

G. W. ELTONHEAD.
Stove-Grates.

No. 143,443.

Patented Oct. 7, 1873.

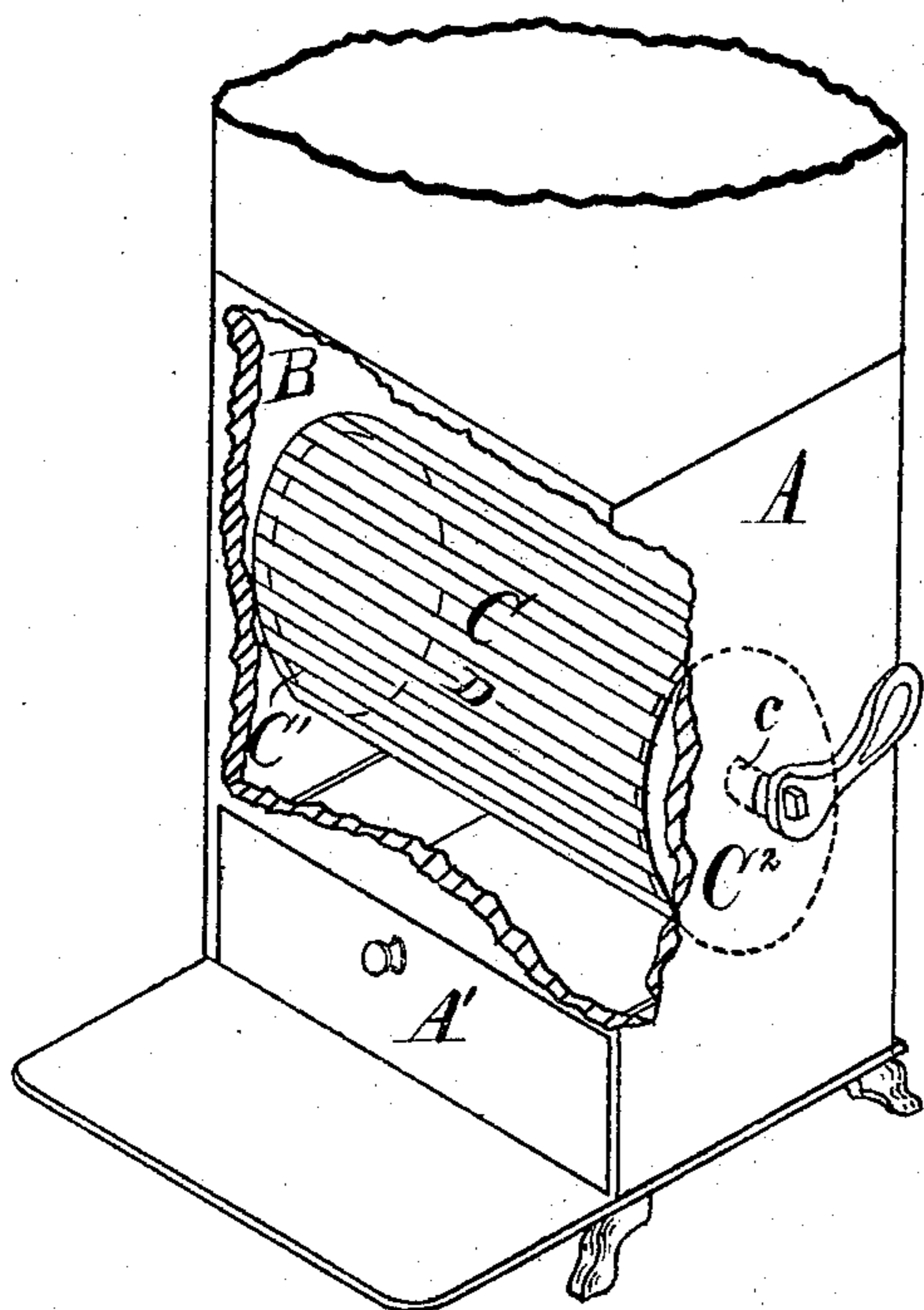


FIG. 1.

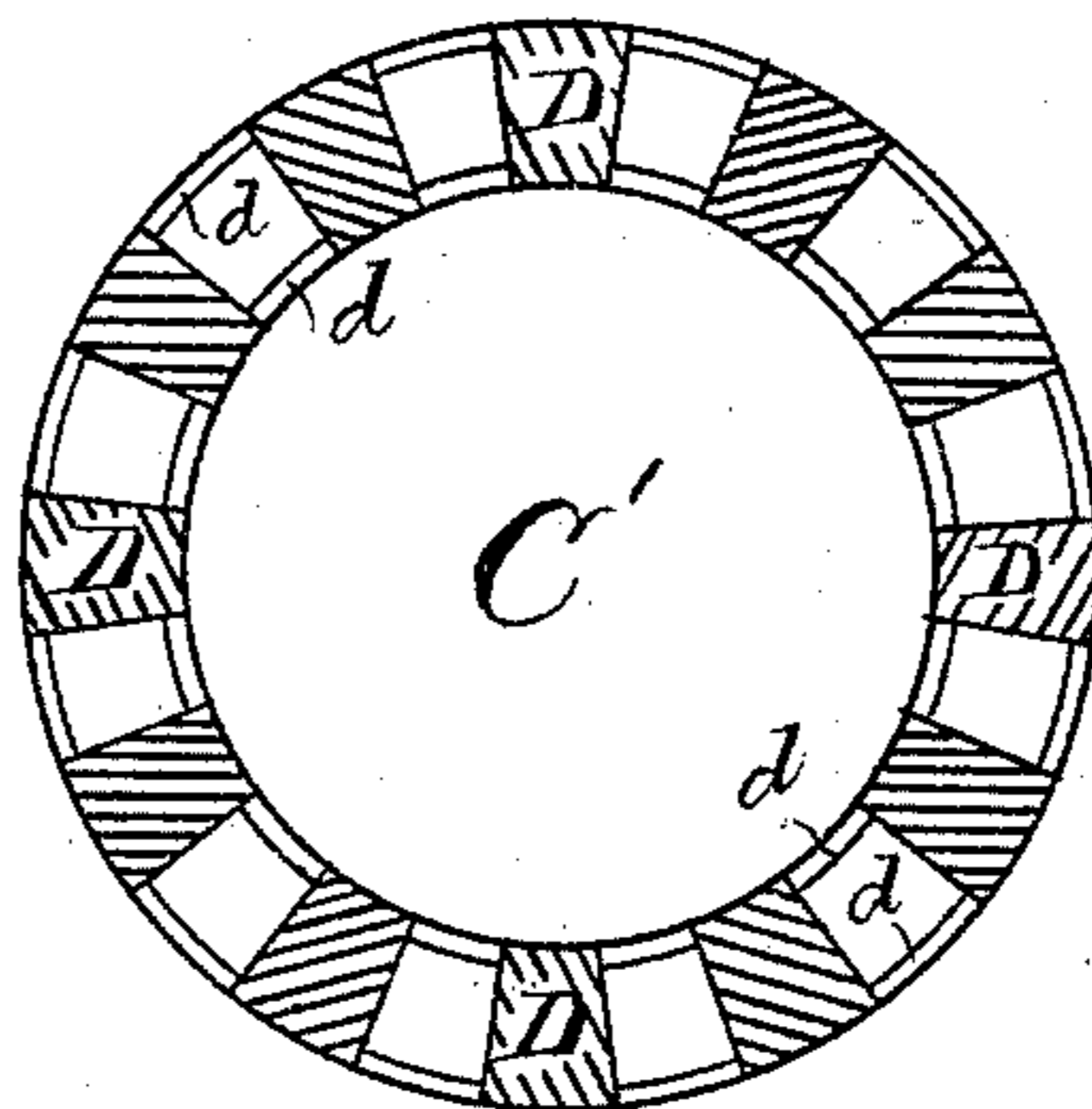


FIG. 2.

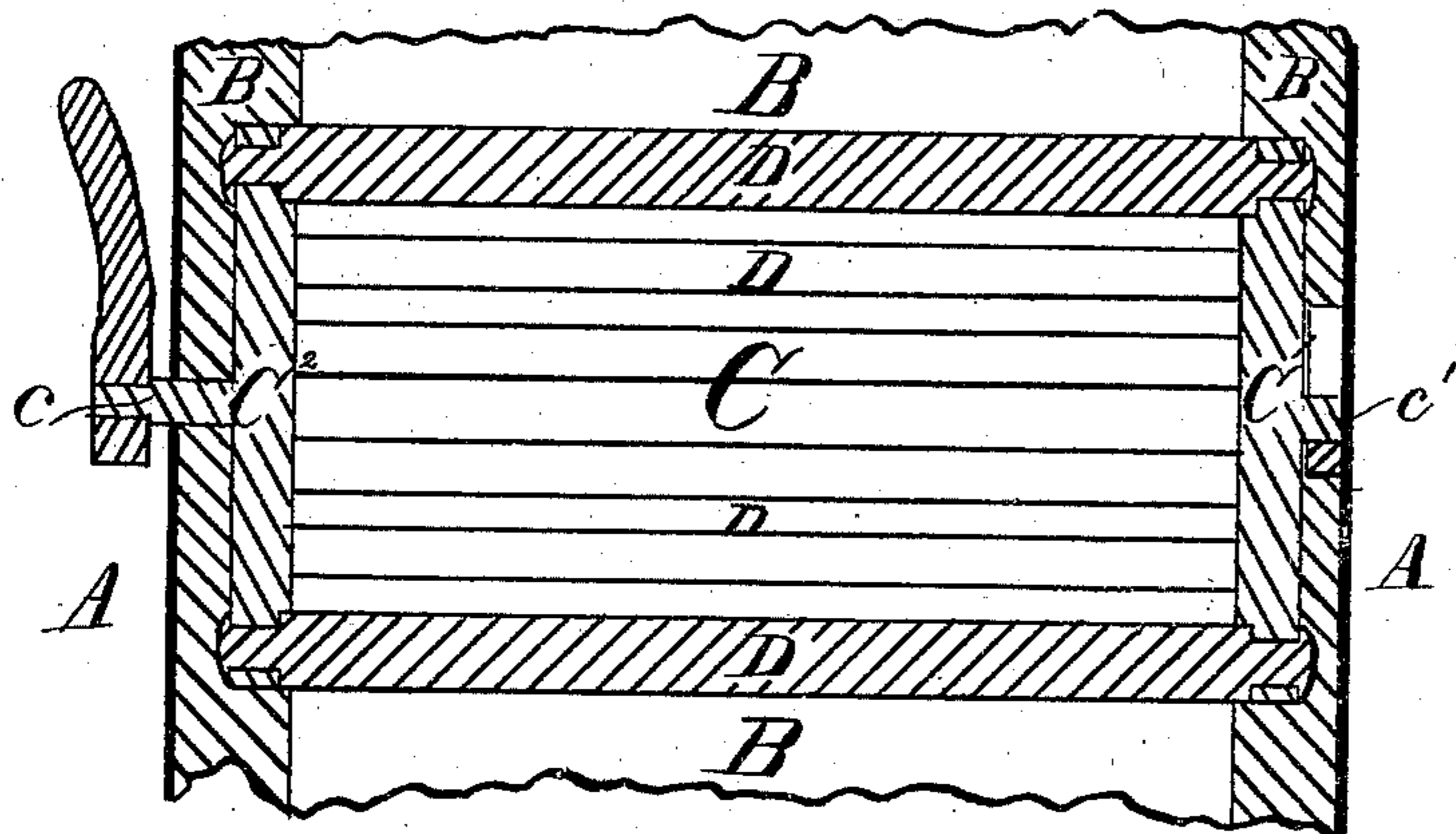


FIG. 3.

WITNESSES.

J. W. Hether,
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UNITED STATES PATENT OFFICE.

GEORGE W. ELTONHEAD, OF ST. LOUIS, MISSOURI, ASSIGNOR TO HIMSELF
AND WILLIAM GERKHARDT, OF SAME PLACE.

IMPROVEMENT IN STOVE-GRATES.

Specification forming part of Letters Patent No. 143,443, dated October 7, 1873; application filed
December 19, 1872.

To all whom it may concern:

Be it known that I, GEORGE W. ELTONHEAD, of St. Louis, in the county of St. Louis and State of Missouri, have invented a certain Improved Cylindrical Rotating Grate, of which the following is a specification:

This invention relates to the class of revolving grates, sifters, and crushers for stoves, furnaces, and the like. The ordinary revolving grate is usually of a flat pattern, the fire or combustible material being supported flat upon the entire surface of the grate; therefore, in operation, the whole fire is lifted and disturbed; further, the fire must frequently be stirred to drop its ashes, give required draft, causing an undue loss of combustion, and, otherwise in use and operation, said ordinary grates incur uncleanness and are imperfect. All this to avoid is the object of the present improved grate.

My grate is cylindrical in constructive shape, so as to present a semicircular grate surface to the fire. Its bars are flat, longitudinal, and relatively arranged apart and firmly secured to two rounded sides or heads, which are journaled to revolve. The crushing action of the grate is chiefly accomplished at two opposite sides against the lining or iron, with which the sides of the stove is provided. The fire-brick or iron-lining is made to conform to the shape of the stove, as well as to the rectangular opening required for the cylindrical grate.

To enable those herein skilled to make and use my said improvements, I will now more fully describe the same, referring to—

Figure 1 as a perspective view, showing improved grate as applied in use; to Fig. 2 as a transverse section of grate proper; to Fig. 3 as a longitudinal sectional elevation.

A represents a square-bottomed stove; A¹, ash-pit. In case of a square-bottom stove, its four sides are provided with fire-brick or iron-lining, B. The lining B, in case of round stoves, is made to conform to the stove, and also of such a pattern as to present the required rectangular opening to suit the revo-

lution and constructive shape of grate. C is the grate proper. The grate consists of the opposite circular sides or heads C¹ C², (which are set in the lining B,) and revolve in the sides of the stove A by their pivot-journals c c'. (See Figs. 1 and 3.) The journal c projects outside the stove, to be operated by a hand-crank. The bars D are arranged relatively apart, their ends fitted to pass through the opposite heads C¹ C², to which they are firmly riveted. (See Fig. 3.) To more adequately secure the bars D, the heads C¹ C² are cast with inner shoulders d d, (see Fig. 2,) thus securely mortising said bars to bear the strain or force necessary to perform the grating and crushing action. The bars D can have a wider clearance inside than top, to facilitate the drop-page of the ashes, &c. The grate C thus constructed presents a semicircular grate, to support and grate the fire. In its revolving action it disturbs that part of the fire directly in contact with grate, without unnecessarily disturbing the top of the fire; it takes away the ashes that hide the fire, gives the required draft, carries the larger combustible parts to the sides or linings B, where it crushes and takes away only the ashy matter, and otherwise more perfectly separates combustion, ashes, and the like, without undue loss of combustion.

In operation the cylindrical grate is easier than flattened grates, avoids the frequent necessity of stirring, and is also neat and clean for use.

Having thus fully described my said invention, what I claim is—

The described grate, composed of the solid ends C¹ C², having pivot-journals c c' and the flat bars D, in combination with a stove, A, as described, for the purpose set forth.

In testimony of said invention I have hereunto set my hand.

GEORGE W. ELTONHEAD.

Witnesses:

WILLIAM W. HERTHEL,
CHAS. MEISNER.