

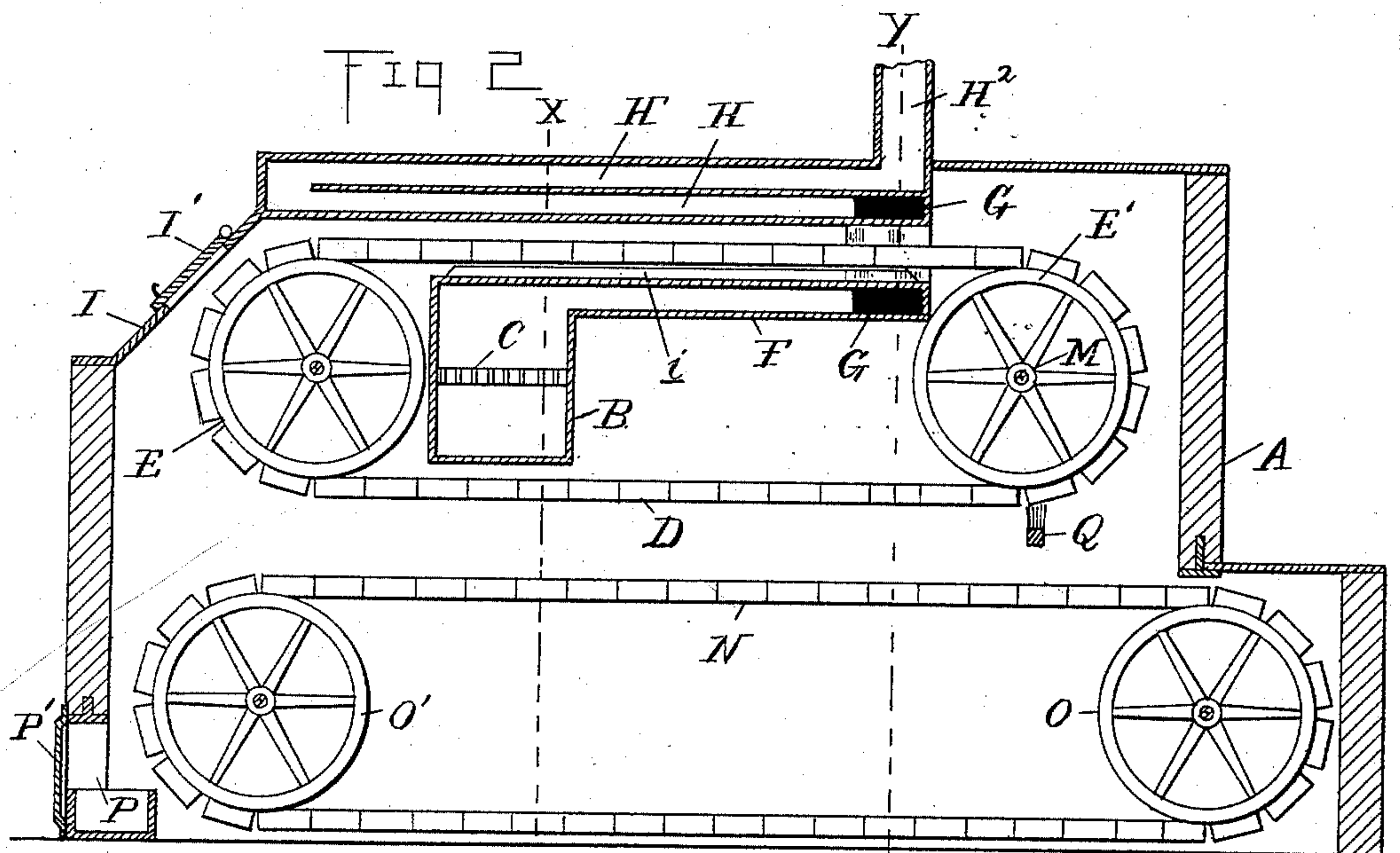
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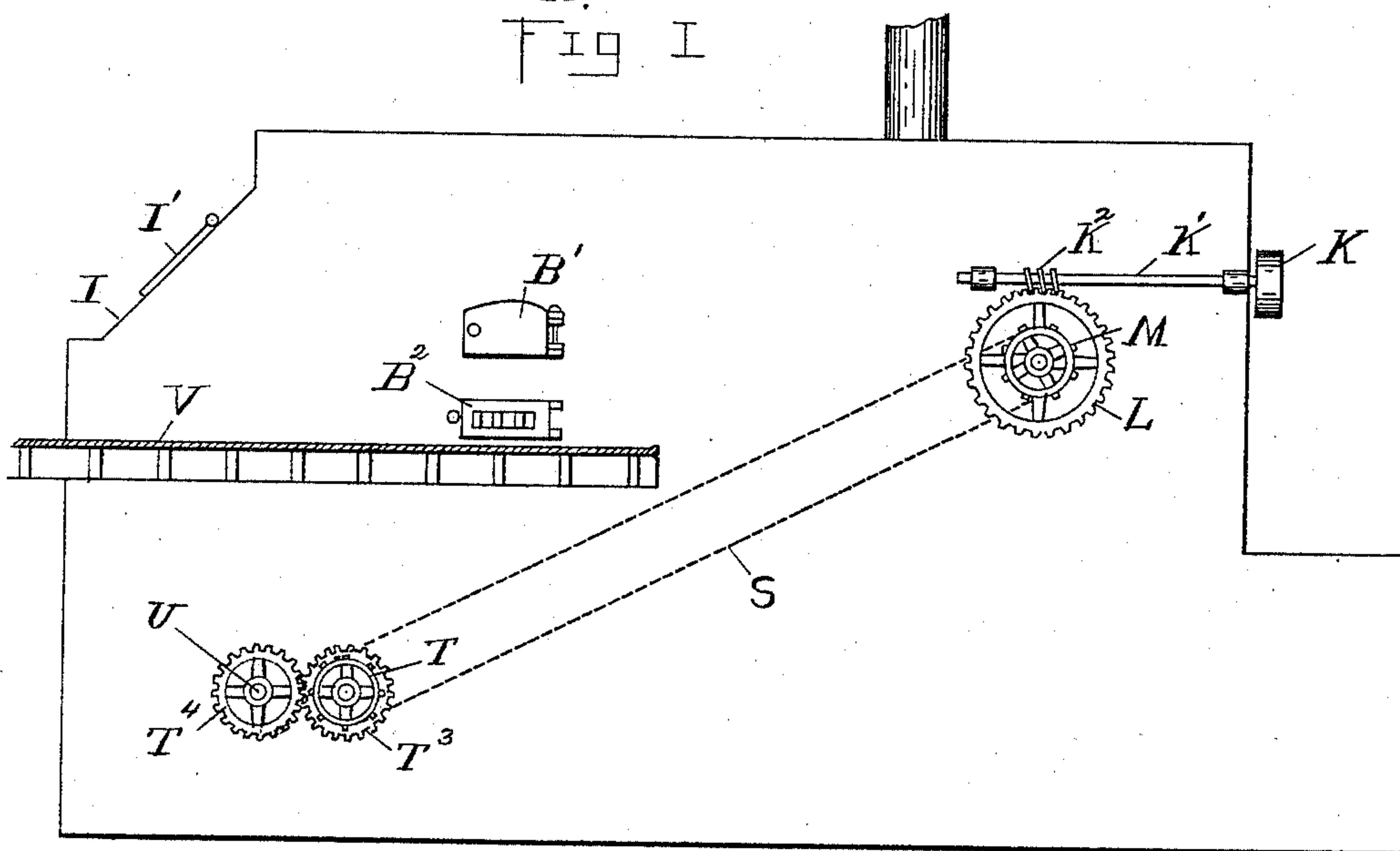
G. MOHRING.  
BAKING OVEN.

No. 441,961.

Patented Dec. 2, 1890.



X.  
Fig. I



Witnesses  
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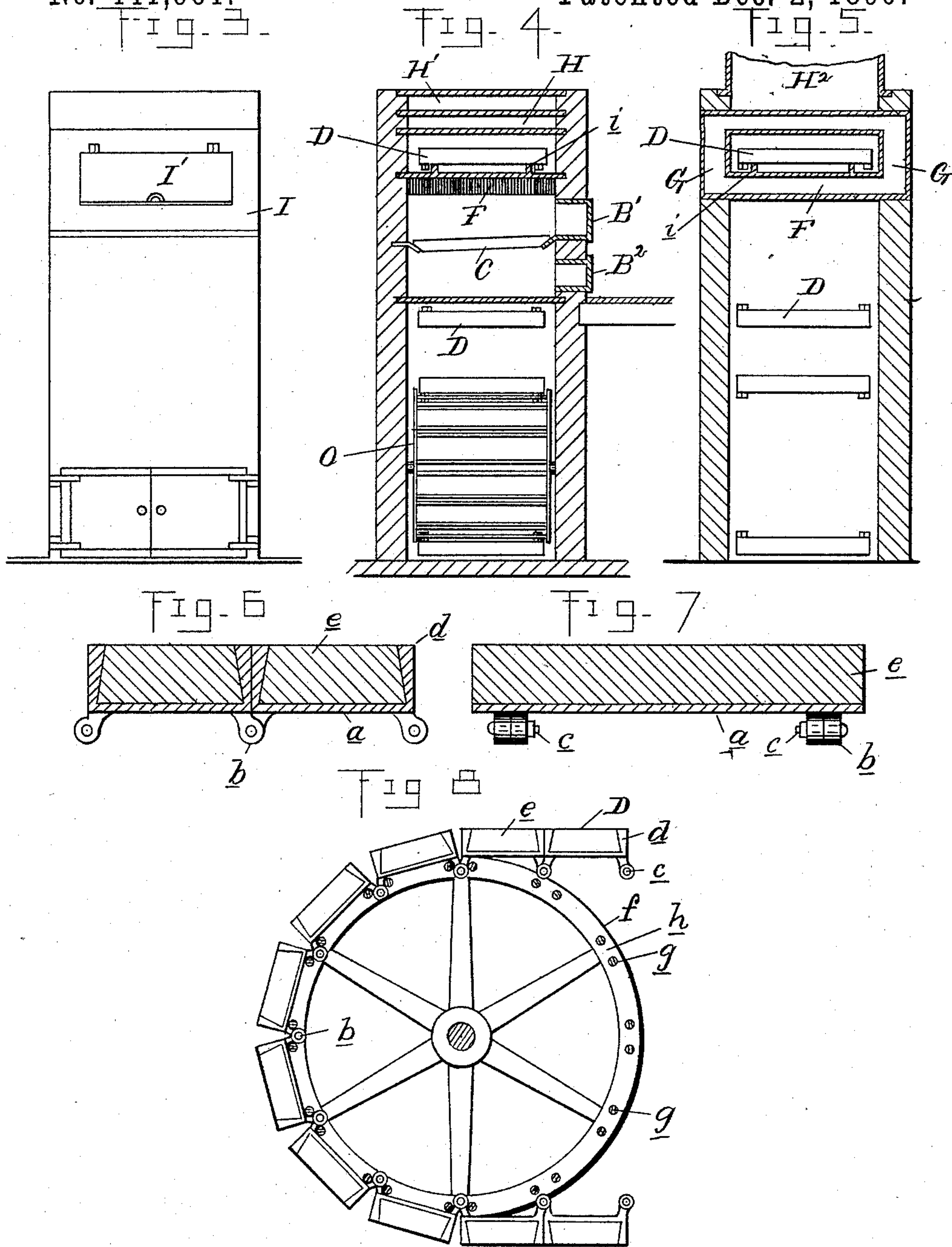
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# UNITED STATES PATENT OFFICE.

GOTTFRIED MOHRING, OF DETROIT, MICHIGAN.

## BAKING-OVEN.

SPECIFICATION forming part of Letters Patent No. 441,961, dated December 2, 1890.

Application filed April 5, 1890. Serial No. 346,765. (No model.)

*To all whom it may concern:*

Be it known that I, GOTTFRIED MOHRING, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Baking-Ovens, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in bake-ovens; and the invention consists in the peculiar construction of the furnace, in combination with an endless feed-apron, and in combination with the drying-chamber and a movable feed-apron therefor; further, in the peculiar construction of the plates composing the feeding-apron, and, further, in the peculiar construction, arrangement, and combination of the various parts, all as more fully hereinafter described.

In the drawings which accompany this specification, Figure 1 is a side elevation of my improved oven. Fig. 2 is a vertical central longitudinal section therethrough. Fig. 3 is a front elevation thereof. Fig. 4 is a vertical cross-section on line *xx* in Fig. 2. Fig. 5 is a vertical cross-section on line *yy* in Fig. 2. Fig. 6 is an enlarged cross-section through a pair of links in the feeding-apron. Fig. 7 is a longitudinal section thereof. Fig. 8 is an enlarged side elevation of the revolving feed drum or wheel.

A is the casing, which may be of any suitable material, preferably of brick. Within this oven is located the furnace B, near the top thereof, having suitable feeding and draft doors B' B<sup>2</sup> upon the side.

C are the grates of the furnace. This furnace is entirely within the endless feeding-apron D, which passes over the drums EE'—one at the front and one at the back of the oven.

The exit-flue F from the furnace passes beneath the upper horizontal portion of the feed-apron D to near the end thereof, where it is provided with the lateral branches G and connects into the return-flue H, above the feeding-apron, carrying it back to the front of

the oven, where it passes forward into the flue H', returning once more to the rear of the oven, and finds exit through the smoke-stack H''.

The casing or walls of the oven are provided with the inclined section I, in which is located the feeding-door I', through which the articles to be baked are placed upon the feeding-apron.

My oven is especially designed to bake bretzels and similar articles. When they are in the shape of dough, they may be laid upon the inclined section of the feeding-apron passing over the wheels and will readily stick thereon. Motion is transmitted to the wheel E' by means of the driving-pulley K, upon the shaft K', which has the worm-screw K<sup>2</sup>, engaging with the worm-gear L, which is upon the shaft M of the wheel E'. Beneath the feeding-apron D, and extending beyond the rear end thereof, is a similar apron N, passing over the wheels O O' at the front and rear of the oven, this apron having a reverse motion to that given to the apron D, carrying the material to the front of the oven, where it will drop off into the receiving-pan P, and may be taken out through the door P'.

Q is a brush located beneath the wheel E' and bearing against the lower side of the apron D to brush off any of the articles which may adhere to the under side of the apron D.

The feed-aprons D and N are preferably of the following construction, as shown in Figs. 6, 7, and 8: *a* are plates having hinges *b*, projecting from their lower edges, by means of which the adjoining plates are hinged together by the bolts *c*. These plates are provided upon two or three edges of the upper side with the flanged *d*, within which is formed a dovetailed recess, open at one or both ends, and which is filled with any suitable refractory material, preferably with brick *e* of corresponding shape. The driving-drums consist of a pair of wheels *f*, connected together by the bars *g*, arranged in pairs and having a space *h* between, in which the hinges *b* engage, forming the means for driving the belt or apron by the rotation of the drums. Suit-



able rails *i* are arranged on the upper side of the flues *F* to support the hinged portion of the feeding-apron.

Power is transmitted to the apron *N* by means of the sprocket-chain *I*, engaging upon the sprocket-wheel *T* upon the shaft *T'*, which also carries the gear-wheel *T*<sup>3</sup>, meshing with the gear-wheel *T*<sup>4</sup> upon the shaft *U* of the drum *O*'.

10 *V* is a platform arranged opposite the feed and draft doors upon the side of the oven.

The parts being thus constructed, they are intended to operate as follows: Material being fed through the door *I'* upon the apron 15 *D*, it is slowly moved along to the rear of the oven, where it is dropped off upon the apron *N*. Such as does not easily fall off is scraped off by the brush *Q*. The apron *N*, having a reverse motion, carries the material back to the forward end of the oven, it 20 being slowly dried during that interval, and at the front of the oven it is deposited into the box *P*, and may be removed through the door *P'*. By locating the feed-apron *D* in the 25 upper part of the oven and arranging the furnace with its flues *F* and *H* above and below the horizontal portion of this apron the material placed upon it is thoroughly cooked in passing from the front to the rear of the oven.

30 At the same time the interior of the oven will be heated by the furnace so that the material in being carried from the rear to the front of the oven upon the lower apron will be subjected to a lesser heat sufficient to dry the 35 articles cooked and make them crisp and brown.

By using a refractory material upon which to place the bretzels there is little danger of their being burned.

An oven thus constructed can be cheaply 40 built, requiring little care, and will give the most perfect results.

What I claim as my invention is—

1. In an oven, an endless feed-apron, a furnace between the horizontal portions of said 45 apron, a baking-chamber in which said apron travels, a drying-chamber beneath, and a reversely-moving apron in said drying-chamber, substantially as described.

2. In an oven, the combination of the fur- 50 nace, the baking-chamber at the top, the drying-chamber near the bottom, an endless apron traveling through the baking-chamber, and a reversely-moving apron in the drying-chamber, substantially as described. 55

3. In an oven, the combination of the furnace having a horizontal exit-flue, a return-flue above said exit-flue, a baking-chamber between, an upper feed-apron traveling through the baking-chamber, a drying-cham- 60 ber beneath, a feed-apron in said drying-chamber extending beyond the rear end of the upper apron, and the brush *Q*, substantially as described.

4. In an oven, a feed device consisting of 65 the plates *a*, hinged together, and the drums *E* *E'*, consisting of two wheels connected by the cross-bars *g*, the space *h* between serving as the recess in which the hinges *b* engage, substantially as described. 70

In testimony whereof I affix my signature, in presence of two witnesses, this 10th day of March, 1890.

GOTTFRIED MOHRING.

Witnesses:

M. B. O'DOHERTY,  
GEO. A. GREGG.