

(No Model.)

G. B. DUNCAN & J. BAILIE.

REEL OVEN.

No. 347,475.

Patented Aug. 17, 1886.

FIG. 1.

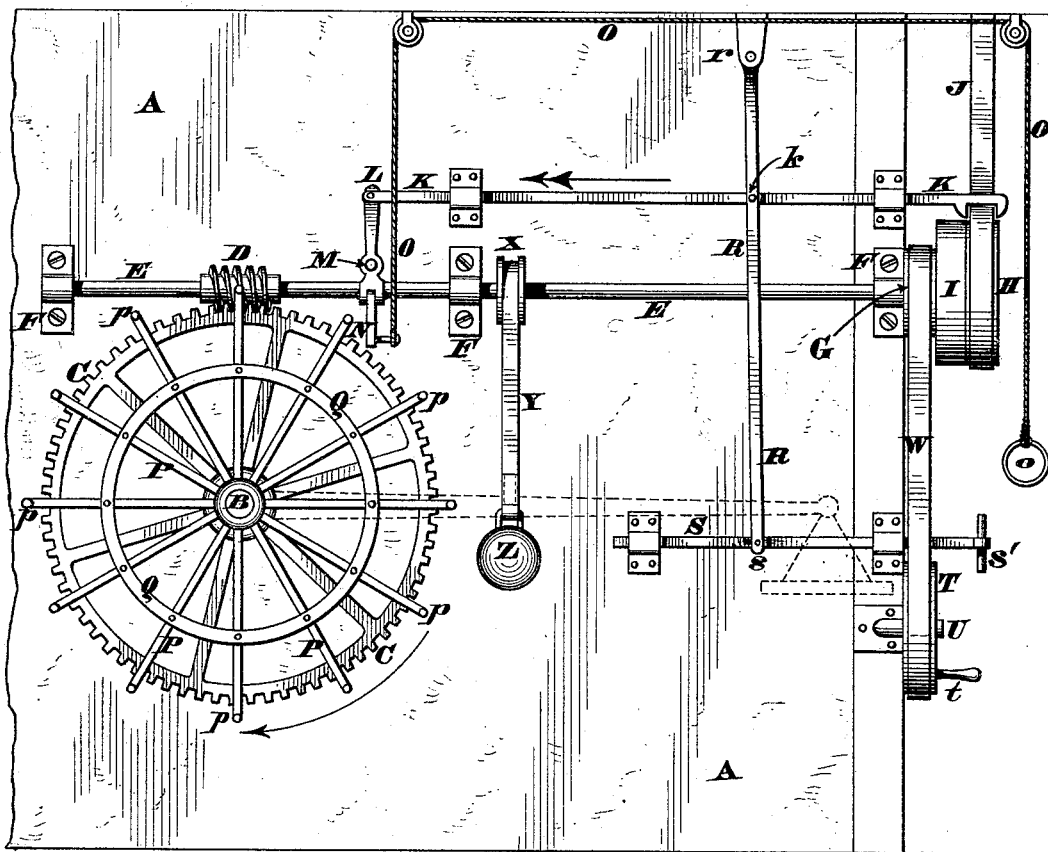
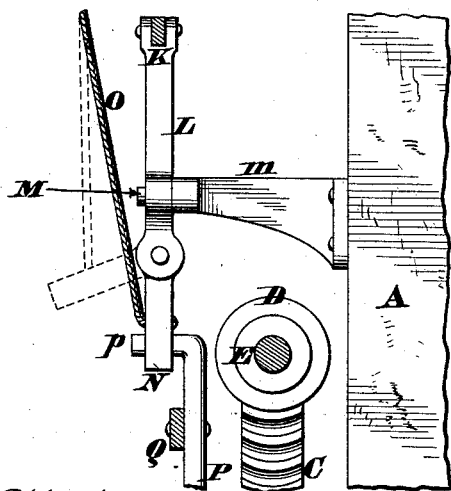
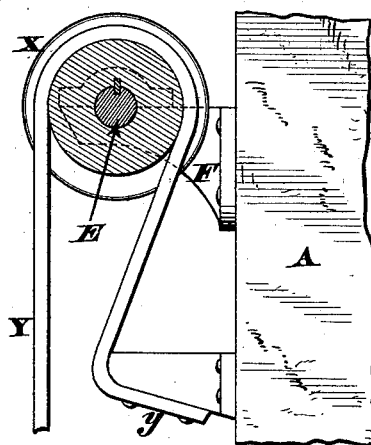


FIG. 2.



Attest.
S. S. Carpenter
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FIG. 3.



Inventors.
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Att'y.

UNITED STATES PATENT OFFICE.

GEORGE B. DUNCAN AND JAMES BAILIE, OF CINCINNATI, OHIO; SAID
DUNCAN ASSIGNOR TO SAID BAILIE.

REEL-OVEN.

SPECIFICATION forming part of Letters Patent No. 347,475, dated August 17, 1886.

Application filed January 30, 1886. Serial No. 190,289. (No model.)

To all whom it may concern:

Be it known that we, GEORGE B. DUNCAN and JAMES BAILIE, both citizens of the United States, residing at Cincinnati, in the county of Hamilton, State of Ohio, have invented certain new and useful Improvements in Reel-Ovens, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention consists in providing a reel-oven with an appliance that will automatically arrest the revolution of the reel-shaft every time a pan arrives opposite the mouth of the oven, the details of the improvement being hereinafter more fully described.

In the annexed drawings, Figure 1 is a side elevation of a reel-oven embodying our improvements. Fig. 2 is an enlarged vertical section of the toe-piece and its accessories. Fig. 3 is a similar section of the brake.

A represents a portion of the side wall of any approved form of reel-oven, the reel thereof being mounted on a shaft, B, that carries a large gear-wheel, C, which latter engages with a worm, D, of driving-shaft E. This driving-shaft is journaled in boxes or other bearings, F, bolted to the oven, wall or similar support, and has at one end a pair of fixed pulleys, G H, and a loose pulley, I.

J is the driving-belt.

K is a belt-shifter having one extremity coupled to the upper end of a swinging lever, L, which latter is pivoted at M to a suitable bearing or bracket, *m*, as more clearly seen in Fig. 2. Hinged to the lower end of this lever is the toe-piece N, capable of being swung outwardly or away from the wall A, as indicated by the dotted lines in Fig. 2. O is a cord or rope for lifting this toe-piece, the end of said rope having a pull or handle, *o*, near the mouth of the oven. This toe-piece is adapted to be struck by the lateral bends or projections *p* of a series of spokes, P, secured to or cast with a hub that is keyed fast to the reel-shaft B. Q is a ring or band that stiffens these radial spokes.

R is a lever depending from a suitable bearing, *r*, and coupled at *k* to the belt-shifter K, the lower end of said lever being jointed at *s* to a sliding bar, S, having a handle, *s'*.

T is a wheel having a handle, *t*, and turning freely upon a stud-shaft, U.

W is a belt adapted to communicate motion from the wheel T to the smaller one, G, of the fixed pulleys G H.

Keyed fast to the driving-shaft E is a flanged wheel, X, around which is passed a strap, Y, having a weight, Z, suspended from one end thereof, the other end of said strap being securely fastened, as seen at *y* in Fig. 3.

In constructing our machine, a spoke, P, is provided for each pan of the reel, and said spokes are so applied to the reel-shaft B as to cause their projections *p* to come in contact with the toe-piece N at the moment when each pan arrives at the mouth of the oven. Motion is communicated to the mechanism by the band J passing around the fixed pulley H, and thus turning the driving-shaft E, whose worm D causes wheel C to revolve in the direction of the single-headed arrow seen in Fig. 1. As soon as the revolution of this wheel causes one of the projections *p* to come in contact with the toe-piece N lever L swings upon its pivot M and slides the shifter K in the direction of the double-headed arrow, thus throwing the belt J onto the loose pulley I and at once stopping the machine, the friction incidental to the bearing of the weighted strap Y Z around the periphery of wheel X being sufficient to overcome any momentum of the reel and its accessories. Consequently, the reel is arrested at the very moment when the pan is opposite the oven's mouth, thereby enabling the attendant to remove the baked loaves and place fresh dough upon said pan. It is evident the shifting of rod K carries the slide S with it because these two members K S are coupled together by the lever R, and when the pan has been refilled with dough the attendant pulls the slide S forward, thus throwing the belt J back upon the fixed pulley H and again setting the machine in motion. The reel then turns until the next succeeding projection strikes the toe-piece N, and the above-described operations are repeated.

From this description it is apparent the machine is automatically stopped as soon as a pan reaches the oven's mouth, but is set in motion by the baker. In some cases, however,

it may be desirable to render the automatic devices inoperative for the time being, which act can be readily accomplished by pulling the rope O so as to swing the toe-piece N up to the position indicated by the dotted lines in Fig. 2. Therefore the reel will turn continuously until said piece is again restored to its normal or perpendicular position for the purpose of being actuated by the wheel P *p*.

10 The reel can be operated by hand at any time by simply shifting the belt J onto the loose pulley I and then turning the shaft E by means of the wheel T *t*, band W, and small fixed pulley G. Finally, instead of employing 15 a special wheel, P, armed with stops or projections *p*, the latter may be applied either to the front or rear side of wheel C.

We claim as our invention—

1. The combination, in a baker's oven, of 20 shaft B, gear-wheel C, worm D, driving-shaft E, fixed pulley H, loose pulley I, belt-shifter

K, swinging lever L M, toe-piece N, and projections *p*, which latter are adapted to strike said toe-piece and thereby operate said belt-shifter, said shaft B being provided with a reel 25 that revolves within the oven, as herein described.

2. The combination, in a baker's oven, of shaft B, gear-wheel C, worm D, driving-shaft E, fixed pulley H, loose pulley I, belt-shifter 30 K, swinging lever L M, toe-piece N, lever R *r* s *k*, secondary shifter or slide S, and wheel P, which wheel is armed with lateral projections *p*, said shaft B being provided with a reel that revolves within the oven, as herein described. 35

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE B. DUNCAN.

JAMES BAILIE.

Witnesses:

JAMES H. LAYMAN,

SAML. S. CARPENTER.