No. 633,472. Patented Sept. 19, 1899.

W. G. McLELLAN.

REVERSIBLE CORRUGATED GAGE CUTTER.

(Application filed June 22, 1898.)

(No Model.)

Fig. 1.

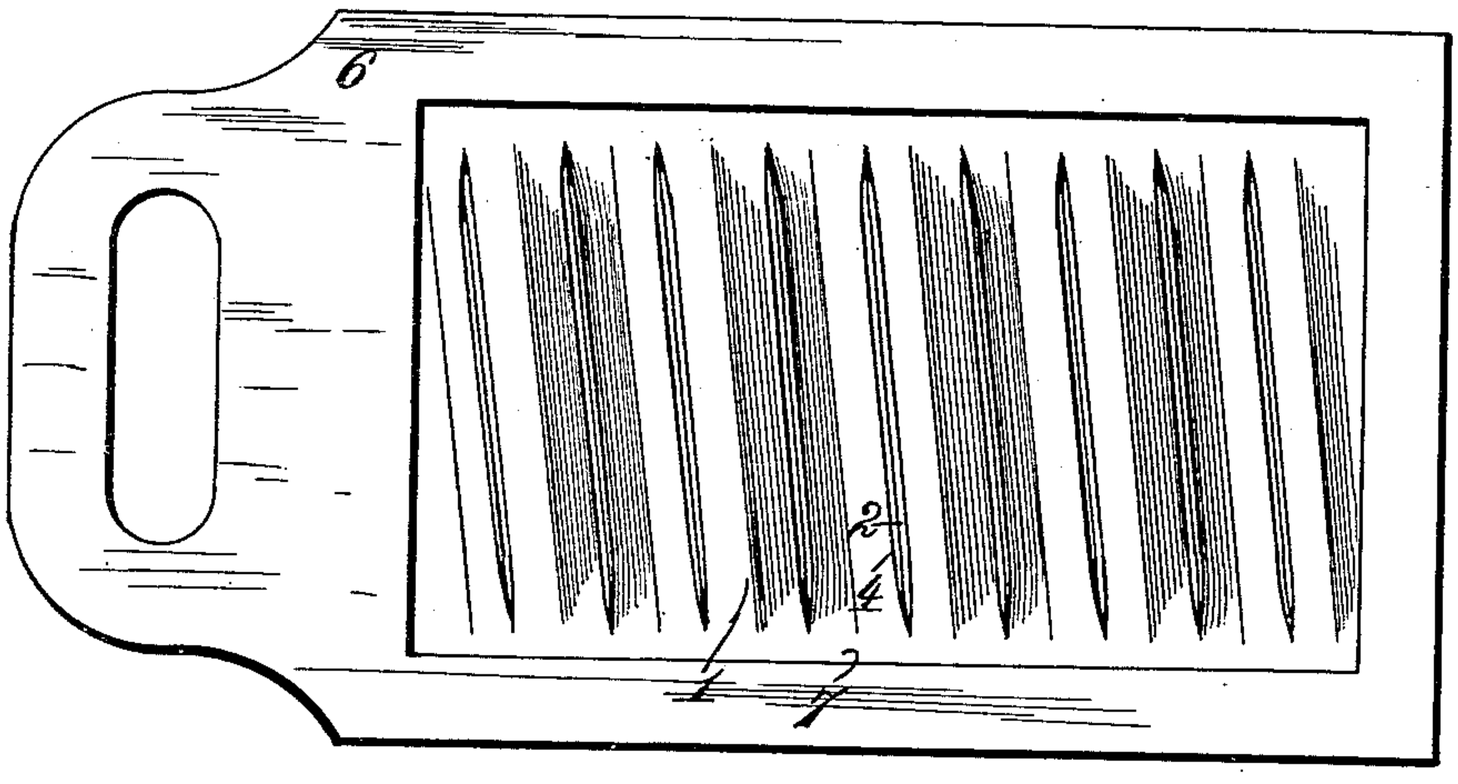


Fig. 2.

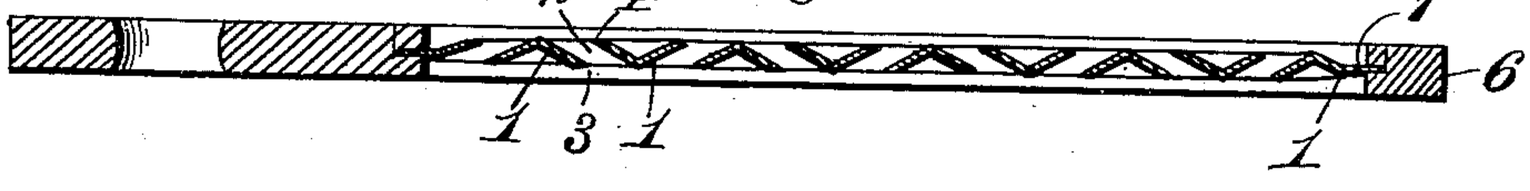


Fig. 3.

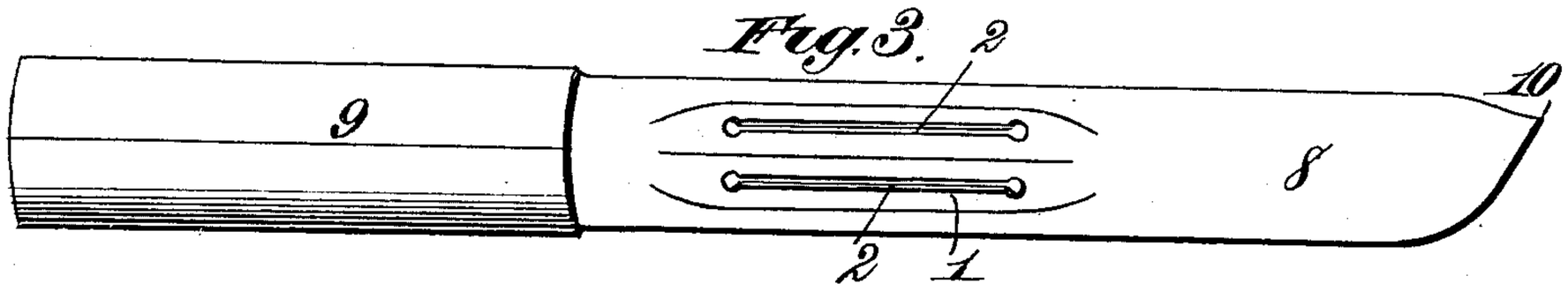


Fig. 4.

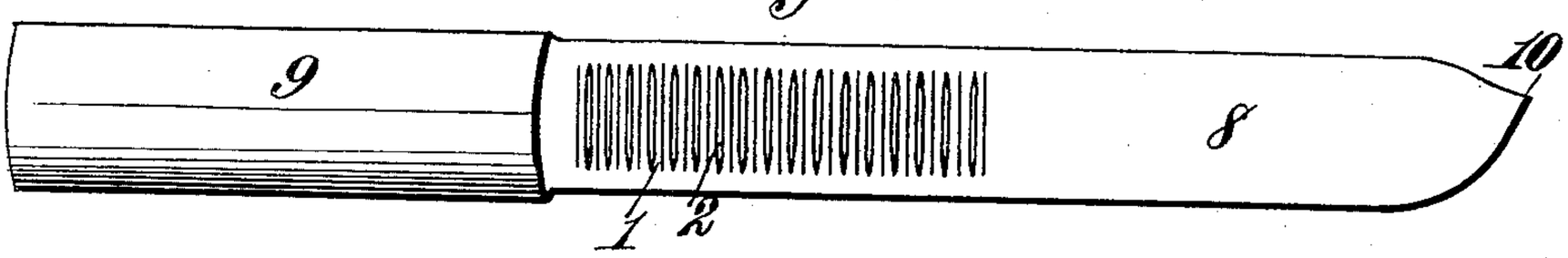
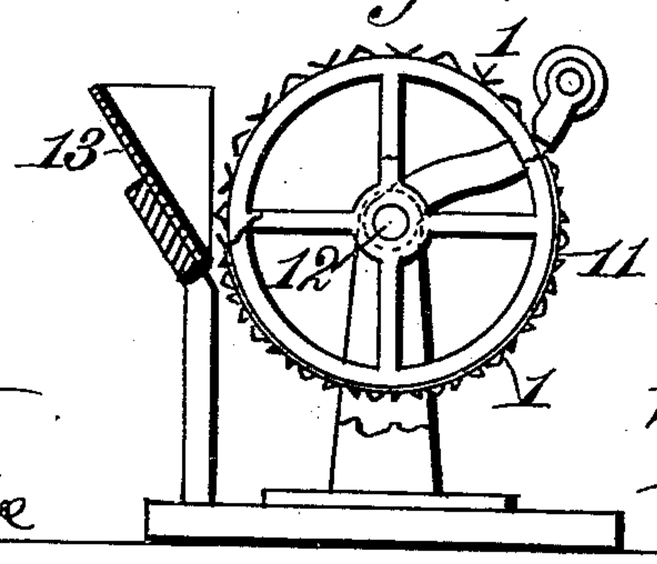


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM G. McLELLAN, OF ANACONDA, MONTANA.

REVERSIBLE CORRUGATED GAGE-CUTTER.

SPECIFICATION forming part of Letters Patent No. 633,472, dated September 19, 1899.

Application filed June 22, 1898. Serial No. 684,167. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. McLELLAN, a citizen of the United States, residing at Anaconda, in the county of Deer Lodge and State of Montana, have invented new and useful Improvements in Reversible Corrugated Gage-Cutters, of which the following is a specification.

This invention relates to reversible corrugated gage-cutters, and has for its object to provide an improved construction of reversible cutting devices applicable to knives or to rotary cutters or to stationary cutters for preparing fruits and vegetables in culinary operations and for other purposes.

The invention consists in a gage-cutter having the novel features of construction hereinafter described and claimed.

In the annexed drawings, illustrating my invention, Figure 1 represents the invention as applied to a vegetable-cutter that is to be held stationary while in use. Fig. 2 is a longitudinal section of the same. Fig. 3 shows a knife with gage-cutter corrugations formed longitudinally in the knife-blade. Fig. 4 is a view of a knife having the series of gage-cutter corrugations arranged transversely of the knife-blade. Fig. 5 shows my invention as applied to a rotary cutter.

In the construction of a cutter according to my invention I take a piece of steel or suitable sheet metal and form therein a series of parallel concavo-convex corrugations 1, alternating with a corresponding series of slits 2, located between said corrugations. The concavities of the corrugations are presented alternately to the opposite sides of the metal. Both edges of the corrugations are ground to form cutting edges 3 and 4, which are so arranged that the cutter presents cutting edges in both directions and on each side. This construction of cutter is applicable to a great variety of uses, some of which may be mentioned. In Fig. 1, for instance, I have shown a vegetable-cutter of the kind which is to be held stationary while the vegetable or fruit is to be moved forward and back across the plurality of cutting edges, being thus pared or cut into slices. For a cutter of this character I provide a rectangular or somewhat oblong metal sheet 5, in which the corrugations 1 with intervening slits 2 and cutting edges 3 4 are formed. A suitable frame 6 is provided to facilitate handling this cutter. It will be observed that the cutter-plate is provided with a sufficient margin 7 for purposes of strength and requisite stiffness.

Another application of my invention is illustrated by the knife shown in Fig. 3, in which the concavo-convex corrugations 1 and intervening slits 2 are arranged longitudinally of the knife-blade 8 and adjacent to the handle 9, which may be integral with the blade, or the knife-handle may be constructed and attached in any preferred manner. In a knife-blade of ordinary width—say about one inch—there may be three longitudinally-disposed corrugations of about equal width and presenting four cutting edges on each side, two being formed by the sharpened outer edges of the blade. The end portion of the knife-blade 8 may be left uncorrugated for ordinary use, and, if desired, a point 10 may be provided suitable for coring fruit or digging out undesirable portions. In handling this knife the cutting edges of the corrugations are useful for peeling or paring to a gage and without waste, the slits 2 affording a clearance for the peeled portions of fruits or vegetables, and being provided with cutting edges both sides of the blade the knife can be used equally well in either hand.

As shown in Fig. 4, a knife-blade may be slitted and corrugated transversely, if preferred. The corrugations 1 are concavo-convex, with the concavities and cutting edges of alternate corrugations presented to opposite sides of the blade, so that it cuts on both sides and in both directions of movement. The transversely-corrugated portion of the knife-blade has uncut margins 7, that strengthen the blade. The knife cuts on both sides up and down and will make a plurality of slices at each stroke, according to the number of cutting edges presented on the two sides of the knife in the direction of cut.

In Fig. 5 I have illustrated my invention as applied to a rotary cutter for slicing fruits, vegetables, and other substances. This rotary cutter is preferably in the form of a conoidal drum 11, carried on a crank-shaft 12, that is mounted to rotate in suitable bear-

ings. The construction and arrangement of the corrugations 1 and their cutting edges are the same as already described with reference to the preceding figures of the drawings. A concaved shelf or hopper 13 is arranged at an angle adjacent to a lower part of the rotary cutter for the purpose of receiving the article to be cut or sliced. The form of this shelf 13 and its arrangement with relation to the rotary cutter will cause the vegetable, fruit, or other article to continually press down and against the side of the drum as it is rotated in the direction of the arrow, and thus the slicing of the article will proceed continuously. The sliced material enters the drum through the slits 2, that alternate with the cutting corrugations. The larger end of the conoidal drum is open, and thus the sliced contents are fed out continuously. This rotary cutter or drum is preferably constructed in the form of a skeleton frame, to which is secured the sheet-metal covering in which the cutting corrugations 1 are formed. The construction of these corrugations in the manner described, with the concavities and cutting edges of alternate corrugations on opposite sides, so as to present cutting edges on both sides of the metal and in both directions of drum rotation, will permit removal and reversal of the corrugated plate or sheet-metal drum-covering whenever the cutting edges of the exposed side have become worn, and obviously the drum will operate in either direction of rotation if the material to be cut is properly presented.

The reversible double-acting construction of cutter that I have described can be readily applied in cutting implements of various kinds for purposes of paring, peeling, shaving, slicing, &c. The convex side of each corrugation projects in line with the cutting edges of adjoining reversely-placed concavo-convex corrugations to act as a guide or gage for the cutting edge on either side, and by having the corrugations of uniform dimensions sharpened on both edges or margins and with the concavities of alternate corrugations presented to opposite sides and of suitable depths there is provided a reversible cutter of any required gage. The construction described can be applied to spoke-shaves and to various forms of knives and cutters besides those that are here shown. The cutter is durable, comparatively inexpensive, and is readily applicable to a great variety of uses.

As shown in Fig. 1, it is preferable to arrange the cutting edges of the corrugations at an angle of about thirty degrees, more or less; but this may be varied as desired.

What I claim as my invention is—

The herein-described reversible gage-cutter provided with a series of parallel alternately-reversed concavo-convex corrugations separated by intervening slits and having both edges of all corrugations sharpened, the concavities of alternate corrugations and the said cutting edges thereof being presented to opposite sides of the cutter and the convexed side of each corrugation being made to project in line with the cutting edges of adjoining reversely-placed concavo-convex corrugations to act as a guide or gage for the cutting edge on either side, whereby the said cutter presents a plurality of gage-cutting edges on both sides and in both directions of cutting action throughout the whole series of alternately-reversed concavo-convex corrugations, substantially as shown and for the purpose specified.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM G. McLELLAN.

Witnesses:

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