P. D. BECKWITH.

Stove-Grate.

No. 206,074. Patented July 16, 1878.

Fig 1.

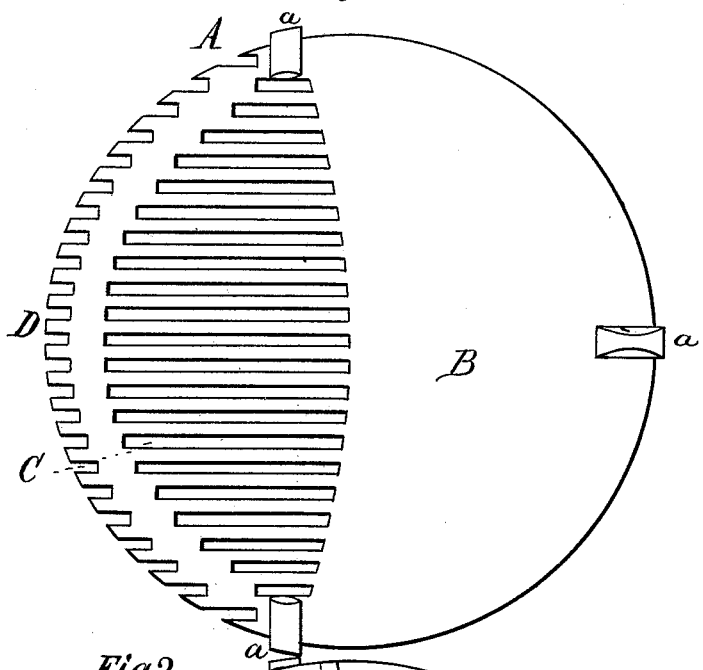


Fig 2

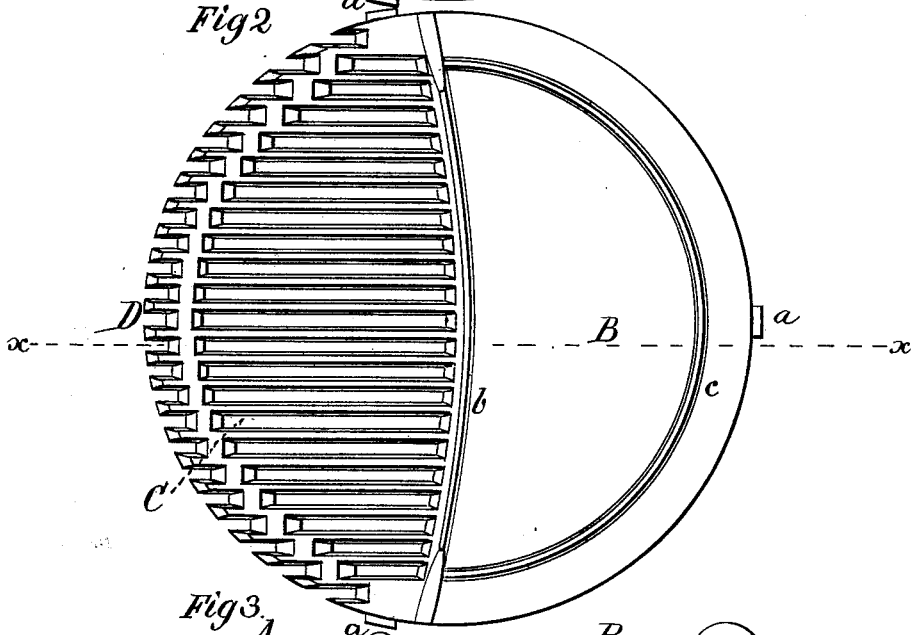
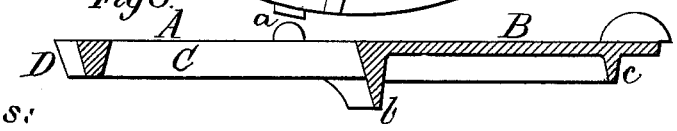


Fig 3.



Witnesses:

J. T. Th. Long.

J. Rupert Burr

Inventor:

Phila. D. Beckwith

by Mason, Fenwick & Lawrence

UNITED STATES PATENT OFFICE.

PHILO D. BECKWITH, OF DOWAGIAC, MICHIGAN.

IMPROVEMENT IN STOVE-GRATES.

Specification forming part of Letters Patent No. **206,074**, dated July 16, 1878; application filed June 13, 1878.

To all whom it may concern:

Be it known that I, PHILO D. BECKWITH, of Dowagiac, Cass county, State of Michigan, have invented a new and useful Improvement in Stove-Grates for Wood-Burning Stoves, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a top view of my improved grate. Fig. 2 is a bottom view of the same, and Fig. 3 a vertical section in the line *x x* of Fig. 2.

My grate is specially designed for use in connection with my "Round Oak Stoves," heretofore patented, in which wood is principally burned, though coal or coke may be burned in them.

The nature of my invention consists in a movable grate provided with supporting-lugs, and made with an increased thickness on the front side of its center, so that it will have sufficient rigidity and strength to withstand the intenser heat which comes upon it at this point, and is thinned down in rear of its center and stayed at its middle and near its margin by ribs, said grate having openings through its thicker front portion, but none in its thinner rear portion. By this part of my invention the ashes and cinders can be moved back beyond the grated surface upon the plain or closed portion of the grate, where they will be retained better, and the fire kept during the night from the influence of the draft, while at the same time a grate is provided which is durable in that part where required to withstand great heat, and, for economy of metal and cheapness of manufacture, is made light and stayed with ribs where it is liable to become warped.

My invention also consists in providing short grate-bars or teeth which correspond to short portions of the bars on the circumference of the thicker part of the grate, whereby the draft is increased, and facilities for ashes and other objects to fall down between the front of the grate and the body of the stove are afforded.

In the accompanying drawings, A is the grate proper, made with a closed portion, B, and open portions C and D. On each side and at the rear of this grate lugs *a* are provided, by means of which the grate can be hung in a stove, so as to be dumped vertically and vibrated horizontally, if desired. The grated portion C of the grate proper, A, is made to occupy nearly one-half of the area of the casting, and is entirely in front of the transverse center of the grate, while the closed portion is in rear of this grated or open surface, and occupies the remainder of the casting. Between the grated front ends of the bars forming the surface C and the short teeth or sections of bars D a solid body of metal of semicircular form is provided, in order to unite the bars C and D transversely and longitudinally, and form a firm support for said bars. Under the grate proper, A, a transverse curved rib, *b*, is formed between the rear ends of the bars C and the closed portion B, which rib extends down below the bars some distance, so as to serve as a firm stay against warping. Around the under side of the closed portion B of the grate, near the margin, a semicircular rib, *c*, is provided, which rib unites with the rib *b* near its ends, as shown.

The bars C and short sections of bars D are made of a depth much greater than the thickness of the closed portion B of the grate, in order that they may be strong and durable enough to withstand the strain and heat which necessarily comes upon them. The portion B of the grate, being closed and not being required to be subjected to the direct influence of the draft and to an intense burning heat, such as is experienced in the front part of the grate, where the draft is concentrated by reason of my peculiar construction of the grate, is made quite thin, in order to save expense in its manufacture; and in order to prevent this thin, broad, closed portion B from warping, by reason of the grated portion C D being intensely heated while the portion B is only moderately heated, the ribs *b c* are provided, as shown.

Having described my invention, what I claim is—

1. The grate consisting of the closed or solid part B, made thin and strengthened by ribs,

and the thick open part C, substantially as and for the purpose described.

2. The movable grate stayed by ribs, as described, and provided with the closed surface B back of its center, and with the open surface C and toothed periphery D, substantially as described.

Witness my hand this 6th day of June, A. D. 1878, in matter of my application for a patent on improved stove-grate.

PHILO D. BECKWITH.

Witnesses:

J. MOSHER,

E. O. ADAMS.