(No Model.) 2 Sheets—Sheet 1.

G. A. FISHER.

BAKE OVEN.

No. 457,191. Patented Aug. 4, 1891.

Fig. 1.

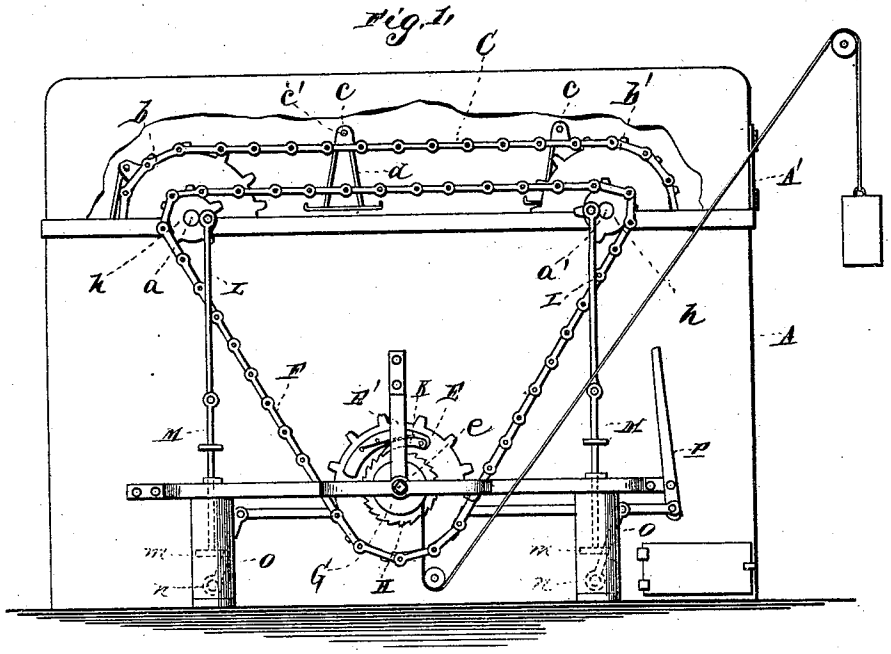
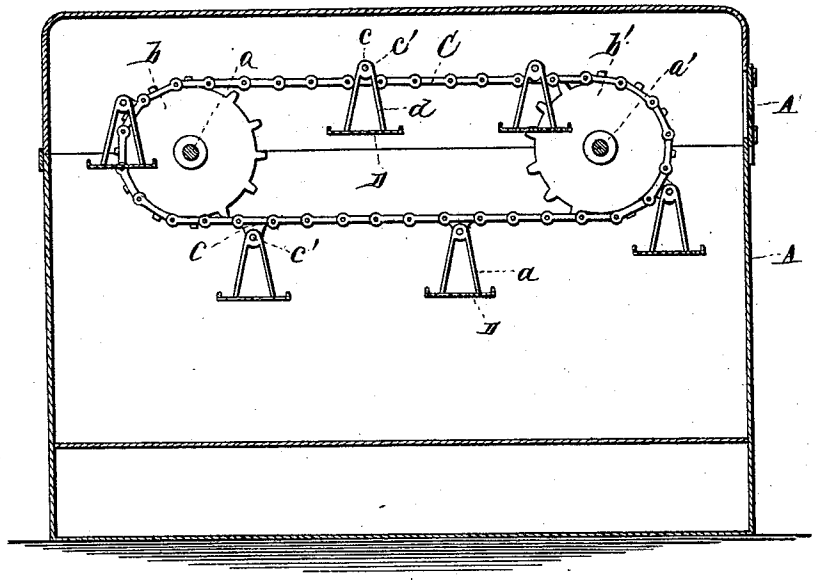


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

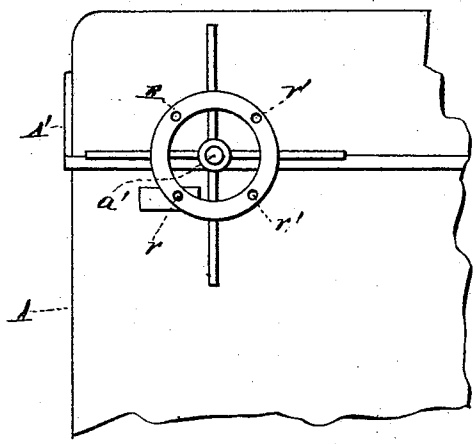


Fig. 4.

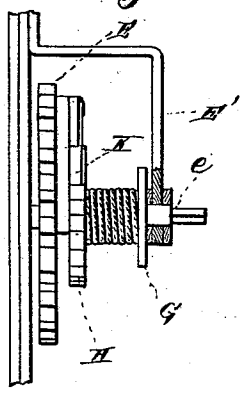
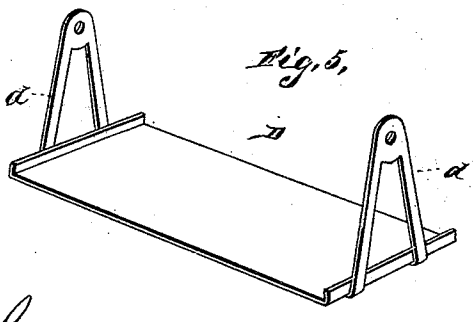


Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE A. FISHER, OF LEAVENWORTH, KANSAS.

BAKE-OVEN.

SPECIFICATION forming part of Letters Patent No. 457,191, dated August 4, 1891.

Application filed January 26, 1891. Serial No. 379,131. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. FISHER, a citizen of the United States, and a resident of Leavenworth, in the county of Leavenworth and State of Kansas, have invented certain new and useful Improvements in Bake-Ovens; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a side view. Fig. 2 is a top plan view, and Figs. 3, 4, and 5 are detail views.

The invention relates to certain new and useful improvements in bake-ovens; and it consists in the novel construction and combination of parts hereinafter described.

In the accompanying drawings, A represents the oven, having a suitable door A'. Journaled in suitable boxes in the side walls of the oven are two shafts *a a'*, one toward each end, and carrying near their ends the toothed or sprocket wheels *b b b' b'*, one on either end of each shaft. A sprocket-chain C passes over each set *b b'* of the wheels. At suitable intervals the chains C are provided with perforated lugs *c*, carrying pivots *c'*, from the inner opposite ends of which are suspended, by the arms *d*, the baking-shelves D. This manner of suspending the baking-shelves will allow them at all times to keep a horizontal position, no matter in what position the carrying-chains may be with relation to their sprocket-wheels. Sufficient space is of course provided in the oven to allow the shelves to be carried entirely around by their chains.

The shafts *a a'* project through the sides of the oven and carry at one end each a small toothed or sprocket wheel *h*. Centrally of these wheels *h*, and near the bottom of the oven, is journaled the shaft *e* in a bracket E', secured to the outside wall of the oven. This shaft carries a sprocket-wheel E. A sprocket-chain F passes around this wheel and over the wheels *h*. The outer end of the shaft *e* is projected through the outside piece of the bracket E' and may be connected with any suitable driving-power. Said shaft also carries a winding-drum G, in case weight-power is employed, the inner end of said drum having a ratchet-wheel H. The wheel E is loosely mounted on its shaft, and when said shaft is turned backwardly to wind the weight-cord on the drum G, said wheel E will not be turned; but when the motion of the shaft is reversed a spring-pressed pawl K of the wheel E will engage the teeth of ratchet H, which is rigidly mounted on the shaft, locking the two wheels together, so that the revolution of the shaft will cause the revolution of the wheel E, thereby imparting motion to the shafts *a a'*, through the sprocket-chain F, and to the shelf-carrying chains C.

A pitman L is secured eccentrically to each of the sprocket-wheels *h*, and is connected to a piston-rod M of a piston *m*, working in an air-compressing cylinder O, one for each piston, and provided with suitable valves *n*, operated by means of the lever mechanism P. The arrangement of the two pitmen is such that when one piston-rod is forced downwardly the opposite one is drawn up. The object of these compressors is to regulate the speed of the gearing and hold the movement of the baking-shelves to an even, steady motion.

The reverse end of the shaft *a'* carries a hand-wheel R, by the operation of which the baking-shelves may be brought into convenient position for filling. A pin *r* may be inserted in one of a series of holes or perforations *r'* in the rim of said wheel, its end bearing against a flange or projection on the wall of the oven and preventing the pans from moving while being filled.

This oven is designed to be heated by a furnace at the bottom, and can be made of any desired size or capacity. They can also be made so as to be conveniently portable.

It will be seen that by the mechanism described a steady movement is imparted to the baking-shelves, whereby all portions of the articles carried thereby will be evenly and regularly baked.

Having thus described the invention, what I claim, and desire to secure by Letters Patent, is—

1. The bake-oven having the sprocket-wheel-carrying shafts journaled therein, sprocket-

chains carried by said wheels, a series of baking-shelves suspended horizontally from said chains, and the governors operated by the driving mechanism for regulating the movement of the shelves and their carrying-mechanism, substantially as described.

2. The bake-oven having the sprocket-wheel-carrying shafts journaled therein, sprocket-chains carried by said wheels, a series of baking-shelves pivotally suspended horizontally from said chains, means for revolving said mechanism and shelves, and pneumatic governors operated by the revolving mechanism for regulating their movement, substantially as specified.

3. The bake-oven having the sprocket-gear carrying the baking-shelves, the main driving sprocket-wheel mounted loosely on a shaft journaled in a bracket secured to the side wall of the oven, said wheel carrying a spring-pressed pawl adapted to engage the ratchet of a weight-cord-winding drum also carried by said shaft when the movement of said shaft is in a forward direction, but leaving the ratchet and drum free to turn alone when the motion of the shaft is reversed, and pneumatic governors operated by the driving-gear, substantially as specified.

4. The bake-oven having the sprocket-gear carrying the baking-shelves, the sprocket-gear for driving said mechanism, and the air-compressing pistons and cylinders operated by said gear for regulating the movement of the shelves and their carrying mechanism, substantially as specified.

5. The bake-oven comprising the sprocket-gear-revolving shelf-carrying mechanism, the driving mechanism therefor, air-compressing governors for regulating the movement of said shelf-carrying mechanism, lever mechanism for controlling the valves in said compressors, and a hand-wheel and locking device for operating and holding said shelves while filling, substantially as specified.

6. The bake-oven having the sprocket-revolving gear mechanism carrying the baking-shelves, the weight-driven sprocket mechanism for driving said shelf-carrying mechanism, and air-compressing devices for regulating the movement thereof, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE A. FISHER.

Witnesses:
W. W. HOOPER,
E. L. CARNEY.