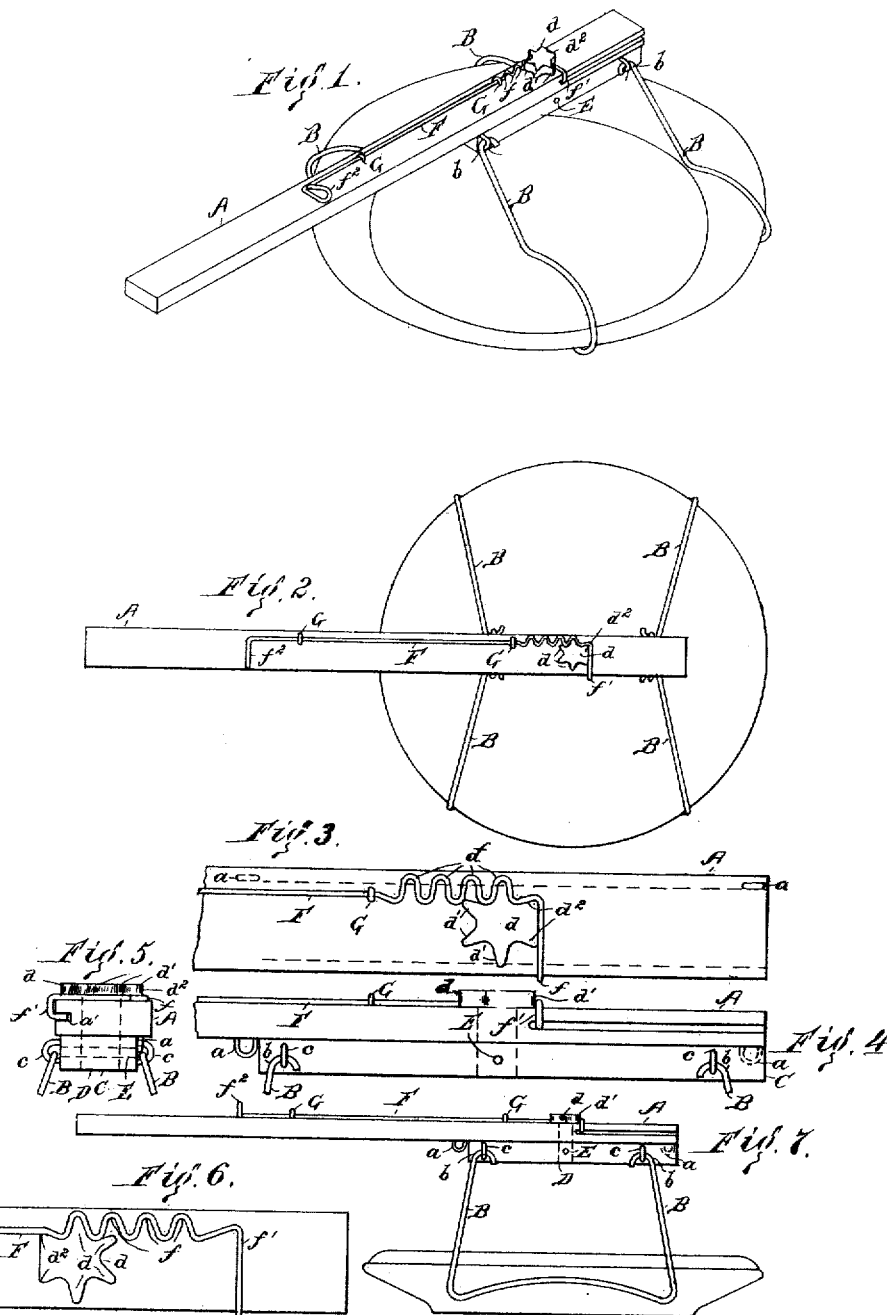


(No Model.)

A. WHITE & G. D. DUDLEY.
PLATE LIFTER.

No. 418,344.

Patented Dec. 31, 1889.



Witnesses -

Heirley Hyde.
Antoine M. Day.

Inventors -

George D. Dudley &
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By Albert M. Moore,
Their Attorney.

UNITED STATES PATENT OFFICE.

ALBERT WHITE AND GEORGE D. DUDLEY, OF LOWELL, MASSACHUSETTS,
ASSIGNORS TO FREDERICK TAYLOR, OF SAME PLACE.

PLATE-LIFTER.

SPECIFICATION forming part of Letters Patent No. 418,344, dated December 31, 1889.

Application filed December 3, 1887. Renewed October 17, 1889. Serial No. 327,290. (No model.)

To all whom it may concern:

Be it known that we, ALBERT WHITE and GEORGE D. DUDLEY, both citizens of the United States, residing at Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented a certain new and useful Improvement in Plate-Lifters, of which the following is a specification.

Our invention relates to plate-lifters, and has for its object to enable a plate or dish to be turned readily in an oven without removing the plate and its contents from the oven, also serving the usual purpose of a plate-lifter.

In the accompanying drawings, Figure 1 is an isometric view of a plate-lifter provided with our improvement and a plate held by said lifter; Fig. 2, a plan of said lifter holding a plate; Fig. 3, an enlarged plan of a part of the handle of the lifter and of the rack-bar and segmental pinion, the swiveling bar and its stops being shown in dotted lines; Fig. 4, a side elevation of a part of the handle, part of the rack-bar, the swiveling bar, the pinion, and the upper part of the lifting-jaws, showing the jaws hinged to said bar; Fig. 5, an elevation of that end of the lifter which is at the right in the other figures, the lower part of the jaws being broken away; Fig. 6, a plan of part of the handle, the rack, and the pinion, the pinion being turned one hundred and eighty degrees from the position it occupies in Fig. 3; Fig. 7, a side elevation of our improved lifter applied to a plate.

The handle A is a straight bar, preferably of wood. The swinging jaws B are of the customary form shown, but, instead of being hinged directly to the handle, are hinged to the swiveling bar C, the upper ends of each jaw being bent toward each other into hooks b and entering eyes secured to or staples c driven into opposite sides of the bar C near its ends, and enabling either jaw to be raised laterally by turning the handle A or bar C on its longitudinal axis against such jaw to separate the jaws and to allow them to be engaged with a plate in the usual manner. The jaws B are both alike, and the sides of the bar C are both alike. The bar C is pivoted to the handle A by a vertical pin D, (shown

by dotted lines in Figs. 4 and 7,) the bar C being secured thereto by a pin E, driven horizontally into or through said bar, and the pivot D, said pivot-pin D passing vertically through the handle A and down into or through the bar C and being provided with a head d above said handle. The head d of the pivot-pin D not only prevents the pin D from being drawn down through the handle A, but is of a proper shape to serve as a pinion, it being provided with teeth d' to engage the teeth f of the rack-bar F, which slides upon the top of the handle A, and which, being given a longitudinal motion, causes the pin D and the bar C to turn. The teeth of the pinion are one more in number than the teeth of the rack, and occupy such a portion of the periphery of the pinion (the part d² of the pinion being without teeth) as will enable the bar C to turn end for end, or through an arc of one hundred and eighty degrees, until a tooth of the pinion strikes against the untoothed part of the rack-bar F and prevents a further rotation of the pinion d and bar C.

The rack-bar F (which is preferably a wire bent to form the teeth f) is guided by staples G, which secure it to the handle, but allow it to slide thereon freely. The end of the rack-bar nearest the pinion is bent transversely past the pinion and down over the side of the handle at f' and into the longitudinal groove a in said side of said handle to hold the rack in engagement with the pinion laterally and to prevent the rack-bar from rising away from the handle A. The end of the rack-bar farthest from the pinion is bent into a loop f² at about right angles to the general direction of said rack-bar to form a thumb-rest against which the thumb of the hand which grasps the handle may be drawn or pushed to slide the rack-bar, and thereby to turn the bar C, and with it the jaws B and the plate held in said jaws.

To prevent the bar C from turning more than half-way around on its pivot, one arm c² of said bar is slightly longer than the other, the two staples which support either jaw being at the same distance from the center of motion of said bar, and the handle A is provided with two stops a' a², which project downward

from said handle near the edge of the same on the same side of the longitudinal axis of said handle, (which is somewhat wider than said bar,) the distance of the stops a' a^2 from the center of motion of said bar being greater than the length of the short arm of said bar and less than the length of the arm c^2 , so that said arm c^2 will strike said stops a' a^2 alternately as said bar is swiveled. These stops may be simply wire staples driven into the handle, as shown in Fig. 4.

It is well-known that pies and other articles of food baked in dishes or plates are frequently baked faster on one side than on the other, and require to be partly turned around to expose the least-baked portion to the hotter side of the oven. By the use of the above-described lifter a plate may be lifted slightly from the bottom of the oven and turned half-way or less around, even when the plate to be moved is behind other plates, without moving any of said plates from the oven and without any danger of burning the hands or arms.

The lifter can be used to merely lift or move the plates in or from the oven without turning them, the turning devices not being automatic.

We claim as our invention—

1. The combination of the handle, the swiveling bar, jaws swinging on said bar, a pin passing through said handle and secured to said bar, a pinion secured to said pin above said handle, and a rack-bar sliding on said handle and provided with teeth to engage said pinion, whereby a longitudinal movement of said rack-bar will cause said swiveling bar and said jaws to be turned, as and for the purpose specified.

2. The combination of the handle, the swiveling bar, jaws swinging on said bar, a pivot-pin connected to said bar and turning in a hole with which said handle is provided, a pinion secured to the upper end of said pivot-pin above said handle, and a rack-bar arranged above said handle and sliding thereon, and guided by staples embracing said rack-bar and driven into said handle, and provided with teeth to engage said pinion, and having a thumb-rest adapted to be drawn or pushed

by the thumb of the hand grasping said handle to impart a longitudinal motion to said rack-bar, and thereby to rotate said swiveling bar and said jaws, as and for the purpose specified.

3. The combination of the handle, the swiveling bar, a pivot-pin secured to said swiveling bar and extending upward through a hole with which said handle is provided, and a pinion secured to said pivot-pin concentrically therewith above said handle and sliding thereon, and provided with teeth to engage said pinion, said rack-bar having one tooth less than said pinion, whereby when said pinion is rotated by the longitudinal movement of said rack-bar a tooth of said pinion comes in contact with the untoothed portion of said rack-bar and limits the motion of said rack-bar and said pinion, as and for the purpose specified.

4. The combination of the handle, the swiveling bar, the jaws swinging from said bar, a pivot-pin passing through said handle and turning freely therein and secured to said bar, a pinion secured to said pin above said handle, the rack-bar formed of wire, for a portion of its length bent into teeth adapted to engage the teeth of said pinion, and having one of its ends bent transversely past said pinion and over the side of said handle and into a longitudinal groove with which the side of said handle is provided, and having its other end bent into a thumb-rest adapted to be drawn or pushed by the thumb of the hand which grasps said handle to impart longitudinal motion to said rack-bar, and staples embracing said rack-bar and driven into said handle, whereby said rack-bar is guided and its teeth are kept in engagement with said pinion to rotate said swiveling bar and said jaws, as and for the purpose specified.

In witness whereof we have signed this specification, in the presence of two subscribing witnesses, this 30th day of November, A. D. 1887.

ALBERT WHITE.
GEORGE D. DUDLEY.

Witnesses:

ALBERT M. MOORE,
JOHN M. CURTICE.