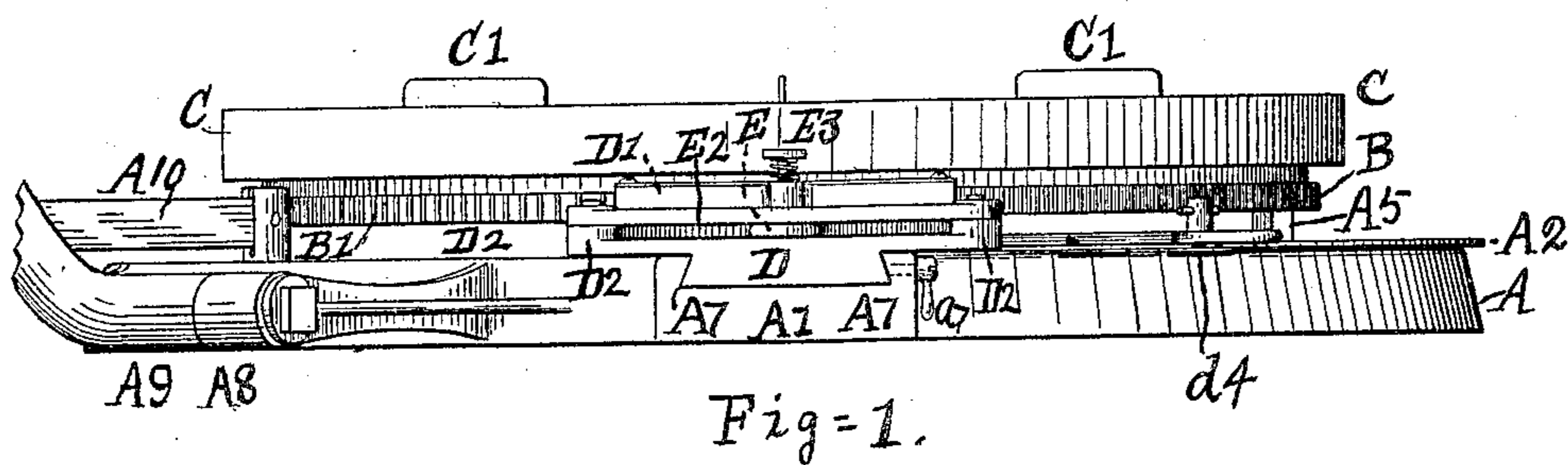
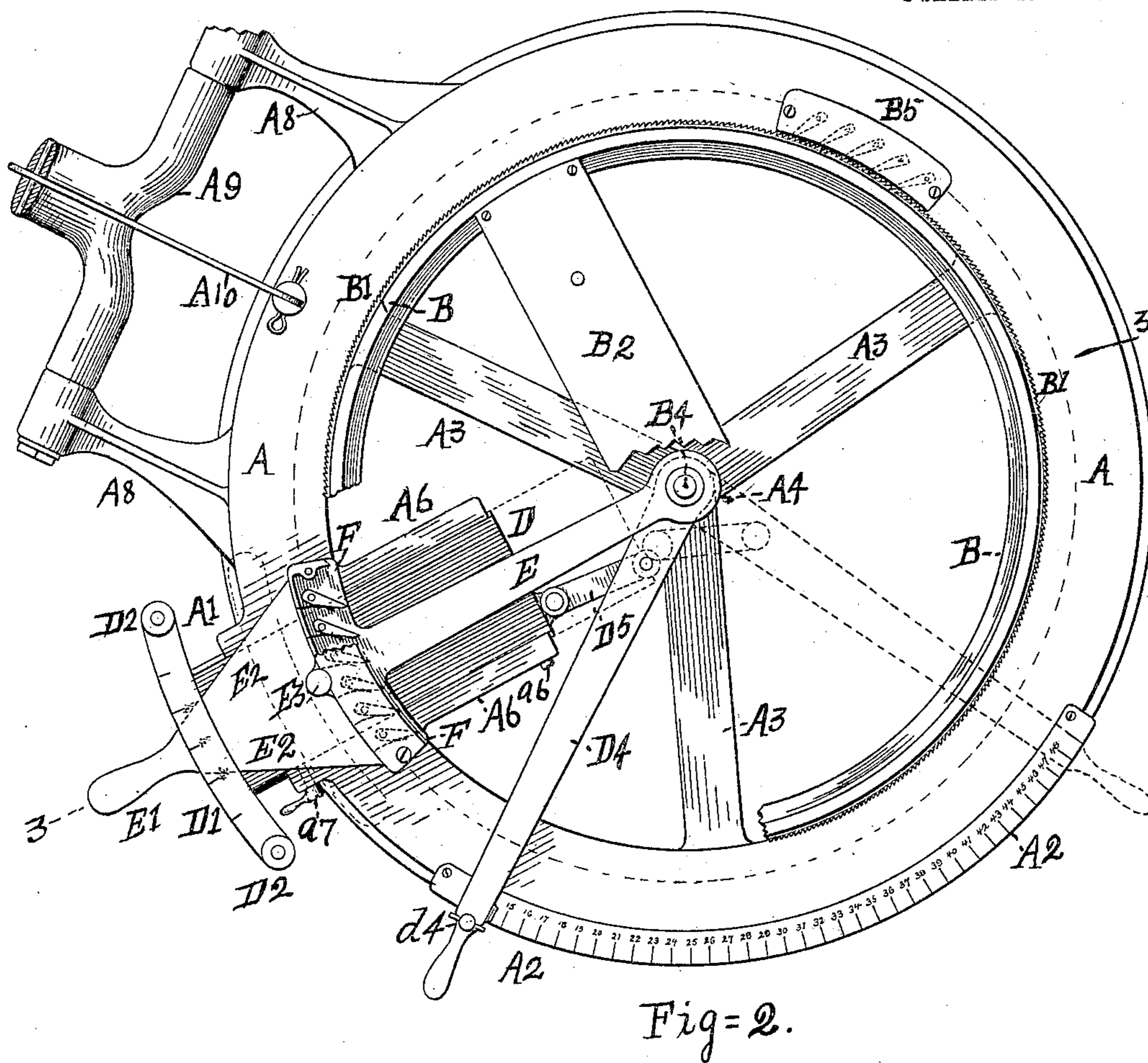


PATENTED MAY 8, 1906.

APPLICATION FILED NOV. 21, 1903.

2 SHEETS—SHEET 1.



WITNESSES.

William M. Swan
Lotta Lee Hayton.

INVENTOR.

John Halliday

By Parker & Burton

Attorneys.

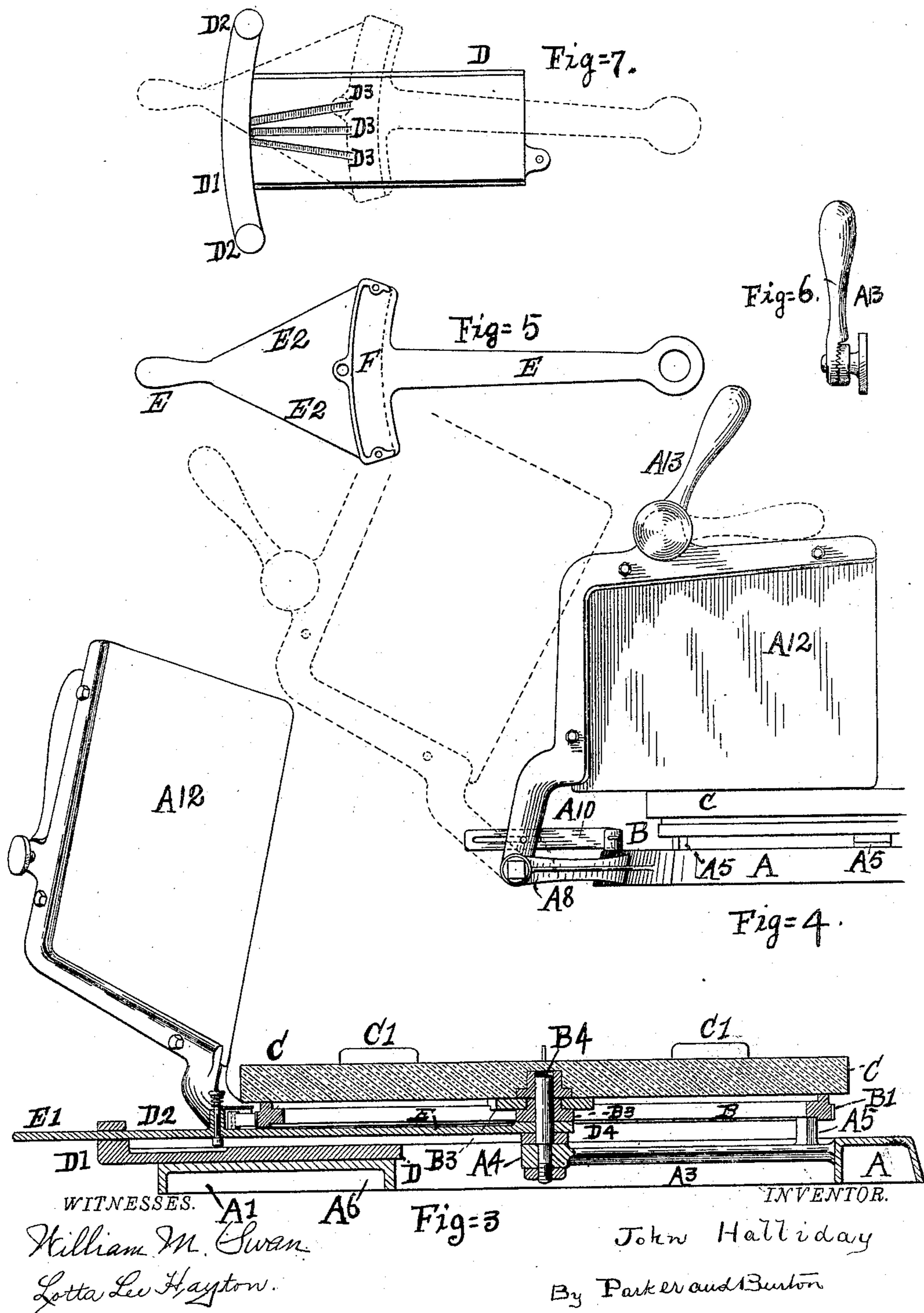
No. 820,302.

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J. HALLIDAY.
CHEESE CUTTER.

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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

JOHN HALLIDAY, OF DETROIT, MICHIGAN.

CHEESE-CUTTER.

No. 820,302.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed November 21, 1903. Serial No. 182,161.

To all whom it may concern:

Be it known that I, JOHN HALLIDAY, a subject of the King of Great Britain, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Cheese-Cutters; and I 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to cheese-cutters; and it consists in the improvements hereinafter described, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is an elevation of a cheese-cutter with the knife broken away embodying my invention. Fig. 2 is a plan view of the same. Fig. 3 is a section on the line 3 3 of Fig. 2, the knife being shown in full. Fig. 4 is a detail elevation of a portion of the cheese-cutter, showing the knife in its closed position. Fig. 5 is a detail plan of the operating-lever, the dogs of the pawl being removed. Fig. 6 is a detail of the handle by which the knife is operated. Fig. 7 is a plan view of the slide which coöperates with the operating-lever to adjust the throw of the same.

A is the annular base having an outward radial projection A' and an inner radial projection A'', in which is a radially-extending dovetailed groove A⁷.

A² is a segmental strip of metal secured to the opposite edge of the base A and having a scale on its upper surface designed to correspond to the weight of the cheese that is being cut.

A³ A³ A³ are radial spokes extending inward from the annular base A and supporting at their centers a bearing A⁴, in which is secured the vertical pivotal pin B⁴.

B is a ring provided with a cross-piece B² and pivoted upon the pin B⁴ at B³.

A⁵ A⁵ designate lugs adapted to center the ring B. The ring B is provided around its periphery with ratchet-teeth B'.

B⁵ is a pawl-case secured to the base A and provided with a number of dogs adapted to engage the ratchet-teeth B'. The dogs of the pawl-case B⁵ are so spaced that their distance apart is not an exact multiple of the length of one of the teeth B'. Thus one of the pawls will engage said teeth with a less

movement of the ring B than the length of the teeth B'.

C is a circular wooden disk centered upon the pivotal pin B⁴ and resting upon the ring B. The disk C forms a table upon which the cheese is placed to be cut.

A⁸ represents arms extending outward from the base A. A knife A⁹ A¹² is pivoted between the outer ends of the arms A⁸ and swings inward and downward upon the disk C, as indicated in Fig. 4.

A¹³ is an adjustable handle upon the frame of the knife A⁹ A¹². A¹⁰ is a radially-extending slotted link pivoted to the base A and having a pin upon the knife A⁹ A¹², engaging in its slot and serving to limit the outward motion of the knife A⁹ A¹².

D is a dovetailed plate fitting in the dovetailed slot A⁷ and adapted to reciprocate therein radially to the base A.

D' is a segmental guide on the outer end of the plate D, having pins or stops D² at its ends to limit the motion of the operating-lever. The upper plate of the segmental guide D' is graduated on its upper surfaces to indicate fourths of the travel of the operating-lever.

D³ D³ D³ are grooves in the upper surfaces of the plate D.

D⁴ is a lever-arm pivoted upon the pin B⁴, and having its outer end provided with a handle and swinging over the scale upon the segmental strip A².

d⁴ is a thumb-screw for fixing the lever-arm D⁴ in any desired position.

D⁵ is a connecting-link pivoted to the arm D⁴ and to the plate D.

It will be seen that by turning the lever-arm D⁴ the plate D is adjusted radially to the base A.

E is the operating-lever pivoted at its inner end upon the pin B⁴, extending over the plate D and through the guide D' and provided with a handle E' at its outer end.

E² E² are straight cam-surfaces diverging from each other toward the center of the base A.

E³ is a pin adapted to reciprocate vertically and to be pressed downward through its guide under the operating-lever E upon the plate D and adapted to engage at its inner end in the grooves D³ D³ D³.

F is a pawl-case upon the operating-lever E, provided with dogs adapted to engage the ratchet-teeth B' to turn the ring B, and con-

sequently the disk C with the cheese thereon. The dogs of this pawl are spaced so as to be a distance apart which is not a multiple of the length of the teeth B' for the reason stated in describing the pawl B⁵.

It will be seen that the cam-surfaces E² E² contact the stops D² D² to limit the travel of the operating-lever E. Owing to the shape and location of said cam-surfaces, the farther the guide D' is away from the center of the base A the greater will be the throw of the operating-lever E, and the closer said guide is to the center of said base the less will be the throw of said lever.

The grooves D³ D³ D³ are cut so that the center is radial and marks the mid-position or half-way position of the operating-lever. The outside grooves are diverging and mark the quarter and three-quarter position of the operating-lever in every position of the plate D, the pin E³ engaging in these grooves to denote when the corresponding position is reached.

The operation of the above-described device is as follows: The cheese is first weighed and then placed upon the disk C concentric therewith. The lever-arm D⁴ is then moved along the scale A² to the figure of said scale indicating the weight of the cheese. This moves the plate D, and consequently the stops D² D², to such a position that the throw of the operating-lever E when it contacts said stops is sufficient to turn the disk C a distance so that the knife A⁹ A¹² moving in an invariable plane shall cut off one pound of cheese. If it is desired to cut off a half a pound, the operating-lever E is moved until the pin E³ engages the middle groove D³. If one-quarter or three-quarters of a pound is to be cut, the operating-lever E is moved from said stop until the pin E³ engages the corresponding outer groove D³.

a⁶ a⁷ are set-screws by which any lost motion between the plate D and the groove in which it reciprocates may be taken up.

It will be evident that various mechanical changes may be made without departing from my invention.

What I claim is—

1. In a cheese-cutter, the combination of a support for the cheese, a knife adapted to move in a plane radial to the cheese when on said support, an oscillating part adapted to change the relative angular position of said knife and support in proportion to the extent of its travel, a stop to limit the motion of said oscillating part, a scale and a lever-arm adapted to move over said scale and to adjust the position of said stop.

2. In a cheese-cutter, the combination of a support for the cheese, a knife adapted to move in a plane radial to the cheese when on said support, an oscillating part adapted to change the relative angular position of said knife and support in proportion to the extent

of its travel, a stop upon each side of said oscillating part, means for varying the positions of said stops proportionally to limit the motion of the oscillating part, and means for indicating a proportional part of the travel of the oscillating part at all positions of the stops.

3. In a cheese-cutter, the combination of a support for the cheese, a knife adapted to move in a plane radial to the cheese when on said support, an oscillating part adapted to change the relative angular position of said knife and support in proportion to the extent of its travel, a stop upon each side of said oscillating part, means for varying the relative position of said stops to an equal extent relative to said oscillating part, and means for indicating the position of mid-travel of said oscillating part.

4. In a cheese-cutter, the combination of a support for the cheese, a knife adapted to move in a plane radial to the cheese when on said support, an oscillating part adapted to change the relative angular position of said knife and support in proportion to the extent of its travel, a stop adapted to limit the movement of said oscillating part, a cam-surface adapted to coact with said stop to limit the motion of the oscillating part, and means for varying the relative position of said stop and cam-surface to adjust the extent of travel of said oscillatory part.

5. In a cheese-cutter, the combination of a support for the cheese, a knife adapted to move in a plane radial to the cheese when on said support, an oscillating part adapted to change the relative angular position of said knife and support, in proportion to the extent of its travel, a stop adapted to limit the movement of said oscillating part, a cam-surface adapted to coact with said stop to limit the motion of the oscillating part, a scale, a lever-arm moving over said scale, and means by which the movement of said lever shall adjust the relative position of said stop and cam-surface.

6. In a cheese-cutter, the combination of a support for the cheese, a knife adapted to move in a plane radial to the cheese when on said support, an oscillating part adapted to change the relative angular position of said knife and support in proportion to the extent of its travel, a stop adapted to limit the movement of said oscillating part, a cam-surface adapted to coact with said stop to limit the motion of the oscillating part, means for varying the relative position of said stop and cam-surface to adjust the extent of travel of said oscillating part, and a second cam-surface, and a stop adapted to coact therewith, the relative position of the second cam-surface and its stop being adjustable by the same means that adjust the relative position of the first cam-surface and stop, said second cam-surface being arranged to indicate by its

contact with its stop an aliquot part of the travel of said oscillating part.

7. In a cheese-cutter, the combination of a pivoted support for the cheese, a knife adapted to move in a plane radial to the cheese when on said support, a lever adapted to oscillate about the same center as the cheese-support, and to change the relative position of said knife and support in proportion to the extent of its travel, and provided with a cam-surface varying in width in a direction radial to said cheese-support, a stop adapted to contact said cam-surface, and means for adjusting said stop toward and away from said pivot.

8. In a cheese-cutter, the combination of a pivoted support for the cheese, a knife adapted to move in a plane, radial to cheese when on said support, a lever adapted to oscillate about the pivot of the cheese-support and provided with a pawl acting to turn said cheese-support, a cam-surface upon said lever, a plate adapted to travel toward and from said pivot, and provided with a stop adapted to coact with said cam to limit the motion of said lever, grooves in the upper surface of said plate, and a pin on said lever adapted to engage with said grooves, for the purpose set forth.

9. In a cheese-cutter, the combination of a pivoted support for the cheese, a knife adapted to move in a plane radial to said support, a lever adapted to oscillate about the pivot of said support and provided with a pawl acting to turn said cheese-support, a cam-surface upon said lever, a slide adapted to reciprocate toward and away from said pivot and provided with a stop adapted to coact with said cam-surface to limit the motion of said lever, a scale, a lever-arm adapted to travel over said scale, and means for connecting said lever-arm and slide so that a movement of the former shall adjust the latter.

10. In a cheese-cutter, the combination of a pivoted support for the cheese, a knife adapted to move in a plane radial to said support, a lever pivoted upon the pivot of said

support, and provided with a pawl acting to turn said cheese-support, a cam-surface upon said lever, a slide adapted to reciprocate toward and away from said pivot and provided with a stop adapted to coact with said cam-surface to limit the motion of said lever, a scale, a lever-arm pivoted upon the pivot of said support and adapted to travel over said scale, and means for connecting said lever-arm and slide so that a movement of the former shall adjust the latter.

11. In a computing cheese-cutter, the combination of a cheese-table, a cutting means, table-adjusting means having a limiting member and a lever member, one of said members having a cam-surface, and adjustable means upon the other said member and coöperating with said first-named member to vary the operation of said table-adjusting means.

12. In a cheese-cutter, the combination of a support for the cheese, a knife adapted to move in a plane radial to the cheese when on said support, an oscillating part adapted to change the relative angular position of said knife and support in proportion to the extent of its travel, a stop upon each side of said oscillating part, means for varying the position of one of said stops to limit the motion of the oscillating part, and means for indicating a proportional part of the travel of the oscillating part at all positions of the movable stop.

13. In a cheese-cutter, the combination of a rotatable cheese-carrier, a handle-lever connected to rotate said carrier, and a stop member movable with respect to the handle member and provided with a plurality of stop portions for limiting the movement of the handle-lever.

In testimony whereof I sign this specification in the presence of two witnesses.

JOHN HALLIDAY.

Witnesses:

ROBERT J. RUTLEDGE,
ELLIOTT J. STODDARD.