

(No Model.)

C. W. HOTTMANN.
MEAT CUTTING MACHINE.

No. 363,465.

Patented May 24, 1887.

Fig. 1.

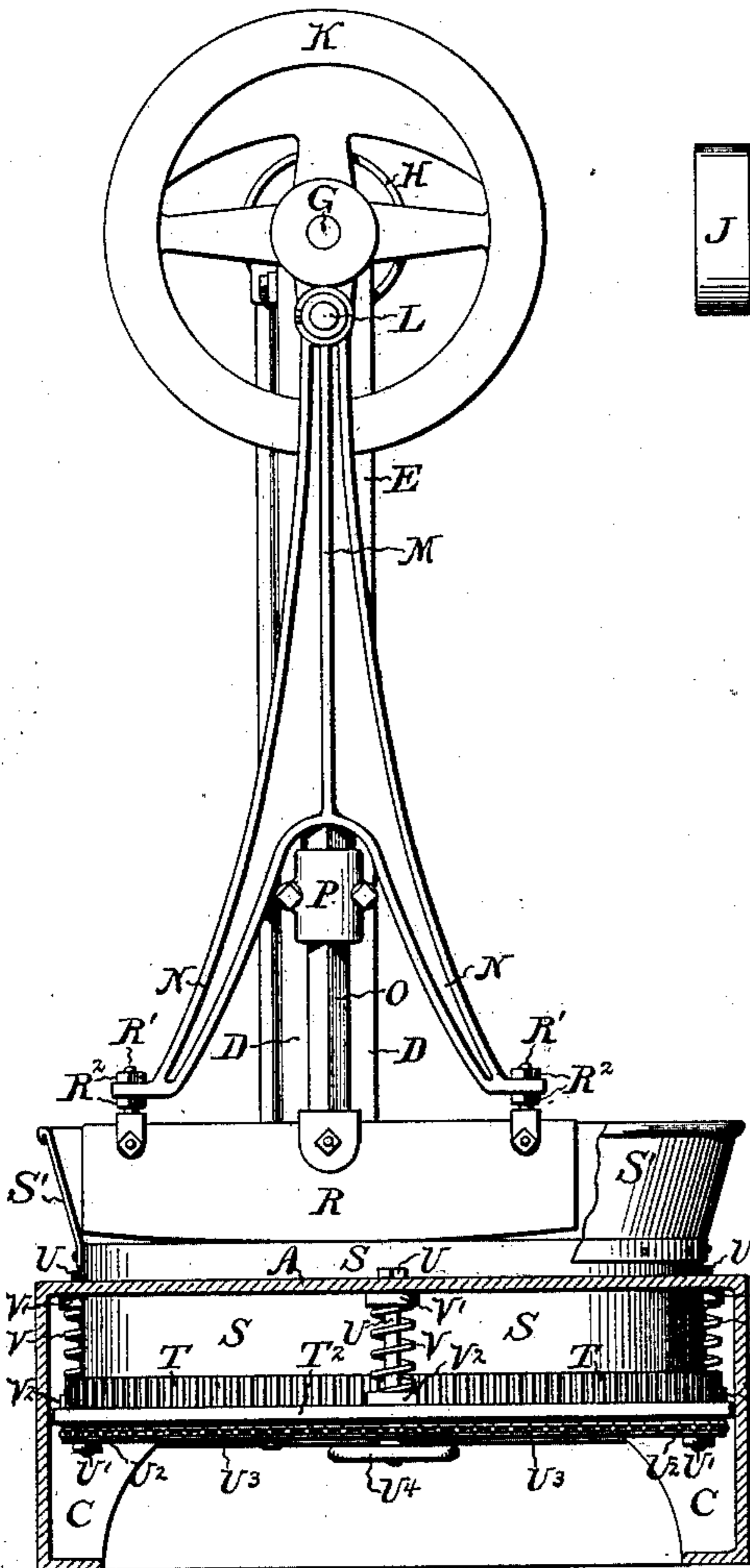


Fig. 2.

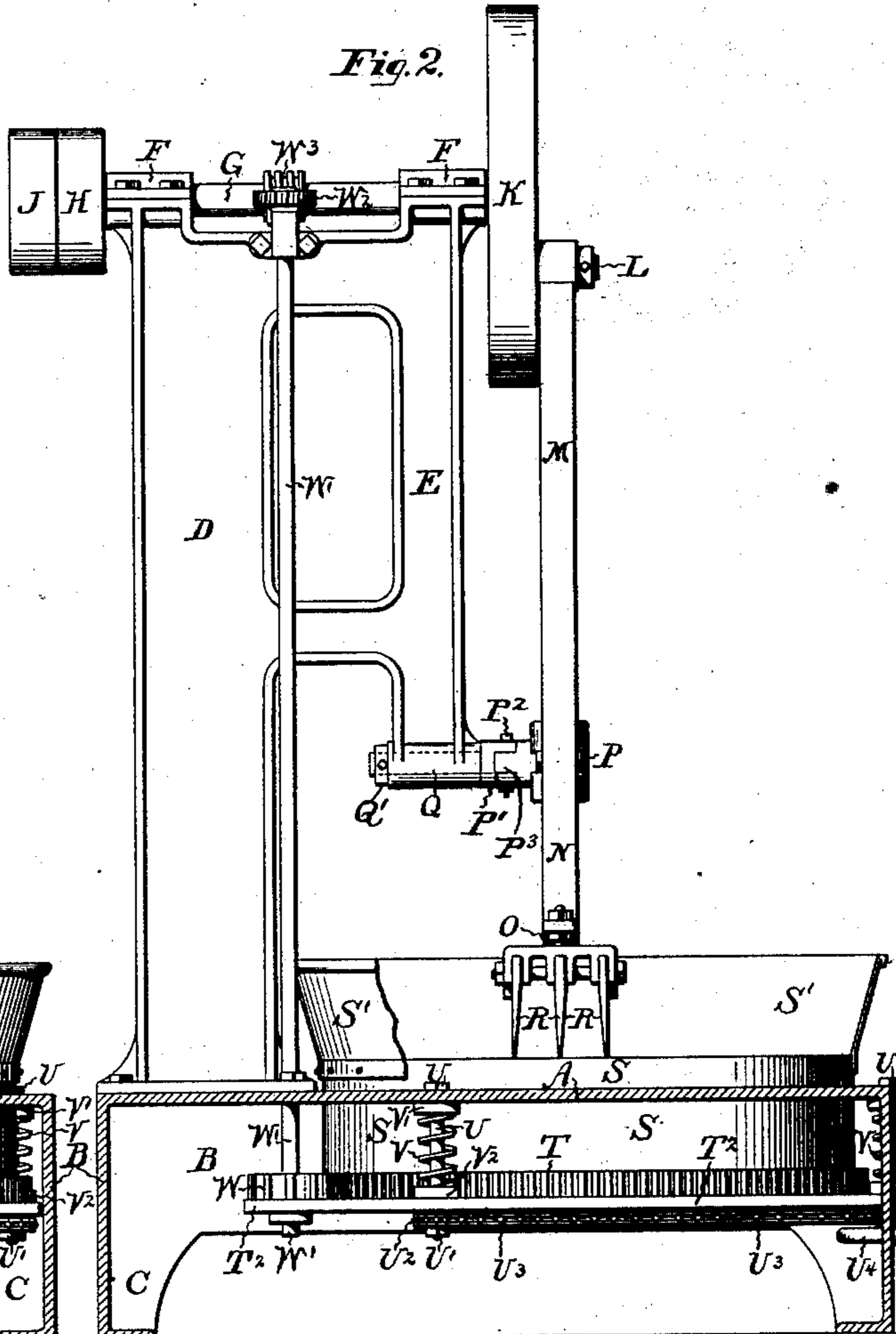


Fig. 4.

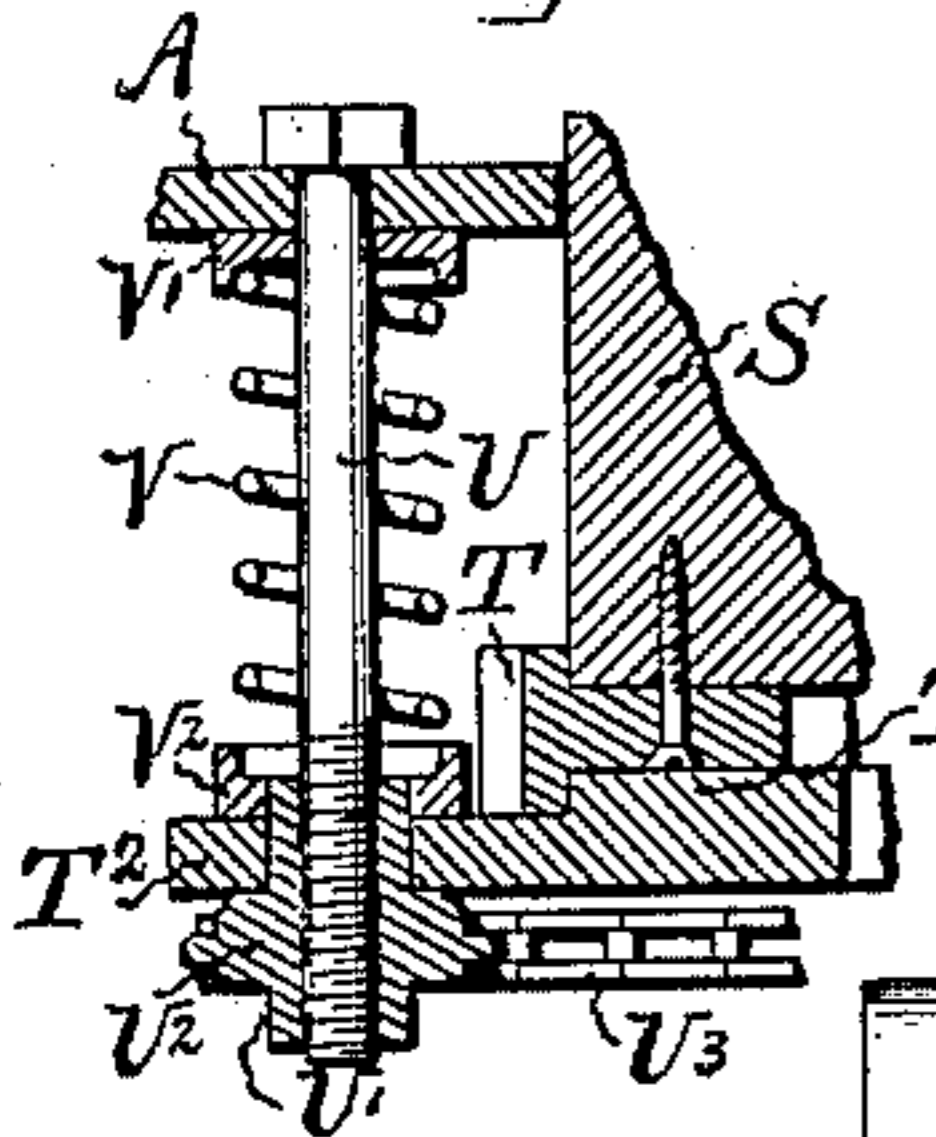


Fig. 3.

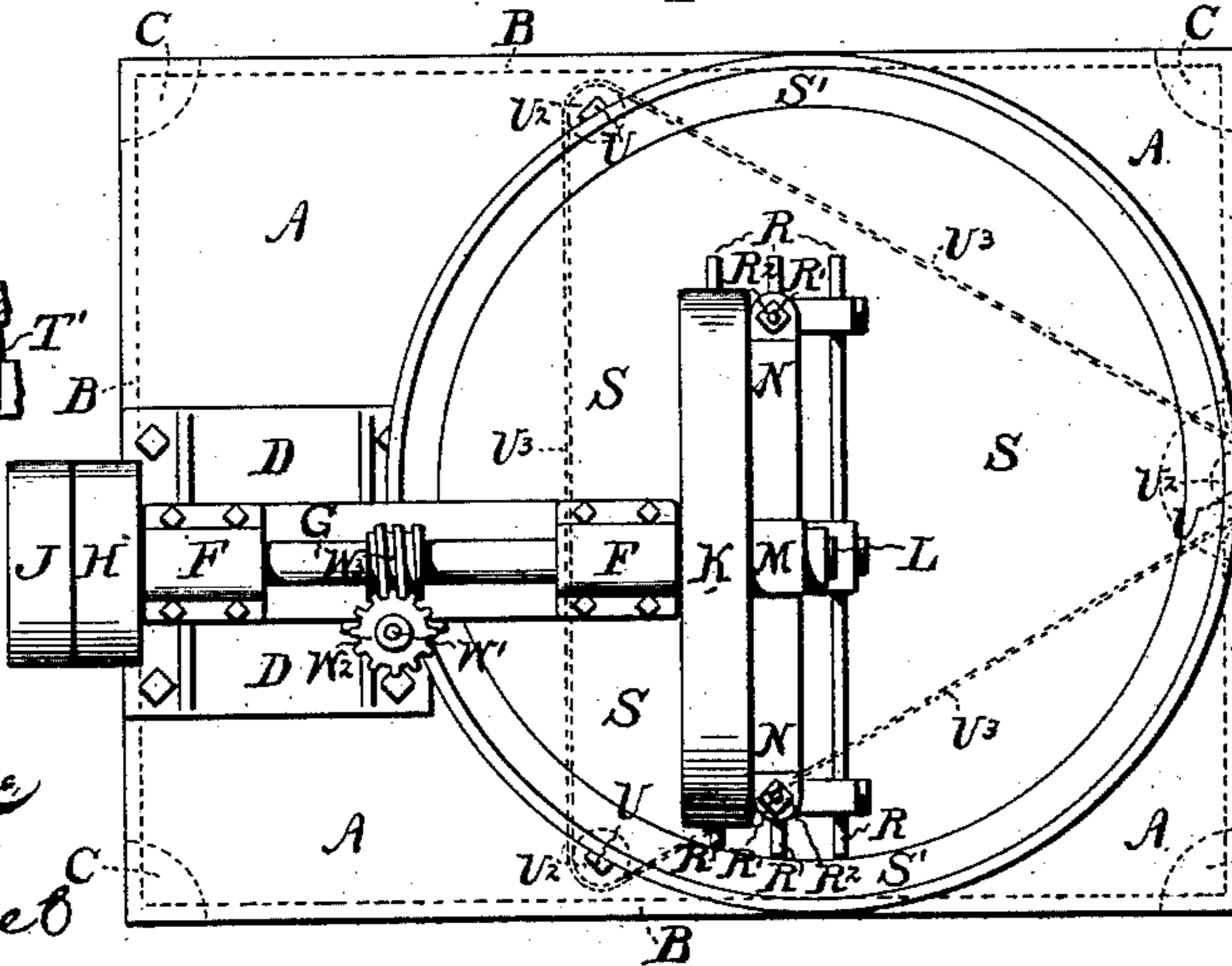
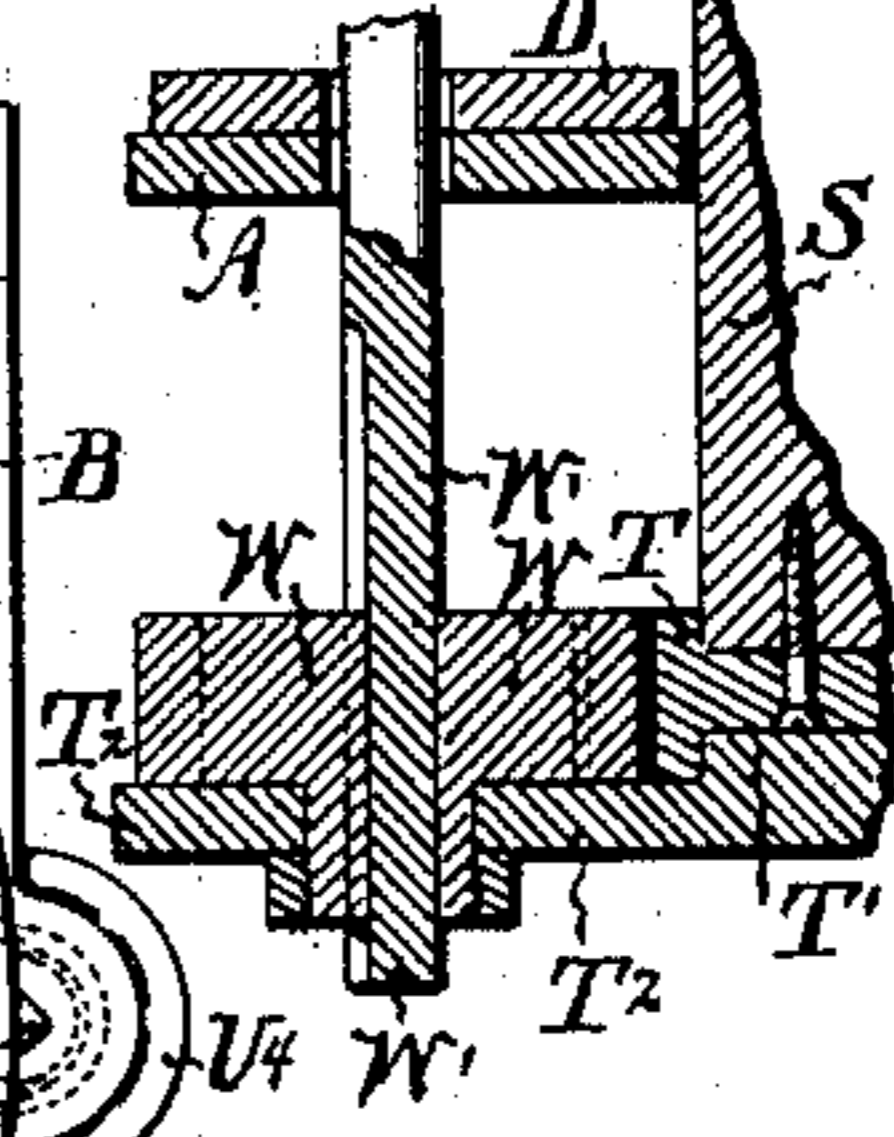


Fig. 5.



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MEAT-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 363,465, dated May 24, 1887.

Application filed December 27, 1886. Serial No. 222,718. (No model.)

To all whom it may concern:

Be it known that I, CHARLES WILLIAM HOTTMANN, a subject of the Emperor of Germany, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Meat-Cutting Machines; and I do hereby declare the following to be a sufficiently full, clear, and exact description thereof as to enable others skilled in the art to make and use the said invention.

This invention relates to machines for chopping or mincing meat into small pieces for the purpose of making sausages, mince-meat, salads, &c., and has for its object the greater ease of working, the durability of the cutting blades and block, and the expeditious and uniform cutting of the meat, and also the avoidance of jarring and noise incident to chopping machines of the usual construction.

The nature of this invention to effect these several results may be briefly stated to consist of a series of parallel curved-edged blades secured to the lower end of a pitman operated at its upper end by a revolving crank-pin and guided at an intermediate point by sliding through a guide pivotally attached to the frame of the machine. Beneath the cutting-blades is placed eccentrically a cylindric block provided with a rim or curb for retaining the meat upon its upper surface and adjustably supported and rotated gradually during the operation of the machine by mechanism hereinafter described.

I will now proceed to fully and particularly describe the construction and operation of this invention, referring, in so doing, to the drawings annexed, and the letters of reference marked thereon, in which—

Figure 1 is a front elevation of a machine embodying this invention, parts being broken away. Fig. 2 is a like side elevation thereof. Fig. 3 is a plan thereof; and Figs. 4 and 5 are respectively sections on an enlarged scale, showing the construction of the block supporting and adjusting mechanism and a portion of the mechanism for imparting rotary motion to the block.

The same letters of reference apply to the same parts in the several figures.

A represents the bed-plate of the machine supported upon a framing, B, and feet C. The

framing B and feet C are indicated in dotted lines in Fig. 3, and the frame B is shown as partially broken away, so as to display the inner parts of the machine, in Figs. 1 and 2.

D is a column firmly secured to the bed-plate A, and has an arm, E, formed thereon, said arm having at its lower end a bearing, Q, in which oscillates a journal, Q', supporting the guide P. The guide P is connected removably with the journal Q' by means of a projection, P³, formed on the guide, entering a clevis, P', formed on the journal Q', and secured therein by a pin, P², passing through both the projection P³ and clevis P'. Upon the top of the column D and arm E are formed bearing-boxes F F, in which is fitted a rotating shaft, G, having upon its outer end loose and fast pulleys H and J for a belt, from which the shaft G receives rotary motion. Upon the inner end of the shaft G is secured a fly-wheel, K, which has fitted therein a crank-pin, L.

On the crank-pin L is fitted a rod or pitman, M, having branches N extending downwardly and laterally from about its mid-length, and straight parallel-sided bar, O, extending centrally downward between the branches N and fitted to slide freely through oscillating guide P and control the motion of the lower end of the rod M and the parts attached thereto, causing, in conjunction with the crank L, a rising and falling and oscillating motion.

To the lower part of the branches N are secured a number of parallel knife-blades, R, by means of screws R' and R². The lower or cutting edges of the knives R are curved, so as to rock with a slight drawing motion upon the upper surface of the cutting-block S as the blades R are moved by the combined action of the crank L, rod M, slide O, and pivoted guide P.

The block S is a short upright cylinder in form, and fits and turns in a circular opening in the bed-plate A, so located that the center of the block S is eccentric to the line of the blades R and the center of the guide P and slide O. A rim or curb, S', is fastened to the upper edge of the block S to confine the meat upon it, and the block S is so located and the blades R so proportioned that the ends of the blades R move closely to without striking the inner surface of the curb S'.

The block S is supported upon and fastened

to a toothed rim, T, fitted to turn upon a boss, T', on the plate T². The plate T² is suspended by screws U passing through it and into nuts U', the heads of the screws U resting upon the bed-plate A. All of the nuts U' are provided with toothed wheels U², which are coupled together by the endless drive-chain U³, so as to turn equally together.

Between the bed-plate A and the plate T², and surrounding the screws U, are spiral springs V, between vulcanized india-rubber washers or collars V' and V².

By turning the nuts U' the plate T² may be raised and lowered, and the springs V and collars V' and V² prevent any rattling and noise. The nuts U' may be turned by a hand-wheel, U⁴, placed on one of them, or directly by the endless drive-chain U³.

Rotative motion is imparted to the block S by means of a pinion, W, sliding upon and turning with a shaft, W', and engaging in the toothed rim T. The upright shaft W' is driven by a toothed wheel, W², engaging a worm, W³, upon the shaft G. The pinion W is fitted through the plate T² with a collar on the under side, and rises and falls therewith.

The operation of the machine is as follows: The meat to be minced is placed in pieces of a suitable size on the block S, and the shaft G put in rotary motion by the fast pulley J. The knives R descend close to the rim S' and cut through the meat down to the block S with one end, and with a rocking and drawing movement cut through the meat with the remaining portion of their edges, and then rise and descend in the same manner, and the block S slowly rotates and presents the meat, by reason of the eccentric position of its axis, to the plane and field of operation of the knives R, so that the meat is cut in lines crossing each other at approximately equal distances, and is presented at each cut in a direction intersecting the previous cut.

By reason of the drawing motion of the knives there is but little concussion, and this is deadened by the springs V and collars V' and V². But very little power is required for

the drawing-cut as compared with a direct chopping-cut, and light and easy working results.

Having described my invention and the mode of operating the same, what I claim is—

1. In a meat-chopping machine, the combination, with the column having the arm provided with a bearing at its lower end, the shaft journaled in the upper end of the column and arm, and the fly-wheel provided with the crank-pin, of the forked pitman, the curved knives rigidly secured to the lower ends of the pitman, the rod extending from the pitman, the guidethereon having a journal which oscillates in the bearing of the arm, and a rotating table having its axis eccentric to the plane of action of the curved knives, substantially as described.

2. In a meat-chopping machine, the combination of the frame having the arm provided with a bearing in its lower end, the shaft mounted on the frame, the fly-wheel provided with the crank-pin, the forked pitman M, provided with the bar O, guide P, having a projection, P³, and curved blades rigidly secured to the lower ends of the pitman, with a detachable oscillating journal, Q', provided with a clevis, P', embracing the projection on the guide, and a rotating table, substantially as described.

3. In a meat-chopping machine, the combination of the framing B, plate A, column D, arm E, having a bearing at its lower end, and the crank-shaft G, having a fly-wheel, K, provided with the crank-pin L, pitman M, having branches N and bar O, guide P, provided with oscillating journal Q', and curved knives R, attached to the branches of the pitman, with the block S, suspending-screws U, springs V, collars V' V², plate T², wheel T, pinion W, shaft W', toothed wheel W², and worm W³, mounted upon and turning with the crank-shaft, substantially as described.

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Witnesses:

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