(No Model.)

H. C. BEARDSLEY & J. M. HOPSON.

GRATE CLEANER.

No. 272,194. Patented Feb. 13, 1883.

fig. 1

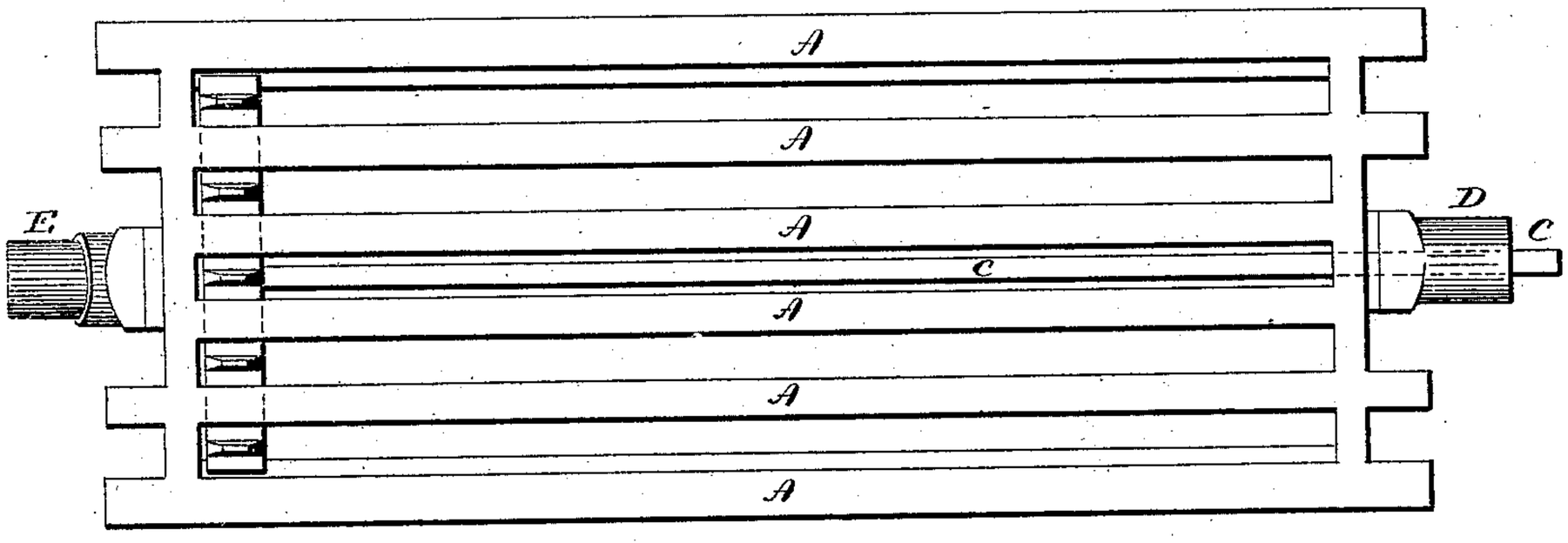


fig. 2

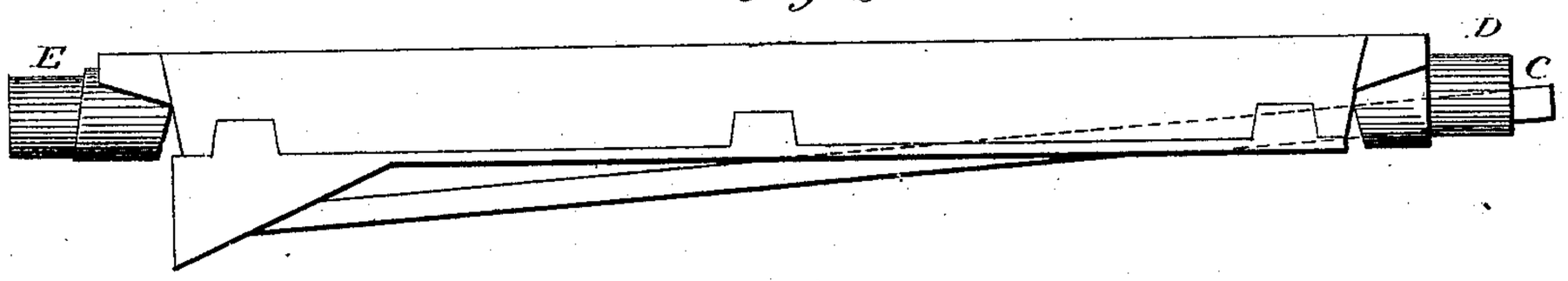


fig. 3

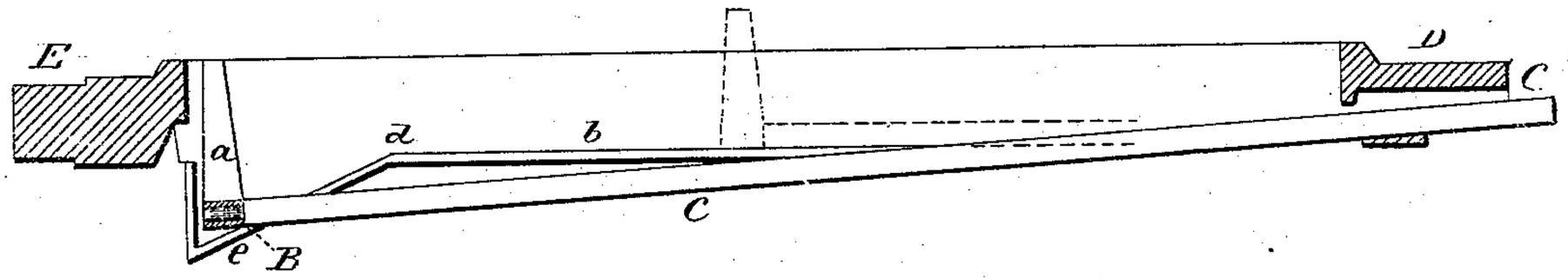


fig. 4

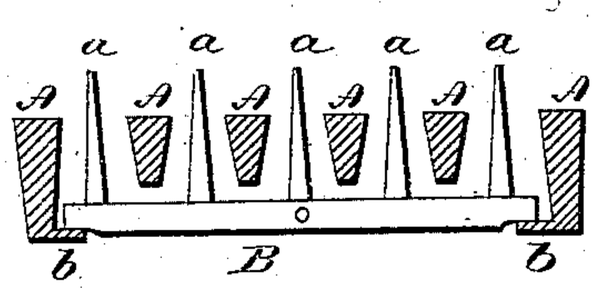
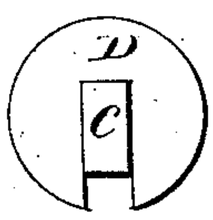


fig. 5



Witnesses

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UNITED STATES PATENT OFFICE.

HIRAM C. BEARDSLEY AND JOHN M. HOPSON, OF NEW HAVEN, CONN.

GRATE-CLEANER.

SPECIFICATION forming part of Letters Patent No. 272,194, dated February 13, 1883.

Application filed May 19, 1882. (No model.)

To all whom it may concern:

Be it known that we, HIRAM C. BEARDSLEY and JOHN M. HOPSON, of New Haven, in the county of New Haven and State of Connecticut, have invented new Improvements in Grate-Cleaners; and we do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a top view; Fig. 2, a side view; Fig. 3, a longitudinal section; Fig. 4, a transverse section with the prongs raised; Fig. 5, an end view of the front trunnion.

This invention relates to an improvement in grates for stoves and like purposes, the object being to provide the grate with a permanent cleaning device; and the invention consists, principally, in combining with a grate a transverse bar arranged beneath it, and carrying prongs which extend up between the bars of the grate, and in connection with a rod by which the said bar and prongs may be moved back and forth parallel with the grate-bars, and guides for supporting the said prongs, whereby at one extreme the prongs drop below the upper surface of the grate, and then as they are drawn from that position they are raised and thrown up into the fire above the grate, and held so raised during the movement of the device along the grate and until returned to the depressed position, as more fully hereinafter described.

A represents the several bars of a common stove-grate, with openings between them in the usual manner. Beneath the grate is a transverse bar, B, carrying prongs *a*, of a length greater than the depth of the grate-bars. From the bar B a rod, C, extends parallel with the grate-bars and out through the trunnion D, on which the grate is supported, the outer end of the rod C being preferably made square, for the purpose hereinafter described. Beneath the side bars a flange, *b*, is formed, which extends from the outer end nearly to the rear—say to a point, *d*, and from that point *d* is inclined downward, as at *e*. On these flanges the bar B rests, as seen in Fig. 4, and when it is at the extreme rear, as in Fig. 3, and down the incline *e*, the prongs stand about flush with the upper surface of the grate-bars.

When it is desired to clear the fire, take hold of the outer end of the bar C, which may be provided with a suitable handle for the purpose, and draw it outward, which brings the bar B up the inclines *e* onto the flange *b*, as seen in broken lines, Fig. 3, the said incline forcing the prongs up between the grate-bars into the fire. Then the movement of the prongs back and forth through the fire acts upon it like a common poker, and produces the best possible cleaning which can be made.

In that class of grates which are arranged for "shaking"—that is, to rock on trunnions, as D at the front, and E at the rear—the end of the rod C is made square or angular, and the opening through the trunnion of corresponding shape, as seen in Fig. 5, the outer end projecting, as seen in Fig. 3, so as to receive the handle or wrench by which the rocking movement is imparted. By employing the end of the rod C for rocking the grate it avoids making the rod longer than the trunnion of the grate, for the reason that if the trunnion were made with the square or angular shaped projection for the application of the rocking-handle, then the rod C must extend so far beyond that extension of the trunnion as to enable it to be taken hold of to work the prongs or cleaner.

While we prefer to drop the prongs at the end of the grate, that dropping may be made at another point.

The guides may be dispensed with entirely, the prongs being held up into place by the person operating it.

In the case of a grate which is not a rocking grate, the rod C may extend through an opening in the stove or furnace front below the grate; but in case of a rocking grate it should be in connection with the trunnion.

We claim—

1. The combination of a fire-grate, the transverse bar below the grate, carrying prongs extending up between the grate-bars, guides beneath said grate, upon which the prong-bar will ride, the said guides constructed with an inclined portion which will permit the bar with the prongs to drop from or be raised into the fire, and a rod extending from said prong-car-

rying bar forward, substantially as and for the purpose described.

2. The combination of a fire-grate, the transverse bar below the grate, carrying prongs extending up between the grate-bars, guides beneath said grate and upon which the prong-bar will ride, the said guides constructed with an inclined portion which will permit the bar with the prongs to drop from or be raised into the fire, and a rod extending from said prong-carrying bar forward, with a rod in connection with said prong-carrying bar, extending forward through the trunnion of the grate, substantially as described.

3. The combination of a fire-grate, the transverse bar below the grate, carrying prongs extending up between the grate-bars, guides beneath said grate, upon which the prong-bar will ride, the said guides constructed with an inclined portion which will permit the bar with the prongs to drop from or be raised into the fire, and a rod extending from said prong-carrying bar forward, with a rod in connection with said prong-carrying bar, and extending forward through the trunnions of the grate, the end portion of said rod through the trunnion angular-shaped and corresponding to the shape of the opening through the trunnion, substantially as described.

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Witnesses:
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