O. J. BOLDT.

BOWLING PIN.

APPLICATION FILED APR. 19, 1916.

1,214,126. Patented Jan. 30, 1917.

Fig. 1.

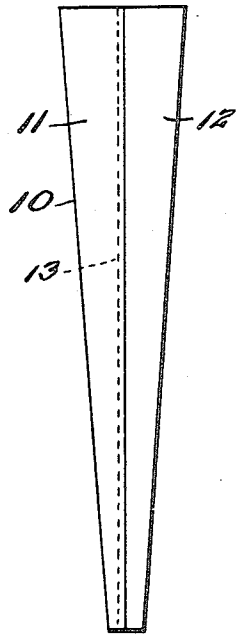
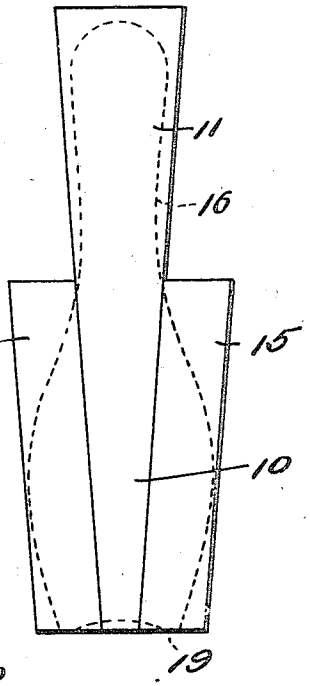


Fig. 2.



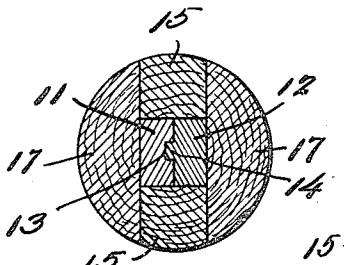


Fig. 4.

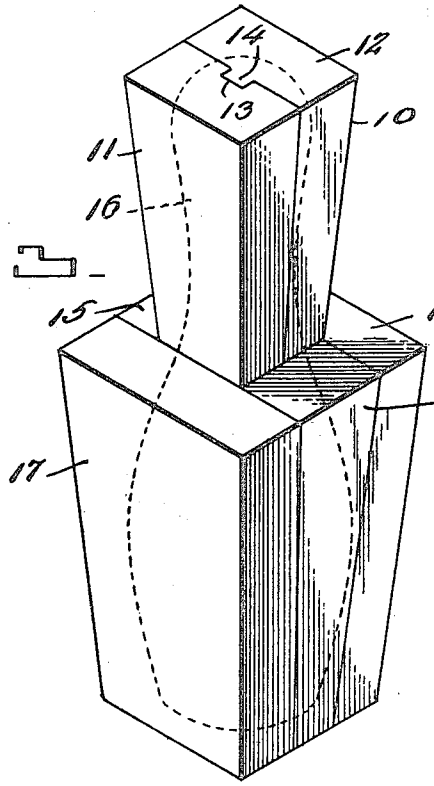
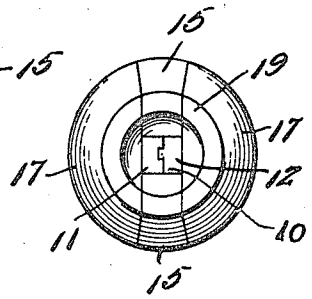


Fig. 3.

Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

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BOWLING-PIN.

1,214,126. Specification of Letters Patent. Patented Jan. 30, 1917.

Application filed April 19, 1916. Serial No. 92,153.

To all whom it may concern:

Be it known that I, OSCAR J. BOLDT, a citizen of the United States, residing at Appleton, in the county of Outagamie and State of Wisconsin, have invented certain new and useful Improvements in Bowling-Pins, of which the following is a specification.

The invention has for an object to enable the production of a bowling pin from kiln dried lumber in a practicable way, attaining as nearly as possible without objectionable expense the production of a pin having the properties in action of a pin turned from the heart of a tree, but stronger, and not requiring anywhere near the same waste of material.

It is a further very important object to give a construction of pin which will have an extremely high degree of resiliency at all sides.

It is a further object to enable the construction of a built-up pin from stock lumber so that there will be no "edge grain" exposed thereon at a point below the base of the neck. It is well known that wood is most apt to split when struck upon the edge of the grain, and it is also a fact that it has less resiliency and life in responding to concussion delivered at the edge of the grain.

I am aware that ten pins have been constructed in built-up form by various methods, and I am familiar with many of these, including the device shown in the patent to Willson, #1,088,315, February 24th, 1914, and it is an important object of my invention to further improve upon built-up ten pins of this character in certain important particulars, having material advantage in improving the action of the pin, its durability and economy in manufacture, both for material and in labor. While using a two piece core from which the neck may be turned, I at the same time am enabled to use slabs which will not have extremely attenuated or thinned edge portions exposed at the central part of the pin, whereby full advantage of the "slash grain" and resilient action of the wood so arranged is available. I also obviate the necessity for exposing large areas of the "edge grain" at the upper and lower parts of the body of the pin whereby the pin is materially strengthened at the same time that its action is greatly quickened in responding to contact with the ball or other pins. It is readily understood that the action of the pin involves response to contact with other pins at various parts of the surface as well as the engagement of the ball at the central parts.

My construction of the pin makes it less liable to warping than the previous generally used kinds of pins, owing to its peculiar reinforcing construction.

Additional objects, advantages and features of invention will appear from the construction, arrangement and combination of parts hereinafter set forth and shown in the drawings, where, Figure 1 is an elevation of the core, Fig. 2 is a similar view at right angles to the first showing slabs applied across the joint, Fig. 3 is a perspective view showing the completed stock body ready for turning, Fig. 4 is a cross sectional view of the device after the turning, Fig. 5 is a bottom view of a pin constructed in accordance with my invention.

The measurements for one size of pin as actually constructed are given herein, and from these it will be readily understood how to form the pin in such sizes as are required.

The core 10 is one inch square at the bottom and three and one quarter inches square at the top. This core is made of two sections 11 and 12 of equal size, one having a groove 13 longitudinally thereof at its inner side while the other has a tongue 14 fitted in the groove. At each side across the joint between the two core sections, there are glued slabs 15 having an even thickness of one and three quarter inches, while in the opposite transverse direction they are tapered to correspond to the taper of the core. These slabs extend from the base of the core to a height approximating that of the base of the neck 16 of the pin, the outline of which is dotted in Figs. 2 and 3. The two remaining sides of the core at its lower part, and the adjacent edges of the slabs 15 are covered by broader slabs 17, also having an even thickness of one and three quarter inches, and of such dimension that its edges lie flush with the outer faces of the slabs 15. All of the parts mentioned are secured together by means of glue, and may be held in suitable clamping devices while the glue is setting. The article at this stage has the appearance shown in Fig. 3, approximately, and after proper setting of the glue, is ready to be turned in a lathe,

in the customary manner. This is done, and the pin treated in any of the customary ways to give it the desired finish. I impart an unusual hardness to the bottom part of the pin by simply pressing it flatly against a smooth faced rotating metal wheel, which polishes and hardens the wood so that it cannot easily be damaged or worn. The bottom of the pin is hollowed out as customary, leaving an annular portion 19 adapted to facilitate the setting up of the pin, and minimize the liability of casual upsetting thereof.

It will be noted that by the method of building up the pin, after it is turned the sheathing slabs 15 and 17 have a liberal thickness at the central part of the pin, completely inclosing it, and they also do not have such thinness toward the edge portions as will materially decrease the resiliency of the pin or its durability. It is immaterial how the grain may lie in the core section, although it is of course desirable that it run longitudinally thereof. In the slab elements 15 and 17, however, the grain should run as nearly parallel to the outer faces thereof when turned, as possible, as illustrated in Fig. 4.

It will be obvious that by the method of construction set forth I am able to obtain unusually thick slabs at the sides of the body of the pin, while retaining the advantages of a comparatively small core of a size at the upper part sufficient to produce the neck of the pin complete, with a marked economy in material. The advantages of my method in enabling the curing of the parts, cheapening of the cost of material, enabling better selection, will all be readily understood.

The provision of the tapered core enables the formation of a pin with a thicker slash grain portion around the core than heretofore, while still enabling the neck of the pin to be turned from the core. It also enables the provision of slash grain slabs on the sides of the pin extending higher on the pin than has been possible by prior constructions, and the pin has a much higher degree of resiliency at the junction of the slabs than can be practicably attained in the most closely approximating constructions heretofore known.

The neck of the pin is greatly strengthened by reason of the tongue and groove joining of the core sections, without requiring the use of dowel pins.

What is claimed is:

1. A built-up ten pin comprising a core element tapered toward its lower end and slabs secured therearound at its lower part to form the body of the pin, the upper part of the core being of a size to form the neck of the pin.

2. A built-up pin comprising a polygonal core tapered toward its lower end, and comparatively thick slabs secured to the sides thereof at the lower part having the grain substantially parallel to their outer sides.

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

OSCAR J. BOLDT.

Witnesses:
THEODORE BERG,
MARTIN BOLDT.