

(No Model.)

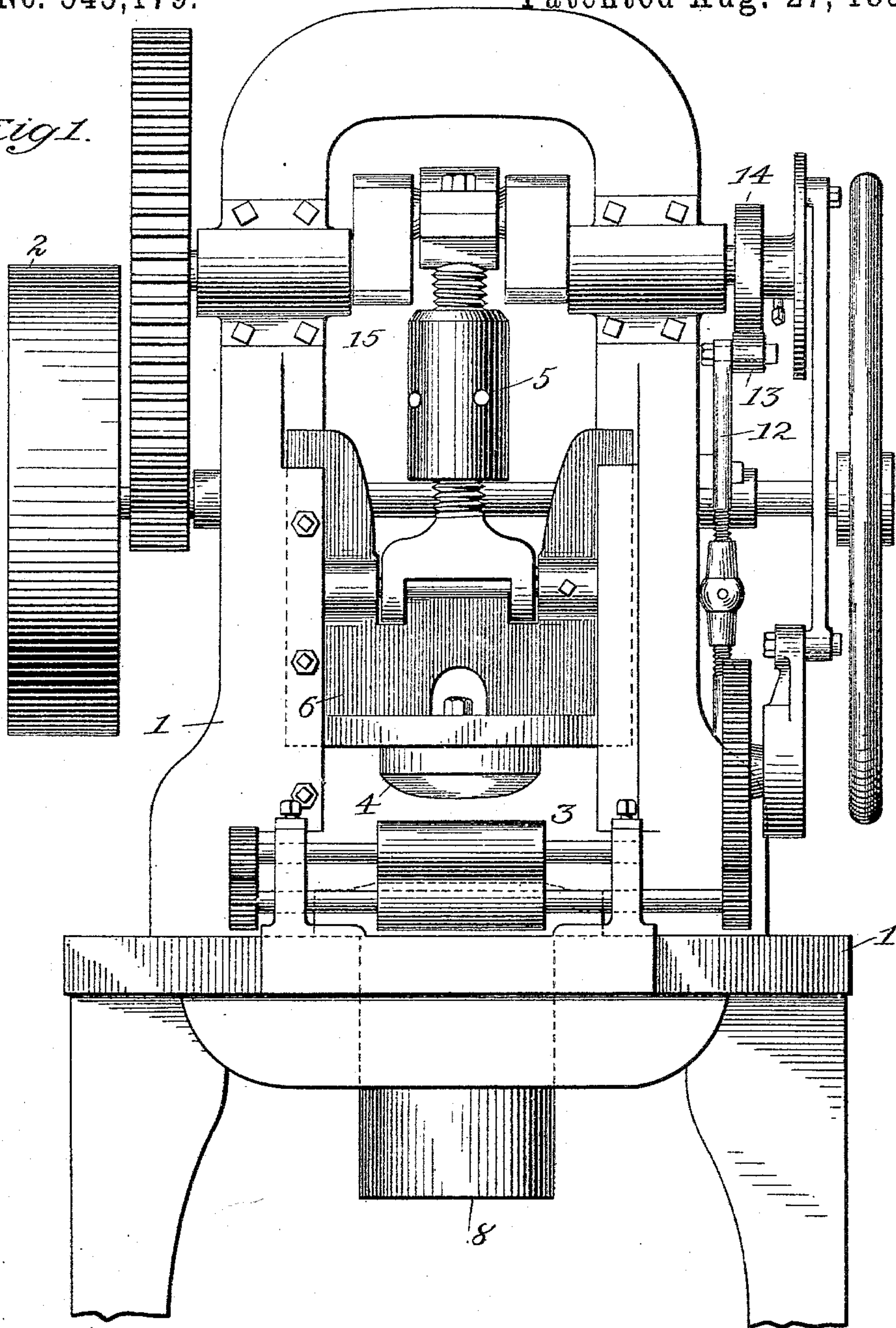
2 Sheets—Sheet 1.

C. SPOFFORD.
PROCESS OF AND APPARATUS FOR MAKING DISHES OF WOOD OR
WOOD PULP.

No. 545,179.

Patented Aug. 27, 1895.

Fig 1.



WITNESSES:

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INVENTOR

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(No Model.)

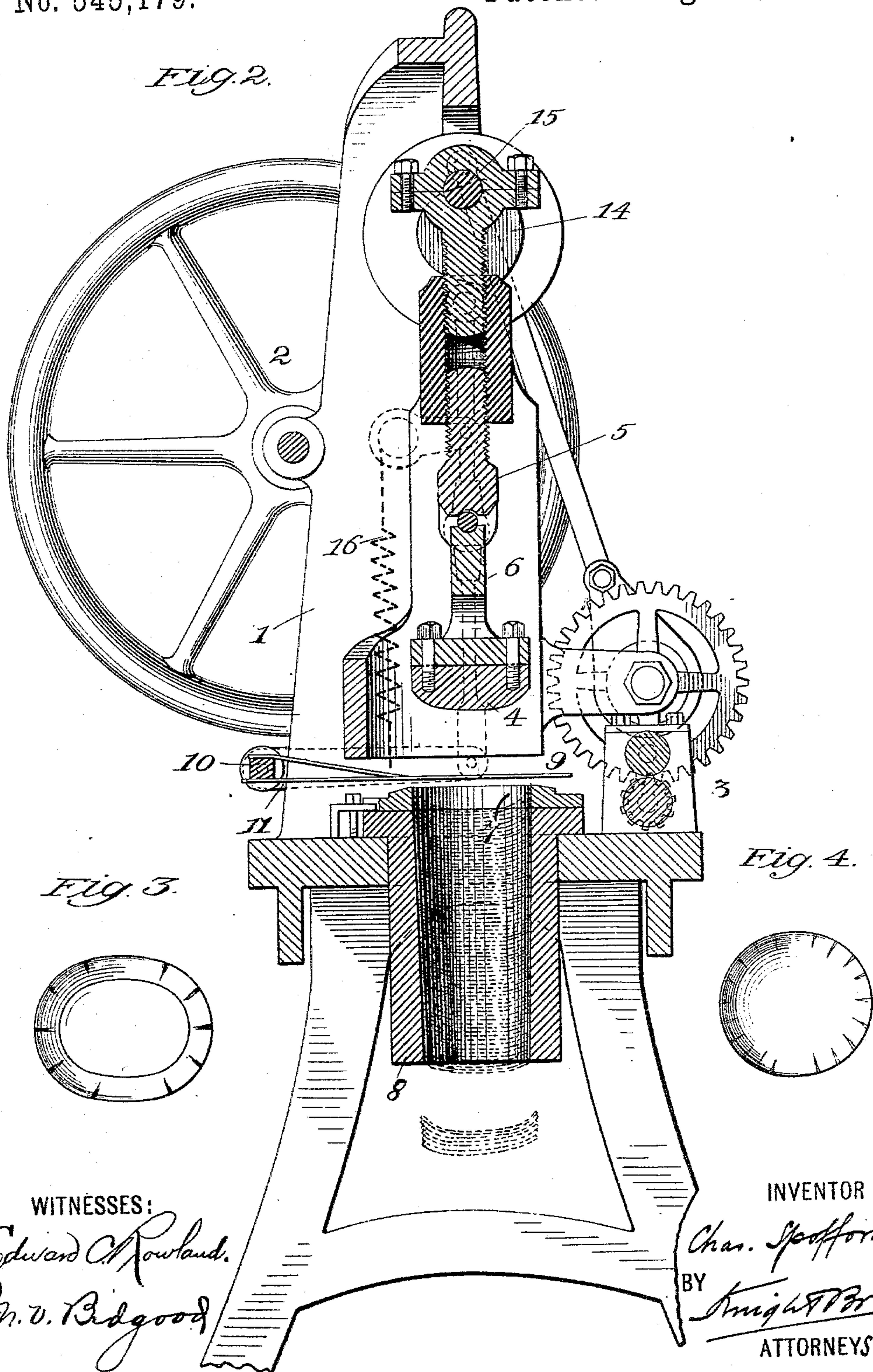
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UNITED STATES PATENT OFFICE.

CHARLES SPOFFORD, OF NEW YORK, N. Y., ASSIGNOR TO ANNIE AMES HISS,
OF EAST ORANGE, NEW JERSEY.

PROCESS OF AND APPARATUS FOR MAKING DISHES OF WOOD OR WOOD PULP.

SPECIFICATION forming part of Letters Patent No. 545,179, dated August 27, 1895.

Application filed May 28, 1894. Serial No. 512,824. (No model.)

To all whom it may concern:

Be it known that I, CHARLES SPOFFORD, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Processes of and Apparatus for Making Dishes of Wood or Wood Pulp, of which the following is a specification.

My invention relates to a process and an apparatus for forming dishes and similar articles of wood or wood pulp by punching them from a sheet of such material, and I have had particularly in view the perfecting of a simple punching-machine to a point enabling it to form the complete article at a single stroke.

I will first describe my invention with reference to the accompanying drawings, and will point out more particularly in the claims the novel parts and combinations.

In the accompanying drawings, Figure I is a front view, and Fig. II is a vertical sectional view, of my improved machine. Figs. III and IV are views of forms of dishes which may be made on the machine.

The machine may have usual table and frame 1, driving mechanism 2, and feeding devices 3, and the punch 4 has, as usual, adjustable pitman 5 and a cross-head 6, which guides it in the frame. The punch 4 is intended not only to cut off the blank from the sheet which is fed in through the feed-rolls, but to shape it in dish or other form, and the edge and the under surface, hereinafter called the "forming-surface," of the punch are therefore given such configuration and contour as may be desired. 7 is the cutting-die, and 8 the receiving-chamber. The die is of configuration corresponding with the shape of the edge of the punch 4, and the chamber 8 is of tubular form corresponding precisely to the die 7, so that blanks stamped down into it by the punch will fit and hug its walls closely, and thus, gradually filling the chamber and dropping out at bottom one by one, after the machine has been a little while in operation, will afford a sufficiently solid bed or matrix whereon the punch will, as it severs, also form and shape the blanks. Two forms of dishes which may be made are indicated in Figs. III and IV. If the chamber be made sufficiently long and just

right as to diameter, it will operate properly in retaining the bed of shaped articles with sufficient resistance to cause them to act as a former for succeeding blanks that are forced down by the punch; but if it be desired to shorten the tube or heighten the resistance of its walls to the passage of the dished blanks the tube may be made slightly tapering downwardly.

9 is a clamp and stripping-plate supported over the die 7 on a rock-shaft 10, which is operated by an arm 11 to hold the paper fast while being punched and strip it from the punch and to release the paper when the intermittent feed movement begins. The crank 11 is thrust down forcibly by its rod 12, whose upper end bears a roller 13, running under cam 14 of shaft 15. A spring 16 holds the roller of rod 12 up against the cam.

The operation of the machine is continuous, and a dish, plate, or other article is punched and formed with each descent of the punch.

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

1. In a machine for punching and forming dishes and other articles from sheets of wood or other material, the combination of a punch having an under surface formed to the desired contour of the dish and integral with and bounded by, a cutting edge for separating the dish blanks and the sheet, a die and a tubular receiving chamber attached to said die and of configuration corresponding therewith, the die and chamber acting as a nesting device whereby the dishes first formed act together with the punch and die to shape the succeeding dishes, substantially as and for the purposes set forth.

2. In a machine for punching and forming dishes and other articles from sheets of wood or other material, the combination of a punch having a cutting edge and a forming surface, a die and a tapering tubular dish receiving chamber supported immediately under said die and having a configuration corresponding thereto, substantially as set forth.

3. In a machine for punching and forming dishes and other articles from sheets of wood or other material, the combination of the

punch having an under surface formed to the desired contour of the dish and integral with, and bounded by, a cutting edge for separating the dish blanks from the sheet, the die, 5 the receiving chamber, the intermittently actuated feeding mechanism and the intermittently actuated clamping and stripping plate, the die and chamber acting as a nesting device whereby the dishes first formed act together with the punch and die to shape the succeeding dishes, substantially as set forth. 10 4. The process of punching and forming

dishes and other articles from sheets of wood or other material consisting in punching the blank from the sheet and with the same movement carrying and pressing it against a mass of similar articles formed on the same machine whereby the latter act as formers for the blank being treated, substantially as set forth.

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Witnesses:

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