

(No Model.)

W. A. SPICER.

GRATE.

No. 270,499.

Patented Jan. 9, 1883.

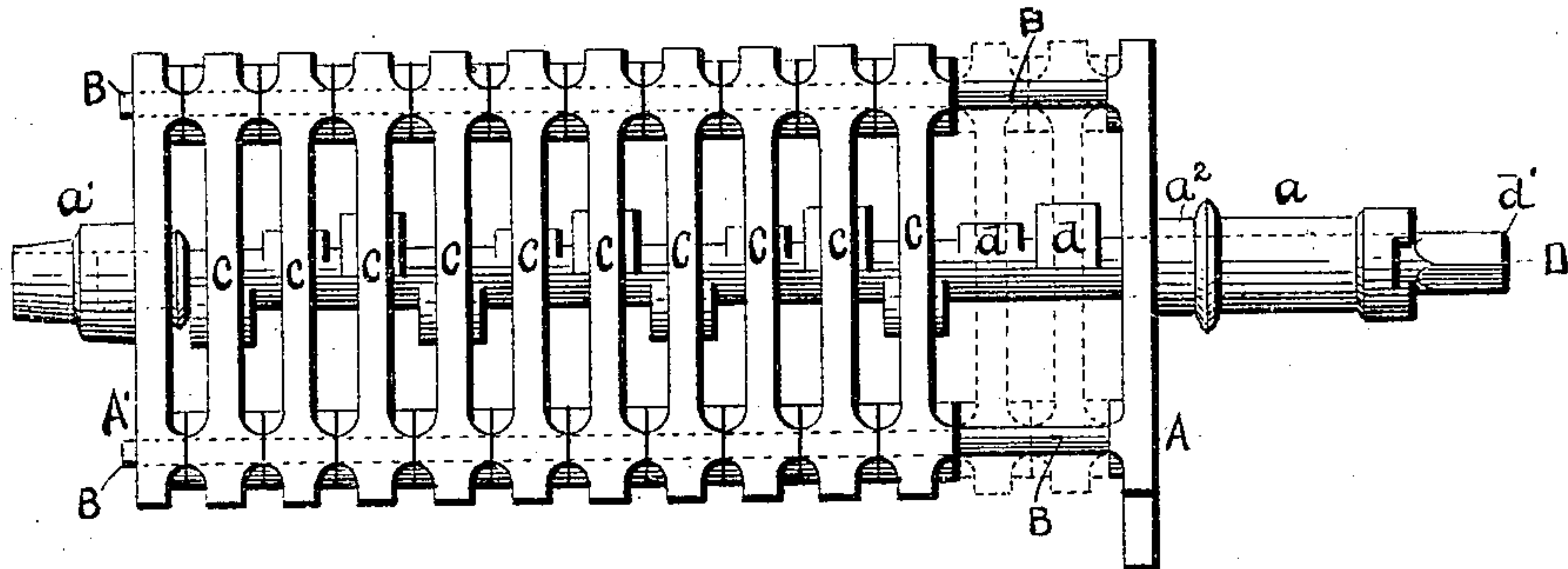


FIG. 1.

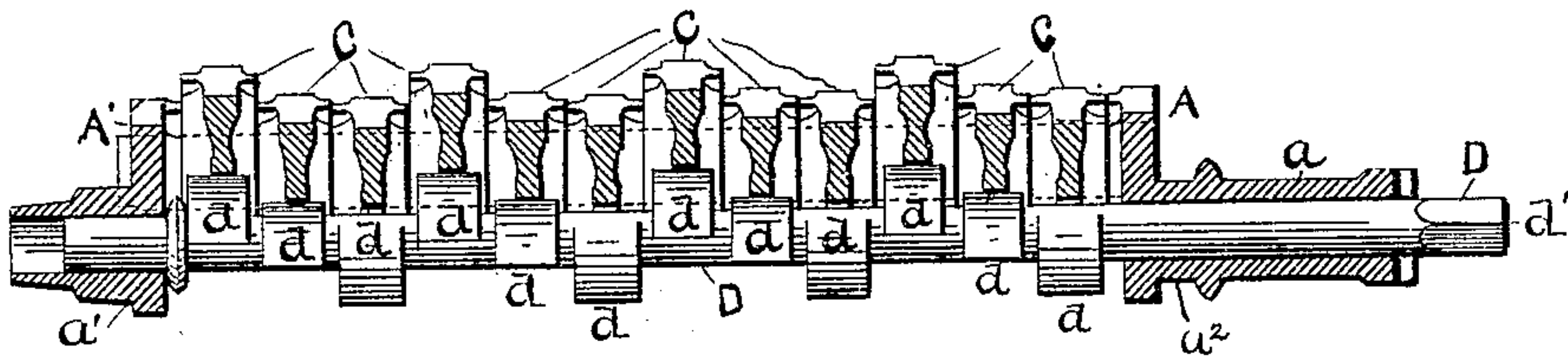


FIG. 2.

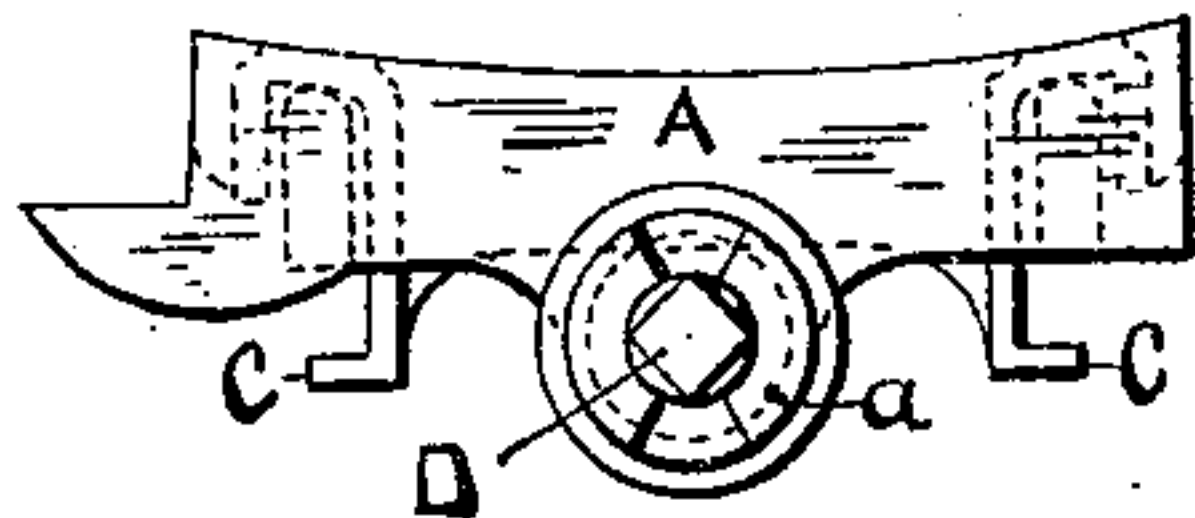


FIG. 3.

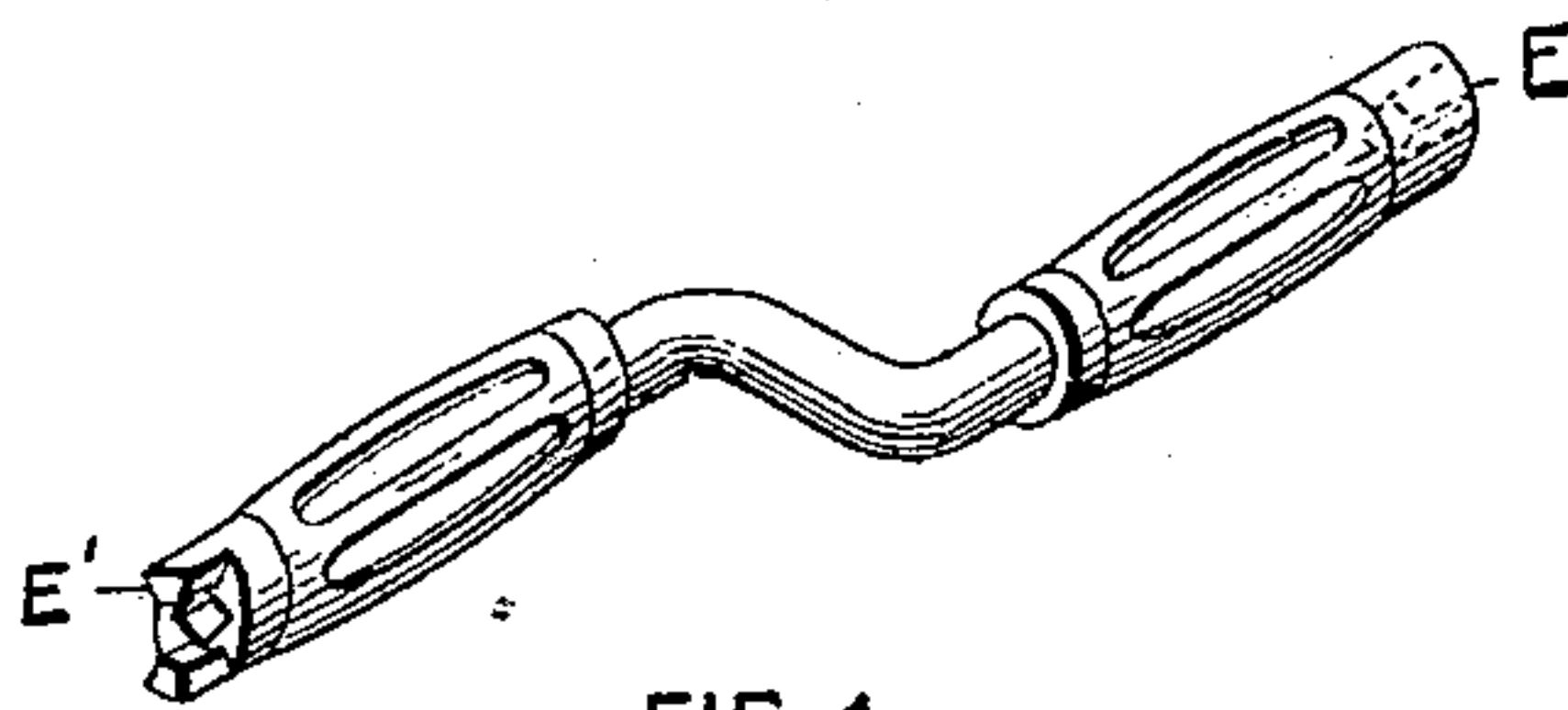


FIG. 4.

WITNESSES.

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WILLIAM A. SPICER, OF PROVIDENCE, RHODE ISLAND.

GRATE.

SPECIFICATION forming part of Letters Patent No. 270,499, dated January 9, 1883.

Application filed October 18, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. SPICER, of the city and county of Providence, and State of Rhode Island, have invented a new and
5 useful Improvement in Grates; and I do hereby declare that the following specification, taken in connection with the accompanying drawings, forming a part of the same, is a full, clear, and exact description thereof.

10 My invention relates to that class of dumping-grates for stoves, ranges, &c., in which the grate-bars are separately and loosely mounted on the grate-frame, and a cam-shaft is provided to enable the bars to be separately agi-
15 tated.

In one variety of this class of grates, as heretofore constructed, the cam-shaft has been journaled in the grate-frame below the pivots thereof, thereby increasing the depth of the
20 grate, and consequently diminishing the depth of the ash-pan located beneath. Such a construction has also limited the range of movement of the grate when dumped, and has necessitated a cutting away of the castings of
25 the stove to secure a sufficient rotation of the grate to discharge the coal from its surface. There has also been a liability of tilting the grate when the cam-shaft was turned, owing to the leverage afforded by the position of
30 said shaft relatively to the grate-frame pivots.

My improvement consists in mounting the cam-shaft substantially in the axis of the grate-frame pivots, thereby making the grate stronger and more compact, securing a greater
35 range of movement when the grate is dumped, and avoiding the liability of tilting the grate when the cam-shaft is worked.

Referring to the drawings, Figure 1 represents a plan of a grate embodying my improve-
40 ment. Fig. 2 shows the same in longitudinal section. Fig. 3 represents an end view of the grate. Fig. 4 shows in perspective and on a smaller scale a double-handled device, one end of which is adapted to revolve the cam-shaft
45 and the other to turn the grate for dumping purposes.

As shown in the drawings, the grate-frame is composed of end pieces, A A', which are respectively provided with pivots *a a'*, and are

connected with each other by side bars, B B. 50
The grate-bars C are separately and loosely mounted on the side bars of the frame, so that they may be agitated by the shaft D, which is provided with cams *d* for such purpose. This shaft is journaled in the grate-frame pivots *a* 55
a', with its longitudinal axis substantially coinciding with that of the pivots. One end, *d'*, of the shaft projects beyond the pivot *a*, and is squared or otherwise shaped to be engaged by a wrench, E, Fig. 4, or other device for ro- 60
tating the shaft. The end of the pivot *a* is notched or otherwise shaped, so as to be engaged by a wrench, E', Fig. 4, or other device for turning the grate.

The grate is mounted in substantially the 65 usual manner, the pivot *a'* being journaled in the stove-castings and the neck *a''* of the pivot *a* resting in a strap detachably secured to the stove-frame.

I am aware that grates have been made here- 70 tofore in which the bearing of the agitating portion passes axially through the journal of the main grate. I do not therefore claim such a construction, broadly.

What I claim, and desire to secure by Let- 75 ters Patent, is—

1. The improved grate hereinbefore described, consisting of a frame having pivots, grate-bars separately and loosely mounted on said frame, and a cam-shaft mounted in said frame with 80 its axis coinciding substantially with that of said pivots, substantially as and for the purposes specified.

2. The improved grate hereinbefore described, consisting of a frame having pivots, one of 85 which has a notched end, grate-bars separately and loosely mounted on said frame, and a cam-shaft for agitating said bars, which is journaled in the grate-frame pivots, projects beyond one of them, and has such projecting 90 end formed to be engaged by a device for revolving it, substantially as and for the purposes specified.

WILLIAM A. SPICER.

Witnesses:

W. H. THURSTON,
I. KNIGHT.