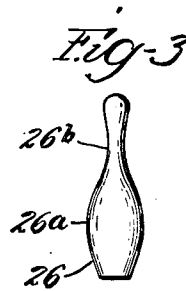
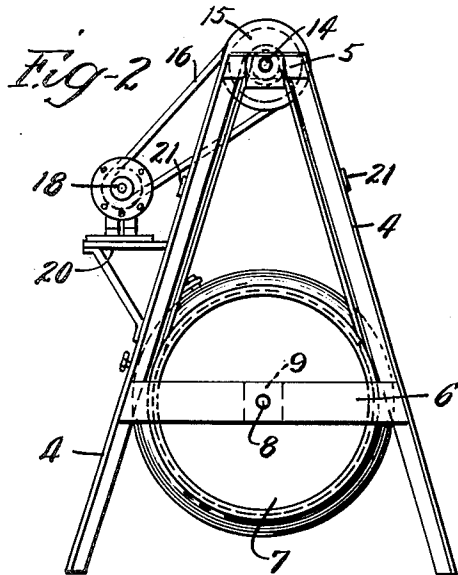
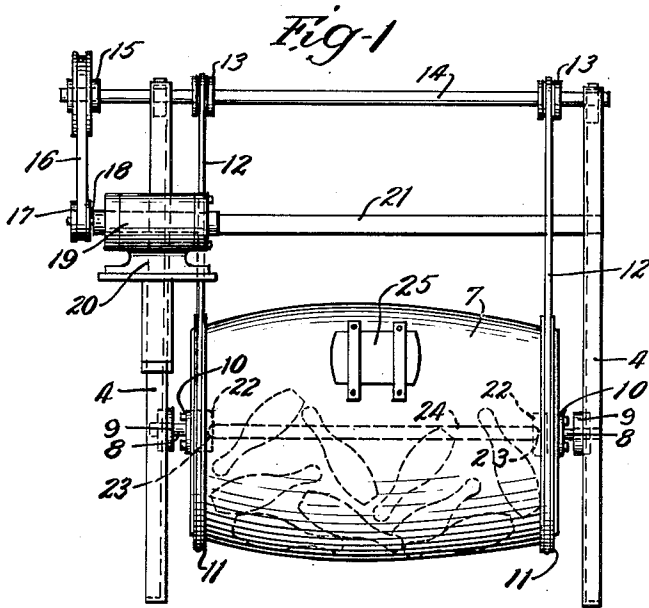


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BOWLING PIN TUMBLER

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BOWLING PIN TUMBLER

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Original application May 22, 1946, Serial No. 671,641, now Patent No. 2,506,521, dated May 2, 1950. Divided and this application April 4, 1950, Serial No. 153,803

3 Claims. (Cl. 51—164)

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This invention relates to a bowling pin tumbler and concerns itself with a cylindrical container mounted for rotation and equipped internally with means for engaging and abrading the lacquer from the necks of bowling pins.

This application constitutes a division of my patent No. 2,506,521 granted May 2, 1950.

In renovating bowling pins, it is necessary to remove the old lacquer coating on the pins and clean the surfaces of the pins before a fresh coat of lacquer is applied. This has usually been done by a sanding machine or lathes or other implements, and involved an expensive process which cut or removed a certain amount of the outer surface of the pins, thus reducing their diameter. This reduction in the diameter of the pins is objectionable and is no longer tolerated by the rules of the bowling association.

It is an object of this invention to overcome the above noted objections in the use of a novel tumbler in which a quantity of bowling pins can be inserted and given a tumbling action in the presence of a solvent solution as set forth in my co-pending application and in co-acting relation with means within the tumbler for engaging and abrading the old lacquer from the surface of the necks of the pins.

This invention comprises the novel structure and combination of parts hereinafter described and more particularly pointed out and defined in the appended claims.

In the accompanying drawings which illustrate a preferred form of this invention and in which similar reference numerals refer to similar features in the different views:

Fig. 1 is a side elevational view of a tumbling apparatus involving this invention;

Fig. 2 is an end elevational view of the apparatus; and

Fig. 3 is an elevational view of the type of bowling pin to be renovated.

In referring now to the drawing, there is shown a tumbler supporting frame comprising upwardly converging legs 4 at the ends thereof. There are two legs at each end of the frame and each pair of legs is connected by an upper bearing cross brace 5 and a lower bearing cross brace 6. A cylindrical tumbler 7 is journaled between the lower braces 6. To this end, stub shafts 8 are suitably secured at the medial points of the lower cross braces 6 in bearings 9 and the ends of the tumbler are provided with suitable bearings 10 in which the stub shafts are journaled, thus supporting the tumbler for rotation upon its longitudinal axis.

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Surrounding the ends of the tumbler 7 there are fastened suitable belt pulleys 11 around which belts 12 are trained. These belts are also trained over suitable pulleys 13 fixedly secured to a driving shaft 14 which is journaled in the upper cross braces 5 and extends beyond one. The extended end of shaft 14 carries a belt pulley 15 fixedly secured thereto. A belt 16 which is trained over pulley 15 is also trained over a pulley 17 on a motor shaft 18 extending from motor 19 mounted upon a platform bracket 20 secured to the side of a leg 4 of the frame. Thus operation of the motor will drive shaft 14 and belts 12 for rotating the tumbler 7.

To maintain the two sets of legs in desired spaced relation more securely, longitudinal braces 21 may be attached to the two sets above the tumbler 7.

Interior of the tumbler and preferably adjacent the center of the ends thereof are secured bearing blocks 22 which have suitable recesses 23 in their confronting faces for receiving the ends of an abrading element 24 which extends lengthwise of the tumbler and which is of relatively small diameter as shown so that it can enter and engage the reduced neck portions of the pins and provide an effective sliding action with respect to the necks of the pins for abrading the lacquer. This element may, however, be eccentrically located and may be duplicated to provide a plurality of such elements if desirable. It might also assume various forms and be secured in various ways, the one essential is that it be located in the path of the tumbling pins.

The tumbler is provided with an inlet and outlet door 25 for the insertion and removal of pins which door may be of any well known construction.

In Fig. 3 there is shown a bowling pin 26 of the type commonly used upon bowling alleys. The pin comprises a body or belly portion 26a and a reduced neck portion 26b. In the tumbling process, when the pins collide, the collusion usually occurs at the body portions or bellies with insufficient collusion at the necks portions to abrade the old lacquer in a satisfactory manner. However, in the use of an interior abrading element, the necks of the pins will collide with the abrading element during their tumbling operation and insure a quicker and satisfactory result.

In the use of the apparatus, a quantity of used bowling pins that it is desired to renovate are placed in the tumbler which should contain the heretofore mentioned solution and the motor

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started to rotate the tumbler. As the tumbler rotates, the pins will collide with each other in their tumbling action and the necks of the pins will collide with and move over the abrading element 24 and the attrition resulting from such contacting engagements will abrade the old lacquer resulting in a process that will materially decrease the costs of renovating pins.

It will be appreciated that a quantity of pins can be treated at the same time according to this invention without manual handling of the pins which was necessary in the use of lathes, sanding machines and such appliances. The attendant can perform other duties while the tumbling of the pins is proceeding. At the same time, the old lacquer is removed without reducing the diameter of the pins which is an important factor in this art.

I am aware that many changes may be made and various details of construction may be varied without departing from the principles of this invention so I do not propose limiting the patent granted otherwise than necessitated by the appended claims.

I claim:

1. In an apparatus for renovating lacquer coated bowling pins having reduced neck portions, a frame having opposed tumbler supporting members, a tumbler having end walls, means between the exterior of said end walls and said supporting members for rotatably supporting said tumbler and a plain rod of relatively small diameter extending between said end walls, interiorly of and lengthwise of the tumbler and adapted for engaging the neck portions of the pins and provide a slidable abrading action thereon during a tumbling operation and means for rotating said tumbler.

2. In an apparatus for renovating lacquer coated bowling pins having reduced neck portions, a frame having opposed supporting members, a barrel-like tumbler having end walls, stub shafts between said end walls and support-

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ing members for supporting said tumbler for rotary movements, a plain rod of relatively small diameter extending between said end walls interiorly of the tumbler and substantially centrally of the tumbler and adapted for engaging the neck portions of the pins and providing a slidable abrading action thereon during a tumbling operation, and means for rotating said tumbler.

3. In an apparatus for renovating lacquer coated bowling pins having reduced neck portions, a frame having opposed supporting members, a barrel-like tumbler having end walls, stub shafts between said end walls and supporting members for supporting said tumbler for rotary movements, a belt pulley secured circumferentially of and adjacent each end of said tumbler, power means for operating said pulleys and rotating said tumbler and a plain rod of relatively small diameter extending between said end walls interiorly of the tumbler and substantially centrally thereof adapted for engaging the neck portions of said pins with a slidable abrading action thereon for removing the lacquer thereon during a tumbling operation.

ALVIN E. SPINDT.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
631,133	Starke	Aug. 15, 1899
721,027	Curtis	Feb. 17, 1903
723,180	Porter	Mar. 17, 1903
1,996,227	Allan et al.	Apr. 2, 1935
2,392,911	Gauden	Jan. 15, 1946

FOREIGN PATENTS

Number	Country	Date
139,032	Germany	Feb. 26, 1903
325,769	Germany	Sept. 17, 1920