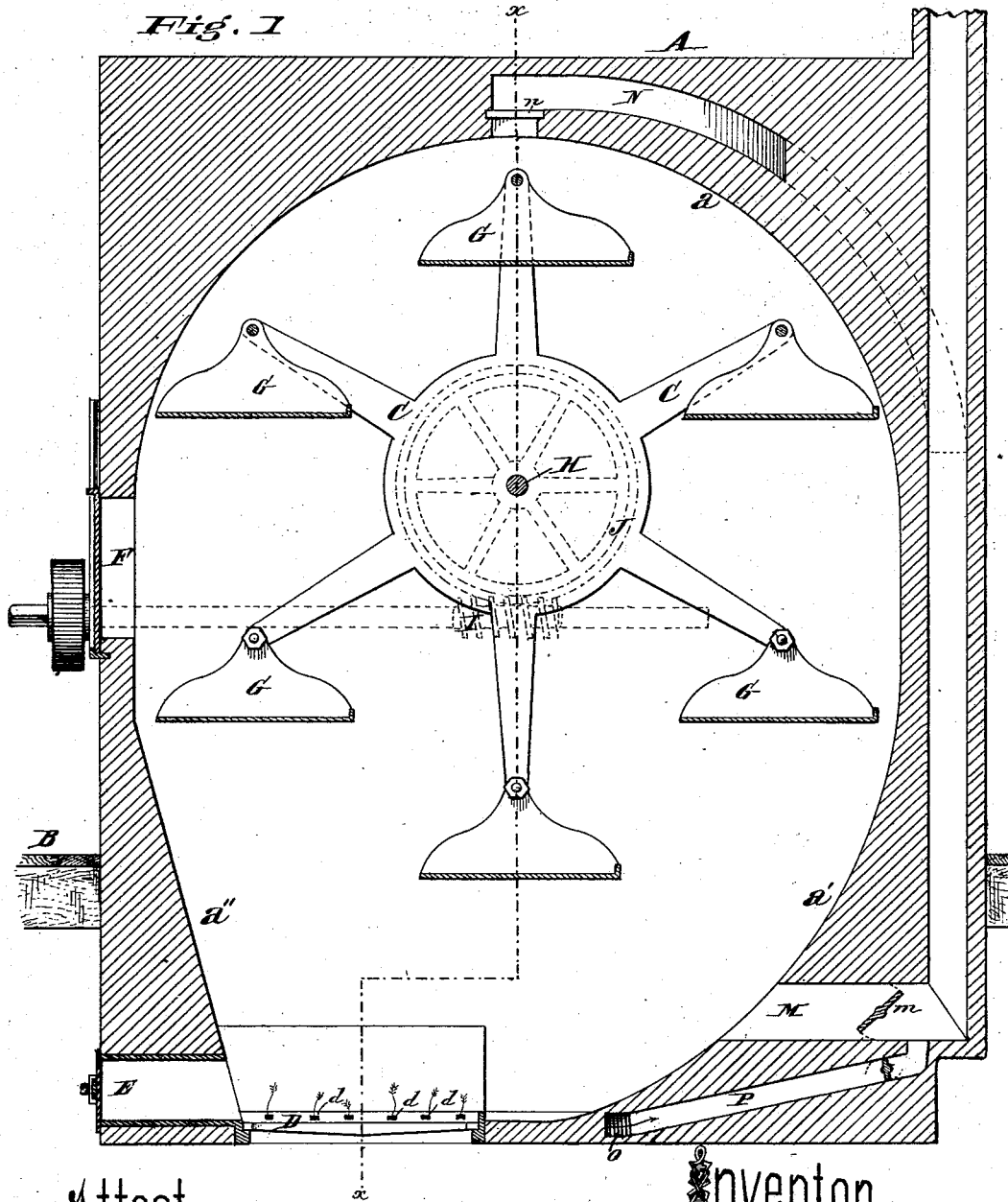


J. HALL.  
Bakers' Oven.

No. 160,424.

Patented March 2, 1875.



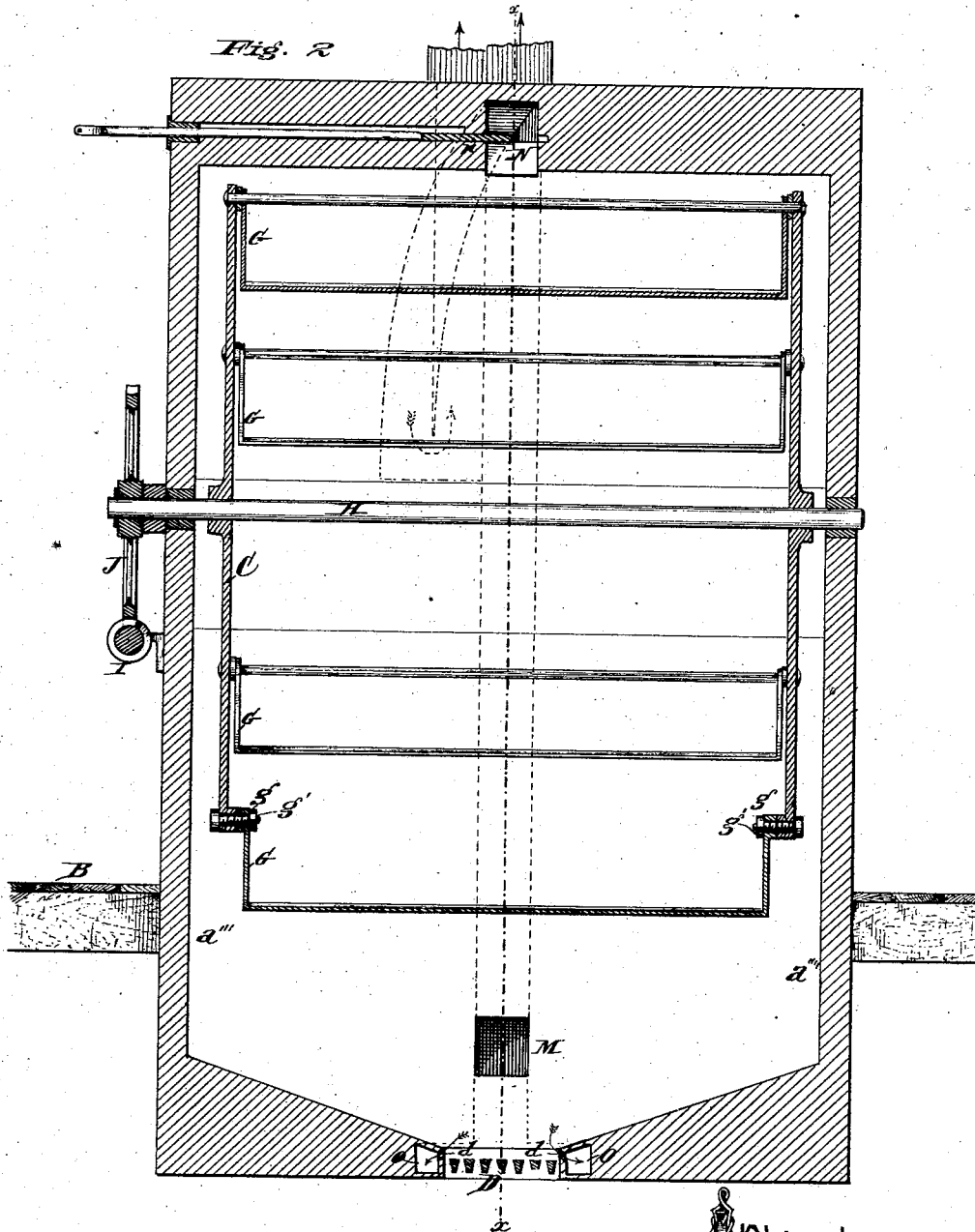
Attest  
*Edgar J. Cross*  
 Edgar J. Cross

Inventor  
 James Hall  
 Roy V. Millward  
 Attorney

J. HALL.  
Bakers' Oven.

No. 160,424.

Patented March 2, 1875.



Attest  
*Edgar J. Cross*  
*Edgar J. Cross*

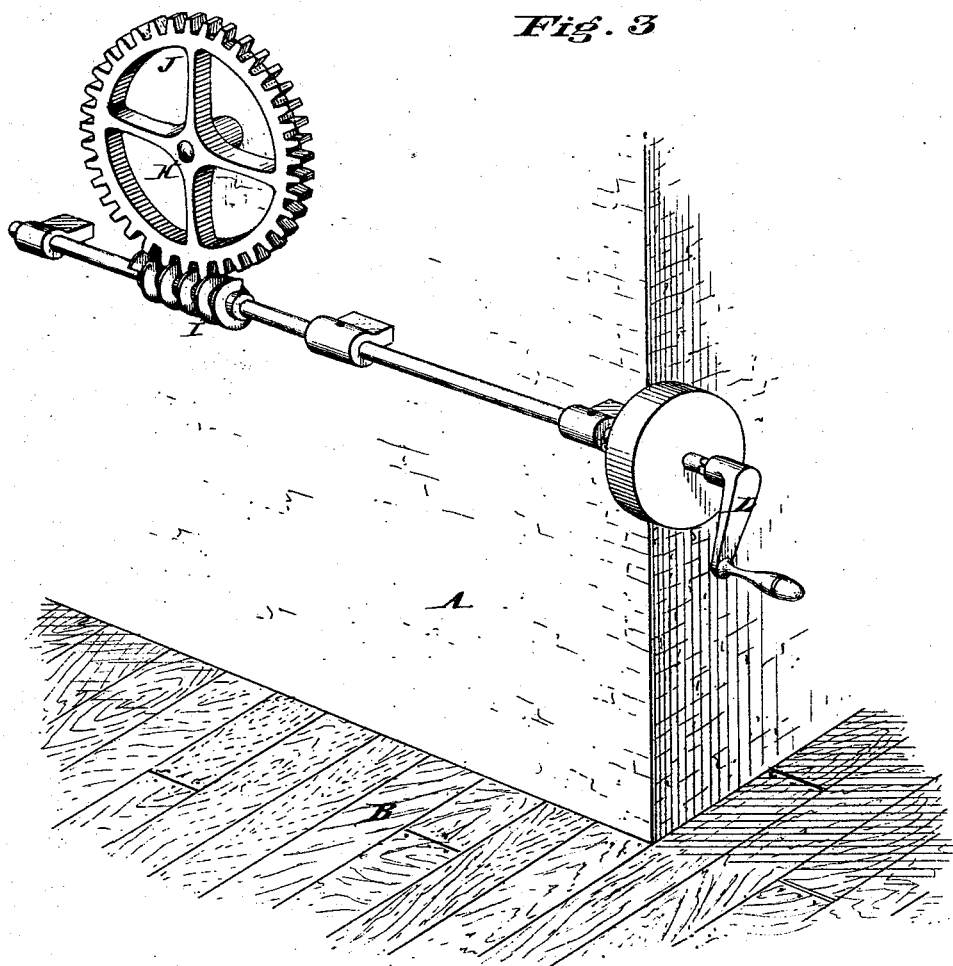
Inventor  
 James Hall  
 By *F. Millward*  
 Attorney

J. HALL.  
Bakers' Oven.

No. 160,424.

Patented March 2, 1875.

Fig. 3



Attest

*Edgar J. Gross*

*Edgar J. Gross*

Inventor

*James Hall*  
*By J. Millward*  
*Attorney*

# UNITED STATES PATENT OFFICE.

JAMES HALL, OF CINCINNATI, OHIO.

## IMPROVEMENT IN BAKERS' OVENS.

Specification forming part of Letters Patent No. **160,424**, dated March 2, 1875; application filed October 24, 1874.

*To all whom it may concern:*

Be it known that I, JAMES HALL, of Cincinnati, Hamilton county, State of Ohio, have invented certain new and useful Improvements in Revolving-Reel Bake-Ovens, of which the following is a specification:

My invention consists of a construction and arrangement of flues directly above and on each side of the grate-bars for carrying off noxious vapors, which would otherwise pass up and out of the mouth of the oven into the bake-shop, and of a bake-oven of hereinafter-described shape for the most economical use of the heat.

Figure 1 is a transverse section of my improved bake-oven. Fig. 2 is a section taken on line *x x*, Fig. 1. Fig. 3 is a perspective view of the driving-wheel, worm-shaft, pulley, and crank.

A is the body of the oven, situated partially above and partially below the floor B. It is so built that the inner surface conforms to the track *a* of the revolving reel C, excepting below said reel, where it extends downwardly, and forms a fire-chamber with curved and angling back and front walls *a'* *a''*, respectively, and perpendicular sides *a'''* *a''''*. The front of the said chamber *a''* slopes directly from the mouth of the oven to the grate-bars D, while the back *a'* curves the whole depth of the chamber to the same level.

The curvature of the back *a'* so confines the configuration of the oven from the back of the grate-bars to the top of the reel that no portion of the chamber is permitted to receive the heated gases that cannot be utilized in heating the pans, and in this respect the oven is a marked improvement in the economical use of fuel over ovens built with corners at the back of the grate.

Formed in the wall *a''*, directly in front of the grate-bars, and below the floor B, is a fuel-door, E, while on the same side of the oven, and above floor B, is a door, F, for feeding the baking-pans G, fastened upon reel C. Said reel is secured upon shaft H, and is revolved by worm I acting upon wheel J, secured to the shaft H.

The worm is set in motion by means of hand-power through crank L.

As shown in Fig. 3, the worm is placed below the wheel J, so that a person standing upon floor B can conveniently operate the crank L.

Situated near the bottom of the wall *a'* is a flue, M, leading to the main flue, and furnished with a damper, *m*. Situated at the top of the oven is a curved flue, N, leading to the main flue, and furnished with a damper, *n*. Above-mentioned flues furnish means of escape for the different vapors, while along the sides of the grate-bars D are perforations *d* for the escape of noxious or unhealthy vapors to the flues *o o*, said flues connecting with flue P, and thence to main flues. Were this provision not made for the escape of said gases they would pass through door F, when open, into the bake-shop.

The pans G are secured to the reel C by means of stud-bolts *g*, secured or cast in the arms of the reel, and fitted with a nut, *g'*, so as to allow the pans to turn loosely upon the bolts.

By this method of securing the pans they can be conveniently removed at any time, and attached in a simpler and cheaper way than when long connecting cross rods are used, as heretofore.

I claim—

1. In combination with the grate-bars D of the furnace, which open directly into the body of the oven, the perforations *d* and flues *o o*, arranged on either side of the grate, and flue P, leading to the uptake, substantially as specified.

2. The combination, in a bake-oven, of the curved top *a* and curved back *a'*, the latter extending past the direct flue M down to a level with the grate, substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

JAMES HALL.

Witnesses:

R. M. HUNTER,  
GEO. H. THAYER.