

(No Model.)

E. F. PRESCOTT.

MANUFACTURE OF ARTICLES FROM WOOD OR VEGETABLE PULP.

No. 264,100.

Patented Sept. 12, 1882.

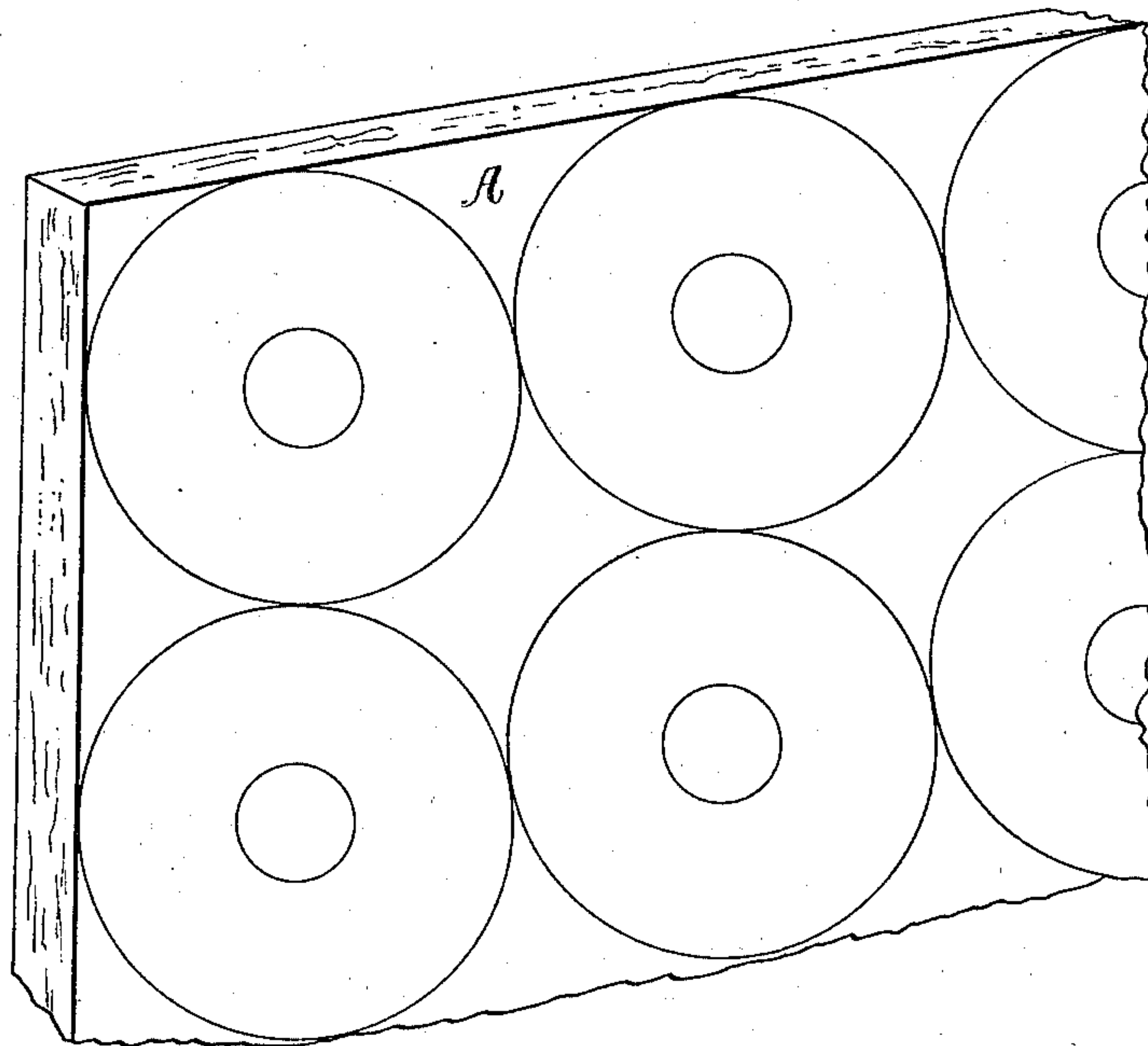


Fig. 1.

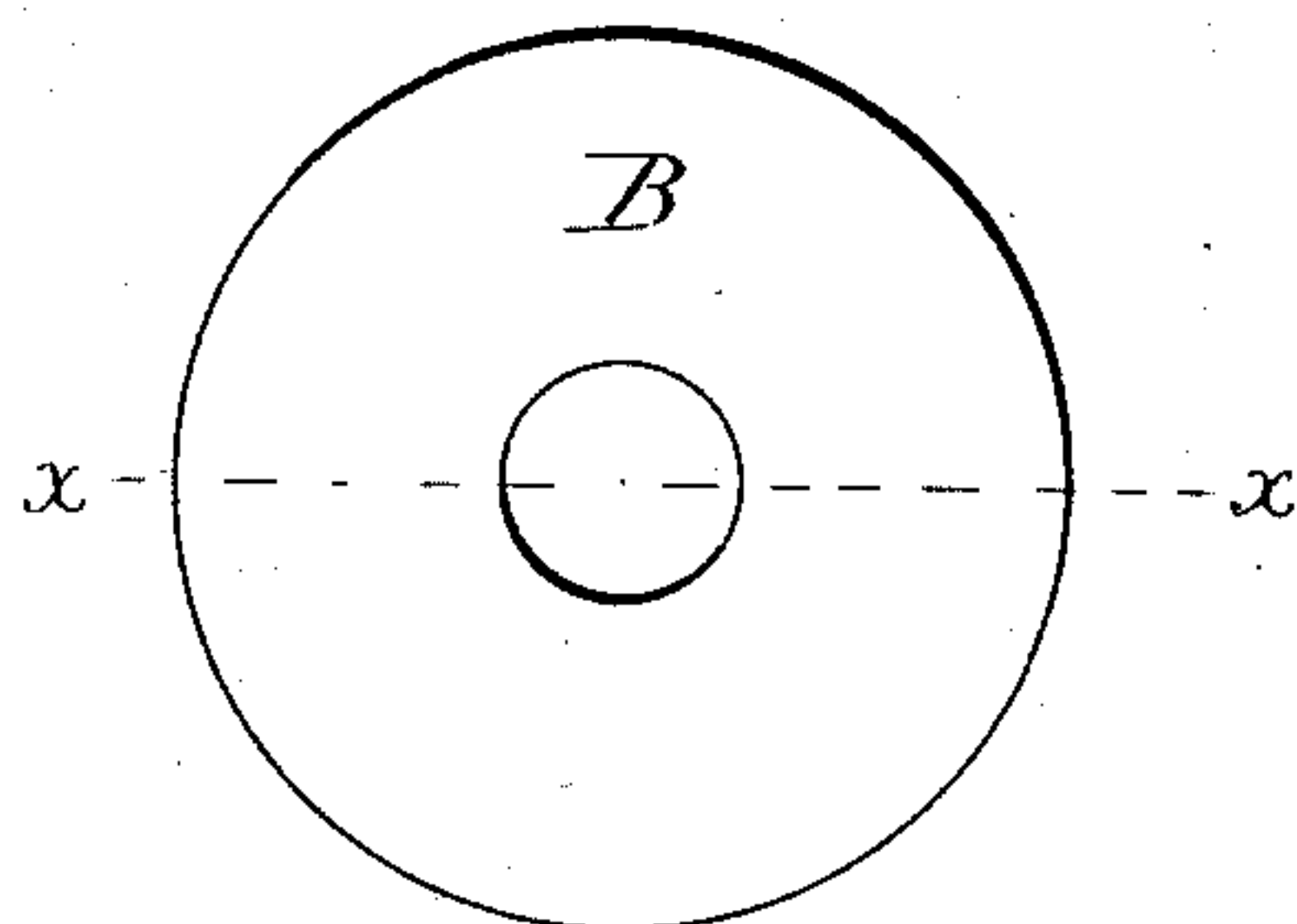


Fig. 2

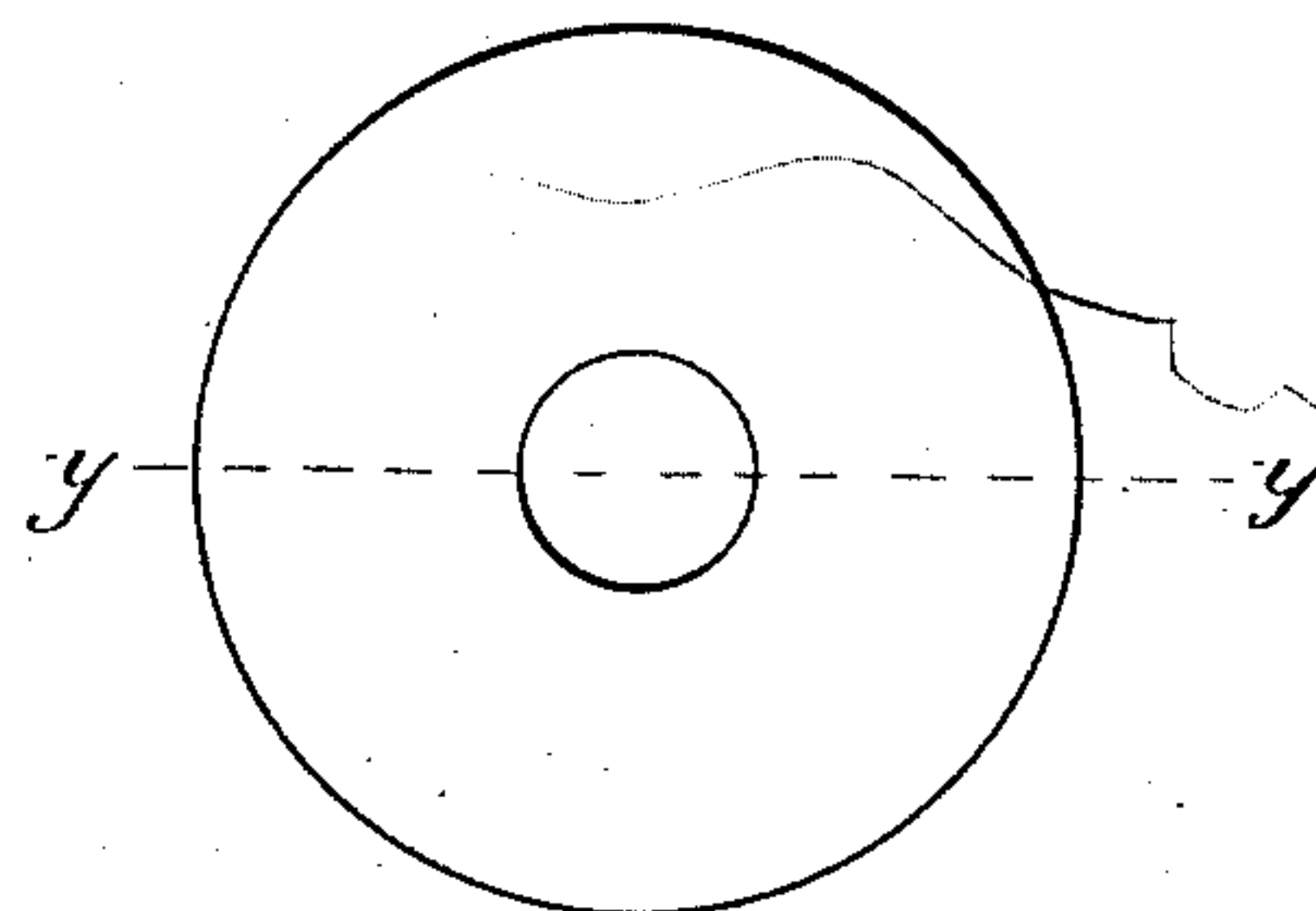


Fig. 3.



Fig. 4

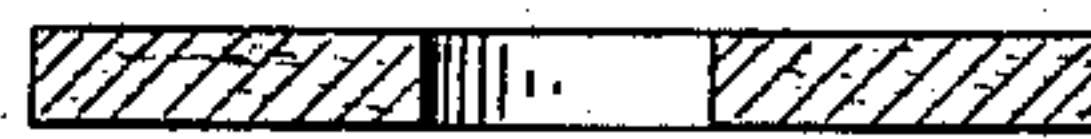


Fig. 5.

WITNESSES

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# UNITED STATES PATENT OFFICE.

EDWARD F. PRESCOTT, OF MALDEN, MASSACHUSETTS.

## MANUFACTURE OF ARTICLES FROM WOOD OR VEGETABLE PULP.

SPECIFICATION forming part of Letters Patent No. 264,100, dated September 12, 1882.

Application filed March 13, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD F. PRESCOTT, of Malden, in the county of Middlesex and State of Massachusetts, have invented a certain new and useful Process for the Manufacture of Articles from Wood or Vegetable Pulp, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature, in which—

Figure 1 is a perspective view of a sheet or slab of wood pulp marked with circles to indicate blanks. Fig. 2 is a plan view of the circular unfinished blank punched therefrom. Fig. 3 is a plan view of a finished blank. Fig. 4 is a cross-section on the line  $xx$  of the unfinished blank shown in Fig. 2. Fig. 5 is a cross-section of the finished blank shown in Fig. 3 on the line  $yy$ .

The process consists, first, in forming a sheet or slab of wood or vegetable pulp of the necessary thickness; second, in cutting or punching therefrom, while the same is, as it may be termed, "in temper," a blank which shall approximate to the shape of the article which it is desired to produce; and, third, in submitting said blank to pressure in a suitable press or mold, whereby it is compacted, solidified, and made to assume the desired shape.

In the drawings, A represents a slab or sheet of wood or vegetable pulp. It is formed in a suitable mold by partially or entirely filling the same with the pulp mixture or composition, and then compressing it therein to the desired thickness, or in any other desirable way. It should not be compressed so hard that blanks cannot readily be cut, dinked, or punched therefrom, and the best consistency or temper, I think, is that which the sheet or slab has when it will slightly bend of its own weight when taken hold of at one corner and held in a horizontal position; but of course I do not confine myself to this temper, as any temper which will permit of the successful practice of the process as hereinafter described may be used. From the slab I cut, die, or punch blanks which approximate the shape of the article which I desire to make; and in the drawings I have represented as that article a spool-head for the large spools used on spinning and other like machines.

B represents the blank. It is submitted to the action of a mold and follower, press, or rolls, whereby it is solidified, well compacted, and made to assume the desired shape. Of course this mold or rolls have any desirable configuration for the purpose of ornamenting the surface of the article, and if it is desired to give the article thus formed additional pressure at a subsequent time the molds, rolls, or press may be so formed and supported that such additional pressure may be provided; and I have ascertained that by using this additional pressure the appearance of the article is somewhat improved; but I do not consider this to be an essential step of the process.

Among the articles that can be made by this process, besides spool-heads, I would mention mirror and brush backs and handles, plates and saucers, moldings, frames, trays, buttons, curtain-rings, car ornaments, inkstand-bases, and bases for other purposes, &c.

The advantages of this process over the ordinary method of molding wood or vegetable pulp consists in the saving that is made in molds and in the speed with which the article can be produced, as by the old process it was necessary to provide two sets of very expensive perforated molds for each article that was made, in the first of which the article was approximately formed, and in the second of which it was completed, and by this process I am enabled to do away with the first and most expensive molds.

Of course I may form the slab or sheet of pulp in any other desirable way than that herein described without departing from the spirit of this invention. It is essential, however, that the texture of the slab or sheet shall be that which is provided by molding it, as above described—that is, the fibers of the pulp should not run in one direction through the mass, but should cross each other in all directions, knitting the mass well together, and in this respect the slab or sheet differs from leather-board or pasteboard from which soles and heels are dinked or box-blanks cut.

I reserve the right to make a separate application for patent for a spool having formed wood-pulp heads.

When the article to be formed is larger or thicker at one place than another and requires more pulp or stock at said enlarged part, the



slab or sheet of pulp may be molded or formed to a shape approximating the form of the article by being made thicker in some portions than in others, or by having projections upon its surface, these projections being arranged, of course, so that the blanks can be made from the slab or sheet with as little waste of stock as possible. When the blank is thus approximately shaped in the slab or sheet it will not be necessary to use as much pressure in finishing in the molds and bringing them to their ultimate form.

In some instances, when flat articles are made, or articles that do not need to be finished upon their edge, a forming pressure can be obtained in a suitable press and the edge of the article subsequently finished by sandpapering, or in any other suitable way.

In lieu of cutting the blanks from the slab or sheet, and then compressing them, I may run the slab or sheet through rollers having suitable configuration, and properly compress and solidify the pulp into the desired form or shape upon two surfaces, and then cut or punch the blank therefrom and finish its edges by smoothing in any desirable manner; and I therefore, in practicing this process, do not

confine myself to punching the blanks from the sheet or slab before they have received their forming pressure; and, if desired, I may insert a spindle or metallic stiffening pieces, studs, or supports in the pulp before it is molded to its approximate shape, and mold the pulp about them under pressure, in which event the said spindle or pieces are introduced either in the sheet or slab before molding, or are pressed into the blank by the pressure used in bringing it to its ultimate form.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

The process of making articles from wood or vegetable pulp, consisting in forming a sheet or slab of pulp of uniform texture throughout, as described, and in punching or cutting therefrom while in proper temper blanks of the desired shape, and in pressing and forming said blanks to the desired configuration or shape, all substantially as and for the purposes set forth.

EDWARD F. PRESCOTT.

Witnesses:

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WILLARD C. FOGG.