(No Model.)

4 Sheets—Sheet 1.

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BAKER'S OVEN.

No. 591,224. Patented Oct. 5, 1897.

Fig. 1.

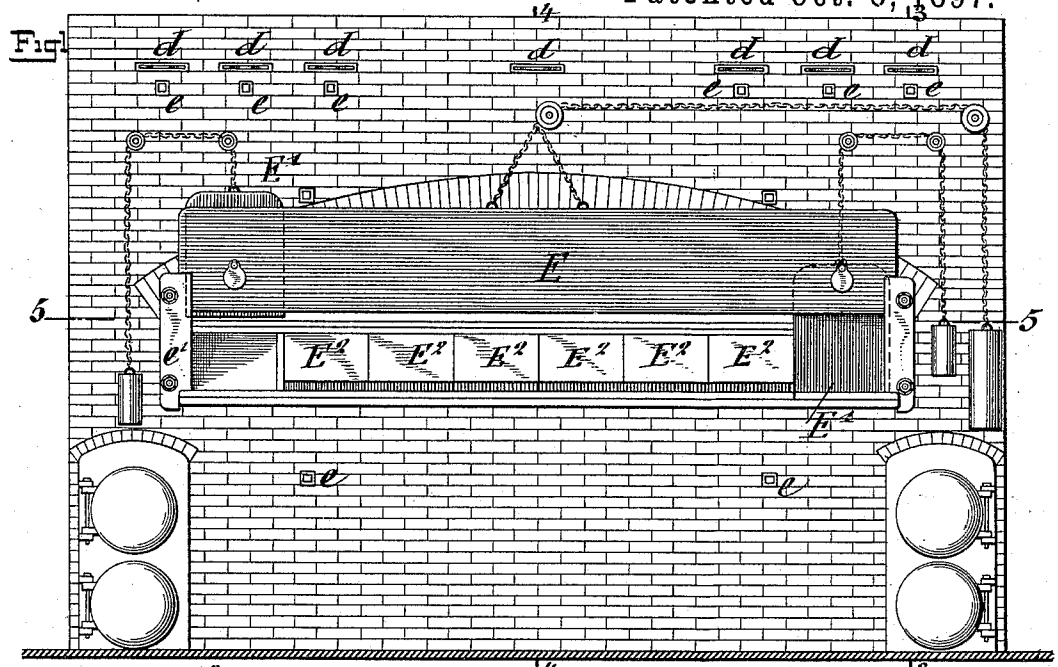
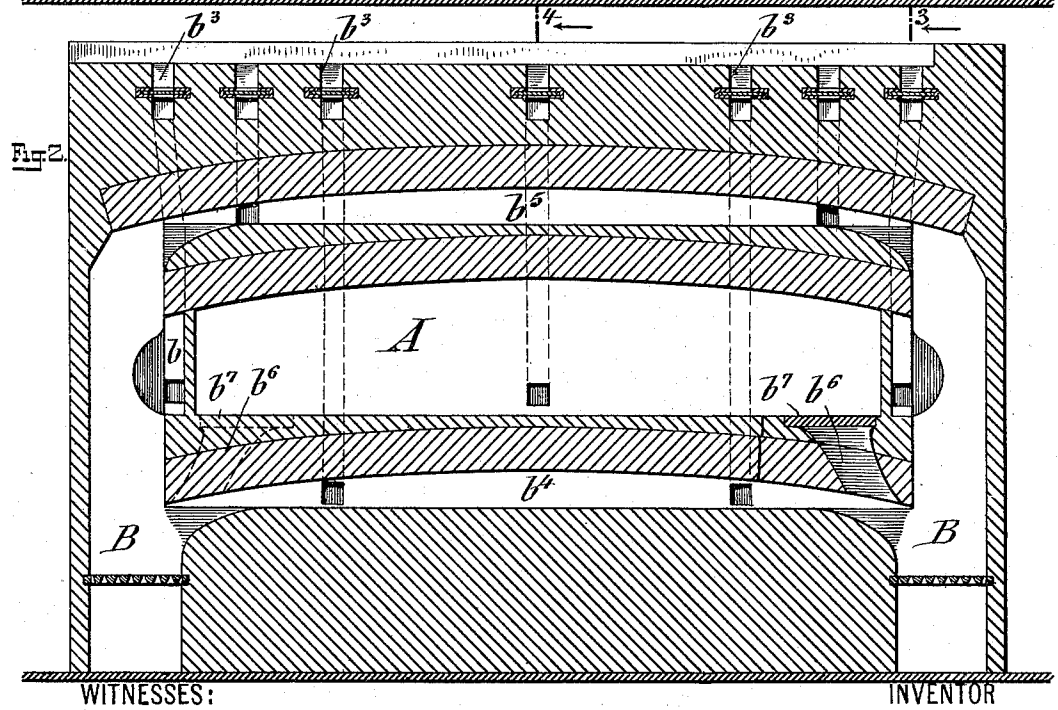


Fig. 2.



WITNESSES:

Fr. N. Roehrich.

William B. Roberts.

INVENTOR

Baptiste Ycre

BY Joseph Wagner

ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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B. YCRE.

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Fig. 3.

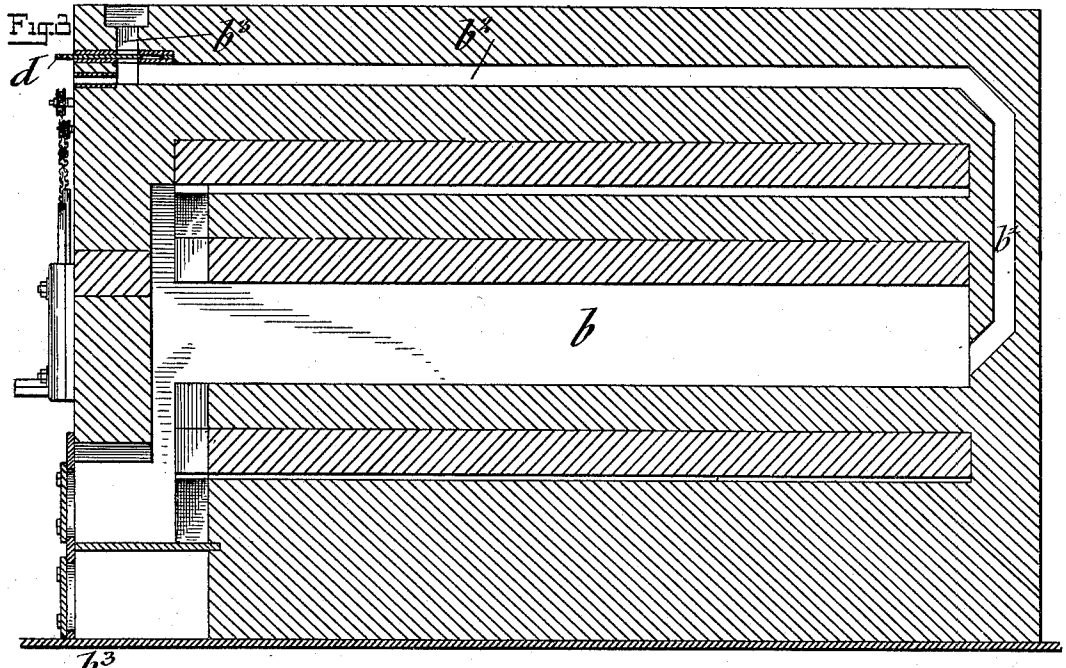
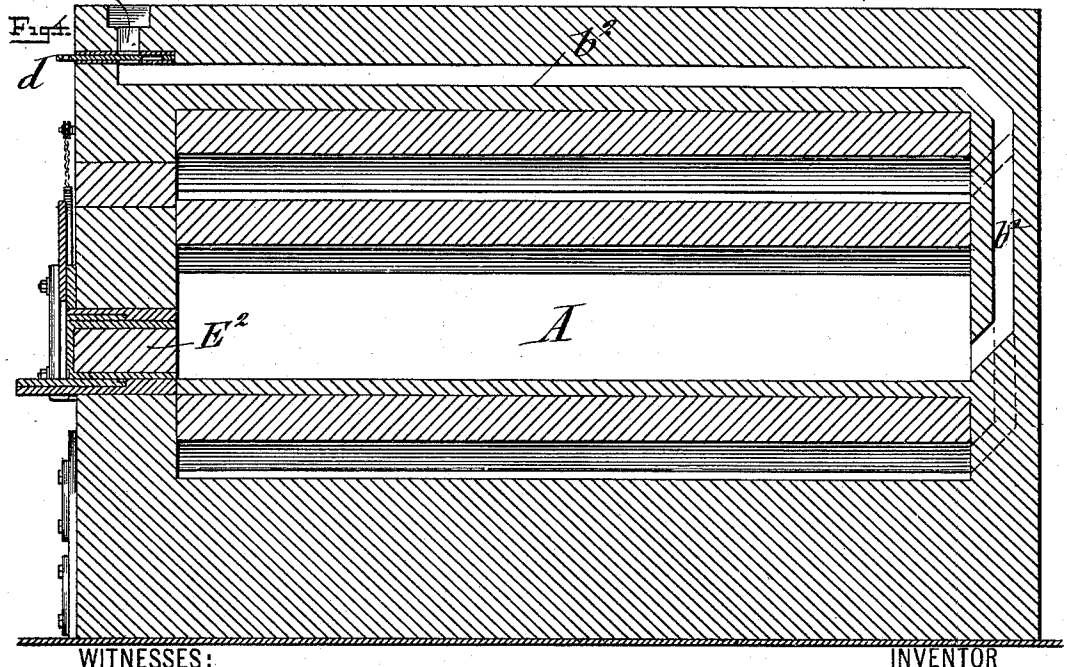


Fig. 4.



WITNESSES:

Fr. N. Roehrich.

William B. Roberts.

INVENTOR

Baptiste Ycre

BY Goepel & Wagner

ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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B. YCRE.

BAKER'S OVEN.

No. 591,224. Patented Oct. 5, 1897.

Fig. 5.

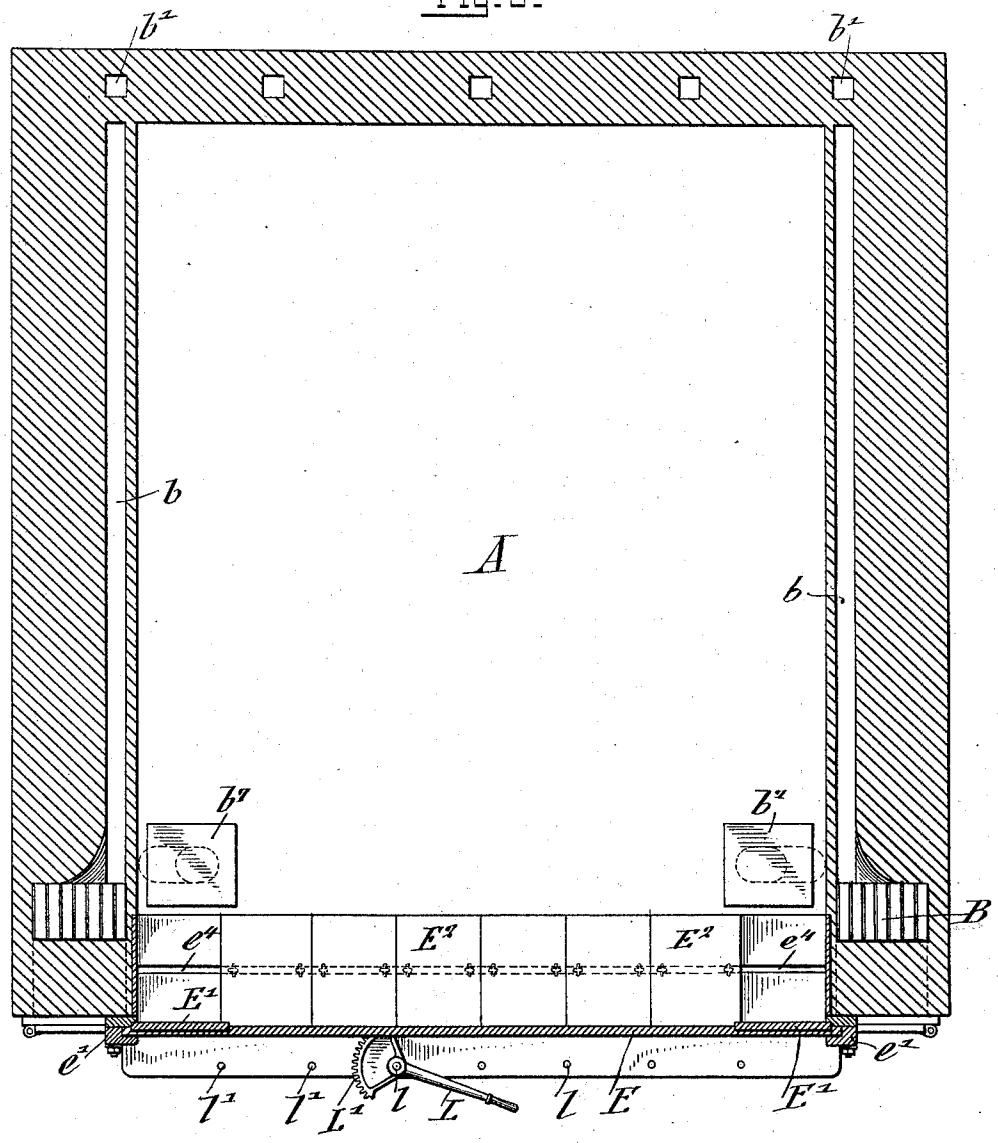


Fig. 6.

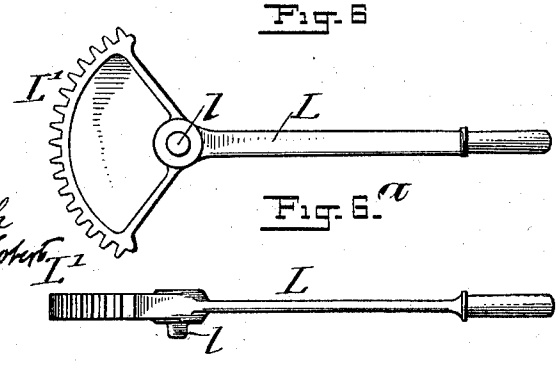


Fig. 6ª.

WITNESSES:

Fr. N. Roehrich

William B. Roberts

INVENTOR

Baptiste Ycre

BY Goepel & Laegeler.

ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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No. 591,224. Patented Oct. 5, 1897.

Fig. 7.

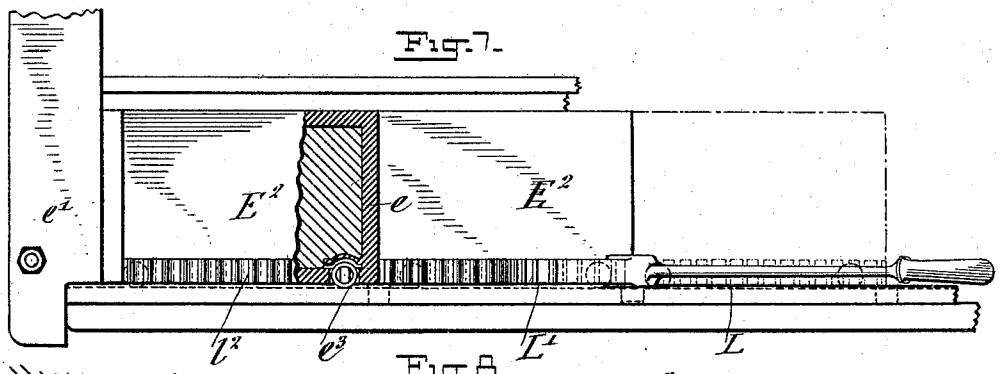


Fig. 8.

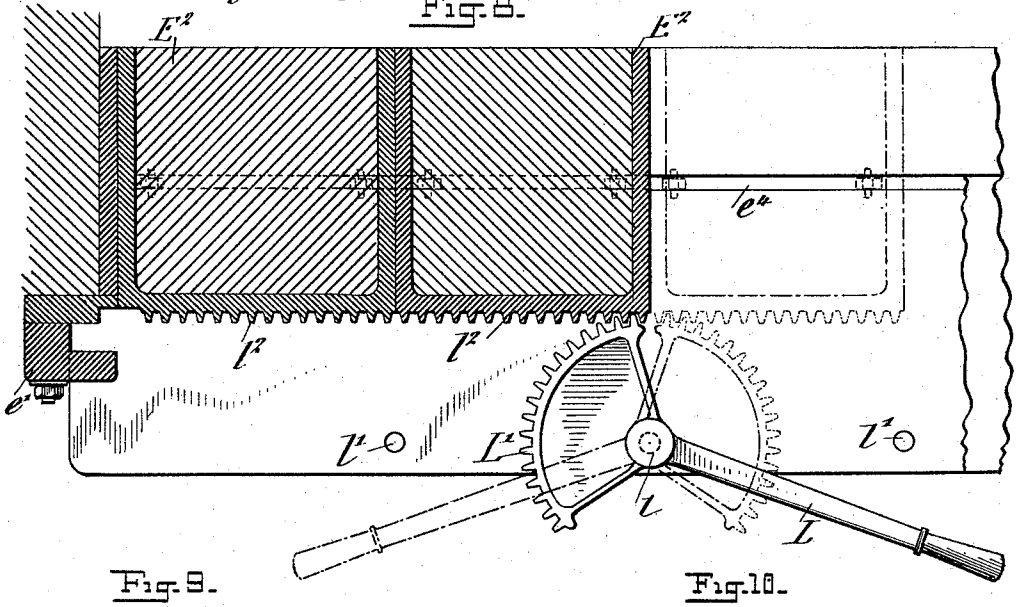


Fig. 9.

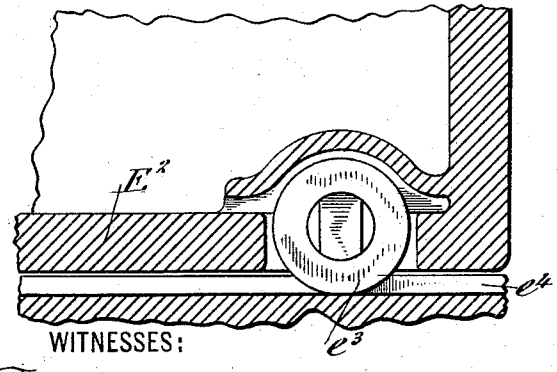
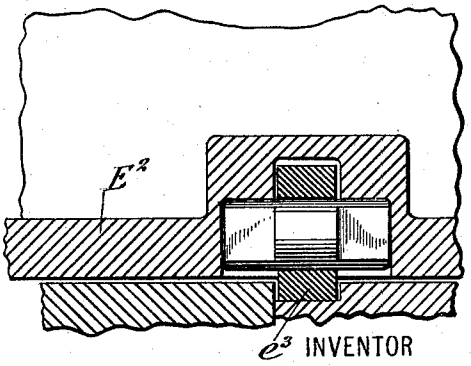


Fig. 10.



WITNESSES:

Fr. N. Roehrich.

William B. Roberts.

INVENTOR

Baptiste Ycre

BY Goepel & Kaegener

ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

BAPTISTE YCRE, OF NEW YORK, N. Y.

BAKER'S OVEN.

SPECIFICATION forming part of Letters Patent No. 591,224, dated October 5, 1897.

Application filed May 17, 1897. Serial No. 636,833. (No model.)

To all whom it may concern:

Be it known that I, BAPTISTE YCRE, a citizen of the Republic of France, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Bakers' Ovens, of which the following is a specification.

This invention relates to certain improvements in bakers' ovens by which the chamber can be charged with great facility along its entire front, so that two men can work at the same time in charging the chamber and removing the finished article from the same, and in which all the various parts of the oven can be readily inspected and cleaned and a uniform heat distributed around the baking-chamber.

The invention consists of a baker's oven which comprises a baking-chamber having a main opening extending across the full width of the chamber and having shiftable closing-blocks in said main opening and a gate for closing the main opening.

The invention consists, further, of details of construction hereinafter described, and defined in the claims.

The baking-chamber is provided at its front part throughout its whole width with a vertically-guided door, behind which are charging-openings, one at each end, which are closed by smaller auxiliary doors. Between the charging-openings are arranged a number of shiftable closing-blocks that are arranged closely to each other and serve in connection with the auxiliary doors for closing the main opening of the baking-chamber. By shifting the blocks any portion of the main opening can be opened so as to charge and discharge the baking-chamber. The closing-blocks are guided by rollers in a bottom guide-groove in the frame of the main opening of the baking-chamber and preferably operated by means of a toothed segmental lever which engages rack-teeth in the casing of the closing-blocks, so as to permit the easy shifting of the same.

In the accompanying drawings, Figure 1 represents a front elevation of my improved baker's oven with the front door raised so as to show the closing-blocks of the baking-chamber. Fig. 2 is a vertical transverse section of the same. Figs. 3 and 4 are vertical longitudinal sections on lines 3 3 and 4 4, Fig. 1. Fig. 5 is a horizontal section on line 5 5, Fig. 1. Figs. 6 and 6^a are details of the toothed lever by which the closing-blocks of the baking-chamber are shifted. Figs. 7 and 8 are respectively a sectional front elevation and a horizontal section of the closing-blocks of the main opening of the baking-chamber, showing the means for shifting the same, said figures being drawn on a larger scale. Figs. 9 and 10 are respectively a vertical longitudinal and a transverse section of one of the antifriction-rollers arranged in the bottom of the closing-blocks for facilitating the shifting of the same.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the baking-chamber of my improved oven, which baking-chamber is preferably provided with a flat and slightly-inclined bottom or sole and an arched top, and which is surrounded at the bottom, sides, and top by bottom, side, and top flues through which the products of combustion are passed on their way to the chimney, so as to heat up the walls of the baking-chamber. A fireplace is arranged in the front wall of the oven, one at each side of the baking-chamber, said furnaces being closed by iron front walls provided with doors, respectively, for charging the grate and removing the ashes. The products of combustion are drawn alongside bottom and top flues b, b^4, and b^5 to the vertical rear flues b' and horizontal top flues b^2 to vertical flues b^3 in the front wall, which latter are provided with sliding dampers d, so as to regulate the draft. The vertical flues b^3 are connected with the chimney in any suitable manner relatively to the baking in the oven. The horizontal bottom and top flues b^4 b^5 connect with the fireplaces, so that the products of combustion are drawn through the same and conducted through the flues b' b^2 b^3 to the chimney. A uniform distribution of the products of combustion on the bottom, side and top walls of the baking-chamber thereby takes place, so that a uniform heating is imparted to the same.

In the front part of the sole of the baking-chamber are arranged openings b^6, that communicate with the fireplaces and are closed

by refractory plates b^7, which are set into recesses of the sole of the baking-chamber so as to be flush with the sole. These plates are removed when the fire is started on the grates of the furnaces, the products of combustion being then drawn through the baking-chamber and through the vertical rear flue b', horizontal top flue b^2, and vertical front flue b^3 to the chimney. The bottom, side, and top flues of the baking-chamber are provided with cleaning-openings e through the front wall of the oven, which are closed by suitable plugs, so that any ashes deposited in the flues can be readily removed and thereby the latter kept clean.

The front opening of the baking-chamber A extends across the entire width of the same and is closed by means of an exterior drop-gate E, which is suspended from suitable chains and balanced by a counterweight, so as to be easily opened and closed. The drop-gate E is guided in suitable ways formed by rails e', that are attached to the front wall of the oven at each end of the front opening of the baking-chamber, as shown in Fig. 1. Back of the drop-gate E are arranged, near the corners of the baking-chamber, two auxiliary doors E′, which are likewise balanced by suitable chains, pulleys, and counterweights, so as to be opened and closed independently of the front gate E, for giving access to the baking-chamber.

When the drop-gate E and the auxiliary doors E′ are opened, two openings are provided for the baking-chamber. Between these openings a number of closing-blocks E^2 are arranged, of which six are shown in the drawings, which closing-blocks are composed of a metallic casing filled with suitable fire-brick or other refractory material, said casing being open at the rear, as shown in Fig. 8. The bottom of the closing-blocks E^2 is provided with antifriction-rollers e^3, that are guided in a longitudinal groove e^4, arranged in the bottom of the main opening of the baking-chamber, so that the closing-blocks can be easily shifted along said groove, so as to provide openings in the front of the baking-chamber through which the same can be charged and discharged. The shifting of the closing-blocks E^2 may be produced in any suitable manner, preferably by means of a lever L, which is provided at its outer end with a toothed segment L′ and a pin l, concentric with said segment, said pin being inserted into openings l', arranged in the bottom of the main opening of the baking-chamber in front of the closing-blocks, by which holes the pin l serves as a fulcrum for the lever L and permits the engagement of the toothed segment with rack-teeth l^2, arranged at the lower part of the closing-blocks, as shown in Figs. 1, 7, and 8. When the closing-blocks are to be shifted, the pin of the lever L is inserted into the hole in front of the same and the same turned in either direction, according to the direction in which the blocks are to be shifted, so that the same assumes the position shown in dotted lines in Figs. 7 and 8, when the lever will have been turned completely from one position into the opposite position, as shown in dotted lines in Fig. 8. When it is desired to charge the baking-chamber, the same is done through the openings at the ends of the gate by raising the auxiliary doors. When the sections of the baking-chamber corresponding to these openings are charged, the adjacent blocks E^2 are shifted by means of a shifting-lever L, so as to close the end openings and form a corresponding opening adjacent to the shifted blocks. The longitudinal sections of the baking-chamber are then charged through these openings. Then the next block is shifted into the initial position of the blocks before moved, so that the adjacent longitudinal sections of the baking-chambers can be supplied with bread or other articles to be baked. When the middle blocks are shifted, a large middle opening is obtained through which the middle section of the baking-chamber is charged. After the charging is accomplished the blocks are returned to their normal position, as shown in Fig. 1, the auxiliary doors and the drop-gate E are closed, after which the charge in the baking-chamber is subjected for the required length of time to the baking operation. A section of the bottom of the main opening at one end thereof is made removable, so as to permit the removal of the closing-blocks when it is desired to obtain access to the baking-chamber.

The vapors formed by the articles which are baked are drawn off by the flues that connect the rear part of the baking-chamber with the chimney, the baking operation being observed through peep-openings f, having closing covers arranged in the drop-gate after opening the auxiliary gates. When the baking is completed, the drop and auxiliary gates are opened and the articles in the baking-chamber discharged either by starting at opposite corners or by shifting the blocks and beginning at any other part of the baking-chamber according to the different articles in the same.

The advantages of my improved baker's oven are that two men can work at the same time in charging and discharging the baking-chamber; secondly, that the chamber can be charged through the entire width of the main opening, so that the entire sole space of the baking-chamber is utilized for baking, which is not the case in the present oven, in which the front corners can only with difficulty be charged; third, that by the arrangement of two furnaces at the front corners of the oven a uniform heat can be imparted to the baking-chamber, and, finally, that the entire baking-chamber can be easily cleaned and, if need be, repaired by removing the closing-blocks, the removal being accomplished by the removable bottom panels in the main open-

ing, through which all the closing-blocks are successively moved, so that access is given to the whole width of the baking-chamber.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a baker's oven, the combination with a baking-chamber having a main opening leading into said chamber, of shiftable closing-blocks in said opening, and a gate for closing the main opening, substantially as set forth.

2. In a baker's oven, the combination with a baking-chamber having a main opening extending across the full width of the chamber, of shiftable closing-blocks guided in said main opening, means whereby said blocks may be shifted singly or simultaneously, and a gate for closing the main opening, substantially as set forth.

3. The combination, in a baker's oven, of a baking-chamber having a main opening extending across the full width of the chamber, of shiftable closing-blocks in said main opening, sliding auxiliary gates at the corners for opening and closing the end portions of the main opening, and a vertically-guided drop-gate for closing the entire main opening and the intermediate closing-blocks, substantially as set forth.

4. In a baker's oven, the combination of a baking-chamber having a main opening extending across its full width, of shiftable closing-blocks guided in ways of the bottom of the main opening, said blocks being composed of a metallic casing and refractory filling, vertically-sliding doors for closing the end portions of the main opening, and a vertically-guided drop-gate extending over the closing-blocks and end doors, substantially as set forth.

5. The combination, in a baker's oven of a main opening extending across the entire width of the chamber, provided with a casing having a removable panel at one end of the same, longitudinally-shiftable closing-blocks guided in ways of the bottom of said casing and adapted to be removed on removing said panel, vertically-sliding doors for closing the end portions of the main opening, and a vertically-guided drop-gate extending over said closing-blocks and end doors, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

BAPTISTE YCRE.

Witnesses:

PAUL GOEPEL,

WILLIAM B. ROBERTS.