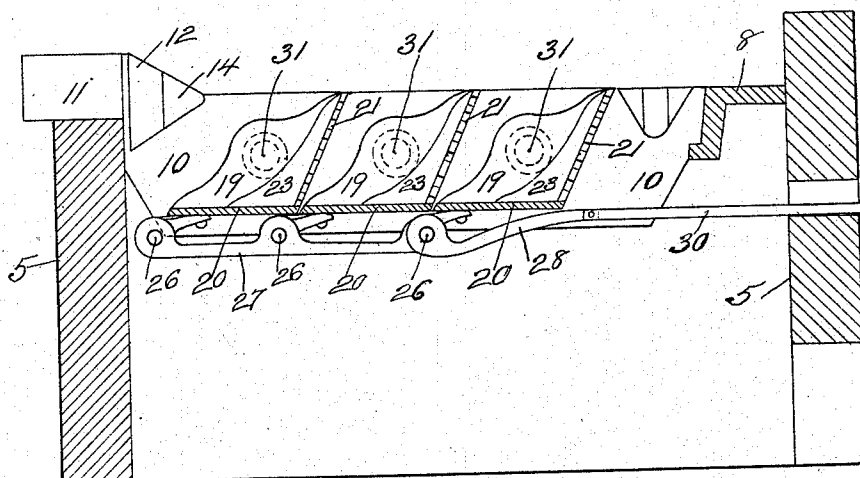
2 Sheets—Sheet 2.

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Fig. 4.



WITNESSES

W. Danielson Jr.
C. Christ.

INVENTOR

Joseph Bristly
BY
Edgar Tate
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOSEPH BRISTLY, OF SCRANTON, PENNSYLVANIA.

GRATE.

SPECIFICATION forming part of Letters Patent No. 571,506, dated November 17, 1896.

Application filed July 7, 1896. Serial No. 598,299. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH BRISTLY, a citizen of the United States, and a resident of Scranton, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Grates, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar numerals of reference indicate corresponding parts wherever found throughout the several views.

This invention relates to grates, and particularly to what are known as "dumping-grates," and the object thereof is to provide an improved grate of this class which is designed for use in furnaces, such as are usually employed for heating-boilers and for other and similar purposes, and also in connection with stoves and other heating apparatus.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a plan view of my improved grate, showing also the supports therefor; Fig. 2, a sectional side view of the supports with one of the side supports removed; Fig. 3, a transverse section of one of the grate-bars, and Fig. 4 is a view similar to Fig. 2, but showing the pivoted grate-bars completely inverted.

In the drawings, forming part of this specification, I have shown at 5 the back wall of a furnace or fire-pot, and at 6 the front wall thereof, and the front wall thereof is provided with an oblong cavity or recess 7, and I also provide a cross-plate 8, which extends parallel of the front wall 6 and at a level with the bottom of the oblong cavity or recess 7, and said plate 8 is provided at its rear edge with a downwardly-directed angular extension 9, and connected therewith near the opposite ends thereof are side bars or supports 10, which extend backwardly and are provided with upwardly-directed extensions 11, which rest upon the rear wall or support 5.

Mounted at the rear ends of the side bars or supports 10 is a cross-bar 12, which is connected with said side bars or supports by means of a tongue-and-groove coupling, as shown at 13, and the cross-bar 12 is provided

with inwardly-directed fingers 14, and at the front end of said side bars or supports is mounted another cross-bar 15, which is provided at each side with projecting fingers 16, and I also provide a plurality of grate-bars 18, three of which are preferably employed, and said grate-bars are of the form shown in Figs. 1, 2, and 3, Fig. 3 being a transverse section of one of said bars, and each consists of two triangular end pieces 19, a front plate 20, and backwardly-directed arms 21, which are provided at each side with fingers or projections 22, and each of these arms 21 are provided on their under sides with ribs 23, which extend downwardly and are formed integrally with the arms 21 and the front-plate 20 and are designed to strengthen the arms 21.

The end arms 21 are provided with fingers 22 only on their inner sides, and each of the ends 19 is provided with a journal 31, by which it is pivotally supported in the side bars or supports 10, and said grate-bars, including the front plates 20, the arms 21, the end pieces 19, and the ribs 23, are cast in one piece. I also secure to the front plates 20 at one end and the lower corners thereof arms 25, which are provided at their lower ends with outwardly-directed tenons or journals 26, and mounted on these tenons or journals is a bar 27, and pivotally connected with the journal or tenon 26 of the arm 25, which is secured to the front bar, is a lever 28, which extends outwardly through a hole or opening 29 in the front wall or support 6, and pivotally connected with the outer end of said lever is a rod 30.

It will be understood that the cross-bars 12 and 15 constitute a part of the grate, but said cross-bars 12 and 15 are stationary, and only the grate-bars that are pivotally connected with the bar 27 are adapted to be operated in the process of "dumping."

In the normal position of the pivoted grate-bars they are held as shown in Fig. 1 and in full lines in Fig. 2, and whenever it is desired to dump the grate or the material supported thereon it is only necessary to force the lever 28 backwardly, when said pivoted grate-bars will assume the position shown in dotted lines in Fig. 2 and the material supported thereon

will be dumped into the furnace pit or box below the grate, and by pulling outwardly on the lever 28 the pivoted grate will again assume the position shown in Fig. 1, this position thereof being obtained by forcing the arm or lever 28 and the rod 30, connected therewith, backwardly, as shown in said figure, and in this position, as will be observed, the plates 20 of the grate-bars will form pockets which are designed to receive the ashes, and a fire may thus be banked, as will be readily understood, and the dropping of the unburned or unconsumed coal through the grate will be prevented, and whenever it is necessary the bars may be thrown into the position shown in Fig. 2, in which position the ashes and other substances will pass there-through, as hereinbefore described.

This device is simple in construction and operation and perfectly adapted to accomplish the result for which it is intended, and the strength, durability, and simplicity thereof are such that it is not liable to get out of order or need repair.

My improved dumping-grate is also comparatively inexpensive, and may be applied to furnaces of various kinds and classes, and also to the fire-pots of stoves and other heating apparatus.

Having fully described my invention, I

claim as new and desire to secure by Letters Patent—

The combination with a suitable frame or support, provided with side bars, of grate-bars pivotally mounted between said side bars, said grate-bars each consisting of a triangular end piece, a downwardly-inclined front plate, and backwardly-directed arms, each of said grate-bars being provided at one end with a journal or projection on which is mounted a bar, and a lever pivotally connected with the journal or projection of the forward grate-bar, and projecting through an opening formed in the front wall or support, whereby said grate-bars may be agitated or dumped, and also turned over so that the inclined front plates will form pockets, in which position the backwardly-directed arms of each bar will be projected upwardly, and forwardly, substantially as shown and described, and for the purpose set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 27th day of June, 1896.

JOSEPH BRISTLY.

Witnesses:

T. V. POWDERLY,
M. E. FICKENSCHER.