

D. MCKENZIE.
Bakers' Ovens.

No. 143,522.

Patented Oct. 7, 1873.

Fig. 2

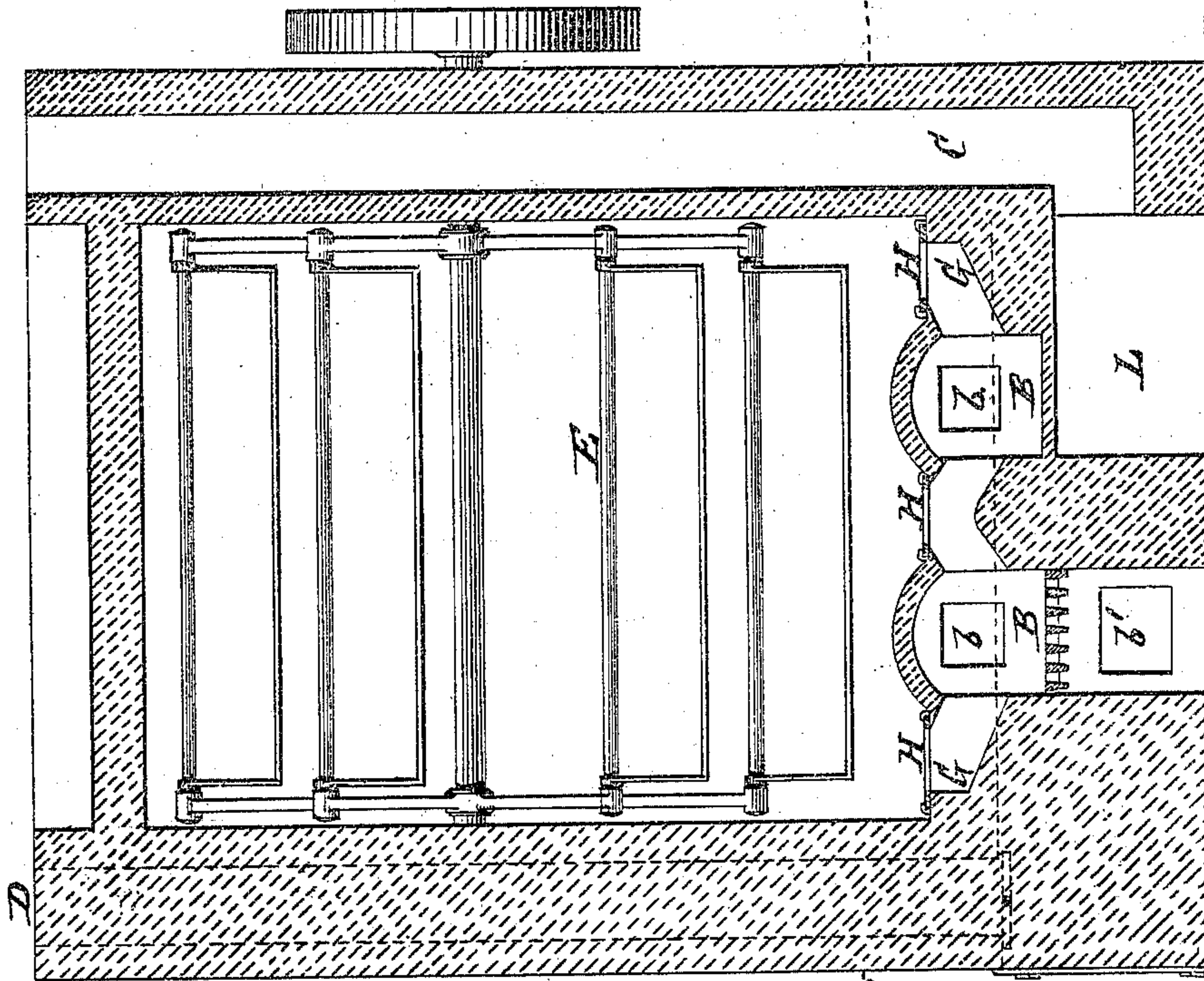
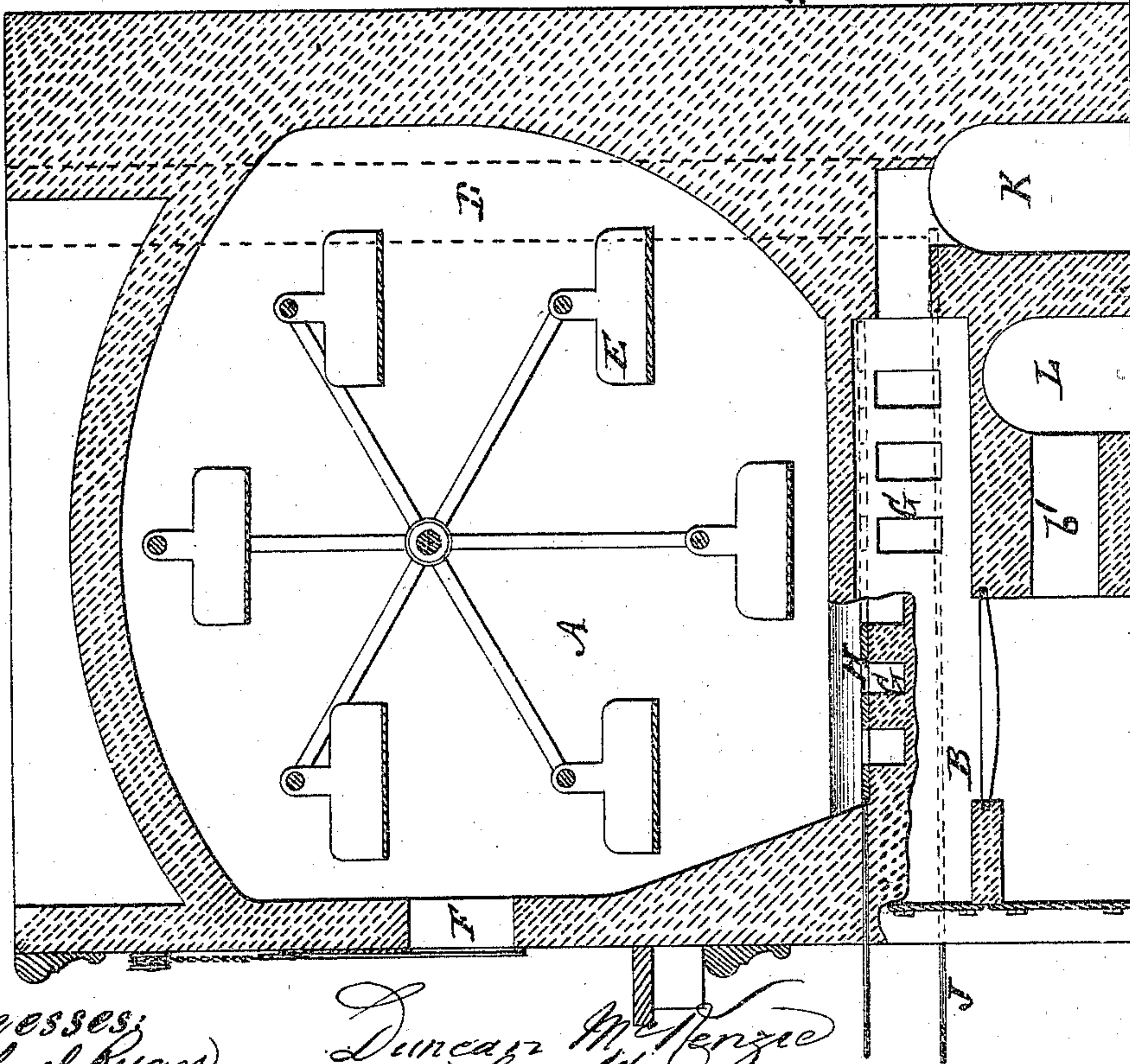


Fig. 1



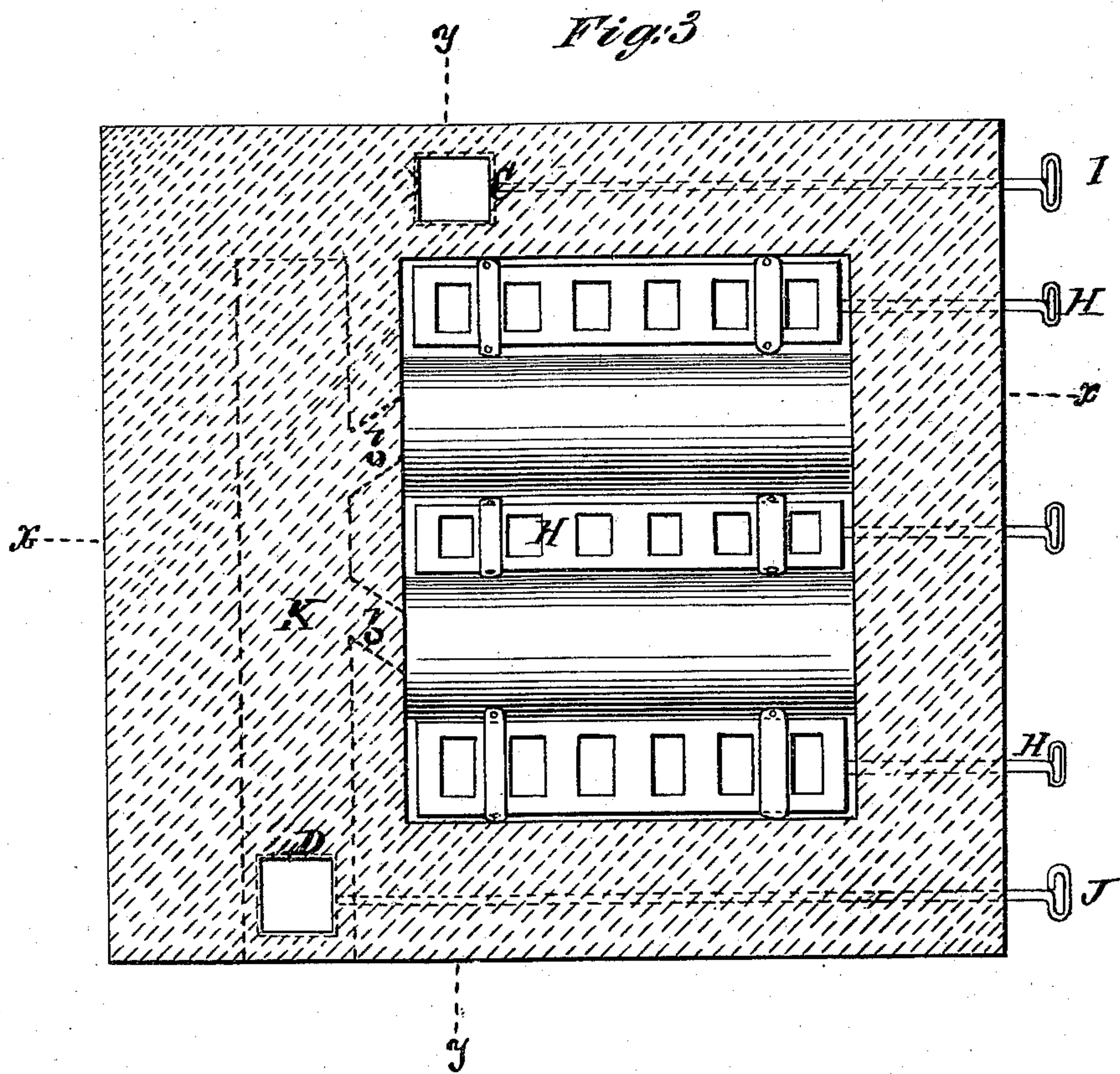
Witnesses:
Michael Ryan
J. H. H. H.

Duncan McKenzie
by his Attorney
Brown & Allen

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Michael Ryan
Fred. Haynes

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UNITED STATES PATENT OFFICE.

DUNCAN McKENZIE, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN BAKERS' OVENS.

Specification forming part of Letters Patent No. **143,522**, dated October 7, 1873; application filed August 21, 1873.

To all whom it may concern:

Be it known that I, DUNCAN McKENZIE, of the city of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Bakers' Ovens, of which the following is a specification:

This invention is mainly designed to be applied to reel-ovens; and one of the general objects of it is to construct a simple, cheap, and effective reel-oven for baking cakes and crackers of various kinds requiring different degrees and quick changes of temperature. The oven to which the invention is applied is of that description in which a system of flues is used, arranged to communicate between the fire-places and the interior of the oven directly through the floor or bottom of the latter. The invention consists in an additional external chimney, passages, and dampers, in combination with the fire-places and perforated oven-bottom, the pits or arches and the main chimney, whereby the desired results are attained in a very advantageous manner.

In the accompanying drawing, which forms part of this specification, Figure 1 represents a vertical section, on the irregular line *x x* in Fig. 3, of an oven constructed in accordance with my invention; Fig. 2, a vertical section at right angles thereto on the line *y y*; and Fig. 3, a horizontal section on the line *z z* of Fig. 2.

Similar letters of reference indicate corresponding parts.

A is the baking-chamber, and B B the fire-places, of which there may be any desired number. C is one chimney, and D an additional external chimney. E is a revolving reel, arranged in the chamber A. F is the receiving and discharging aperture of said chamber. G is the perforated oven-bottom, controlled by slides or dampers H; and I J are dampers controlling the chimneys C and D.

When the fires are built in the furnaces, and the damper J of the chimney D is opened, and the dampers H and I closed, a direct draft will take place through the combustion-chambers, and the gaseous products of combustion be caused to escape by outlets *b*, and pit, arch, or passage K, into and up the chimney D.

After, however, the fires have been fairly lit, or whenever it is required to quickly change the baking temperature of the oven, the damper J is closed, and the dampers H and I opened, thereby establishing communication between the chimney C, a pit or arch, L, and passages *b'*, in communication with the ash-pits of the furnaces, the doors of which are then closed, and the receiving and discharging aperture F of the oven opened. This establishes a down draft through the fires, freeing the coal of sulphurous or other noxious gas having a tendency to injuriously or unpleasantly affect or flavor the articles being baked. The same effect, too, in this respect, but a different degree of temperature, is attained by the up or direct draft, hereinbefore described, through the chimney D, in which the oven is heated wholly by radiation from its interior surface, while, when the down draft is established, it is heated, in part at least, by direct exposure. The slides or dampers H may also be used to further regulate the temperature of the oven.

What I claim as my invention is—

The additional external chimney D, the passages *b b'*, and the dampers H I J, in combination with the fire-places and perforated oven-bottom, the pits or arches K L, and the chimney C, the whole arranged to operate substantially as and for the purpose herein set forth.

DUNCAN McKENZIE.

Witnesses:

HENRY T. BROWN,
MICHAEL RYAN.