

(No Model.)

J. W. LAMBERT.

DEVICE FOR MANUFACTURING WOODEN DISHES.

No. 542,365.

Patented July 9, 1895.

Fig. 1.

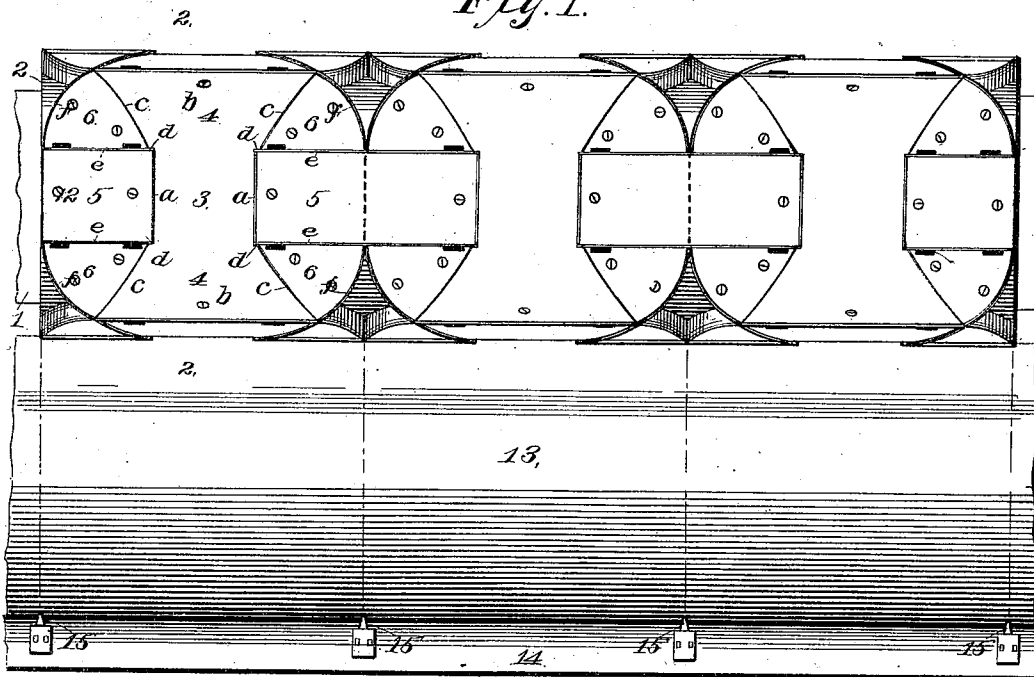


Fig. 2.

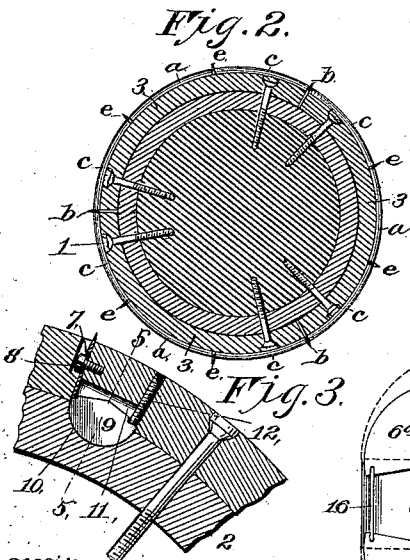


Fig. 6.

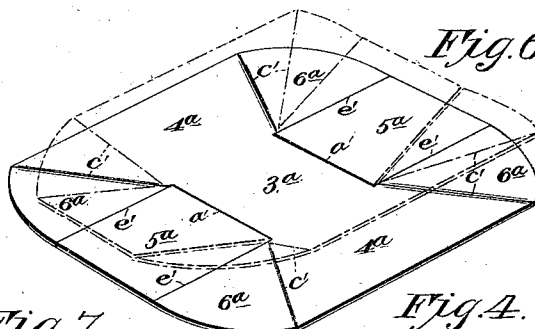


Fig. 4

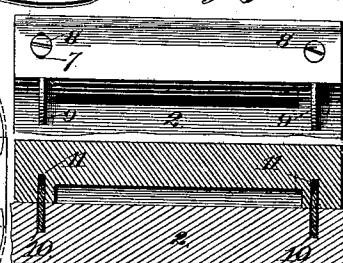
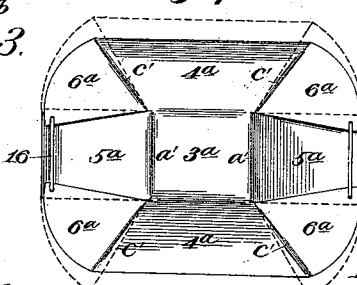


Fig. 7.



*Fig. 5. Inventor;
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UNITED STATES PATENT OFFICE.

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DEVICE FOR MANUFACTURING WOODEN DISHES.

SPECIFICATION forming part of Letters Patent No. 542,365, dated July 9, 1895.

Application filed February 9, 1895. Serial No. 537,838. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH W. LAMBERT, of Kansas City, Jackson county, Missouri, have invented certain new and useful Improvements in Devices for Manufacturing Wooden Dishes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to wood-dish-manufacturing devices, and has for its object to produce a device of the character above referred to, which may be easily and quickly adjusted to produce wood dishes of varying thickness, is positive and reliable in operation, and combines in a high degree simplicity, strength, and durability, together with inexpensiveness of construction.

With this object in view the invention consists in certain novel and peculiar features of construction and combinations of parts, as will hereinafter appear, and be pointed out in appended claim.

In order that the invention may be fully understood, I will proceed to describe the same, with reference to the accompanying drawings, in which—

Figure 1 represents in operative position a log and the apparatus embodying my invention by which complete blanks are turned from the same. Fig. 2 represents a sectional view taken on the line 2 2 of Fig. 1. Fig. 3 is a sectional view to illustrate the manner of adjusting the knives or creasers to form or provide blanks of varying thickness. Fig. 4 is a side view of a knife or creaser carried operatively by a section forming a part of my improved apparatus. Fig. 5 is a sectional view taken on the line 5 5 Fig. 3. Fig. 6 is a perspective view of a completed blank formed in accordance with my invention, and Fig. 7 is an inverted plan view of a dish embodying my invention.

In the said drawings, 1 designates a rotating shaft, which forms a part of the apparatus and is supported by any suitable or preferred framework. (Not shown.) The impression-roller, which comprises my invention, is mounted rigidly upon said shaft, and consists of a base portion or cylinder 2 and an external or operative portion, which I will now proceed to describe, and which is com-

posed of a number of segmental sections or plates.

In the said drawings, the roller is shown as of sufficient external surface to form nine complete blanks at each revolution, though it is to be understood that this number may be varied as circumstances may direct. Therefore a description of one will suffice for all.

A segmental section or plate having its external surface concentric with the axis of the shaft 1, comprises a body portion 3, which terminates in elongated side portions 4. The ends of said body portion 3 are parallel and carry the creasing-blades *a a*. The side margins of the portions 4 are parallel with each other and with the axis of the shaft 1, and project at each end a suitable and an equal distance beyond the arc of the creasing-blades *a*, and are provided at said margins with the longitudinal knives *b*. The ends of said side portions 4 converge inwardly at an equal angle and carry creasing-blades *c*, which intersect the outer ends of the parallel longitudinal inner margins *d* of the said portions 4, said inner margins extending inwardly a short distance only and intersecting with the ends of the body portion 3. At opposite ends of the body portion 3, and of the same width and having their external surfaces in the same arc as said portions 3 and 4, are the segmental sections or plates 5 5. These sections or plates 5 extend from the creasing-blades *a* a suitable distance beyond the ends of the portions 4 and have their outer ends parallel with their inner ends. Said sections or plates 5 also carry at their side margins the parallel knives *e e*, which extend from their outer to their inner ends and thus intersect and are intersected by the obliquely-arranged creasing-blades *c* and the transverse creasing-blades *a*. It is apparent from this arrangement that in operation the material acted upon by this roller will be cut by said knives *e* beyond the inner ends of the creasing-blades *c* at each side a distance corresponding to the distance between the inner ends of said creasing-blades *c* and the transverse creasing-blades *a*, and the inner ends of said creasing-blades *c* and the outer ends of the sections or plates 5. The distance between the adjacent ends of the creasing-blades *a* and *c* may be varied according to the thickness of the ve-

neer, and preferably should equal or exceed slightly the thickness of the same.

The spaces formed between the portions 4 of the first-mentioned section and the sections or plates 5 are occupied by the triangular plates 6, which fit snugly against the continuous creasing and cutting blades or knives and have their outer ends suitably curved, preferably each upon a line struck from the apex of each triangle as its center, or approximately so, and carried by said plates at their outer ends are the curved knives *f*, which intersect with the ends of the knives *b* and the outer ends of the sections or plates 5. The external surface of the sections or plates 6 lie in the same surface of rotation as the sections hereinbefore described. The knives *b*, *e*, and *f* project beyond the surface of the said sections or plates a distance equal to the thickness of the veneer to be formed, while the creasing-blades *a* and *c* project beyond said surfaces a sufficient distance to press against and form in the material creases or corrugations which reduce the thickness of the same, toughen the fiber and exude the moisture, thus easing the strain at the point of flexure or bending without breaking or exoriating the fiber at said points of contact.

In order that said knives and creasing-blades may be easily and expeditiously adjusted so as to make an impression more or less deep in the material acted upon, they are each provided with the slots 7, extending radially of the axis of the roller, and engaging said sections through said slots are the screw-bolts 8, which are provided with heads* to guide said knives in conjunction with their respective sections or plates in their sliding movement. The opposing margin of the adjacent section or plate is provided with a cavity to receive said head, so that said sections may fit closely together and yet permit the insertion of a small wrench by which said screws are operated. The heads of said screw-bolts bear with sufficient frictional contact against said knives or creasing-blades to prevent the centrifugal action of the roller forcing them outward when not engaged in cutting or making an impression in the wood.

When it is necessary or desirable to increase the thickness of the blanks the screw-bolts 8 are loosened and sufficient pressure applied directly against and upon the inner margins of said knives or creasing-blades by the segmental plates 9, which are rotatably mounted in corresponding cavities 10 in the base portion of the cylinder 2, as clearly shown in Figs. 3 and 5. To accommodate the rotatable movement of said plates 9, registering-recesses 11 are formed in the underside of said sections or plates, as also clearly shown in the same figures. Each section or plate is pierced by two or more radial-threaded apertures, and engaging the same are adjusting-screws 12, which bear at their lower ends upon the semi-circular plates 9 near their opposite margins. By this arrangement it will be apparent that

said knives or creasing-blades may be forced outward by operating said screws in the proper direction without dismantling or taking apart the roller, and may be withdrawn when said screws are operated in the reverse direction, as will be readily understood.

Suitably supported adjacent to the rotating roller described is the log 13, from which the blanks are formed, and arranged against and operating upon said log in the ordinary manner is the knife 14, and carried by the same or in close relation thereto are the dividing knives or spurs 15. These knives or spurs are arranged in the plane of the outer ends of the sections or plates 5 and are adapted, in conjunction with the marginal knives *b* and *f*, to complete and separate each blank from the others. In Fig. 1, where the roller is shown with a plural number of blank-forming surfaces, I have shown between each pair of said surfaces a single plate 5, which forms a part of the contiguous blank-forming surfaces, but it is to be understood that I may employ separate plates 5 in lieu of these double plates, as illustrated in dotted lines.

In the practical operation of the machine, as the roller and the log rotate together, the impression of the various knives and creasing-blades is made in said log to a depth corresponding to the distance which said knives and creasing-blades project beyond the surface of said roller. In the rotation of the roller, as the impression is made, the dividing knives or spurs 15, operating upon the log in the plane of the dotted lines, cut the same to a depth corresponding to the knives of the roller, and the knife 14 removes the wood in the form of complete and separate blanks, as illustrated in Fig. 6. Each of said blanks comprises the sections 3^a, 4^a, 5^a, and 6^a, which correspond to the portions 3, 4, 5, and 6 of the roller. Each blank is also creased, as *a'*, and is cut from the opposite ends of said creases in lines parallel with the side margins of the blank to and through the end margins of said blank, as shown at *e'*, and is creased obliquely, as shown at *c'*, divergently toward each side from a point upon the cuts *e'* a slight distance outward of the creases *a'*, so that the space between the contiguous ends of the creases *a'* and *c'* shall equal or exceed slightly the thickness of the blank. To form a complete dish from this blank the end portions 5^a are first bent upwardly to the proper angle upon the creased lines *a'*. The side portions 4^a are now bent upwardly to the proper angle, and the triangular portions 6^a are bent inwardly toward each other upon the creases *c'*, so as to overlap the end portions a suitable distance at their under sides, as shown in dotted lines, Fig. 6, and more clearly in full lines, Fig. 7, and are secured in such position by the wire-fasteners 16, in the ordinary manner.

It will be observed, upon reference particularly to Fig. 6, after the end portions are bent upward to the position shown, that the inner ends of the creases *c'* intersect the line of

the cuts *e'* at a point coincident with the intersection thereof by the under side of the said inclined or bent end portions. Therefore it will be readily understood that said triangular portions may be caused to underlap said end portions without imposing upon the blank at said point of intersection any undue strain which would tend to split or crack the same, because said triangular portions do not have to be bent downwardly at said intersection or hinge-point below the end portions, as is necessary in all of the wood-veneer dishes of this character heretofore made to my knowledge. The reason why all or nearly all of the wood-veneer dishes which are cut out in the blank and then folded are imperfect is that the oblique scored lines upon which the sides are bent to form a junction or connection with the ends radiate with the longitudinal cuts (which form the ends proper) directly from the extreme ends of the transverse scored lines forming the ends of the bottom of the dish. In the formation of a dish from such a blank, as the sides are bent upon said oblique scored lines to underlap the end portions, the wood is almost invariably split or cracked a slight distance along the side margins of the bottom, said split extending from the junction or intersecting point of the longitudinal split or cut and the transverse and oblique scored lines, because in this operation the blank is subjected to a great strain in twisting or bending the same at said junction or intersecting point to cause two parts, originally in the same plane, to lie one above the other. An article of this character which is split or broken as above referred to is of no value where butter and lard in summer and pickles, &c., are to be sent to or carried away by a customer, owing to the danger to their wearing-apparel, and therefore frequently the dealer will not ac-

cept such dishes at all, as he cannot take time to pick or choose a dish required for a certain service. My improved dish, owing to the fact that it is never split or broken, is therefore of incalculable value to dealers who handle butter, lard, pickles, olives, &c.

It is to be understood that while I have confined myself in the description to blades for creasing the material acted upon, I do not limit myself to this precise construction, as by simply substituting edged blades in place of said creasing-blades (which are not provided with cutting edges) the wood may be scored or excoriated, and a dish be produced in all respects equal to the one described except in strength.

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

A device for making impressions in wood, comprising a shaft, a cylinder secured thereon, a number of plates secured upon the cylinder, of the required formation and arrangement, screw-bolts engaging certain edges of said plates, knives or blades for cutting or creasing purposes, arranged against said edges of said plates and provided with slots through which said clamping-bolts extend, in combination with segmental plates arranged transversely of and bearing against the lower edge of each knife or blade and occupying correspondingly-shaped cavities in the said cylinder, and set-screws engaging threaded passages in said plates and bearing at their lower ends upon said segmental plates, substantially as set forth.

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

JOSEPH W. LAMBERT.

Witnesses:

M. R. REMLEY,
G. Y. THORPE.