J. B. S. WARD.

BREAD-CUTTER.

No. 177,179 Patented May 9, 1876.

FIG. 1

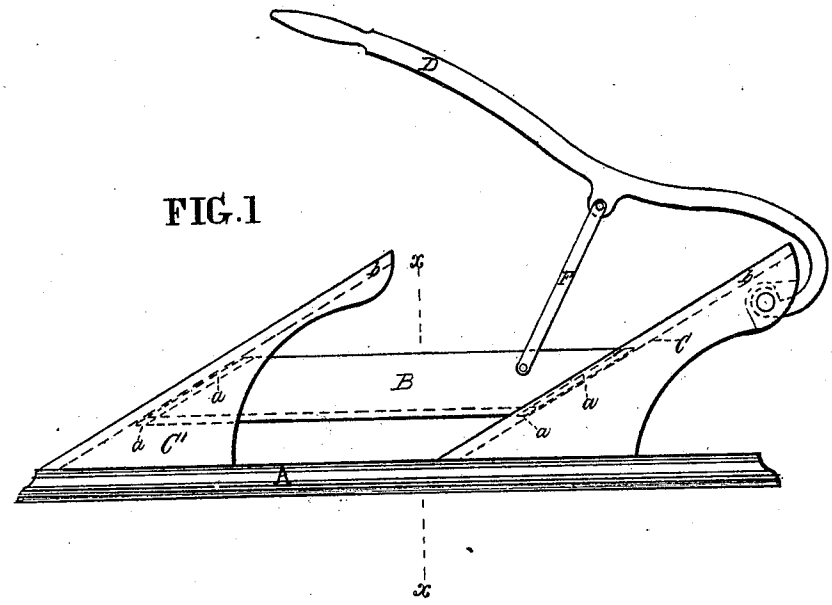

FIG. 2

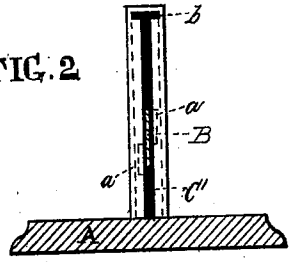

FIG. 3

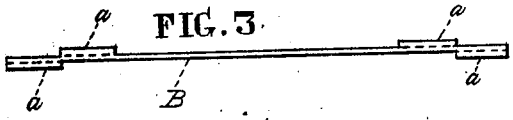

FIG. 4

Witnesses

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IMPROVEMENT IN BREAD-CUTTERS.

Specification forming part of Letters Patent No. **177,179**, dated May 9, 1876; application filed January 31, 1876.

To all whom it may concern:

Be it known that I, JOHN B. S. WARD, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Bread-Slicers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

The nature of my invention consists of a bread-slicer, in which the knife has slides at the ends, formed by bending the knife-blade one-half in opposite directions, so as to fit T-shaped grooves in permanent guide-pieces. A reciprocating movement is given to the knife by means of a lever and connecting-rod, or other suitable device. These guides I usually arrange obliquely, and form the ends of the knife to correspond, whereby to give a drawing motion to effect an easy cut; but, if desired, the end edges of the knife may be at right angles to the cutting-edge, so as to work in vertical ways.

In the accompanying drawings, Figure 1 is a side elevation of my improved bread-slicer. Fig. 2 is a cross-section at the line *x x* of Fig. 1. Fig. 3 is an edge view of the knife B. Fig. 4 represents a modified construction of one of the guides D.

Like letters of reference in all the figures indicate the same parts.

A is the bed-plate, and B the knife, which is guided in its reciprocating movement by the oblique ways C and C′, the lower ends of which are permanently connected to the bed-plate. The knife has oblique slides *a a* on its ends, which fit the T-shaped grooves *b b* of the guides C and C′. The slides are formed by slitting the knife at its ends in the middle of its width, and bending the halves in opposite directions, as represented in Fig. 3. D is a lever for operating the knife B. In the upper end of the guide C is a recess, *f*, for the reception of the fulcrum and of the lever, which is hung on the fulcrum-pin *g*. The lever is connected to the knife B by means of the connecting-rod F, as seen in Fig. 1.

If desired, the main part of the guides C and C′ may be made of iron, and the T-grooves formed of wooden strips H, as shown in Fig. 4.

Instead of the permanent slides *a a* on the ends of the knife B, a friction-wheel at each end may take their places, the wheel being of suitable size to run in the head of the T-groove of the respective guide D; and, if desired, the knife may have its ends at right angles to its cutting-edge, so as to have a reciprocating movement in vertical guides.

I am aware that oblique guides have been used in combination with a knife-frame for giving a drawing motion to the knife; but this I do not claim, as I dispense with said frame.

I claim as my invention—

1. The knife B, having slides *a*, formed by bending each end edge in opposite directions, in combination with T-shaped grooves *b*, substantially as and for the purpose set forth.

2. The knife B, having oblique ends, with slides *a a* projecting in opposite directions from the sides of the blade, in combination with oblique guides C and C′, having T-shaped grooves *b*, a reciprocating movement being given to the knife by the lever D and rod F, substantially as and for the purpose set forth.

JOHN B. S. WARD.

Witnesses:

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