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BOWLING PIN

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Fig. 1.

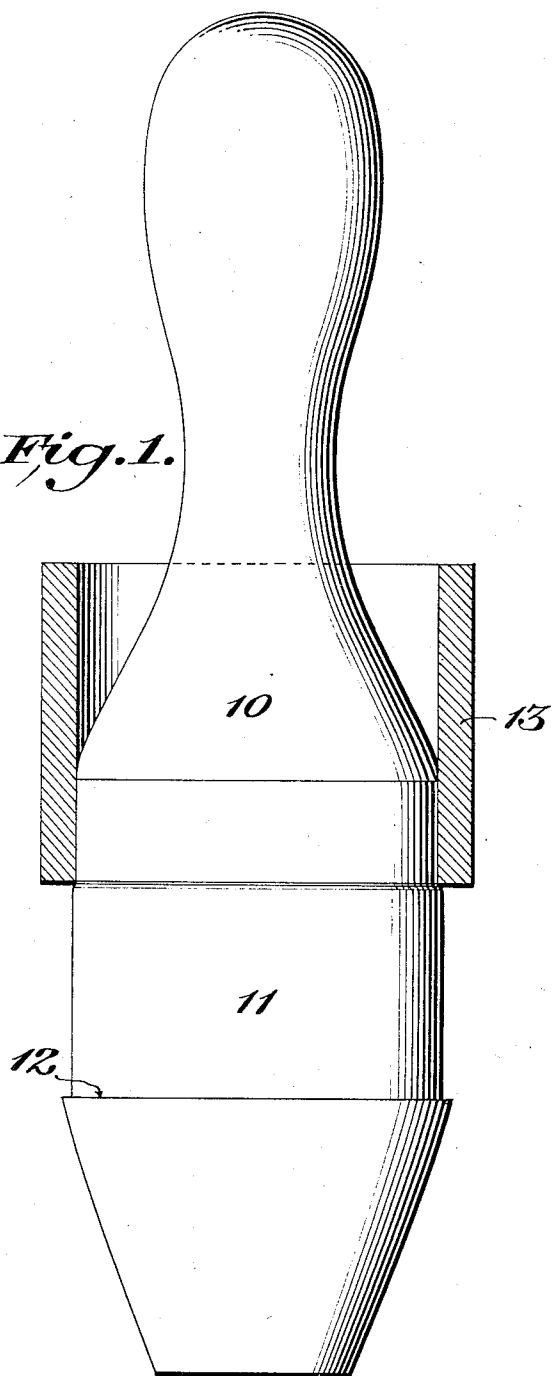
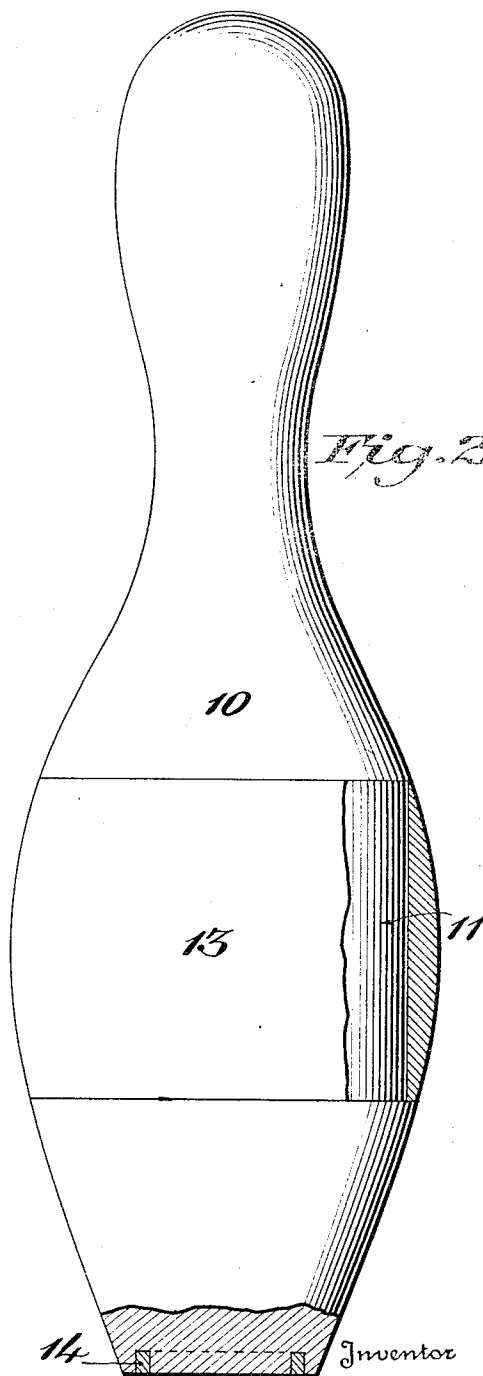


Fig. 2.



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BOWLING PIN

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1 Claim. (Cl. 273—82)

This invention relates to an improved bowling pin and to a novel method of producing the same, and has generally in view to provide, on the one hand, a bowling pin having materially better wearing qualities and possessing vastly longer life than the ordinary bowling pin, and, on the other hand, to provide a method whereby the improved pin may be produced economically in a thoroughly practical manner.

The principal disadvantage of the ordinary maple wood bowling pin is that it soon chips and loses its shape under the impact of balls striking thereagainst, the ordinarily materially convex contour of the main body portion or "belly" of the pin soon being reduced to substantially cylindrical or even concave contour. In other words, the rules concerning the game of bowling specify that the pins used shall have certain definite measurements, but in actual practice it is only new or practically new pins that comply with the rules, for after an ordinary set of maple wood pins have been used only a few times their main body portions or "bellies" become so reduced in diameter that they no longer comply with specifications.

According to the present invention, the pin is provided within the zone of ball impact thereagainst, with a band of vulcanized fibre, bakelite, hard rubber or other suitable material having the characteristics that it does not chip nor become appreciably dented, and retains its shape, under long and severe pounding of balls thereagainst. This, in itself, is not new, as I am aware that bowling pins provided with protective bands of vulcanized fibre have been made and used heretofore. However, in such prior pins screws or other fasteners have been employed, unsuccessfully, to retain the bands on the pins, or else the bands have been shrunk into channels in the pins by a method which is complicated, expensive and, therefore, impracticable.

The present invention therefore has more particularly in view to provide a method of applying bands of vulcanized fibre or similar wear resisting material to bowling pins in an economical and thoroughly practical manner and in such manner that the bands are effectively retained on the pins without any necessity of using fastening elements such as screws or the like.

With the foregoing and other objects in view, which will become more fully apparent as the nature of the invention is better understood, the same consists in the novel bowling pin and the novel method of producing the same, as will be hereinafter more fully described, illustrated in

the accompanying drawing and defined in the appended claim.

In the accompanying drawing, wherein like characters of reference denote corresponding parts in the different views:—

Fig. 1 is a side elevation of a bowling pin body formed in accordance with the present invention and illustrating the partial application of a protective band thereto in accordance with the present pin production method; and

Fig. 2 is a side elevation of the completed pin with parts broken away to illustrate the underlying structure.

Referring to the drawing in detail, 10 designates the present bowling pin body which, it will be observed is in all respects the same as an ordinary maple wood pin, except that, instead of having the usual convex "belly", its "belly" is of reduced cylindrical form, as indicated at 11, throughout a material portion of its height within the zone of ball impact thereagainst. At the bottom of this cylindrical portion 11, which appropriately may be of about three-fourths of an inch lesser diameter than the "belly" of an ordinary maple wood pin, is an upwardly facing shoulder 12 which extends outwardly from said cylindrical portion to the inwardly curving bottom portion of the outer face of the pin. On the other hand, said cylindrical portion 11 is not shouldered at its top, but extends directly to the inwardly curving upper portion of the outer face of the "belly" of the pin.

Obviously, the pin body 10 formed as shown and described may be an original product, in which event it has the economic advantage that it may be produced from a blank of considerably lesser diameter than the blank required for the production of an ordinary pin, or it may be produced from an ordinary pin which has been used and battered. In either case, there is provided, in accordance with the invention, a cylindrical sleeve or band of vulcanized fibre or other suitable material, designated as 13, which is of a length preferably slightly greater than the length of the cylindrical portion 11 of the pin body, and of an external diameter the same or slightly greater than the standard diameter of the "belly" of the pin, and of an internal diameter slightly less than the diameter of the cylindrical portion 11 of the pin. By any suitable means, such as a hydraulic press, this sleeve or band 13 is forced over the cylindrical portion 11 of the pin, from the top toward the bottom of the pin, until the bottom edge of the sleeve or band abuts the shoulder 12. Thereafter, the pin is held in a lathe and the sleeve or

band is turned off, or in any other suitable manner is externally reduced, to the external size and shape of the corresponding portion of an ordinary or standard pin, which completes the present pin except for the application thereto of shellac, lacquer or other finishing substance and except for the placing of a wear resisting ring 14 of vulcanized fibre or other suitable material in a channel in the bottom of the pin in accordance with known practice.

In practice, the sleeve or band 13 is made of an internal diameter about one-eighth of an inch less than the diameter of the cylindrical portion 11 of the pin body. The result is, when the sleeve or band is pressed on said cylindrical portion 11, that the fibres of the wood underlying the sleeve or band are compressed and by their constant tendency to expand, combined with the engagement of the bottom of the sleeve or band with the shoulder 12 and the friction between the sleeve or band and the pin body, effectively hold the sleeve or band in rigid assembly with the pin body, not only under the loosening effect of pounding of balls against the band, but despite shrinkage of the pin body when the same is made from green or unseasoned wood, as the maximum shrinkage of the pin body does not under any conditions exceed the normal difference in diameter between the cylindrical portion 11 of the pin body and the interior of the band. Some slight expansion of the sleeve or band also may occur. If so, the resultant constant tendency of the sleeve or band to contract further assists in maintaining the same rigidly in assembly with the pin body.

Since the sleeve or band is made from a hard resonant substance and is solidly engaged on the pin body, it retains its shape despite long and severe pounding of balls thereagainst and the pin emits the same sound, when struck by a ball, as the ordinary or standard maple wood pin.

The fibre or other material comprising the sleeve or band 13 may be colored to correspond to the color of the wood body of the pin so that the presence of the band is not easily detected and, in any event, is not apparent at distances far less than the length of a bowling alley. Moreover, prior to applying the sleeve or band to the pin body, the sleeve or band may be wetted so that by its subsequent contraction it serves additionally to compress the fibres of the underlying wood body of the pin.

Without further description it is thought that the features and advantages of the invention will be readily apparent to those skilled in the art, and it will of course be understood that changes in the form, proportion and minor details of construction may be resorted to, without departing from the spirit of the invention and scope of the appended claim.

I claim:—

A bowling pin including a one piece wood body formed with a medial substantially cylindrical portion having one end intersecting an upper curved face near the head of the body and having its opposite end terminating at the inner end of a transverse shoulder formed inwardly of the lower curved face of the body, and a seamless band of wear resisting material of normally less internal diameter than the external diameter of said substantially cylindrical portion and forcibly engaged over said portion to compress the fibers of the wood and thereby be permanently held in place about the body of the pin, said band having its lower end abutting said shoulder and having its upper outer portion formed into a feather edge merging into the said upper curved face of the body intersected by said cylindrical portion, and also having its outer face opposite the shoulder merging into the lower curved face of the body.

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