(No Model.)

2 Sheets—Sheet 1.

C. SPOFFORD.

PROCESS OF CUTTING PLATES, DISHES, OR BOWLS FROM WOOD.

No. 474,765. Patented May 10, 1892.

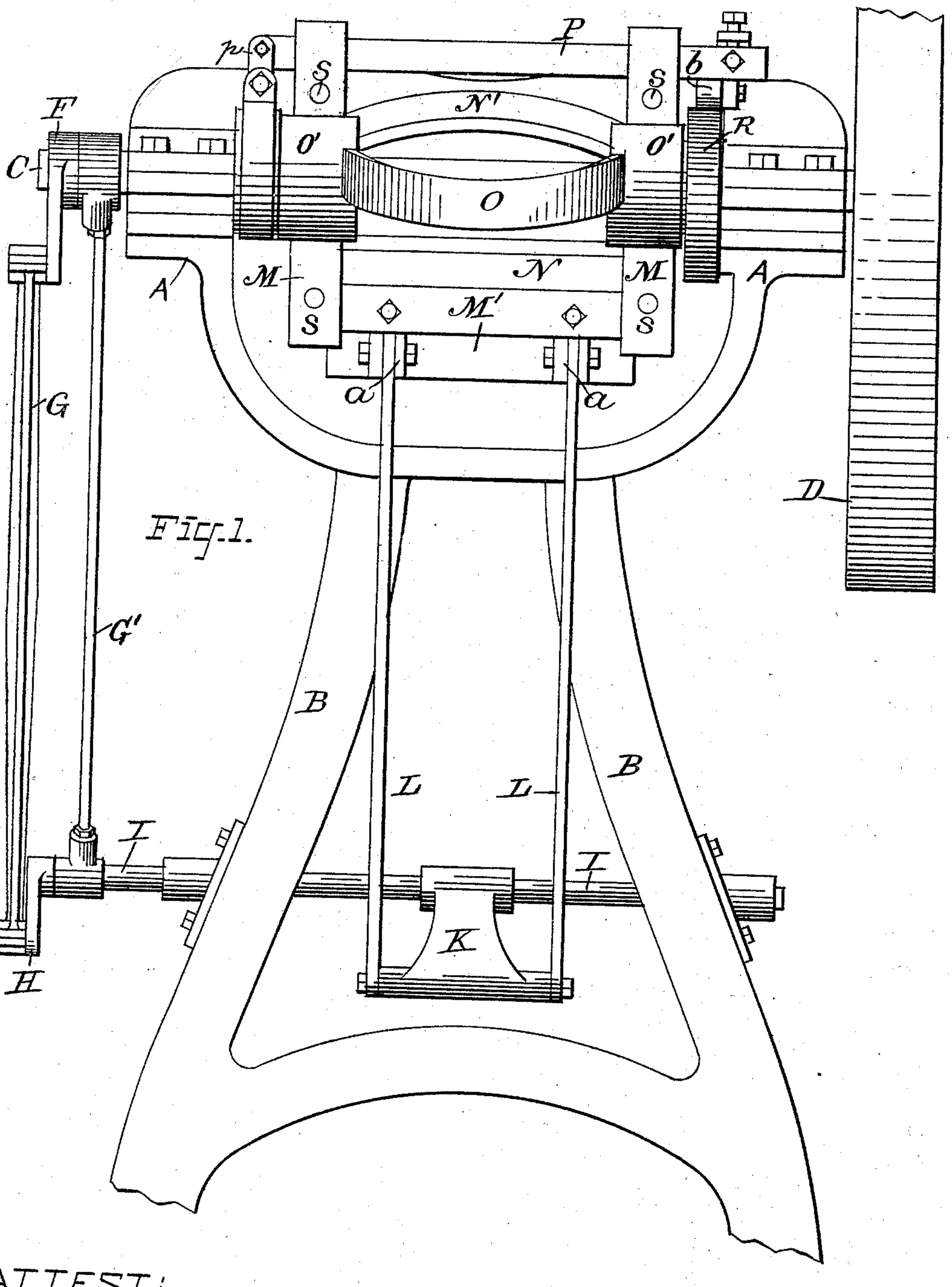

Fig. 1.

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J. A. Hurdle
Joseph Kell

INVENTOR:
Charles Spofford

(No Model.) 2 Sheets—Sheet 2.

C. SPOFFORD.

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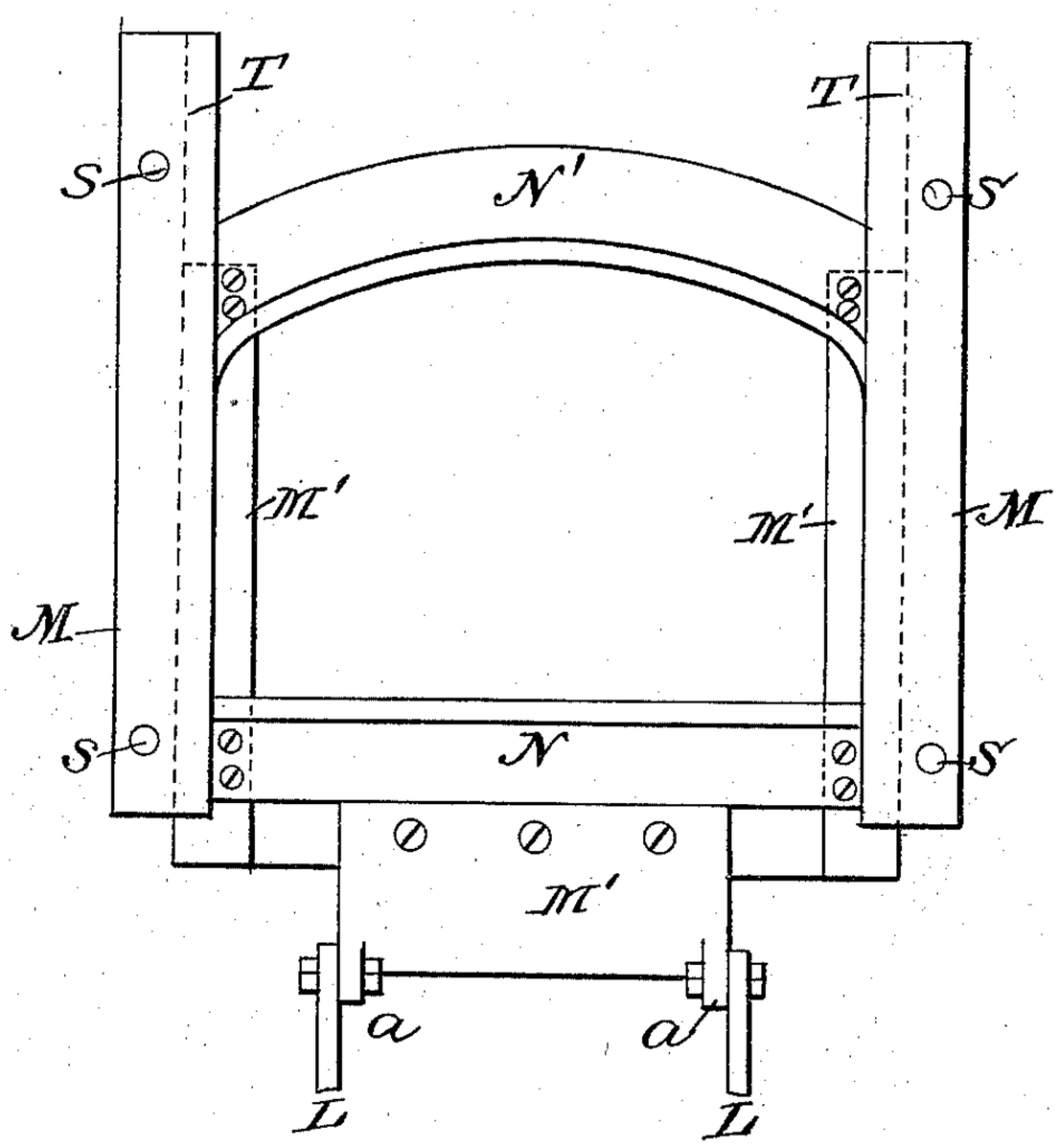
Fig. 2.



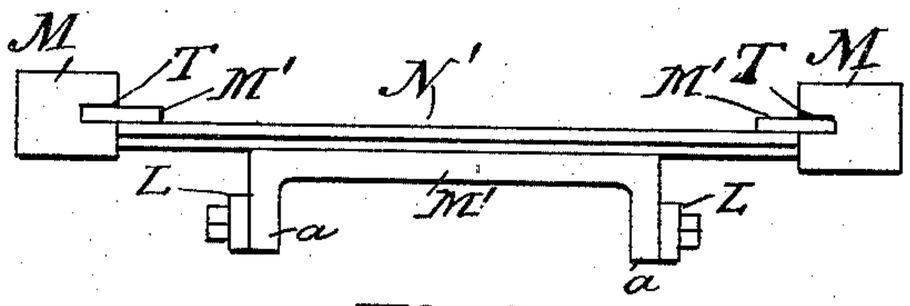


Fig. 3.

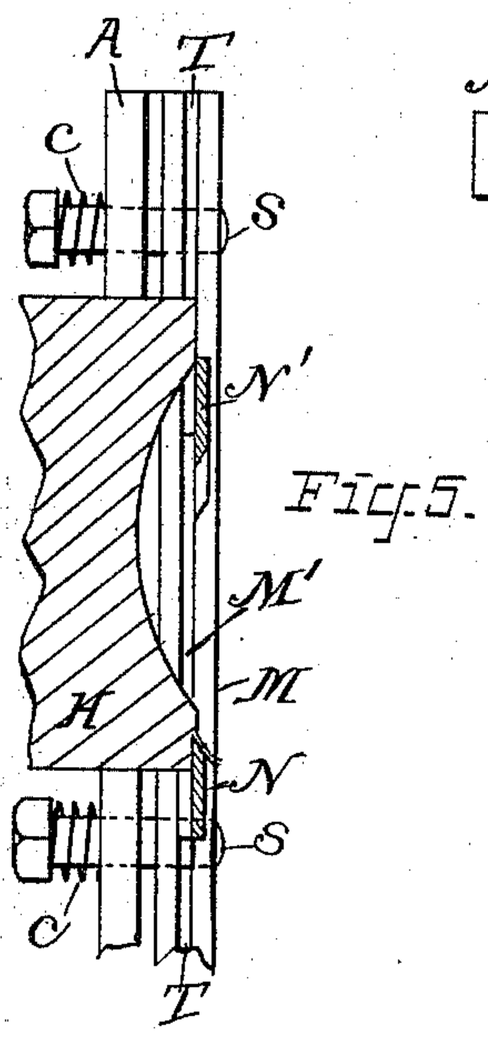


Fig. 5.

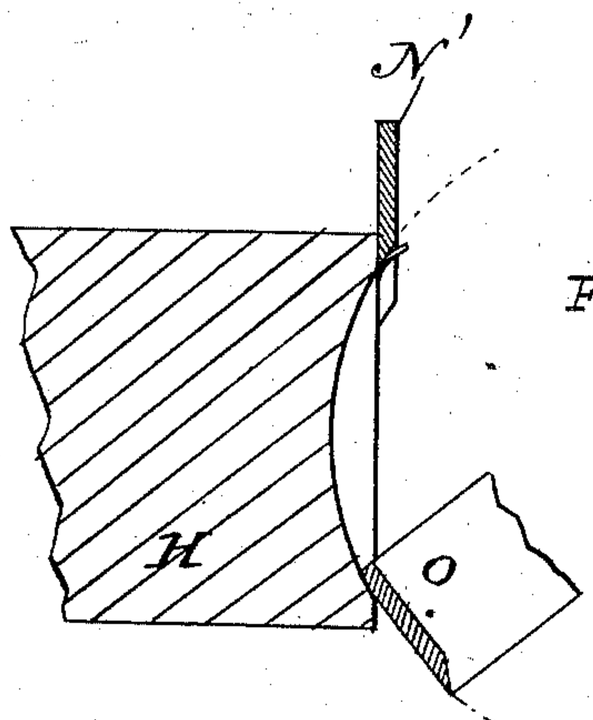


Fig. 4.

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INVENTOR:

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UNITED STATES PATENT OFFICE.

CHARLES SPOFFORD, OF NEW YORK, N. Y., ASSIGNOR TO WILLIAM J. HISS AND WILLIAM P. SANDFORD, OF SAME PLACE.

PROCESS OF CUTTING PLATES, DISHES, OR BOWLS FROM WOOD.

SPECIFICATION forming part of Letters Patent No. 474,765, dated May 10, 1892.

Application filed October 30, 1891. Serial No. 410,378. (No model.)

To all whom it may concern:

Be it known that I, CHARLES SPOFFORD, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in the Process or Method of Cutting Plates, Dishes, or Bowls from Wood, of which the following is a specification.

This invention consists in the novel method hereinafter fully set forth and claimed, whereby concavo-convex utensils—such as plates—are cut off from a logs of wood.

The drawings show portions of a machine for carrying out the novel process.

In the drawings, Figure 1 is a rear end view of the machine, showing the cutting-knives. Fig. 2 is a detail rear view of the two facing-knives and their guides. Fig. 3 is a plan view of the parts shown in Fig. 2. Fig. 4 is a longitudinal section through a portion of the log, showing the upper facing-knife in operation. Fig. 5 is a similar section through the log, showing the lower facing-knife in operation.

The concavo-convex utensils are cut continuously from the end of a log of wood or other similar material by means of a curved knife, which cuts in one direction and severs a utensil from the log at each stroke. The log is first prepared by steaming it or treating it with hot water, so as to soften and toughen it. The log is then placed in the machine, and is surfaced by two reciprocating knives before being subjected to the cutting-off knife. The surfacing of the log is repeated before cutting off each utensil, and in order to avoid breaking and splitting the edges of the log the surfacing cut is not taken clear across its end face, but two knives are caused to cut in opposite directions toward the center of the log. These knives operate successively, so that they do not meet at the center of the log. The log is fed forward intermittently, and in order to save time one of the facing-knives is arranged to be in operation while the log is being fed forward during the interval between the strokes of the cutting-off knife.

The various parts of the machine are more fully shown in the Patent No. 410,299, dated September 3, 1889, and in the application, Serial No. 410,154, filed October 29, 1891.

A is the frame of the machine carried on legs B.

C is the main shaft, and D is the driving-wheel secured thereon.

The cutting-off knife O is curved, and has its end hubs O′ secured to the shaft C, which is revolved continuously.

M are guides secured to the frame A.

M′ is a sliding frame working in the guide-grooves T in the guides.

N is the lower facing-knife, and N′ is the upper facing-knife. These knives are secured to the frame M′, and the upper knife preferably has a concave cutting-edge, so that it may enter the block gradually.

I is an oscillating shaft carried by the legs B and having the arm K secured on it.

L are links pivoted to the arm K and to the lugs *a* on the frame M′.

The shaft C has a crank F secured on it, and G is a connecting-rod which transmits the rotary motion of crank F to the crank H, secured on the shaft I, and converts the circular motion into a reciprocatory motion.

G′ is a stay between the shafts C and I.

P is the log-clamping lever pivotally supported at one end by a stationary lug *p* and operated by a cam R on the shaft C. The cam R raises a roller *b* and causes the lever P to clamp the log, as fully set forth in the aforesaid patent, No. 410,299.

The guides M are provided with studs S, which pass through holes in the frame A, and are provided with springs *c*, as shown in Fig. 5, so that the facing-knives and their frame M′ and the guides M may be pressed forward for a limited distance against the pressure of the springs. The grooves T are made wide, so that the frame M′ may slide freely and not bind in them.

H is the end of the log, which is fed forward intermittently between the strokes of the cutting-off knife by means of any approved feed mechanism, such as that shown in the aforesaid patent, No. 410,299. The log is first clamped by the lever P, and the cutting-off knife, which revolves continuously, separates a utensil from the log. About the time the

cutting-edge of knife O leaves the log the upper facing-knife N′ enters the log and the parts pass into the relative positions shown in Fig. 4. The knife O continues its circular movement and the knife N′ completes its descent down to the center of the log and returns upwardly, the lower facing-knife N then entering the log, as shown in Fig. 5. About the time the knife N has fairly entered the log the bar P is raised and the log is unclamped and pushed forward, together with the guides M, the frame M′, and the blades N and N′, against the pressure of the springs *c*. The said springs pull back the frame M′ and the knives as soon as the knife N has completed its upstroke toward the center of the log, which completes the facing of the log, and the log is then ready to be clamped again and to have another utensil cut from it by the knife O.

The mechanism for cutting the plates is not hereinafter claimed, as the said mechanism is fully described and claimed in my concurrent application filed October 29, 1891, Serial No. 410,154.

What I claim is—

1. The method of cutting concavo-convex utensils from a log, which consists in cutting out each utensil by a single continuous cut and facing over the log between each said cut by shaving off its surface by two successive cuts taken in opposite directions from the outside toward the center of the log, substantially as set forth.

2. The method of cutting concavo-convex utensils from a log, which consists in first clamping the log, then cutting out the utensil by a single continuous cut, shaving off the surface of the log down to the center, and commencing to shave off the surface upward toward the center, then unclamping the log and feeding it forward and completing the upward facing-cut during the feeding movement, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 29th day of October, A. D. 1891.

CHARLES SPOFFORD.

Witnesses:

JOSEPH KELL,

JAMES P. FOSTER.