

(No Model.)

J. R. McWILLIAM.
REEL OVEN.

No. 581,128.

Patented Apr. 20, 1897.

Fig. 1.

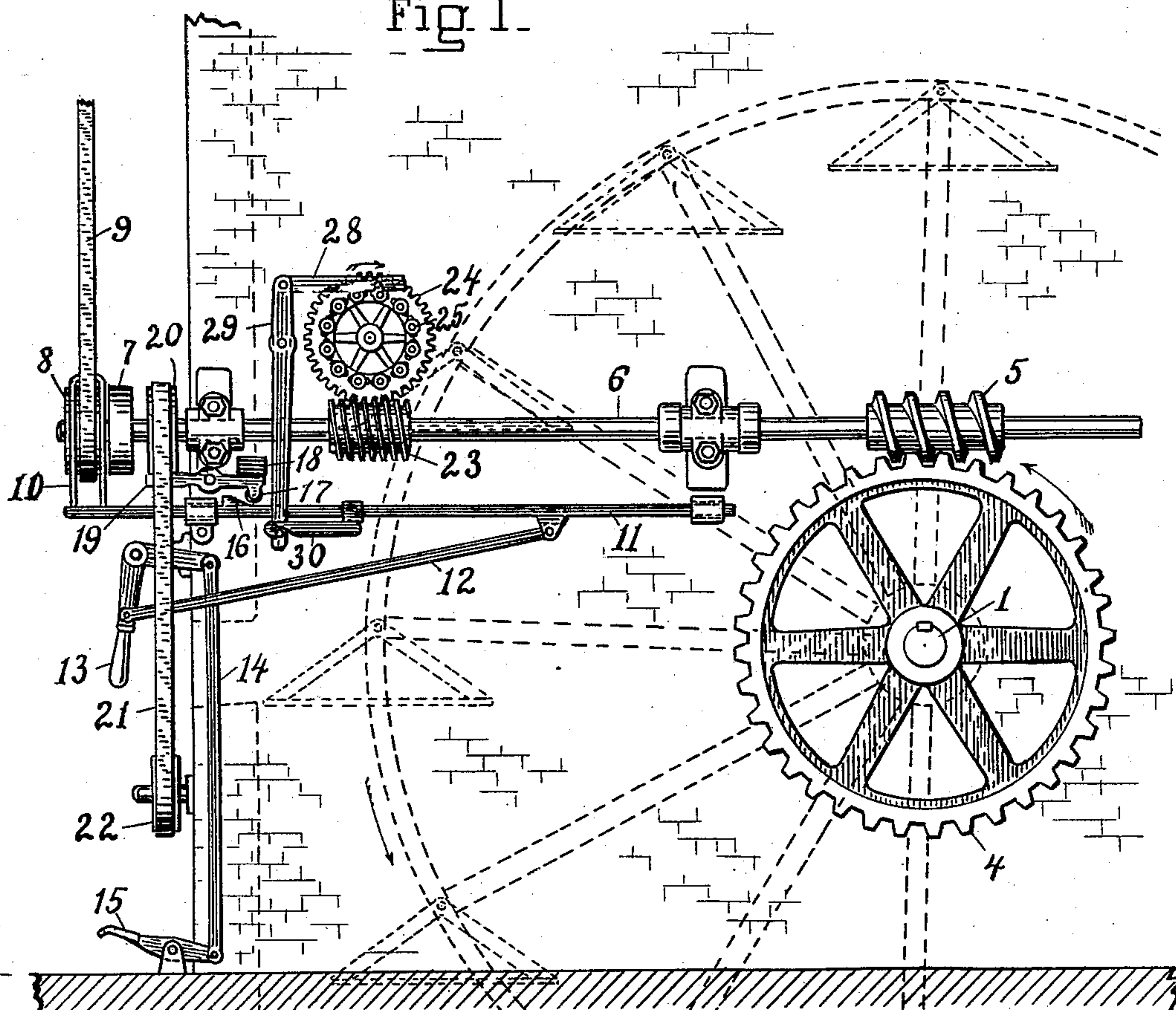
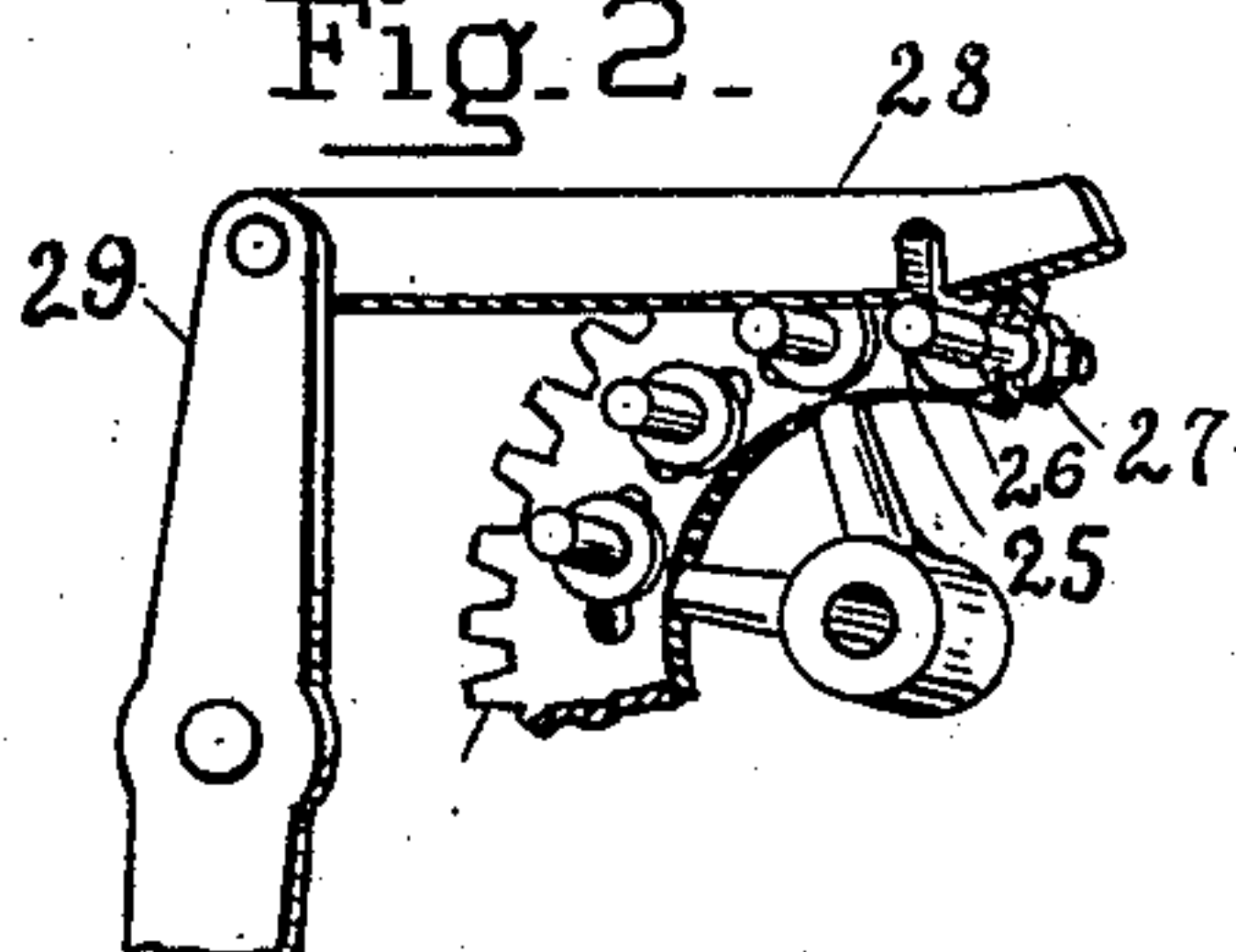


Fig. 2.



Witnesses:-

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UNITED STATES PATENT OFFICE.

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REEL-OVEN.

SPECIFICATION forming part of Letters Patent No. 581,128, dated April 20, 1897.

Application filed December 2, 1896. Serial No. 614,173. (No model.)

To all whom it may concern:

Be it known that I, JAMES R. MCWILLIAM, a citizen of the United States of America, residing at Yonkers, county of Westchester, State of New York, have invented certain new and useful Improvements in Reel-Ovens, of which the following is a specification.

My invention relates to a form of construction of mechanism for automatically stopping the rotation of the reel of the oven at the desired points, the stopping mechanism being operated from an index-wheel that is mounted on a separate axis from the main shaft of the reel-oven. In this manner I am able to make the stopping mechanism of smaller size, less expensive, and more easy to put in place on the oven.

In the accompanying sheet of drawings, which form a part of this application, Figure 1 is a side elevation of a reel-oven with my improvement. Fig. 2 is an enlarged perspective view showing a portion of the index-wheel and latch cooperating therewith.

The reel-oven as shown is of the usual construction. It consists of a chamber of rectangular form. Through the center of this chamber passes a main shaft 1, and on this shaft, inside the oven, are wheels 2. These wheels are close to the walls at which the shaft is journaled. Shelves 3 are suspended from the edges of the wheels and between them. The wheels and shelves constitute the reel of the oven. On the main shaft is a worm-wheel 4, which is driven by a worm 5 on the worm-shaft 6. On this shaft is a tight pulley 7 and a loose pulley 8. These pulleys are driven by a belt 9 from any suitable source of power. The belt is shifted from the loose to the tight pulley by a shifter-fork 10 on the shifter-bar 11. A rod 12 connects the shifter-bar with a starting-lever 13, and as the starting-lever is connected by the rod 14 with the treadle 15 either can be used to shift the belt. When the starting-lever is pushed toward the oven or the pedal depressed, the belt is shifted over to the tight pulley. At the same time a cam 16 on the shifter-bar is brought under the end of the brake-lever 17 that carries the weight 18, and the other end of the lever that carries the brake 19 is lifted from the brake-wheel 20. This wheel also carries a belt 21, which runs

to a wheel 22 for the convenience of the oven-operator in turning the machinery by hand. The above-described movement of the starting-lever sets the reel in motion. When it has revolved sufficiently to bring the next shelf opposite the oven-door, the belt will be shifted back to the loose pulley, the cam withdrawn from under the weighted end of the brake-lever, and the brake will engage the brake-wheel and stop the machinery. This is effected by certain novel elements of my invention, which will now be described.

On the worm-shaft is a second worm 23, that engages with teeth on an index-wheel 24, the gear being such that the index-wheel will revolve in the same time as the reel. In the rim of the index-wheel are slots containing pins 25, corresponding in number to the shelves on the reel. These pins each have a collar 26 about midway of their length and have one end threaded. The threaded end passes through the slot in the rim of the index-wheel and a nut 27 clamps the pin in place. The pins are spaced on the index-wheel to correspond with the spacing of the shelves in the reel, and the reason for setting them in slots is to facilitate adjustment, since if any shelf in the reel is not perfectly spaced with respect to the others the corresponding pin on the index-wheel will need to be similarly spaced.

When the starting-lever is pushed toward the oven and the reel is set in motion, as above described, the pawl 28 will be carried to the left by the lever 29, the lower end of which is connected through the latch 30 to the shifter-bar 11. This will bring the notch which is near the end of the pawl over the pin of the index-wheel on which the pawl is shown to be resting. The pawl will then drop by its own weight and the pin and pawl will at the same time engage. Since the mechanism starts at the same time, the index-wheel will commence to revolve and will draw the pawl to the left. At the same time the pin, which follows the one engaging with the notch in the pawl, will rise under the pawl with the revolution of the index-wheel and lift the pawl up and disengage it from the first pin.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

In a reel-oven, the combination with a reel and reel-shaft of a worm-wheel on the reel-shaft and worm meshing therewith, a worm-shaft, means for driving the worm-shaft, 5 mechanism for stopping and starting the worm-shaft, an index-wheel separate from the reel-shaft and independently driven by the worm-shaft, pins on the index-wheel, a pawl engaging with the pins, and suitable

connections between the pawl and the mechanism for stopping the worm-shaft, substantially as described.

Signed by me, in Yonkers, New York, this 30th day of November, 1896.

JAMES R. McWILLIAM.

Witnesses:

SAMUEL W. BALCH,
EDSON C. PULTZ.