No. 797,991. PATENTED AUG. 22, 1905.

E. P. VAN MATER.

MACHINE FOR TRUING THE BASES OF TENPINS.

APPLICATION FILED NOV. 21, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

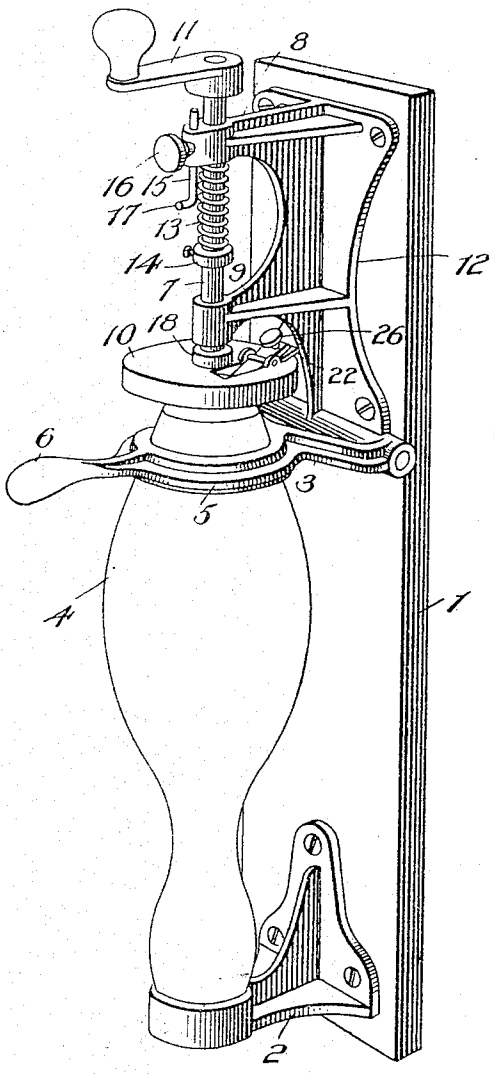
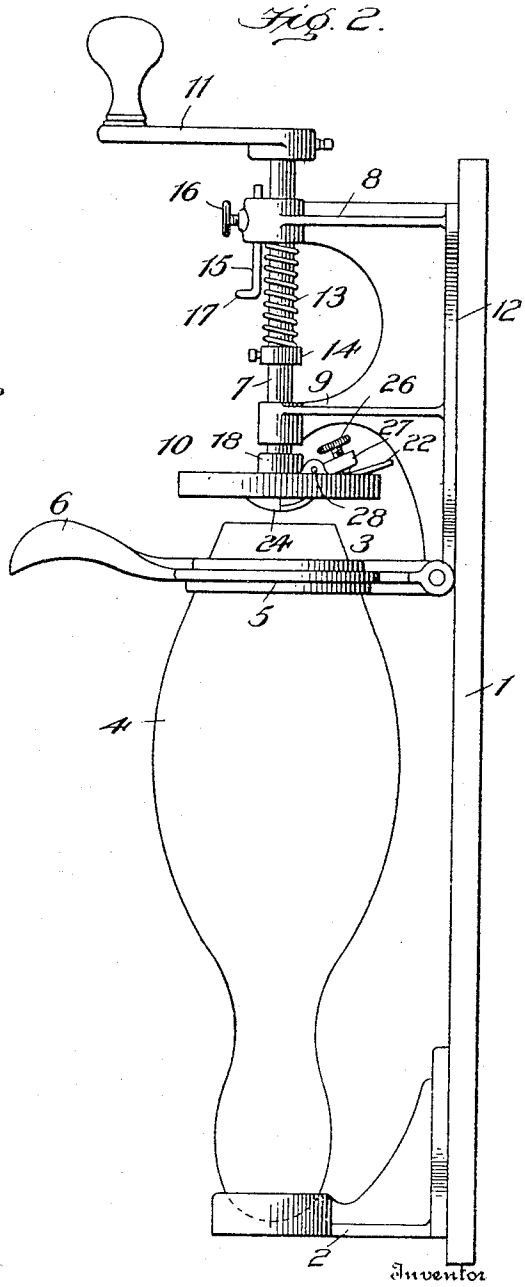


Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

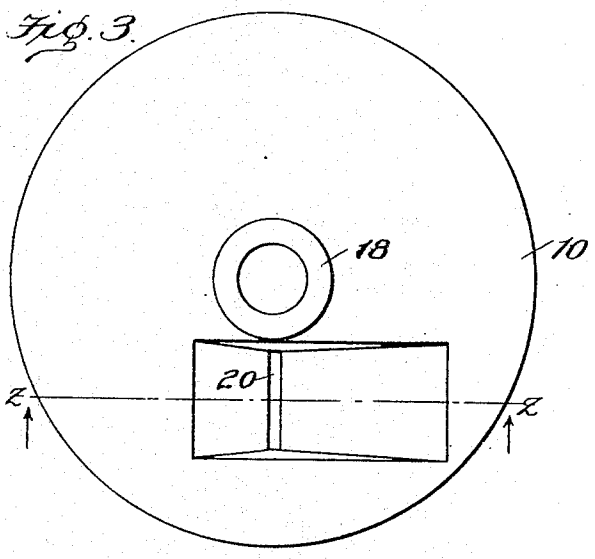


Fig. 7.

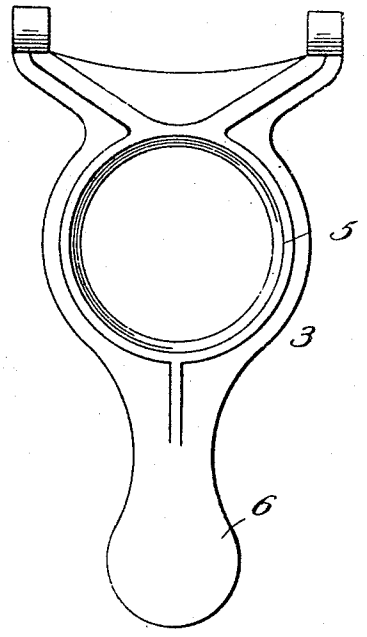


Fig. 4.

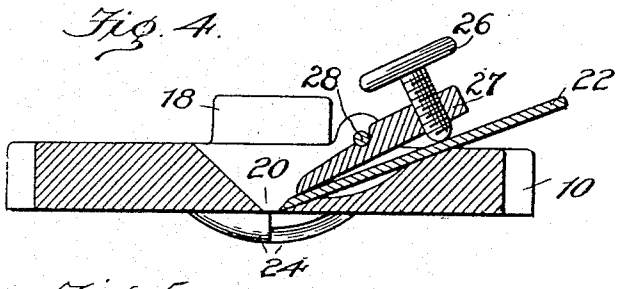


Fig. 5.

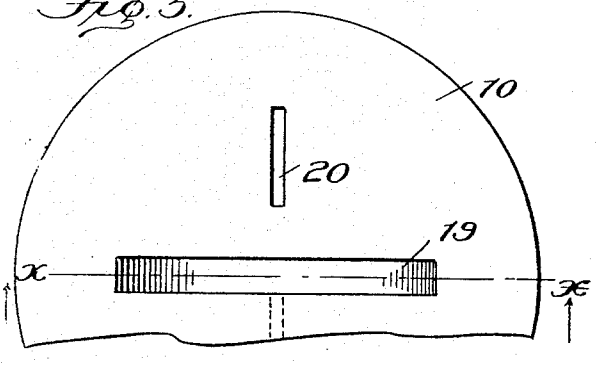


Fig. 8.

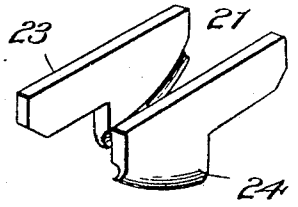


Fig. 6

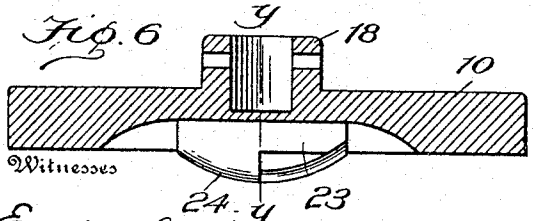
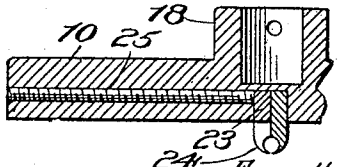


Fig. 9.



Witnesses

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UNITED STATES PATENT OFFICE.

EVERETT P. VAN MATER, OF PASSAIC, NEW JERSEY.

MACHINE FOR TRUING THE BASE OF TENPINS.

No. 797,991. Specification of Letters Patent. Patented Aug. 22, 1905.

Application filed November 21, 1904. Serial No. 233,603.

To all whom it may concern:

Be it known that I, EVERETT P. VAN MATER, a citizen of the United States, residing at Passaic, in the county of Passaic and State of New Jersey, have invented new and useful Improvements in Machines for Truing the Base of Tenpins, of which the following is a specification.

Tenpins, by reason of the hard usage to which they are subjected when in service in bowling-alleys, become worn at their base and either do not stand perpendicular or steady and require to be trued.

This invention is designed to provide a machine of novel construction for trimming the base of the pins, so that the latter when set upon the alley will be firm and occupy a true vertical position.

In its organization the machine comprises a clamp or holder for the pins, a cutter for cupping and truing the base of the pins, and a gage for limiting the feed or advancement of the cutter to its work, whereby the pins may be dressed to a uniform length.

This invention contemplates a novel form of clamp or pin-holder which will admit of the pins being quickly placed in position, easily removed, and firmly and rigidly held in position during the dressing operation.

The invention consists, further, of a cutter of peculiar formation for simultaneously hollowing and squaring the base of the pins and special mountings therefor to admit of a rotation and advance of the cutter to its work, a gage or stop contrivance being provided for coöperation with the cutter to limit its forward movement.

The invention also consists of the novel features, structural details, and combinations of parts, which hereinafter will be more fully set forth, claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a machine for truing tenpins embodying the invention. Fig. 2 is a side elevation thereof. Fig. 3 is a top plan view of the cutter. Fig. 4 is a transverse section of the cutter on the line *z z* of Fig. 3 looking in the direction of the arrows. Fig. 5 is a horizontal view of the cutter-head as seen from the bottom side, the bits being removed, a side portion of the head being broken away. Fig. 6 is a section on the line *x x* of Fig. 5 viewed in the direction of the arrows and having the center or cupping bits in position. Fig. 7 is a view in elevation of the pivoted members of the clamp or pin-holder. Fig. 8 is a detail perspective view of the cupping-bits. Fig. 9 is a sectional view of the cutter-head on the line *y y* of Fig. 6.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The working parts are mounted upon a suitable support which may be arranged in any desired position.

The clamp or pin-holder comprises a fixed member 2 and a pivoted member 3. The member 2 is a bracket firmly attached to the support 1 and having a socket in its outer end to receive the head of the pin 4. The pivoted member 3 comprises a ring 5 and a handle 6, the ring being of a size to receive the lower end of a bowling-pin of regulation size and act jointly with the member 2 to hold said pin firmly in place.

A shaft 7 is mounted in standards 8 and 9, both for a rotary and a sliding movement, and is provided at one end with a cutter-head 10 and at the opposite end with a crank 11. The standards 8 and 9 project from a plate 12, attached to the support 1. A spring 13, mounted on the shaft 7 and confined between the standard 8 and a set-collar 14, tends to advance the cutter-head to its work without interfering with its free rotation.

A rod 15 is adjustable in the standard 8 and is secured by means of a set-screw 16. The lower or inner end of the rod is bent to provide a finger-piece 17 to admit of conveniently moving the rod when effecting adjustment thereof. This rod constitutes a stop or gage to limit the forward movement of the cutting mechanism by coming in contact at its outer end with the hub of the crank 11. The cutter-head 10 is formed centrally upon one face with a boss 18, by means of which it is secured to the shaft 7, and with slots 19 and 20 for reception of the bits 21 and 22. The slot 19 is diametrically arranged and receives the bits 21, which cup or hollow the base of the pin 4. The slot 20 is arranged to one side of the center and in such position to admit of the bit 22 squaring or truing the base of the pin exterior to the cup or hollow. The bits 21 are similar, being rights and lefts, each consisting of a bar 23 and a cutter 24, the latter having a half-round or hollow cutting edge, as shown most clearly in Fig. 8. The cutters 24 are arranged at opposite ends of the bars 23, and their cutting edges face in opposite directions.

The bits 21 are placed side by side within the slot 19 and are secured therein by means of a rod 25, threaded into the cutter-head, or by any suitable fastening means. The bit 22 is held in place in any determinate manner, as by means of set-screw 26, plate 27, and pin 28, such as commonly employed in block-planes.

A bowling-pin to be trued is secured in place by means of the clamp members 2 and 3, substantially as set forth, and upon rotating the shaft 7 with the bits in contact with the base of the pin the latter is trued, the amount of the pin cut away being determined by means of the stop or gage 15, so that the pins may be dressed to a uniform length.

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

1. In a machine for truing the base of tenpins, the combination with suitable clamps for holding the tenpin, of a rotary shaft or mandrel carrying a cutter-head, cutters arranged in said cutter-head, one of said cutters being adapted to hollow or concave the base of the tenpin, and the other cutter adapted to true the outer edge of the said base, and means for holding or pressing the cutters to the work, substantially as set forth and described.

2. In a machine for truing the base of tenpins, the combination with suitable clamps for holding the tenpin, of a rotary shaft or mandrel carrying a cutter-head, cutters arranged in said cutter-head, one of said cutters being adapted to hollow or concave the base end of the tenpin, and the other cutter adapted to true the outer edges of said base, means for automatically pressing or feeding the cutters to the work, and means for limiting the advance of the cutters, substantially as set forth and described.

3. In a machine for truing the base of tenpins, the combination with suitable clamps for holding the tenpin, of a rotary shaft or mandrel carrying a cutter-head, cutters arranged in said cutter-head, one of said cutters being adapted to hollow or concave the base end of the tenpin, and the other cutter adapted to true the outer edges of said base, means for pressing or feeding the cutters to the work, means for limiting the advance of the cutters and means for rotating the shaft, substantially as set forth and described.

4. In a machine for truing tenpins, the combination with a fixed or stationary clamp and a hinged clamp, of a rotatable shaft or mandrel carrying a cutter for hollowing or concaving the base end of a tenpin, and a cutter for truing the outer edge of said base end, and means for automatically pressing or feeding said cutters to the work, substantially as set forth and described.

5. In a machine for truing tenpins, the combination with a fixed clamp and a hinged clamp, of a rotatable shaft or mandrel carrying a cutter for hollowing the base end of a tenpin, and a cutter for truing the outer edge of said base end, means for automatically pressing or feeding the cutters to the work, and means for limiting the advance of the cutters, substantially as set forth and described.

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

EVERETT P. VAN MATER.

Witnesses:
ANDREW D. HOPPER,
DONALD LEFFERT.