

No. 753,178.

PATENTED FEB. 23, 1904.

F. E. THOMES.
CORE BOX CUTTER.

APPLICATION FILED JULY 20, 1903.

NO MODEL.

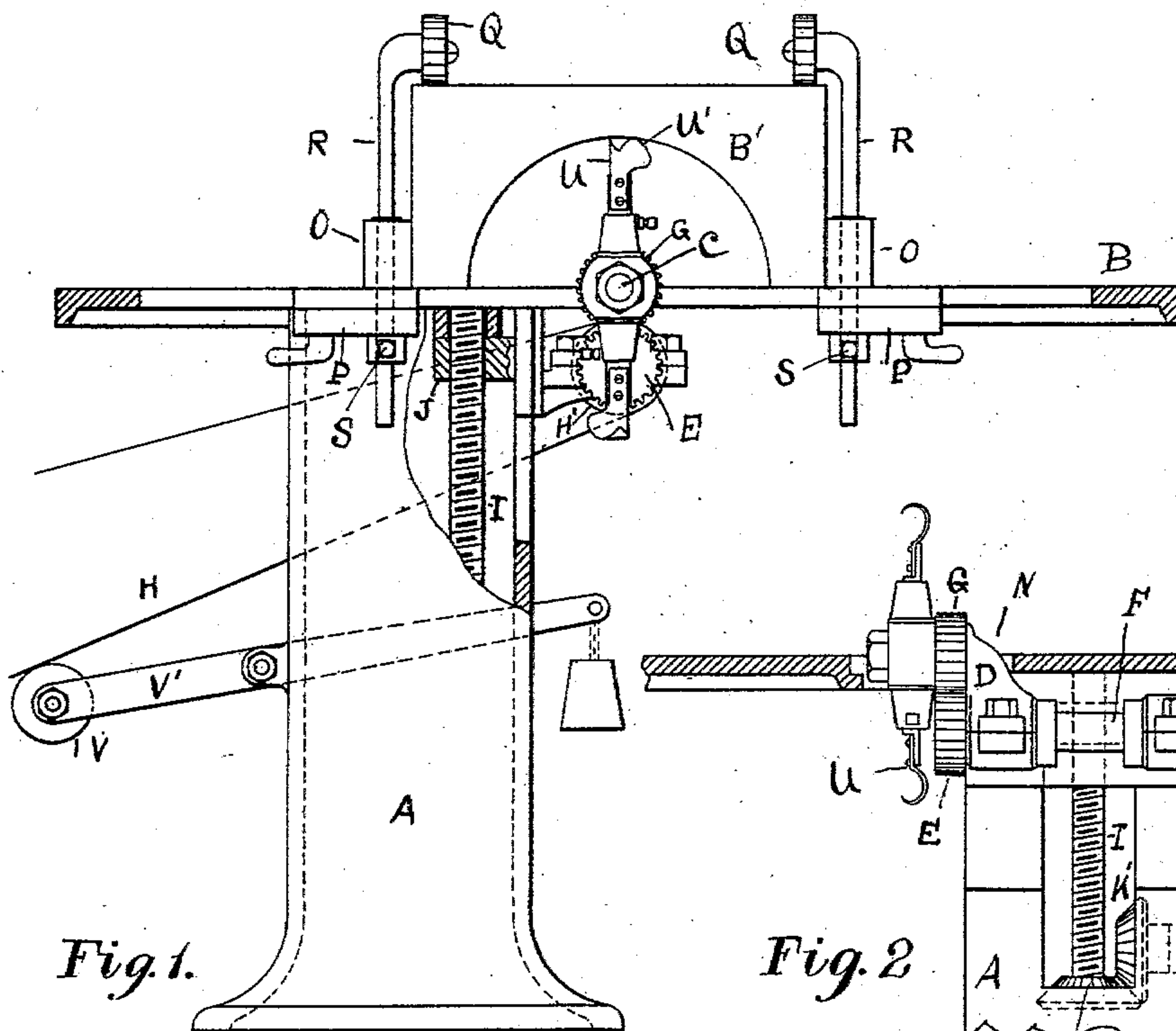


Fig. 1.

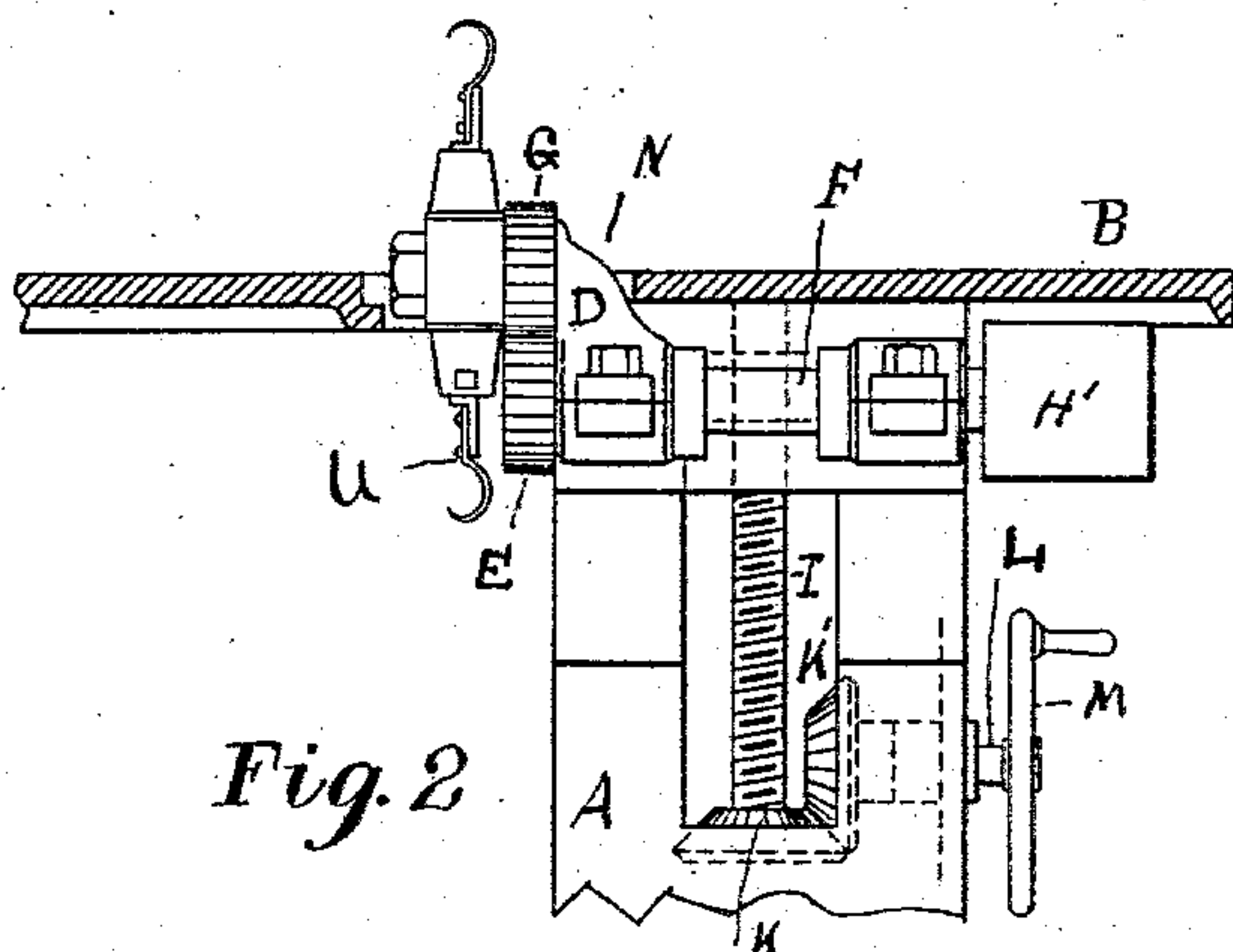


Fig. 2.

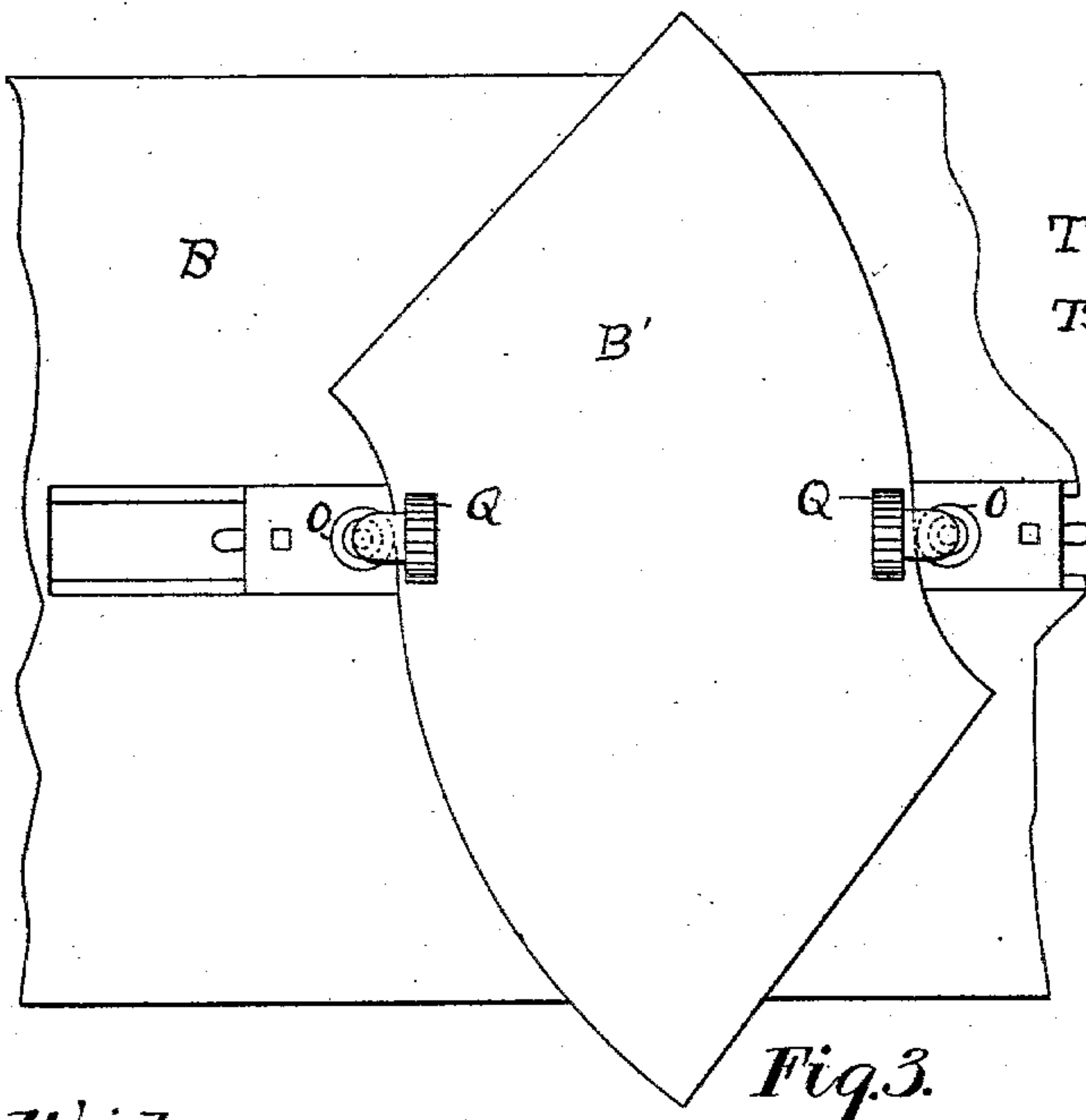


Fig. 3.

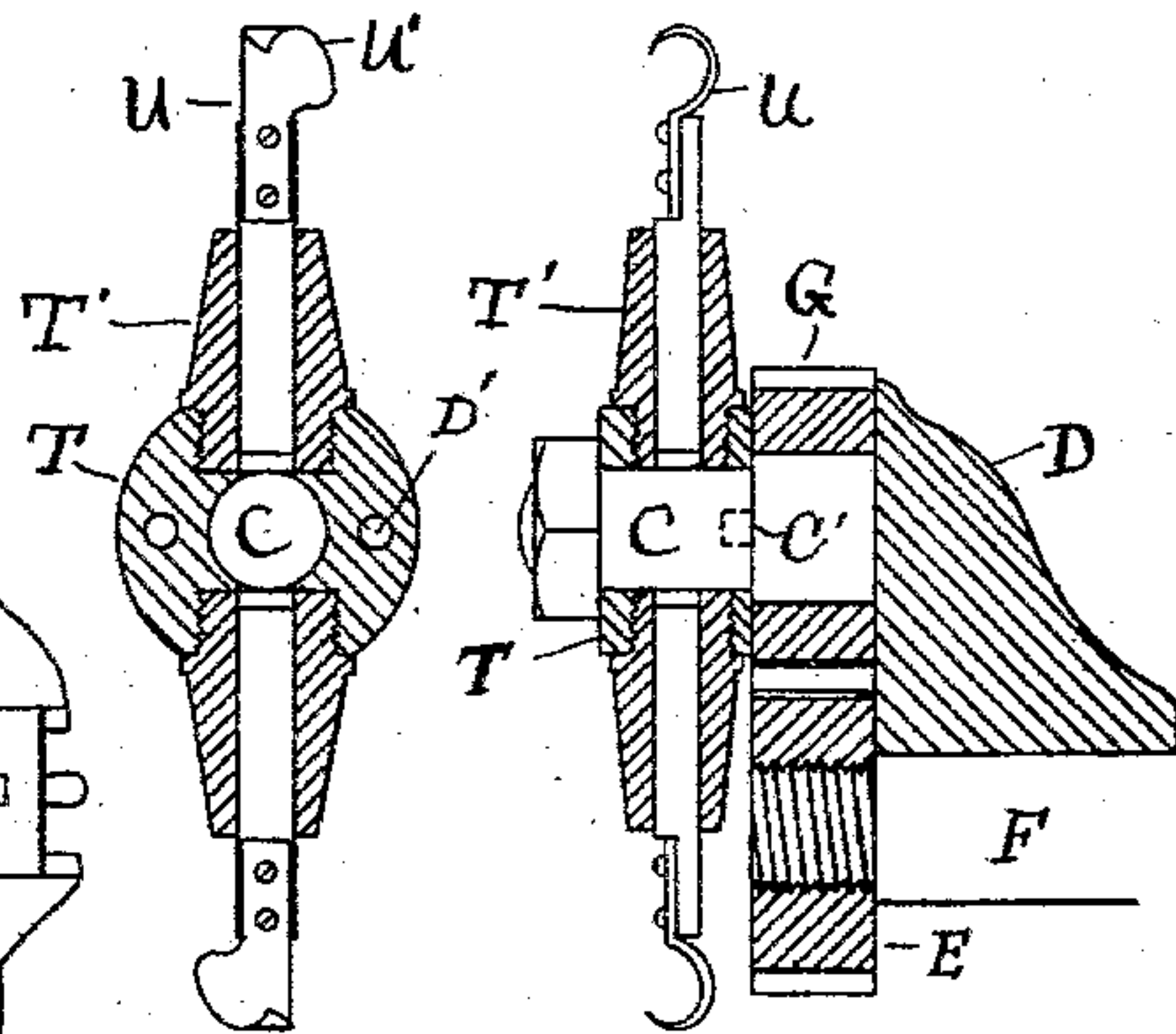


Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

FRANK E. THOMES, OF PORTLAND, MAINE, ASSIGNOR OF ONE-HALF TO
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CORE-BOX CUTTER.

SPECIFICATION forming part of Letters Patent No. 753,178, dated February 23, 1904.

Application filed July 20, 1903. Serial No. 166,276. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. THOMES, a citizen of the United States, residing at Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Core-Box Cutters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to core-box cutters.

It relates particularly to means for mounting the cutter-head relative to the table, to means for guiding the core-box on the table, to a new and improved cutter, and to certain details of construction, which will be hereinafter more particularly described, and pointed out in the claims. Its object is to produce a simpler and more efficient machine for cutting core-boxes.

In the drawings herewith accompanying and making a part of this application, Figure 1 is a front view of my core-box cutter, partly in section. Fig. 2 is a transverse sectional view, partly in elevation, of the cutter-head and the mechanism for adjusting it. Fig. 3 is a plan of the table and core-box-guiding mechanism; and Fig. 4 shows vertical transverse and longitudinal sections, respectively, of the cutter-head and the means for rotating the same.

Same letters refer to like parts.

In said drawings, A represents the frame, B the table, rigidly mounted thereon, and B' a core-box blank. The cutter-head is mounted on a spur C, projecting from a bracket D. The spur upon which the cutter-head is mounted is stationary, and the head revolves upon the spur, a gear E on the main shaft F meshing with a gear G on spur C. The head is secured to the gear by locking-pins C', taking into holes D' in the hub. The main shaft is driven in any convenient manner, as by a belt H, working over a pulley H'. The cutter-head is given vertical adjustment by means of a screw I, set in the frame and passing through a shoulder J, projecting from the bracket. A beveled gear K on the end of the screw meshes with a beveled gear K' on the end of a shaft L, which is operated by means of a

hand-lever M, the rotation of the screw accomplishing a vertical adjustment of the cutter-head and operating mechanism. The cutter-head is mounted upon the spur in order that the main driving-shaft may be located below the table, so as not to interfere with the movement of the core-box blank upon the table, the table being provided with a comparatively limited slot or opening N, through which the cutter-head and its very short support project. The shaft upon which the cutter-head is mounted is so short that it permits of the core-box blank being cut to a complete semicircumference without moving the table relative to the cutter-head shaft.

It has heretofore been customary to guide the core-box blank in various ways; but so far as I am aware it has never been customary to guide the core-box blank by passing it between vertical antifriction guide-rolls. This of course can only be done when the sides of the core-box blank are parallel with the direction of the core in the blank. To adapt my improved core-box cutter to use blanks of this kind, I employ rolls O, adjustable horizontally by means of sliding sleeves P, secured to the table, whereby they can be adjusted to contact with core-boxes of different sizes. I also provide means for holding the box from vertical displacement consisting of antifriction-rolls Q, rotatably mounted upon a vertical post R, said post being adjustable through said vertical rolls O and maintained in any given position by means of set-screw S.

The cutter-head consists of a hub T and removable arm T', adapted to receive the knives U. The knives are of peculiar configuration and are adapted to remove the material from the box by a slicing or shearing cut. To this end they are curved, and the cutting edge is inclined to a point, as seen at U'. This makes a much better cut and is less liable to split the blanks and is one of the important features of my invention. The belt which drives the cutter-head shaft is kept under proper tension by means of roll V at the end of a weighted lever V'.

The advantages of my improved core-box cutter are: It affords better means for guiding

the blank, it cuts the core a full semicircle without vertical movement of the table or blank one relative to the other, it makes a more perfect core, it lessens the tendency to split the blank by reason of the slicing or shearing cut of the knives, and the plane in which the cutter-head revolves is always at right angles to the table.

Having thus described my invention and its use, I claim—

1. In a core-box cutter, a suitable frame, a table secured to the frame provided with a slot for the cutter, a main shaft and means for rotating it below the table, a vertical bracket carrying a short spur and adapted with such spur to project through said slot, a cutter-head adapted to revolve on said spur and a driving connection between the head and shaft and means for vertically adjusting the shaft and therewith the bracket and cutter-head relative to the table.

2. A core-box cutter comprising in combination a suitable frame, a table mounted thereon and having a slot therein, a rotating cutter-head projecting upwardly through said slot in

said table and adapted to cut work fed axially over the cutter, vertical guide-rolls one on each side of and in the plane of the cutter and means for adjusting them horizontally relative to the table, whereby they can be brought into contact with the sides of a core-box blank while being fed over the table.

3. In a core-box cutter, a suitable frame, a table mounted thereon and having a slot therein, a rotating cutter-head projecting through said slot in said table and adapted to cut work fed axially over the cutter, posts adapted to have vertical and horizontal adjustment relative to said table one on each side of and in the plane of the cutter, horizontal offsets on said posts and antifriction-rolls mounted on said offsets.

In testimony whereof I affix my signature in presence of two witnesses this 16th day of July, 1903.

FRANK E. THOMES.

In presence of—

ELGIN C. VERRILL,
MARION RICHARDS.