

No. 681,656.

Patented Aug. 27, 1901.

H. D. PERKY.

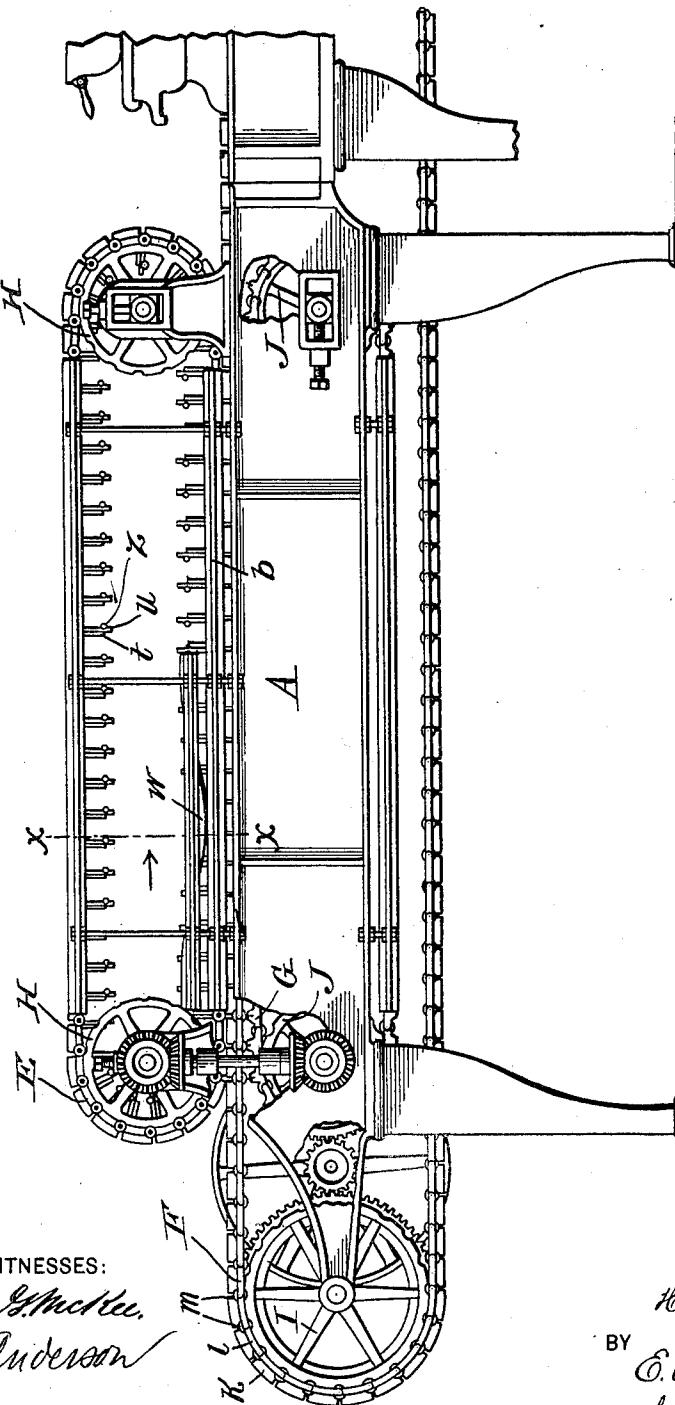
CONTINUOUS CUTTING MACHINE.

(Application filed Dec. 9, 1899. Renewed Feb. 9, 1901.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.



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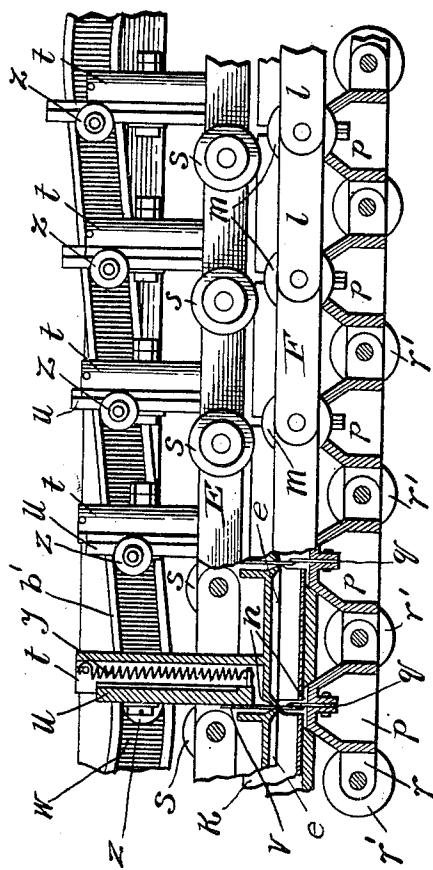
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3 Sheets—Sheet 2.

Fig. 2.



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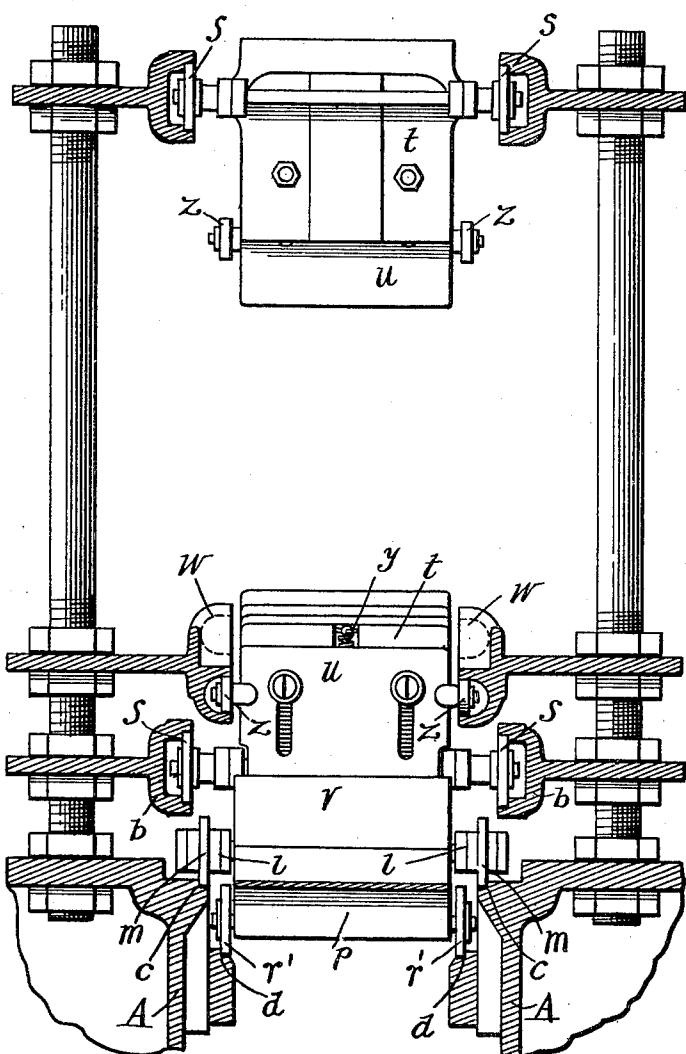
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3 Sheets—Sheet 3.

Fig. 3.



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# UNITED STATES PATENT OFFICE.

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## CONTINUOUS CUTTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 681,656, dated August 27, 1901.

Application filed December 9, 1899. Renewed February 9, 1901. Serial No. 46,722. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY D. PERKY, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Continuous Cutting-Machines; 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.

In the accompanying drawings, Figure 1 is a side elevation of the invention. Fig. 2 is a partial longitudinal section showing the guideways; and Fig. 3 is an enlarged section on the line  $\alpha\alpha$ , Fig. 1.

This invention has relation to machines for cutting shredded wheat and other food preparations into regular and uniform sections; and it consists in the novel construction and combinations of devices hereinafter set forth, and more particularly pointed out in the appended claims.

In the accompanying drawings, illustrating the invention, the letter A designates the frame of the machine, having parallel sides and elongated form. The frame is formed with tracks or ways, as  $b$ ,  $c$ , and  $d$ , upon which the side lugs of the endless-chain belts E, F, and G, respectively, travel, said belts being carried by their end sprocket-wheels H, I, and J. The middle belt F is made of iron, and consists of short sectional troughs having lateral flanges  $k$  and side lugs  $l$ . The links or short troughs are pivoted together by means of pins passing through the side lugs, and these lugs usually carry small rollers  $m$ , whereby their passage along the track  $c$  is facilitated and whereby engagement with the rims of the sprocket-wheels is effected. The body of each trough-section is formed on its under side with a broad transverse rib, the sides of which are beveled in such manner that each two successive links provide between them a transverse recess, (indicated at  $n$ .) The belt F so formed constitutes an endless sectional trough having between the sections narrow intervals for the passage of the blades of the cutter-belts. The lower cutter-belt G consists of an endless chain of knife sections or links each consisting of a body portion  $p$ , having its sides beveled and being

properly portioned to engage the recess  $n$  of the trough-belt F. The knife-sections are provided with the transverse blades  $q$  and with lateral lugs  $r$ , usually bearing the rollers  $r'$  and being pivoted together to connect the sections in chain form. When the machine is in operation, the blades  $q$  pass upward in succession between the sections of the trough belt. These blades pass upward into the trough sufficiently to lift the material somewhat and to coat with the blades of the upper cutter-belt. The upper cutter-belt E also consists of section-links provided with lateral lugs pivoted together and usually having the lateral rollers  $s$ . The under side or face of the body portion of the link may be plane, but is preferably fashioned in mold form having a beveled edge rib  $e$ , (see Fig. 2,) adapted to gather the material somewhat and give it shape as it presses thereon in its downward movement. At the adjacent edges of the sections these ribs or lips also serve to compress the material against the rising blades of the lower cutter, in this manner facilitating the action of the blades of the upper cutter in their descent. At the back of each section of the upper cutter is provided a frame portion or flange  $t$ , forming a way for the blade-frame  $u$ , which carries the blade  $v$ , which has its movement along the plane of the edge face of the section downward to pass the rising blade of the lower cutter in a shearing manner. In order to effect this, camways  $w$  are provided on the main frame at each side above the trackways  $b$ , said trackways in this part having over-flanges  $b'$ , adapted to prevent the body portions of the knife-sections from leaving the trackways. The camways  $w$ , which dip downward, as indicated, and have a subsequent rise, are designed to engage the rollers  $z$ , which are connected to lateral lugs of the blade-frame  $u$ . As the knife-sections pass along their trackway toward the end of the machine the rollers of the blade-frame enter the camways  $w$  and are operated thereby to depress the blade-frame and blade to make the cut and then to raise the blade-frame and blade, withdrawing the latter from the material through the aid of the edge rib or lip of the section-body. The blade and blade-frame are held in raised position by means of the

friction-springs  $\gamma$ , which bear against the slot-bolts connecting the parts. That portion of the machine in front of the camway is made sufficiently long to provide for pressing the biscuit in form. The three endless belts E, F, and G travel at the same rate of speed and are accurately formed and geared in order that the action of the cutter-blades shall be neat and close. The position of the lower cutter-blades is accurately defined by means of the engagement of the lower cutter-bodies with the interval recesses of the belt-trough, and provision is made for micrometric adjustment of the upper cutter by means of slanting set-screws of its sprocket-wheels passing through the hubs thereof and engaging abutments of the shaft on which they are keyed.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with a traveling sectional carrier-belt composed of trough-links, of a lower chain cutter-belt having link-blades adapted to pass upward between the trough-links, an upper chain cutter-belt, the plane-tracks and cam-tracks of the frame, whereby the movements of the belts are controlled, and the sprockets and gear devices, whereby the belts are connected to move at the same rate of speed, substantially as specified.

2. The combination with the link troughs, and their connected frames and rollers, of a

lower chain cutter-belt having fixed blades and devices for engagement with the interval recesses of the trough-links, substantially as specified. 35

3. The combination with link troughs, and their connected frames, of the lower chain of link cutters, and an upper chain of links having reciprocating blades, and mechanism for operating, substantially as specified. 40

4. The combination with camways in the frame, and the connected section-troughs, of an upper chain of connected links, their adjustable blades and sliding frames, having lateral lugs to engage the camways, substantially as specified. 45

5. The sectional cutter-link, consisting of the body portion and its connecting lugs and rollers, its mold-form face, its trackway, movable blade-frame, adjustable blade and friction-springs, substantially as specified. 50

6. In a continuous cutting-machine, the combination with chain of section-troughs, of a lower chain of knife-links, engaging said chain of section-troughs, and an upper chain of links carrying movable cutters and means for reciprocating said cutters, substantially as specified. 55

In testimony whereof I affix my signature in presence of two witnesses.

HENRY D. PERKY.

Witnesses:

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ALBERT H. CHAFFEE.