

W. R. NEVINS & J. J. YATES.
BAKING OVEN.

No. 21,620.

Patented Sept. 28, 1858.

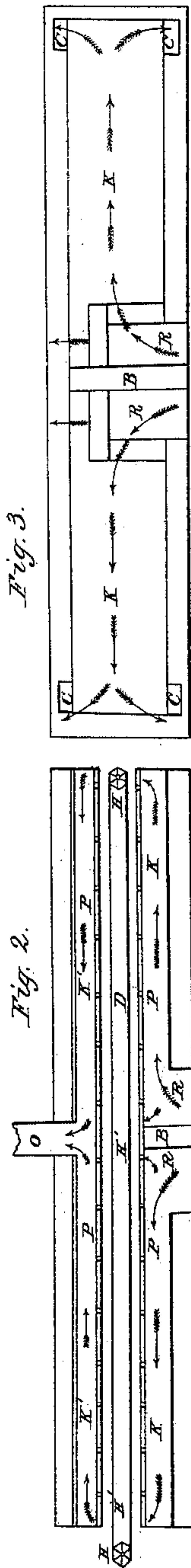
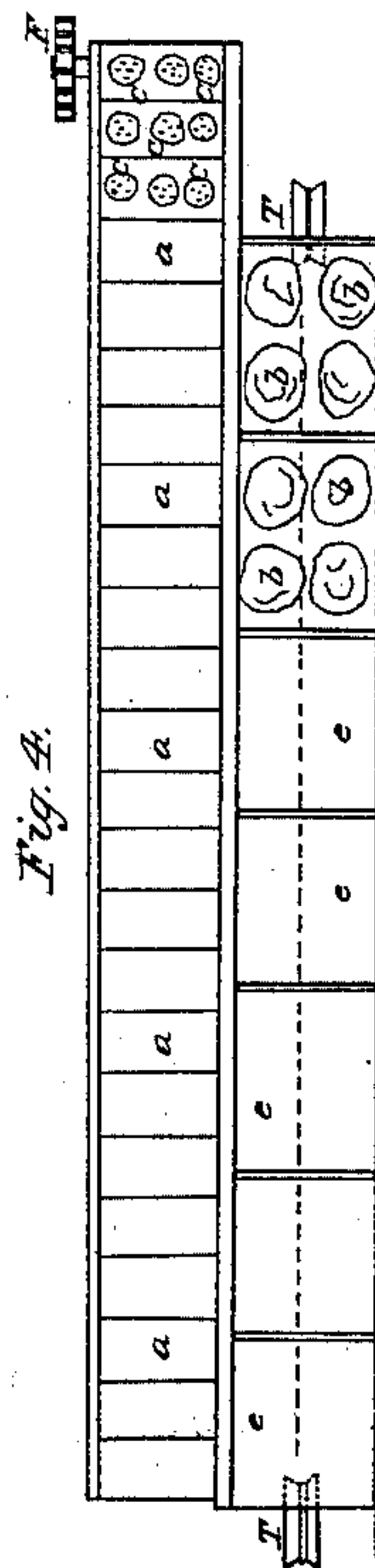
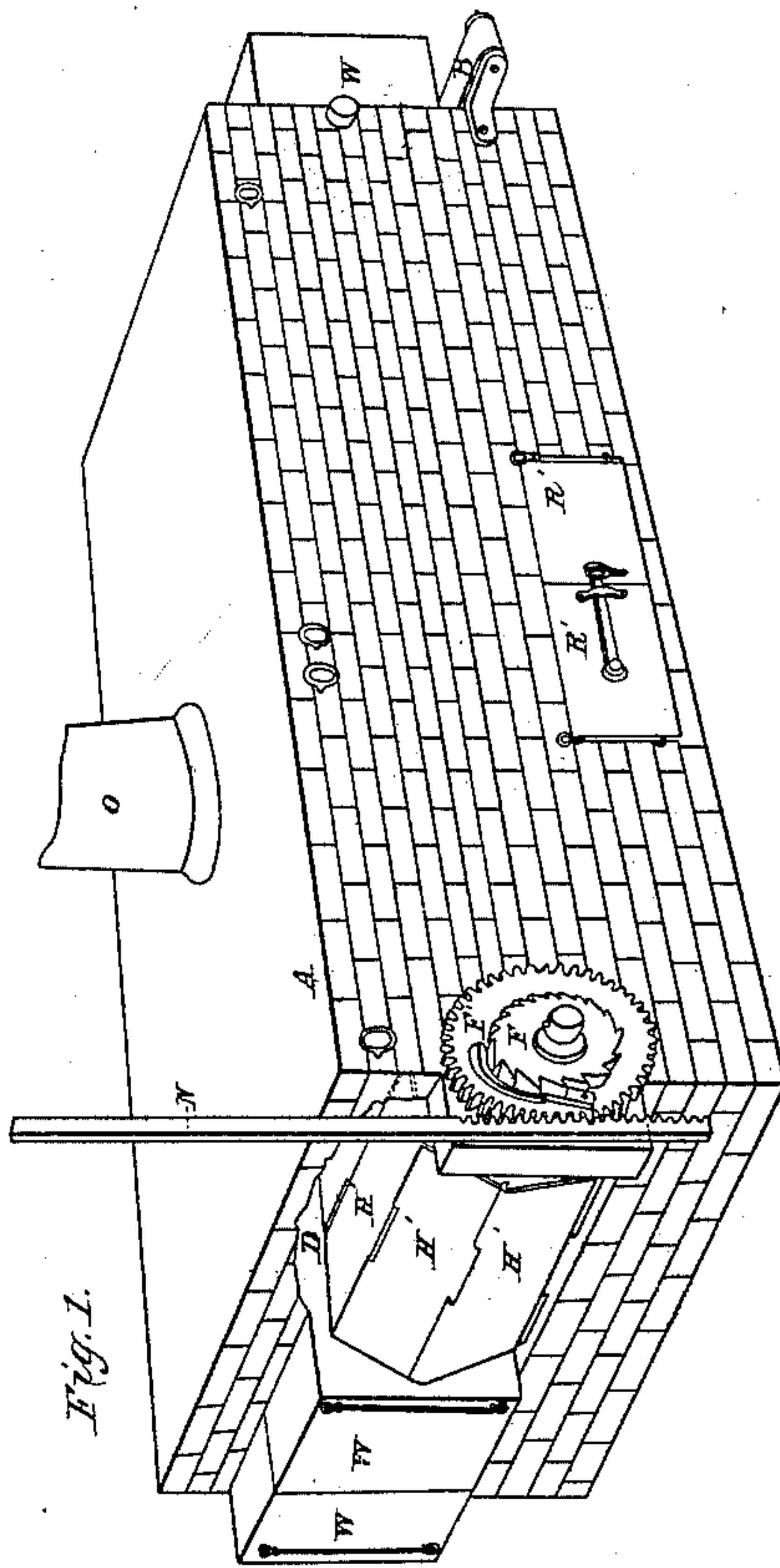
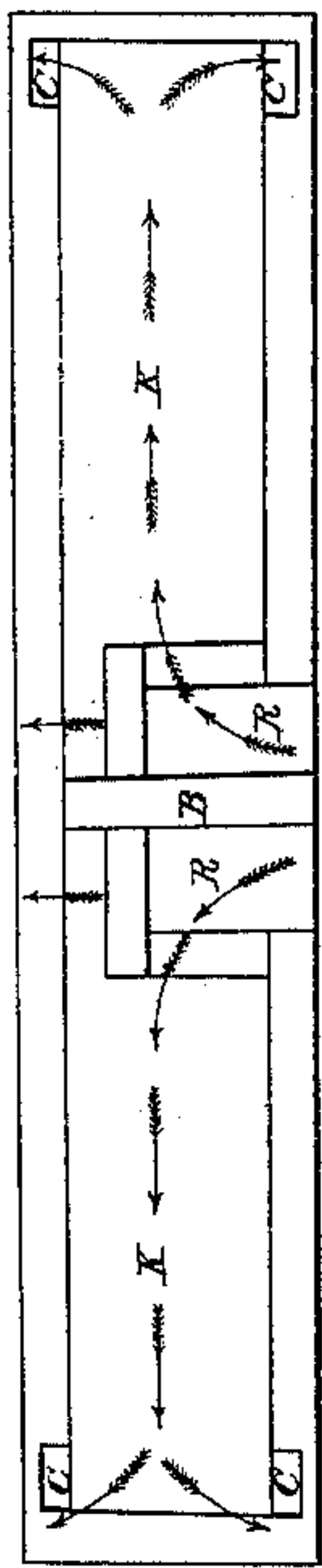


Fig. 3.



UNITED STATES PATENT OFFICE.

W. R. NEVINS AND J. J. YATES, OF NEW YORK, N. Y.

BAKER'S OVEN.

Specification of Letters Patent No. 21,620, dated September 28, 1858.

To all whom it may concern:

Be it known that we, WILLIAM R. NEVINS and JOSEPH J. YATES, of the city, county, and State of New York, have invented a new and useful Improvement in Baking-Ovens for Baking Ship-Biscuits, Crackers, and other Breadstuffs; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification.

Figure 1, is a perspective view of the improved baking oven. Fig. 2, is a vertical longitudinal section of ditto. Fig. 3, is a horizontal section or plan of the same, at the line 1, 2, of Fig. 2.

Similar letters in the figures refer to corresponding parts.

The nature of this invention and improvement consists in arranging the endless apron, for the conveyance of the biscuit or other articles to be baked, within a horizontal chamber or oven, having a metallic top and bottom, above and below which are horizontal flues, communicating at their ends, for the passage of the heat, &c., from the furnaces below, and dividing the said lower flues and furnaces, by a transverse bridge wall, in such a manner as to enable the heat, &c., to be conveyed below the oven in both directions from the furnaces in the center, to the ends, and thence again through the upper flue, to the center exit pipe or chimney, thereby imparting to the upper and lower plates of the oven an equable degree of heat, driving the intermittent progressive motion of the cutting machine apron, to which said apron may be geared if desired, and preventing ashes, dust, smoke or other extraneous and injurious matters coming in contact with the biscuit or other bread stuff being baked.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

The brick work A, of the oven is of a rectangular form, and in it are formed, by horizontal metallic plates P, horizontal parallel flues K, K', extending its full length, the lower ones K, of which are divided midway between the ends of the brick work, by a transverse bridge wall B, on either side of which is arranged the furnaces R, with which the center ends of the flues K, communicate, their opposite ends being made to communicate with the flues K', by upright

flues C, formed in the sides of the brick work. The hot air oven D, formed between the horizontal metallic plates below the upper flue K', and the corresponding plates above the lower flues K, extends, longitudinally, entirely through the brick work A, and at either end is arranged a hexagonal shaped roller H, secured on horizontal transverse shafts, turning in suitable boxes in the brick work A,—around these rollers passes an endless band of thin metallic plates H', hinged together at their edges, and corresponding in size with the area of each of the hexagonal sides of the rollers H. The upper and lower portions of this metallic endless apron or band H', are situated the required distance from the upper and lower flue plates P, forming the top and bottom of the oven, to form sufficiently capacious spaces for the circulation of the hot air reflected from said plates P, and the said apron H', receives its horizontal intermittent progressive motion through the joint action of the hexagonal rollers H, which are turned at intervals by a reciprocating cogged bar N, meshing in gear with a cog wheel F', secured loosely on the end of one of the hexagonal roller shafts, and provided with a spring pawl on its face which is made to engage with and turn a ratchet wheel F, secured permanently on the said roller shaft, during its upward movement, and to slip over its notched periphery during its descent, and in this manner to communicate to the endless apron or band of thin metallic plates H', an intermittent and progressive motion, corresponding with the motion of the endless apron of the machine for cutting the biscuit or other bread, which may be arranged in such proximity and relation to the same, as to supply it with the biscuit or other bread stuff, which it cuts preparatory to being baked.

The operation of the oven is very simple: After suitable fires are produced in the furnaces R, at either side of the bridge wall B, and an intermittent progressive motion given to the endless apron H', in the manner before stated, the ship biscuits, crackers, or other bread, are successively deposited in rows upon the metallic plates of the endless apron H', as they reach a horizontal position, over the hexagonal sides of the rollers H, by which they are moved, and are moved gradually, and as stated, through the oven, to the air in which an equable and high de-

gree of heat is given, by the heat, smoke &c. from the furnaces passing in reverse directions through the flues K, K', above and below the oven, and imparting to the top and
5 bottom plates P, of the same, the necessary heat to bake the bread without danger of in any manner injuring it by smoke, dust, or dirt from the fire.

The ends of the oven may be provided
10 with suitable doors W, for protecting the escape of heat from the same.

What we claim as new and desire to secure by Letters Patent is—

The combination and arrangement of the

endless apron H', and hexagonal rollers H, 15 to which an intermittent progressive motion, corresponding with the motion of the apron of the cracker or biscuit cutting machine, horizontal flues, K, K', and bridge wall B, between the lower flues K, and fur- 20 naces R, substantially in the relation to each other described and for the purpose set forth.

WILLIAM R. NEVINS.
JOSEPH J. YATES.

Witnesses:

THOMAS SMITH,
THOMAS YATES.