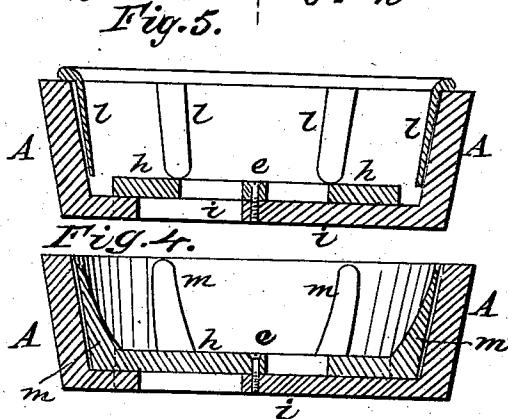
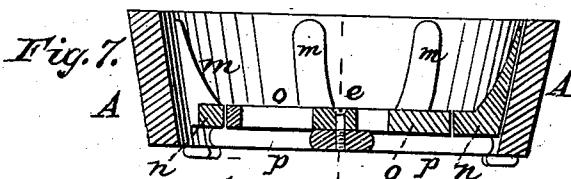
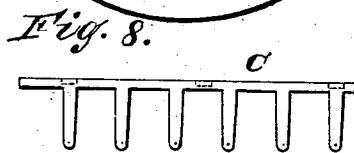
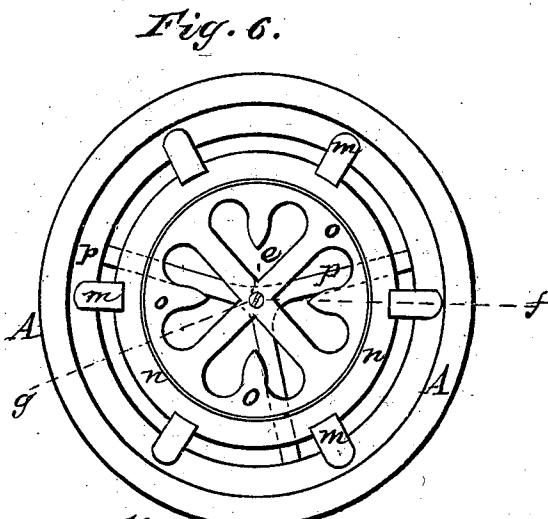
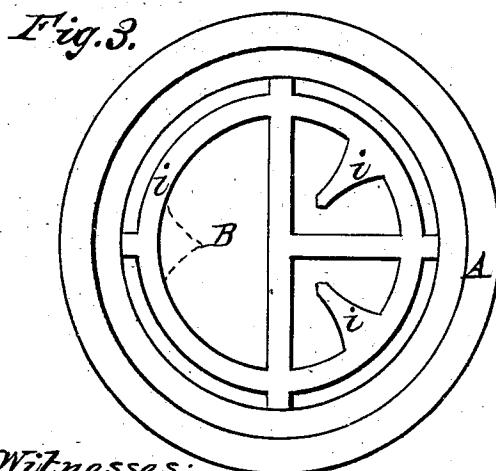
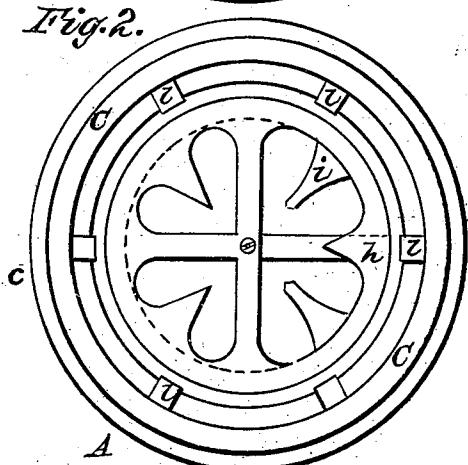
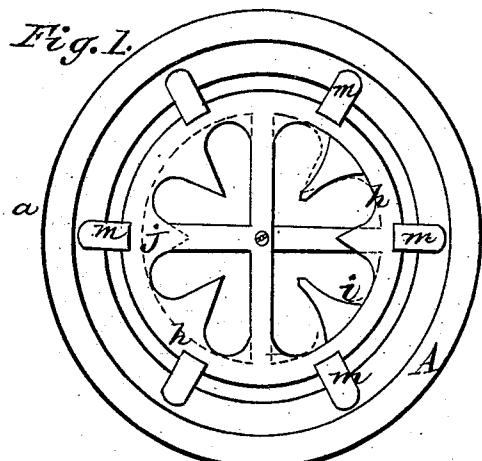


D. S. BAKER.

Stove Grate.

No. 77,707.

Patented May 12, 1868.



Witnesses:

L. L. Solomon  
W. S. Johnston Jr.

Inventor:

D. S. Baker  
by his Attorney

J. S. Johnston Jr.

# United States Patent Office.

D. S. BAKER, OF WEST BLOOMFIELD, NEW YORK.

Letters Patent No. 77,707, dated May 12, 1868.

## IMPROVEMENT IN STOVE-GRATES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, D. S. BAKER, of West Bloomfield, in the county of Ontario, and State of New York, have invented certain new and useful Improvements in "Coal-Burning Stoves;" and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like parts are represented by like letters in the several drawings.

The nature of my invention consists in a device, to be hereafter described, for facilitating the clearing of a fire-cylinder from accumulating ashes, and assisting combustion.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

Figure 1 is a top view of my invention without the fingered ring placed on the top of the fire-pot, the fingers being on the rotating grate.

Figure 2 is a top view of my invention without the fingers on the rotating grate, but showing a top ring with its fingers extending downwards, and which can be rotated.

Figure 3 shows a top view of the fire-pot, without either fingered ring or rotating grate, showing the lower or stationary part of the grate *i*.

Figure 4 is a vertical section of fig. 1 on line *a b*.

Figure 5 is a vertical section of fig. 2 on line *c d*.

Figure 6 is a top view of a modification of my invention.

Figure 7 is a double section of fig. 6 on lines *f e g*.

Figure 8 represents my fingered ring as a straight bar, (developed,) to be applied to any fire-box, straight instead of curved.

In the drawings, *A* represents an ordinary fire-cylinder for coal.

I propose to have in all cases a double grate, *h* and *i*, one rotating, and the other fixed, both together forming a perfect grate.

In fig. 1, I show upright fingers *m*, attached to the upper or rotating grate *h*, said grate having holes in its periphery, in which to place a lever in order to facilitate the shaking-process, or turn it all the way around.

Whilst *i* is fixed, *h* is a duplicate; but *h* can be so rotated as to coincide with *i*, save as to one finger *j*.

When the finger *j* is brought into the position as shown in dotted red lines *k*, fig. 3, the contents of cylinder can be discharged through the semicircular opening *B*.

The duplicate grates referred to, can be made flat or concave, as desired—concave as looking down upon the same.

Fig. 2 represents a similar device, no fingers being on the rotating grate *h*, but I replace the same by using a ring or bar, *C*, having fingers *l* extending downwards to the grate, and near the fire-cylinder on the inside. These fingers on ring *C* replace those on the upper grate *h*, or they may be placed on both, and used in connection.

Now, as to the modification, as shown in figs. 6 and 7. Here I place the fingers on an outer ring, *n*, and within it there is placed a rotating grate, *o*, one on both *n* and *o*, to be rotated in the usual way. The inner grate rotates on an axis, *e*, and it, as well as the outer fingered ring *n*, is supported by three or more arms *p*, as seen in figs. 6 and 7. Two arms of this support *p* serve as an axle, revolving in boxes attached to the fire-pot or cylinder *A*, whilst the third one can be held up to the same by any suitable detent, which being released, lets said inner grate *o* down, dumping or discharging the contents of fire-pot into any suitable receptacle.

By the use of my fingered rotating grate *h*, I greatly facilitate the shaking down of the ashes in a cylinder or other stove, or fire-box, particularly near its periphery or outer wall, and the same purpose may be accomplished by rotating my fingered ring *C*, or both may be used together, if desired. The effect of this device just explained, increases the heating of the cylinder or fire-pot, causing greater combustion next to the fire-pot, where the heat is radiated; also keeps the fire-pot from being clogged with cinders or "clinkers." By the rota-

tion of the upper grate  $h$ , the opening at B can be regulated at pleasure, so as to permit any obstructions upon the grate, such as stone or clinker, to be discharged without letting down the whole contents of the fire-pot, and thereby losing the fire.

The rotation of fingered ring C will perform the same office or purpose as that which the fingers do on grate  $h$ .

Should the fire-box be straight, instead of curved, the fingered ring C would be developed, as if it were, straight, as seen in fig. 8, to have a reciprocating or back-and-forward motion, but performing the same function.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A rotating grate,  $h$ , having upright fingers  $m$ , in combination with the lower grate  $i$ , constructed and operated in the manner substantially as shown and described, and for the purpose set forth.
2. The combination of the fingered ring C, with the fire-box A, fingered rotating grate  $h$ , and the under supporting-grate  $i$ , constructed and operated in the manner substantially as shown and described, and for the purpose set forth.
3. The combination of a cylinder or fire-box, or its equivalent, with a fingered ring or bar, C, as shown and described, and for the purpose set forth.
4. The combination of rotating grate  $o$  with a fingered ring,  $n$ , constructed and operated in the manner as shown and described, and for the purpose set forth.
5. In combination with said parts, as just described, I claim the fingered ring C, or its equivalent.

D. S. BAKER.

Witnesses:

S. S. FAHNESTOCK,

EDM. F. BROWN.