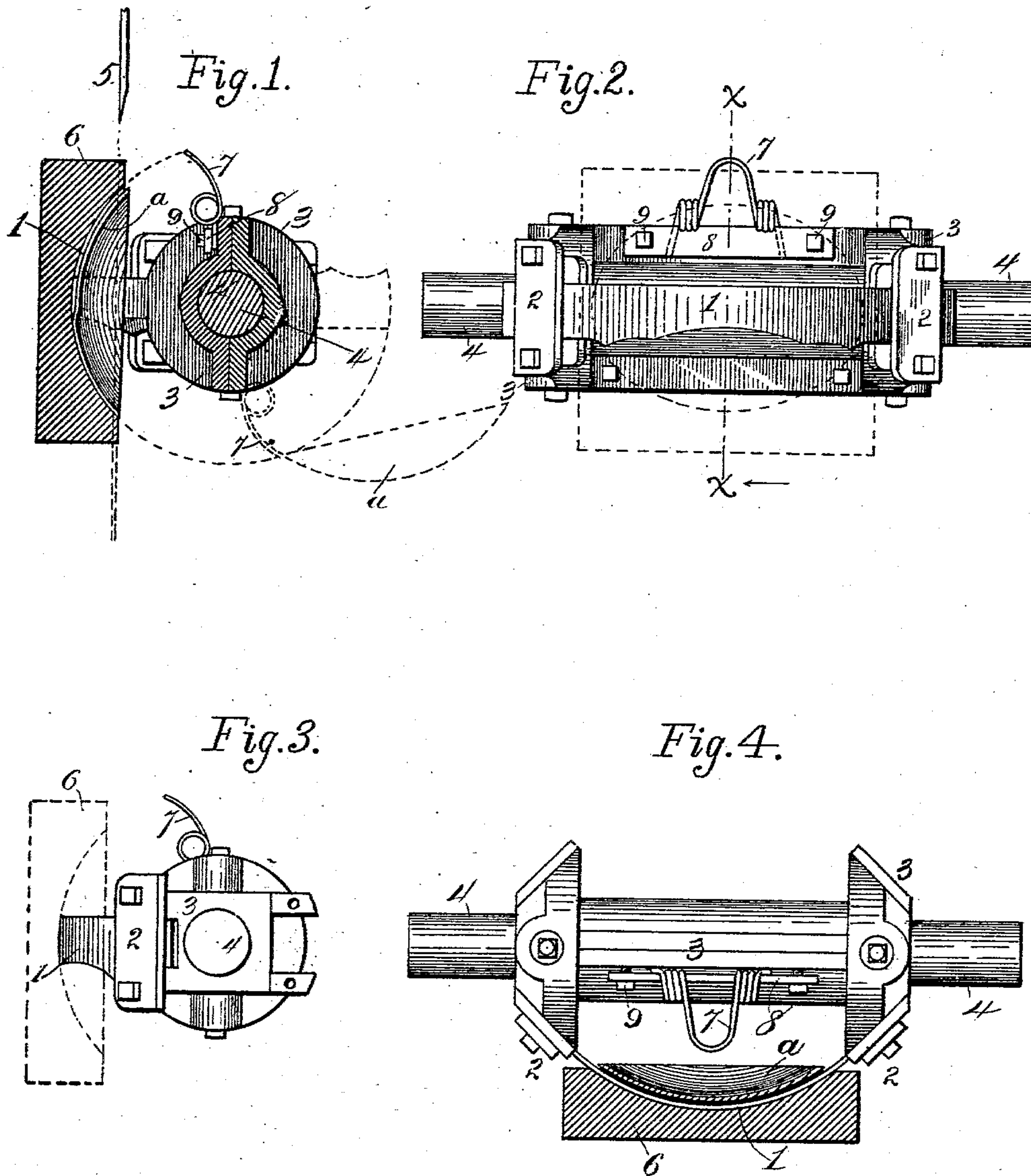


No. 715,439.

Patented Dec. 9, 1902.

L. W. TINKHAM.
DISH CUTTING MACHINE.
(Application filed Sept. 20, 1901.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

LEWIS W. TINKHAM, OF TRAVERSE CITY, MICHIGAN, ASSIGNOR TO THE
OVAL WOOD DISH COMPANY, A CORPORATION OF OHIO.

DISH-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 715,439, dated December 9, 1902.

Application filed September 20, 1901. Serial No. 75,830. (No model.)

To all whom it may concern:

Be it known that I, LEWIS W. TINKHAM, a citizen of the United States, residing at Traverse City, in the county of Grand Traverse and State of Michigan, have invented certain new and useful Improvements in Dish-Cutting Machines; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

In machines for cutting or scooping thin concavo-convex dishes from the face of a block of wood two knives are employed. One of these knives is curved to conform to the longitudinal contour of the dish and revolves or oscillates about a shaft or center, thus describing a curve which conforms to the transverse contour of the dish. This knife is known as and is hereinafter termed the "dish-cutting" knife. At each sweep or revolution of this knife a dish is severed from the face of the block. The other knife is straight and as the block is fed forward step by step faces off the block after each cut of the curved knife. This knife is known as and is hereinafter termed the "facing-knife." The thin slice cut off by the facing-knife has a hole through it of the size and shape of the margin of the dish and is waste. These pieces and the dishes as they are alternately cut from the block fall by their own weight to the ground, where they are assorted by hand. After the dish is severed from the block a certain time before the next knife-stroke must be allowed to permit the dish to fall out of the way, because if the dish were overtaken by a knife the dish would be destroyed. For the reason here indicated and owing to the enforced slowness of knife movement the capacity or output of wood-dish machines has been limited, thus rendering necessary the use of many machines, the investment of large capital, and the employment of a large number of skilled workmen.

My invention relates to and its object is to provide means for overcoming the objections and difficulties here pointed out, and more

particularly to provide an attachment for wood-dish-cutting machines which will automatically separate the dishes from the waste and which will remove the dishes from the machine as fast as they can be cut without interfering with the rapidity of the movement of the knives. I attain these objects by means of the device hereinafter described and shown, and illustrated in the accompanying drawings, in which—

Figure 1 is a central vertical sectional elevation of my device, taken on line *xx*, Fig. 2; Fig. 2, a front elevation of the same; Fig. 3, a side elevation of the same, and Fig. 4 a top plan view of the same.

In the drawings I have shown only so much of a dish-cutting machine as is necessary to illustrate my invention, as my device is applicable to any dish-machine having suitable mechanism for driving the two knives in proper relation to each other.

Like numerals of reference indicate like parts throughout the drawings.

In the drawings, 1 is a longitudinally-curved knife secured at each end by clamps 2 to collar 3, which is mounted upon and rigidly secured to shaft 4. This shaft is mounted in suitable bearings and is driven in the usual manner.

5 is a facing-knife arranged and geared to cut as indicated by the straight vertical dotted line in Fig. 1.

6 represents the block of wood to be operated upon. This block is supported and clamped upon a suitable device for feeding the block forward after each action of the two knives.

7 is a spring formed in this instance for illustration of spring-wire bent at its middle in U shape and coiled, as shown, near each extremity. The spring ends which project beyond the coils are clamped and secured to the collar 3 by means of a clamping-plate 8 and clamping-screws 9. The spring is mounted, preferably, midway between the ends of the knife 1 and projects radially from the shaft somewhat farther than the line described by the curved knife.

The operation of my device is as follows: When the curved knife has entered the wood and has nearly severed a dish *a*, the project-

ing end of the spring follows the knife and comes in contact with the face of the block at the margin of the cut formed by the curved knife. The spring is held by the block for an instant, while the knife proceeds without pause. Just as the dish is completely severed from the block the spring is pulled by the rotation of the shaft from the margin of the block with a sudden snap, striking the edge of the dish a smart blow, which quickly throws the dish from the machine. The dish and its course are illustrated in dotted lines in Fig. 1. Thus the follower or spring 7 immediately after each stroke of the knife 1 throws the dish downwardly and outwardly so quickly that no matter how rapidly the machine is running the dish will be thrown clear of the knives. The waste pieces cut by the facing-knife fall vertically to the ground, and thus the dishes and the waste are deposited in two separate heaps or receptacles.

Various forms of followers which after each cut of the curved knife engage the dish and throw it from the machine will suggest themselves to those skilled in the art, and I do not, therefore, limit myself to the form and arrangement of the followers or spring here shown and described.

In practice it is found that the capacity or output of a dish-cutting machine is more than doubled by the use of the attachment here described and that the services of manual "sorters" are dispensed with.

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

1. In a dish-cutting machine, in combination

with the dish-cutting knife, means for engaging a dish after each cut of the knife and for throwing the dish from the machine in advance of the next cut of the knife.

2. In a dish-cutting machine, a dish-cutting knife, a facing-knife, and a follower which moves in harmony with said two knives and which is adapted and arranged to throw the dishes, as they are cut, out of the way of the knives.

3. In a dish-cutting machine, a shaft, a dish-cutting knife mounted on the shaft, and a follower mounted on said shaft which follower is adapted and arranged to engage and to throw from the machine the dishes cut by said knife.

4. In a dish-cutting machine, a shaft, a curved dish-cutting knife mounted upon and revoluble with the shaft, a spring mounted upon the shaft in the rear of the knife and projecting radially from the shaft beyond the curved line described by the knife, and a facing-knife which operates alternately with the dish-cutting knife.

5. In a dish-cutting machine, a revoluble dish-cutting knife, a facing-knife, means for feeding a block to said two knives, the arrangement being such that said two knives cut said block alternately, and means for discharging the dishes from the machine in a different direction from the fall of the facings.

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

LEWIS W. TINKHAM.

Witnesses:

H. S. HULL,
RUTH RUMSEY.