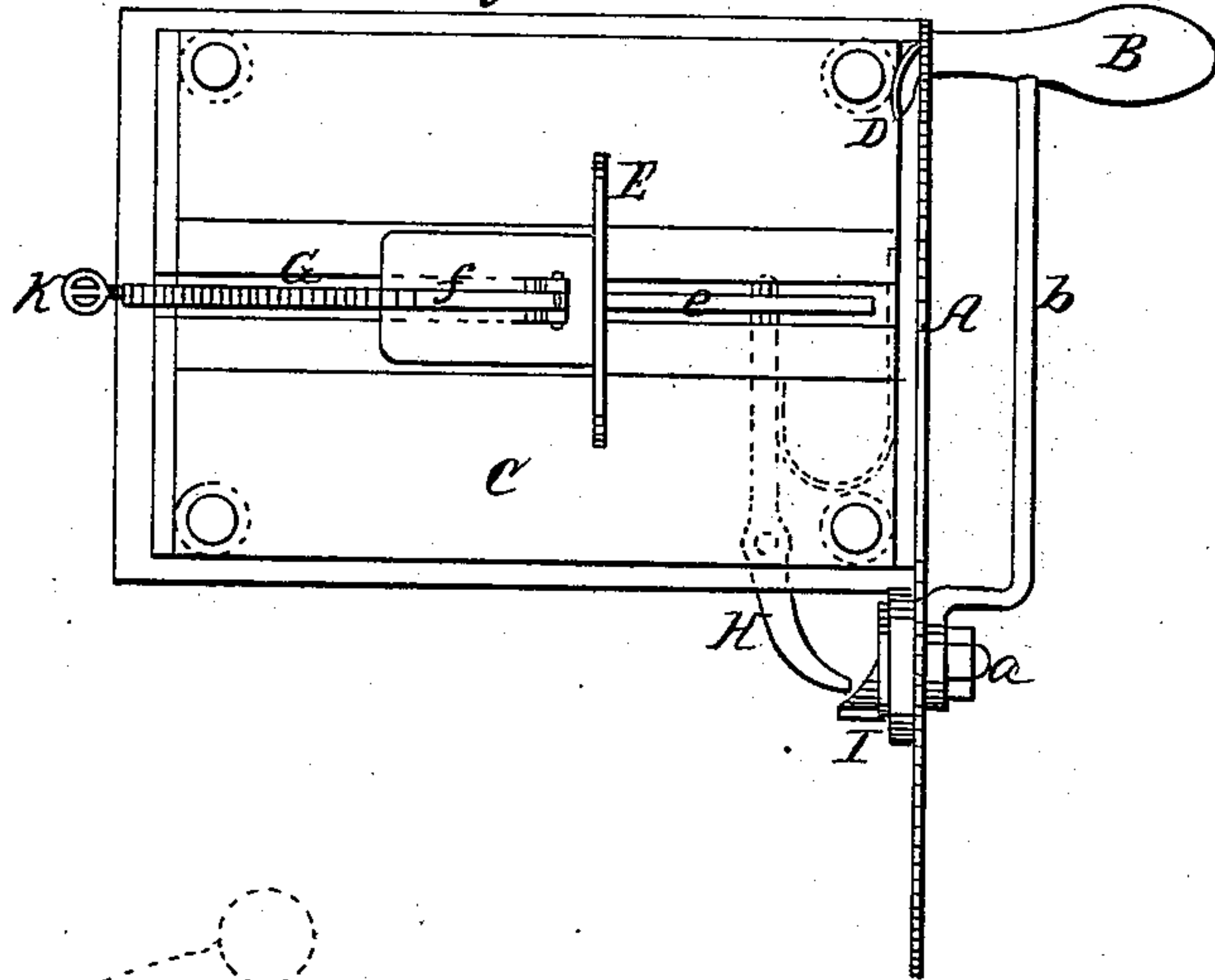


*W. S. Gray,  
Bread-Cutter,*

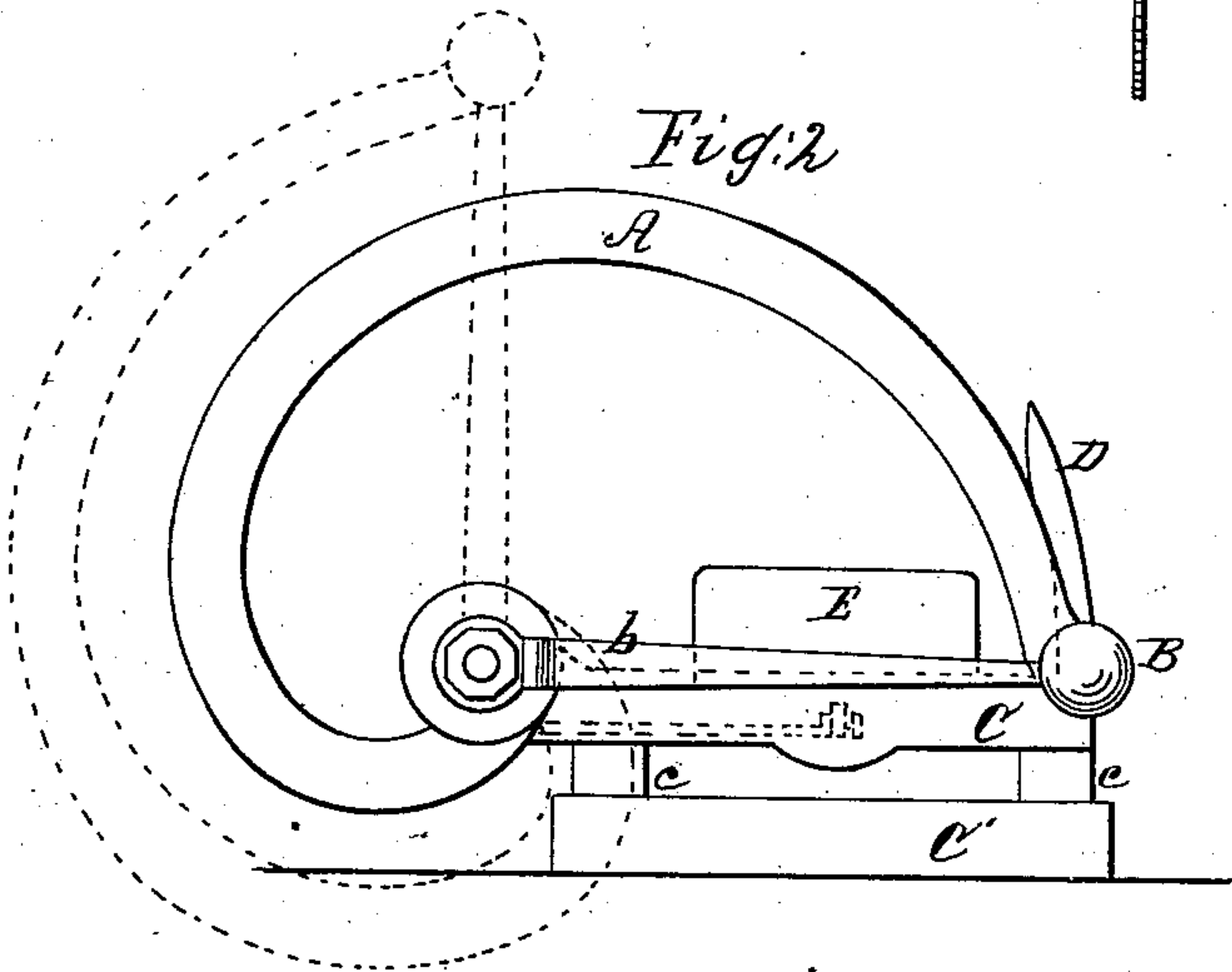
*No 67,191,*

*Patented July 30, 1867.*

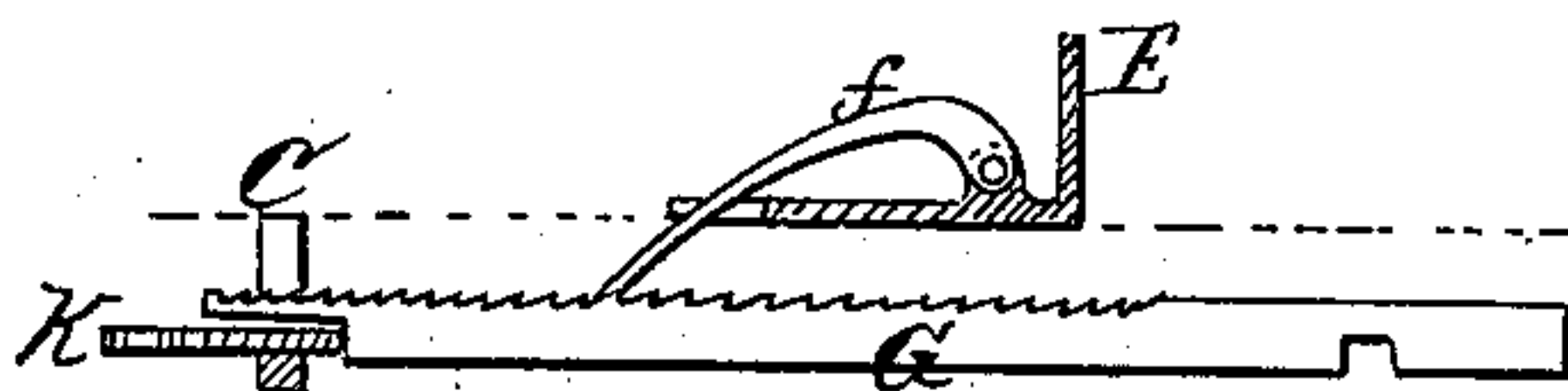
*Fig: 1*



*Fig: 2*



*Fig: 3*



*Witnesses*

*Battis Dr Long  
J. B. Peyton*

*Inventor*

*Wm S. Gray  
by his atty  
Baldwin & Co.*

# United States Patent Office.

WILLIAM S. GRAY, OF WORCESTER, MASSACHUSETTS.

Letters Patent No. 67,191, dated July 30, 1867.

## IMPROVED BREAD-CUTTER.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM S. GRAY, of the city and county of Worcester, in the State of Massachusetts, have invented a new and useful Improvement in Machines for Cutting Bread, of which the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which make part of this specification, and in which—

Figure 1 represents a plan or top view of my improved bread-cutter.

Figure 2, a view in elevation of the same, as seen from the front; and

Figure 3, a view of the feeding mechanism detached.

It is the object of my invention to cut a loaf of bread into slices, the thickness of which may be uniform or varied at the will of the operator.

In the accompanying drawings, the knife or cutter A is shown as made sickle-shaped, and with the cutting-edge on its inner side. The knife is mounted at one end on a pivot, *a*; a handle or crank, B, is attached to the other, and the two extremities of the blade are connected by a brace, *b*. The knife rotates parallel with the end of a table, C, faced with metal, and having a guide, D, to prevent the knife from cutting into the table. The table is made in two parts, C C', connected by pillars *c*, so as to leave a space between them, in which the feeding mechanism works. This feeding mechanism consists of a head or block, E, sliding in a slot, *e*, in the table, at a right angle to the plane in which the knife revolves. A dog or pawl, *f*, on the head E, takes into teeth on the ratchet-bar G, which reciprocates endwise parallel with the slot. The rear end of this feed-bar rests in a bearing in the table, while its front end hooks into a vibrating lever, H, pivoted under the table, to play horizontally and at right angles to the feed-bar. This lever is moved in one direction by a cam, I, on the cutter-shaft *a*, and in the other by a spring, *i*, shown in dotted lines in fig. 1.

The operation is as follows: A loaf of bread is placed on the table in front of the block E, and the knife then rotated. It will be seen that, as the knife descends, it makes a shearing or draw cut, and, at the same time, tends slightly to compress the loaf, the elasticity of which will thus aid the cutting. When the knife has been turned until the handle is perpendicular, (as shown in red in fig. 2,) the cam I strikes the lever H, which draws the feed-bar forward, and thus advances the head E and the loaf the distance of the thickness of another slice. When the lever H is released from the cam by the descent of the knife, the spring *i* retracts the feed-bar G, the teeth of which slip over the pawl *f* at the moment the knife is cutting the loaf, at which moment it cannot slip. The operation above described is repeated at each rotation of the knife. It will thus be seen that the feed takes place at the moment when the knife is out of the way. The length of the stroke of the feed-bar, and consequently the thickness of the slice, is regulated by a set-screw, *k*, which limits the backward movement of the bar, and thus causes a greater or less number of its teeth to pass back behind the pawl, as desired.

It is obvious that the construction of my cutter might be varied somewhat without departing from the spirit of my invention; for instance, the knife might be used without the brace *b*, if made sufficiently rigid, the handle B still being attached to the point. The knife might also be rotated by means of a crank on the rotating shaft *a*, and the point, while cutting, might enter a groove or slot, which would serve both as a guide and as a support for it.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, substantially in the manner described, in a bread-cutting machine, of a sickle-shaped cutter rotating in a vertical plane parallel with one edge of the table, with a head-block moving in a path at right angles to the cutter, for the purposes specified.
2. The combination of the cutter, the crank-handle, and the brace, all arranged and operating as described.
3. The combination, substantially as described, of the head-block, the feed-bar, and the working lever, with the cam on the cutter-shaft, for the purpose set forth.
4. The combination, as described, of the feed-bar, the retracting spring, and the adjusting screw, with the pawl on the head-block, for the purpose of regulating the thickness of the slice.

In testimony whereof I have hereunto subscribed my name.

WM. S. GRAY.

Witnesses:

JULIUS GUNTHER,  
HARTLEY WILLIAMS.