

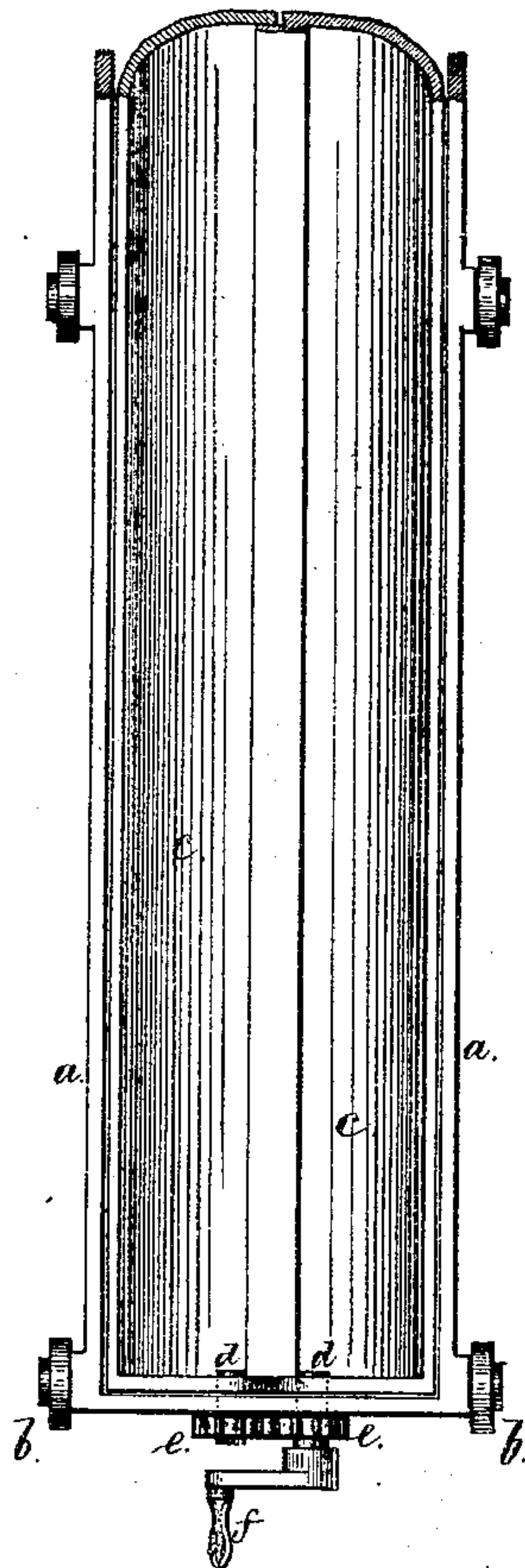
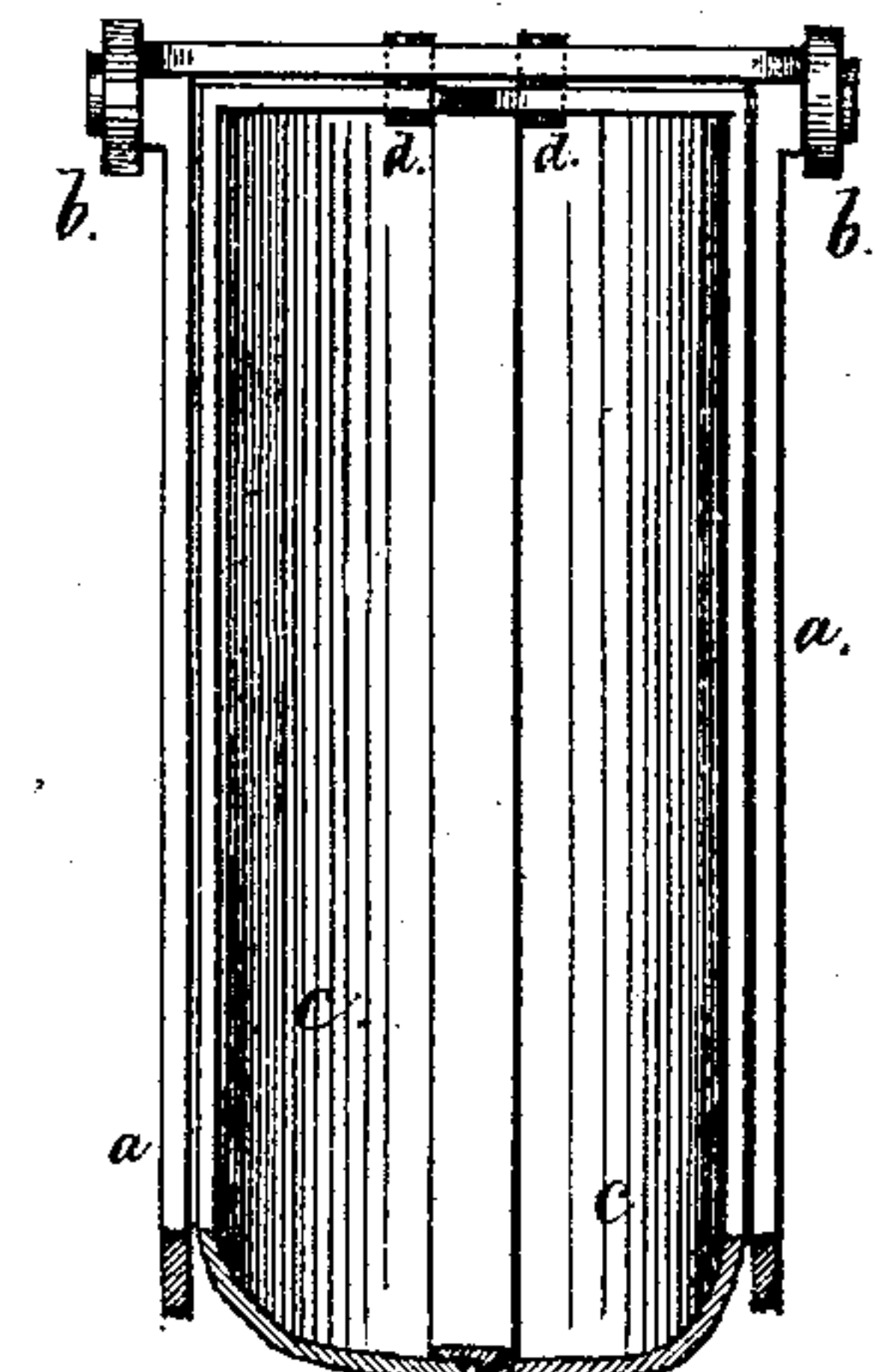
A. F. HAVENS.

Apparatus for Charging Gas Retorts.

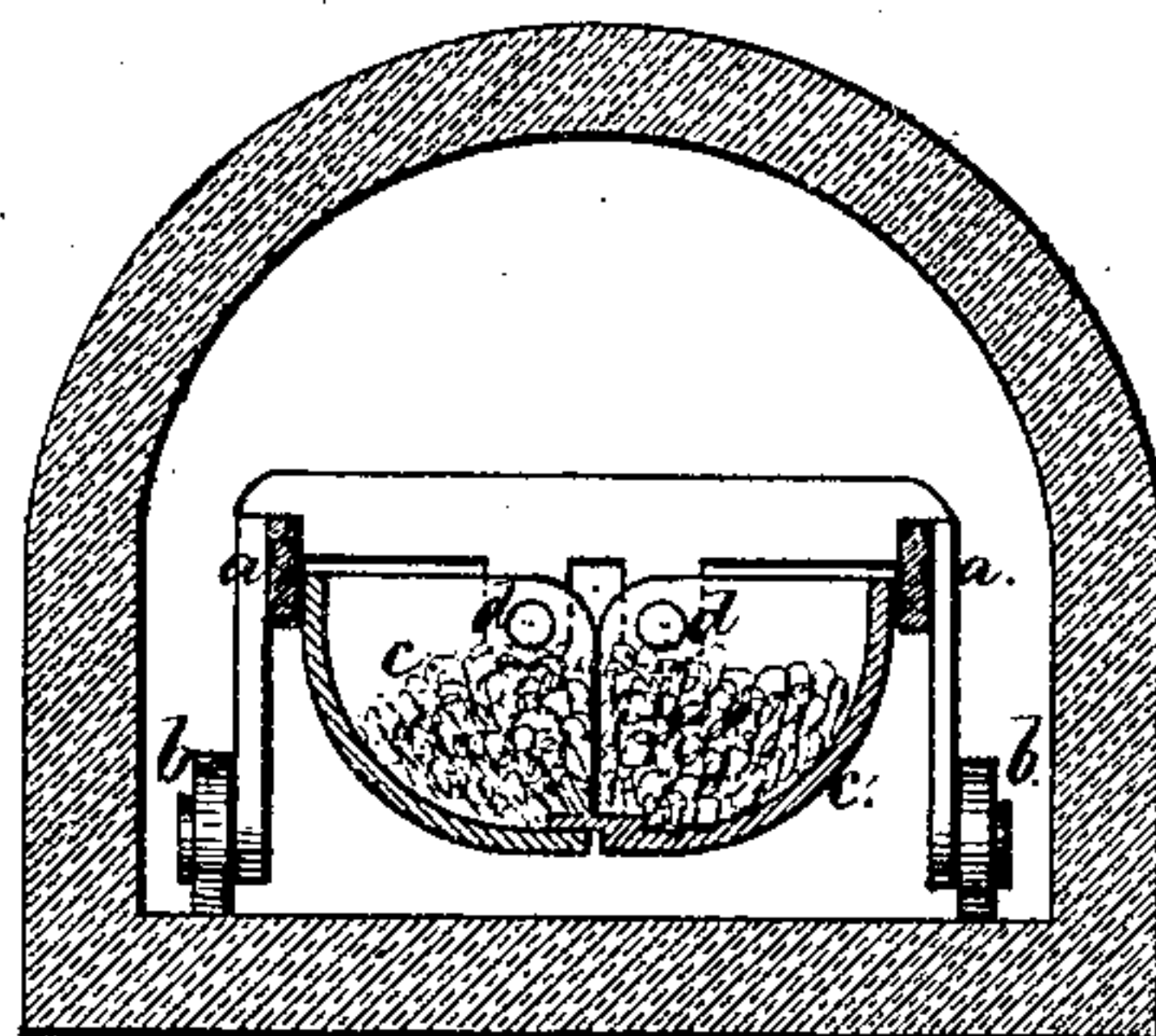
No. 134,055.

Patented Dec. 17, 1872.

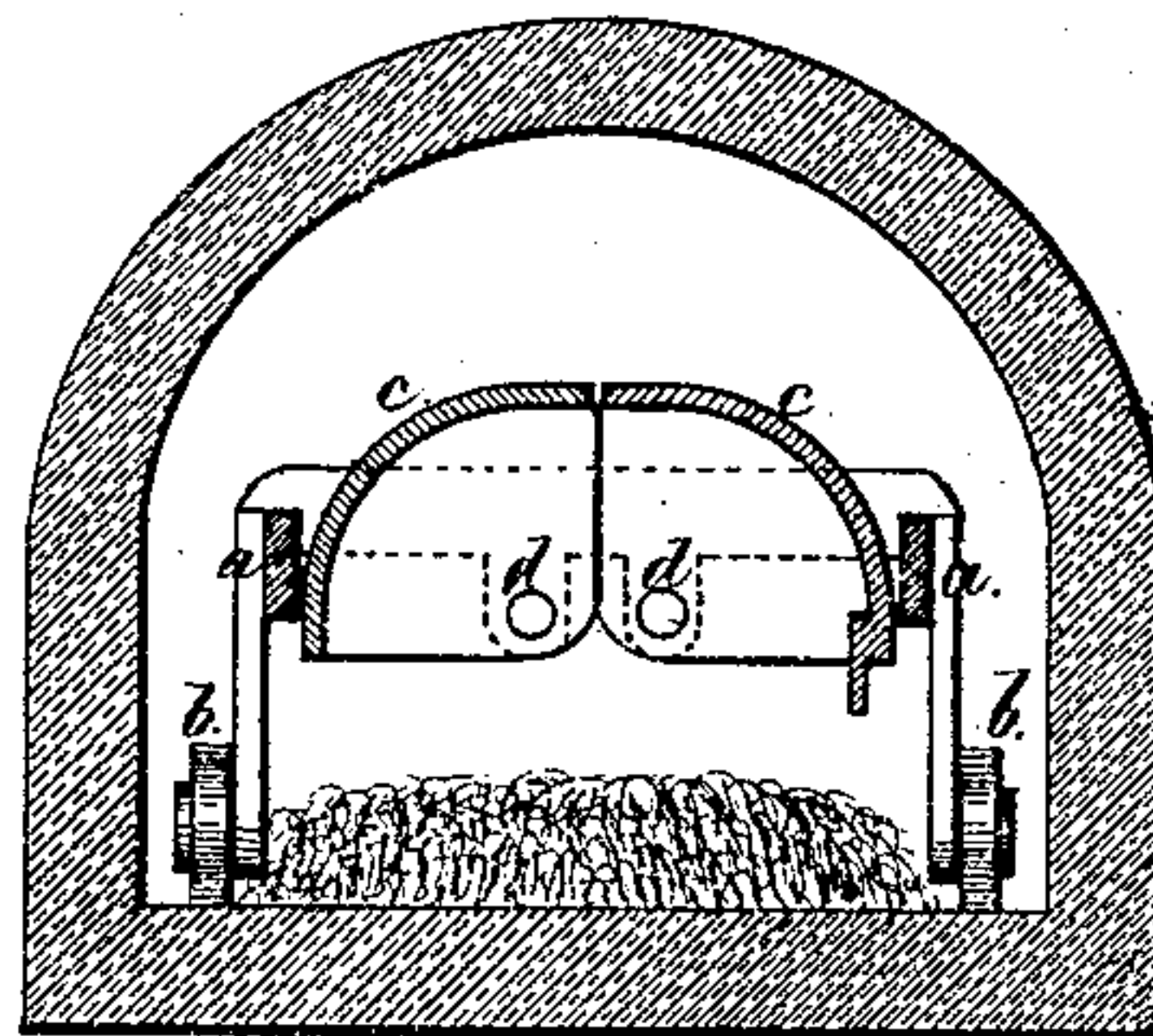
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses,

Chas. H. Smith  
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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN APPARATUS FOR CHARGING GAS-RETORTS.

Specification forming part of Letters Patent No. 134,055, dated December 17, 1872.

*To all whom it may concern:*

Be it known that I, ALONZO F. HAVENS, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Apparatus for Charging Gas-Retorts, of which the following is a specification:

In charging gas-retorts a scoop has been employed to convey coal into the same, and the scoop has been revolved to empty the contents. This has been done both by hand and by machinery. The height of the ordinary D-retort is usually considerably less than the width of floor; hence there is not room sufficient for revolving the scoop with facility when that scoop is sufficiently large to hold the required quantity of coal.

My invention is made with reference to containing the required quantity of coal, and freely discharging the same, and spreading the coal with uniformity upon the floor of the retort. I make use of a divided or double quadrant scoop, that is opened by giving to each half a quarter rotation that causes the coal to fall and spread with uniformity upon the floor of the retort, and at the same time the scoop-segments revolve in a small space in consequence of being hung upon two centers, and hence describing smaller arcs in their movement than they would if attached by one joint at each end.

In the drawing, Figure 1 is a plan of the scoop, showing the ends and middle portion, the length being made with reference to the retort in which the apparatus is to be used; Fig. 2 is a section of the retort and scoop with the coal in it, and Fig. 3 is a section with the scoop-segments inverted and the coal deposited in the retort.

The frame *a* is of suitable size to pass freely into the retort. It is, by preference, provided with rollers or wheels *b*, that run upon the bottom of the retort, and it is best to employ a plow-shaped case or guard in front and back of the wheels to press aside any coal and prevent the wheels coming into contact with the same. The quadrant-segments *c c* are connected to the frame *a* by the center studs or bolts *d d*. These are preferably at some distance apart, so that the segments *c c* swing in the arcs of two comparatively small circles, thereby allowing of their free movement within the retort, as illustrated in Fig. 3. At the

ends of the frame *a* there are means for giving to the segments a quarter rotation. These means may be of any suitable character. I, however, prefer to employ the two gear-wheels *e e*, with the lever or crank *f*, by which the attendant can give the required movement.

Coal is to be supplied from a suitable hopper or bin, and the charging chute and frame run into the retort, the segments turned, the coal dropped, and the apparatus withdrawn. In consequence of the segments swinging upon separate axes or centers, the coal will be scattered and spread toward the angles of the retort, instead of remaining in a central ridge.

There is to be a suitable railway or floor, upon which the frame *a* is sustained, outside the retort, and upon which it runs when passing into or out of the retort. This may be movable, so as to be adapted to the different heights of the retorts.

The crank *f* may be extended, as a weighted lever, running with a roller upon a bar or track, and disconnected automatically at the end of the movement of the chute into the retort, so as to be self-operating in discharging the coal. The chutes may be made the entire length of the retort, or divided up into sections of suitable length, each hung upon its own center bolts or studs, and those in line connected with each other so as to be swung simultaneously.

I claim as my invention—

1. A scoop for charging gas-retorts made in two or more parts, supported by and swinging within a frame, substantially as set forth.

2. A scoop for charging gas-retorts made in two or more segments, and each segment hung at the ends upon separate center studs, in combination with mechanism, substantially as set forth, for giving to the segments a swinging movement to discharge the contents into the retort, as set forth.

3. The frame *a* and supporting-rollers *b*, in combination with the divided scoop, constructed and operated substantially as set forth.

Signed by me this 28th day of October, A. D. 1872.

ALONZO F. HAVENS.

Witnesses:

GEO. T. PINCKNEY,  
CHAS. H. SMITH.