

W. B. WOLFF.
SHARPENING DEVICE FOR SLICING MACHINES.
APPLICATION FILED MAR. 3, 1910.

1,063,098.

Patented May 27, 1913.

3 SHEETS—SHEET 1.

Fig. 1.

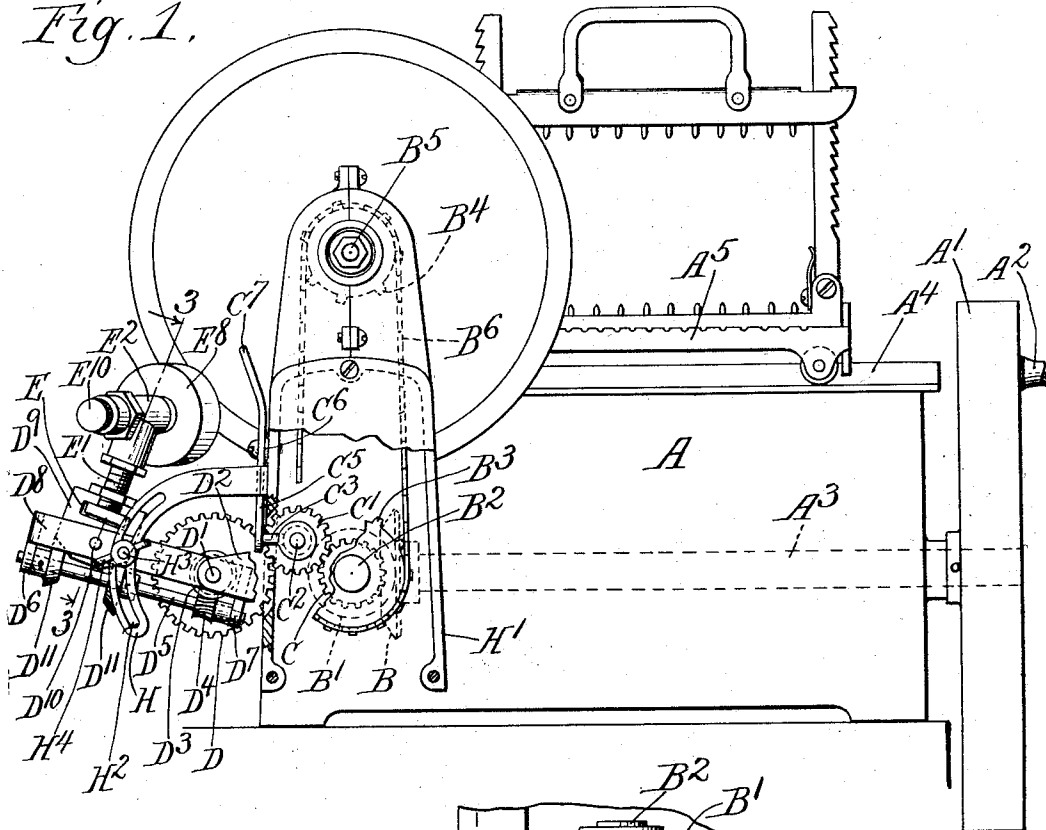
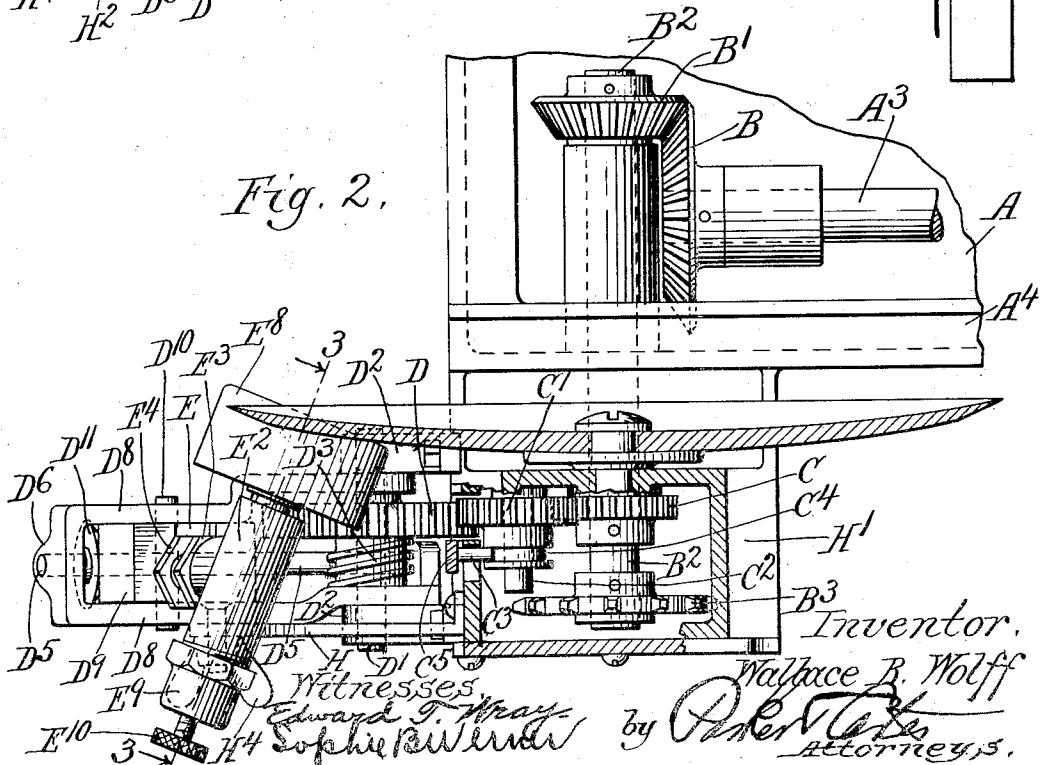


Fig. 2.



Inventor.

Wallace B. Wolff

Witnesses,
Edward J. May
Sophie K. May

by *P. E. V. S.*
Attorney, S.

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Fig. 4.

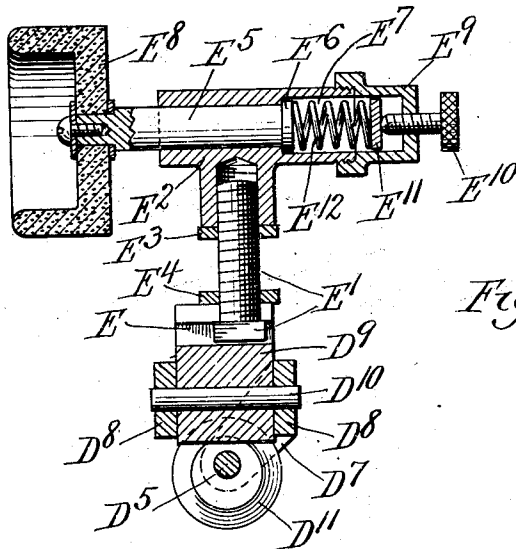
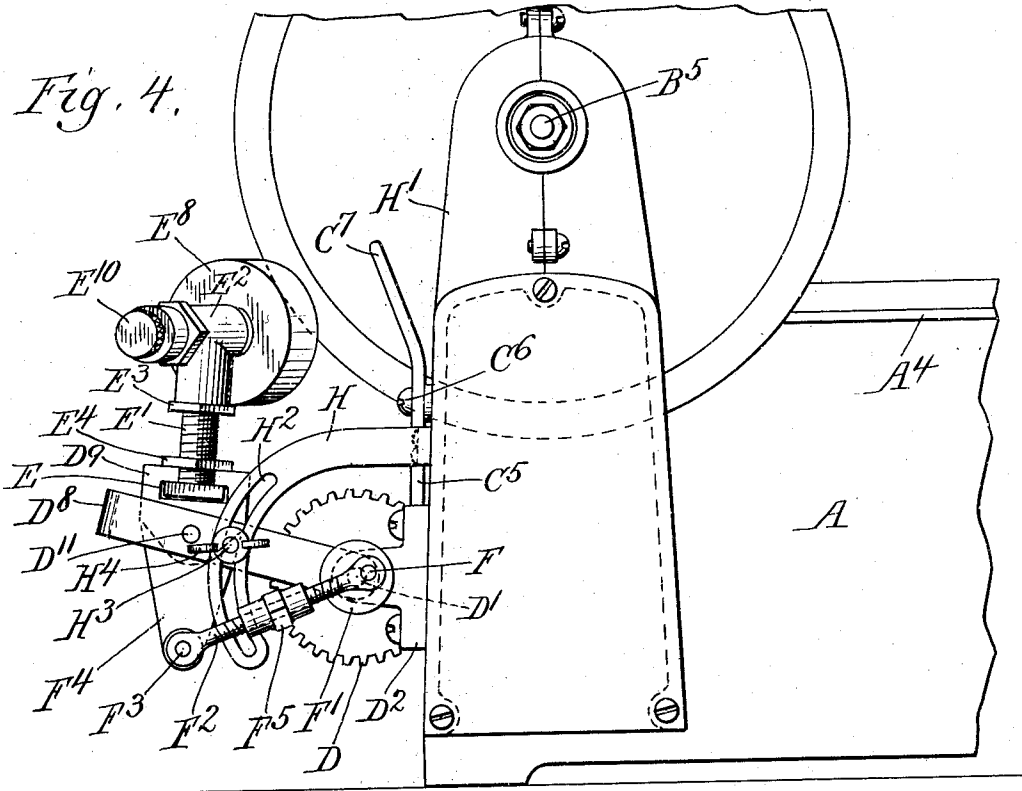


Fig. 3.

Witnesses,
Edward T. Wray.
Sophie B. Wray

Inventor.
Wallace B. Wolff
by *Parker & Carter*
Attorneys.

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3 SHEETS-SHEET 3.

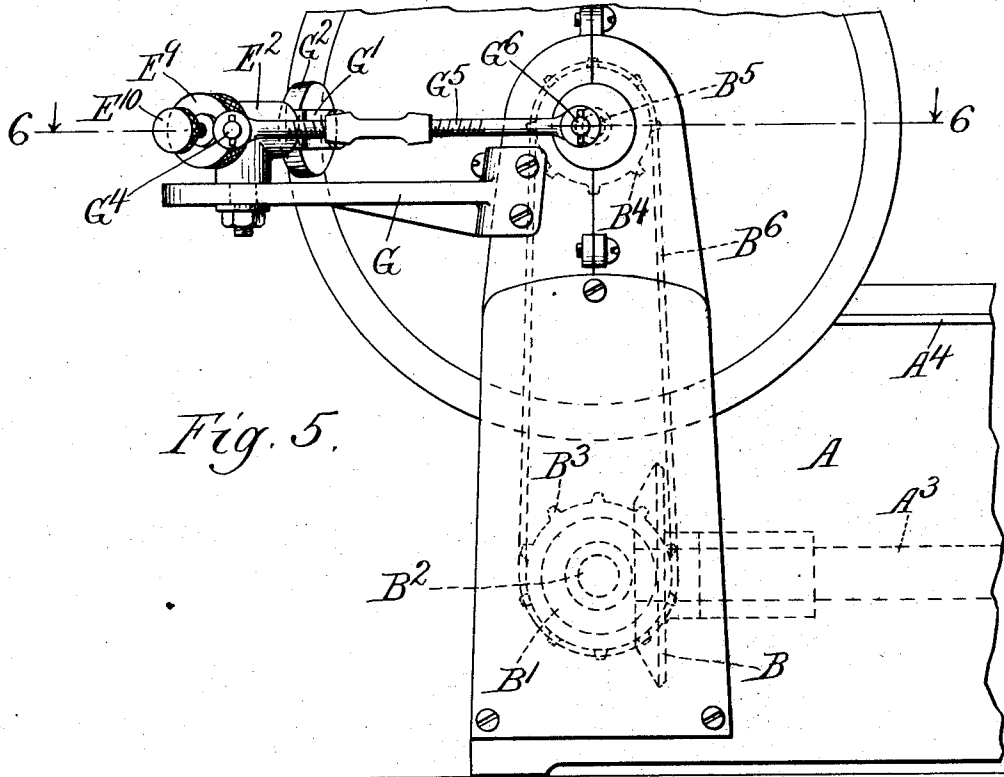


Fig. 5.

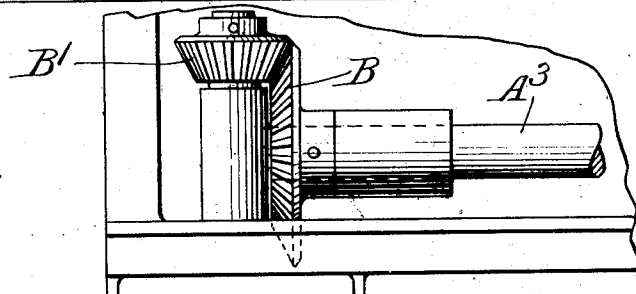
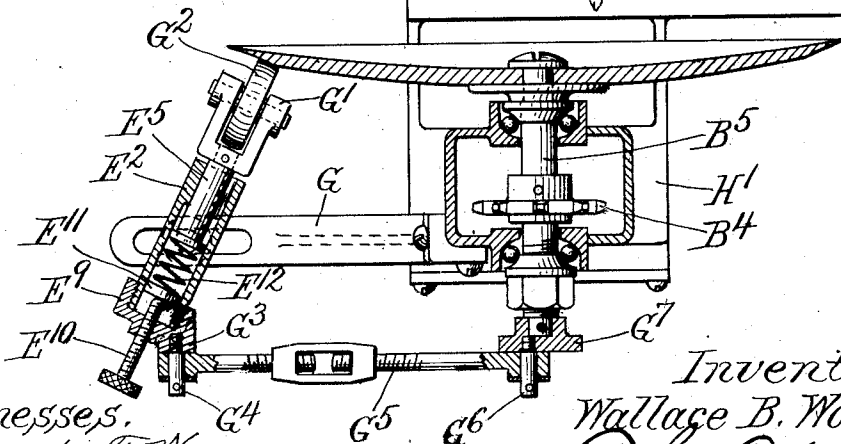


Fig. 6.



Witnesses,
Edward T. Wray,
Sophie B. Wray

Inventor,
Wallace B. Wolff,
by *D. C. Carter*
Attorneys.

UNITED STATES PATENT OFFICE.

WALLACE B. WOLFF, OF CHICAGO, ILLINOIS, ASSIGNOR TO AMERICAN SLICING MACHINE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF NEW YORK.

SHARPENING DEVICE FOR SLICING-MACHINES.

1,063,098.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed March 3, 1910. Serial No. 547,070.

To all whom it may concern:

Be it known that I, WALLACE B. WOLFF, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Sharpening Devices for Slicing-Machines, of which the following is a specification.

My invention relates to improvements in slicing machines illustrated in the accompanying drawings, wherein—

Figure 1 is an elevation with parts removed; Fig. 2, a plan view showing the parts in section; Fig. 3, a section along the line 3—3 of Fig. 2; Fig. 4, a detail of a modification of the operating mechanism. Fig. 5, an elevation of said modification; Fig. 6, a section along the line 6—6 of Fig. 5.

Like parts are indicated by like letters in all the figures.

A is the supporting base of the machine of any desired form or shape, having at one end the driving wheel A¹ and may be provided with the handle A² and is mounted upon the shaft A³. The tracks A⁴ mounted upon the surface of the base A support the usual meat carriage A⁵. The bevel gear B, mounted upon the shaft A³, engages the bevel gear B¹ to drive the shaft B². The shaft B² carries the sprocket B³ which is adapted to drive the sprocket B⁴ on the shaft B⁵ by means of the chain B⁶. The shaft B² carries the gear C which engages the pinion C¹ slidably mounted upon the shaft C² and adapted to be moved therealong by the lug C³ engaging the annular ring C⁴ in the hub of the pinion. The lever C⁵ pivoted at C⁶, having the handle C⁷ provides means for moving the lug C³.

The gear D is mounted upon the shaft D¹ in the bracket D² and engages the pinion C¹. The shaft D¹ carries the worm D³ adapted to engage the worm wheel D⁴ upon the shaft D⁵. The shaft D⁵ is mounted in the bearings D⁶, D⁷ upon the frame D⁸ which is rotatably mounted upon the shaft D¹.

The block D⁹ is pivotally mounted upon the rod D¹⁰ in the frame D⁸. The cams D¹¹ are mounted upon the shaft D⁵ and engage the bottom of the block D⁹. The block D⁹ is provided at its upper surface with the T-shaped slot E in which travels the square headed bolt E¹. The T E² is mounted upon the bolt E¹ and held in rigid adjustment therewith by the lock nut E³, the bolt

being held against displacement in the slot E by the lock nut E⁴. The T E² engages the piston E⁵ which has at one end the enlargement E⁶ to ride within the enlarged chamber E⁷ and at the other has the cup shaped grinding wheel E⁸. The cap E⁹ having therein the thumb screw E¹⁰ adapted to engage the disk E¹¹ to adjust the tension of the spring E¹² between the disk and the rod E⁵ forms a closure for one end of the T.

The bracket H rigidly attached to the enclosing casing H¹ has the arc shaped recess H² within which travels the screw threaded rod H³ which is attached to the frame D⁸ and carries the thumb nut H⁴.

In the form illustrated in Fig. 4, the block D⁹ is oscillated by means of the crank pin F mounted in the disk F¹ to carry one end of the connecting rod F², the other end of which engages a pin F³ upon the downwardly depending lug F⁴. The turn buckle F⁵ provides means for adjusting the length of the connecting rod.

In the modification illustrated in Figs. 5 and 6 the T-shaped member E² is rotatably mounted upon the bracket G, and carries the frame G¹ which supports in turn the rotary grinding wheel G². The lug G³ is attached to the cap E⁹ and contains the pin G⁴ which carries one end of the connecting rod G⁵. The other end of the connecting rod engages a pin G⁶ which is mounted eccentrically upon the disk G⁷ on the shaft B⁵.

It will be evident that I have illustrated in my drawings an operative device, but that numerous changes could be made both in the arrangement and shape of the parts concerned without departing materially from the spirit of my invention. I wish, therefore, that my device be regarded as diagrammatic.

The use and operation of my invention are as follows:—I provide in connection with a rotary cutting knife, a grinding wheel which is adapted to oscillate back and forth so that a constantly varying part of the grinding wheel is brought in contact with the knife. The result of this is that, as the wheel grinds the knife the abrading surface of the wheel is constantly cut down an equal amount at every point, and no shoulders or projections are formed on the wheel. Thus the wheel remains

equally efficient at all times during its life. I also provide a grinding wheel for grinding hollow-ground knives. This wheel is adapted to oscillate responsive to the motion of the axis of the knife in a plane parallel with the plane in which is located the axis of the wheel. Thus the abrading surface of the knife corresponds to the hollow-ground surface of the cutting edge of the wheel, and is at all times in contact with it. It has been found that a wheel which does not oscillate will not do this hollow-grinding since only a portion of the wheel is used in grinding and the wheel becomes ridged and soon acts to remove the edge of the knife rather than to retain it. This oscillating motion, however, prevents this and in this case also the grinding wheel is worn down an equal degree at every point.

I claim:—

1. A device for sharpening rotary knives comprising a cup-shaped grinding wheel, rotatable about an axis perpendicular to the beveled surface of the knife and automatic means for laterally displacing said axis.

2. A device for sharpening rotary knives comprising grinding means adapted to engage the knife and means for simultaneously oscillating such grinding means in two perpendicular planes.

3. A device for sharpening rotary knives comprising grinding means adapted to engage the knife and automatic means for simultaneously oscillating such grinding means in two perpendicular planes.

4. A device for sharpening rotary knives, said device comprising a grinding wheel and automatic means for rocking said wheel in a plane perpendicular to the axis of the knife.

5. A device for sharpening rotary knives, said device comprising a grinding wheel, and means for rocking said wheel in a plane perpendicular to the axis of the knife, said means responsive to the motion of the knife.

6. A device for sharpening rotary knives, said device comprising a grinding wheel, and means for rocking said wheel in a plane perpendicular to the axis of the knife, said means comprising a support for the wheel, a bracket wherein such support is pivotally mounted and a downwardly depending lug from such support.

7. A device for sharpening rotary knives, said device comprising a grinding wheel, and means for rocking said wheel in a plane perpendicular to the axis of the knife, said means comprising a support for the wheel, a bracket wherein such support is pivotally mounted and a downwardly depending lug from such support and shaft rotating responsive to the motion of the knife, an eccentric crank on said shaft and a connecting rod from such crank to the downwardly depending lug.

8. A device for sharpening rotary knives comprising a grinding wheel movable in a direction parallel with its axis and rotatable about an axis perpendicular to the beveled surface of the knife and automatic means for laterally displacing said axis.

9. A device for sharpening rotary knives comprising a grinding wheel rotatable about an axis perpendicular to the beveled surface of the knife, means for laterally displacing said axis, automatic means for moving said wheel in a direction parallel with its axis and elastic means for opposing said movement.

10. A device for sharpening rotary knives comprising a grinding wheel, a shaft upon which said wheel is mounted and a support for said shaft, and means for rocking said support in a plane perpendicular to the axis of the knife.

WALLACE B. WOLFF.

Witnesses:

FRANCIS W. PARKER, Jr.,
PAUL J. GATHMANN.