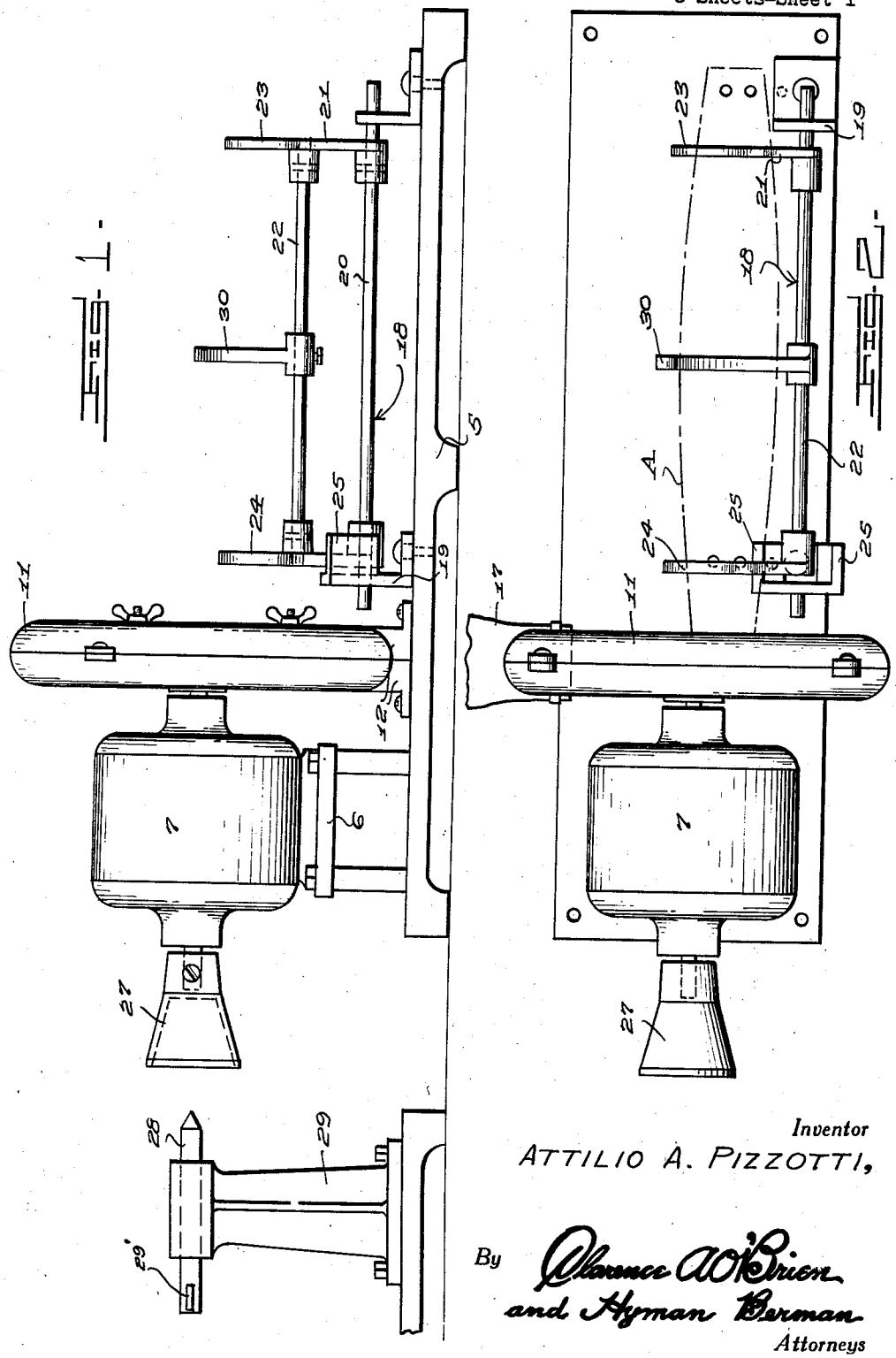
June 25, 1940. A. A. PIZZOTTI 2,205,541

BOWLING PIN RECONDITIONING MACHINE

Filed Dec. 30, 1938 3 Sheets-Sheet 1



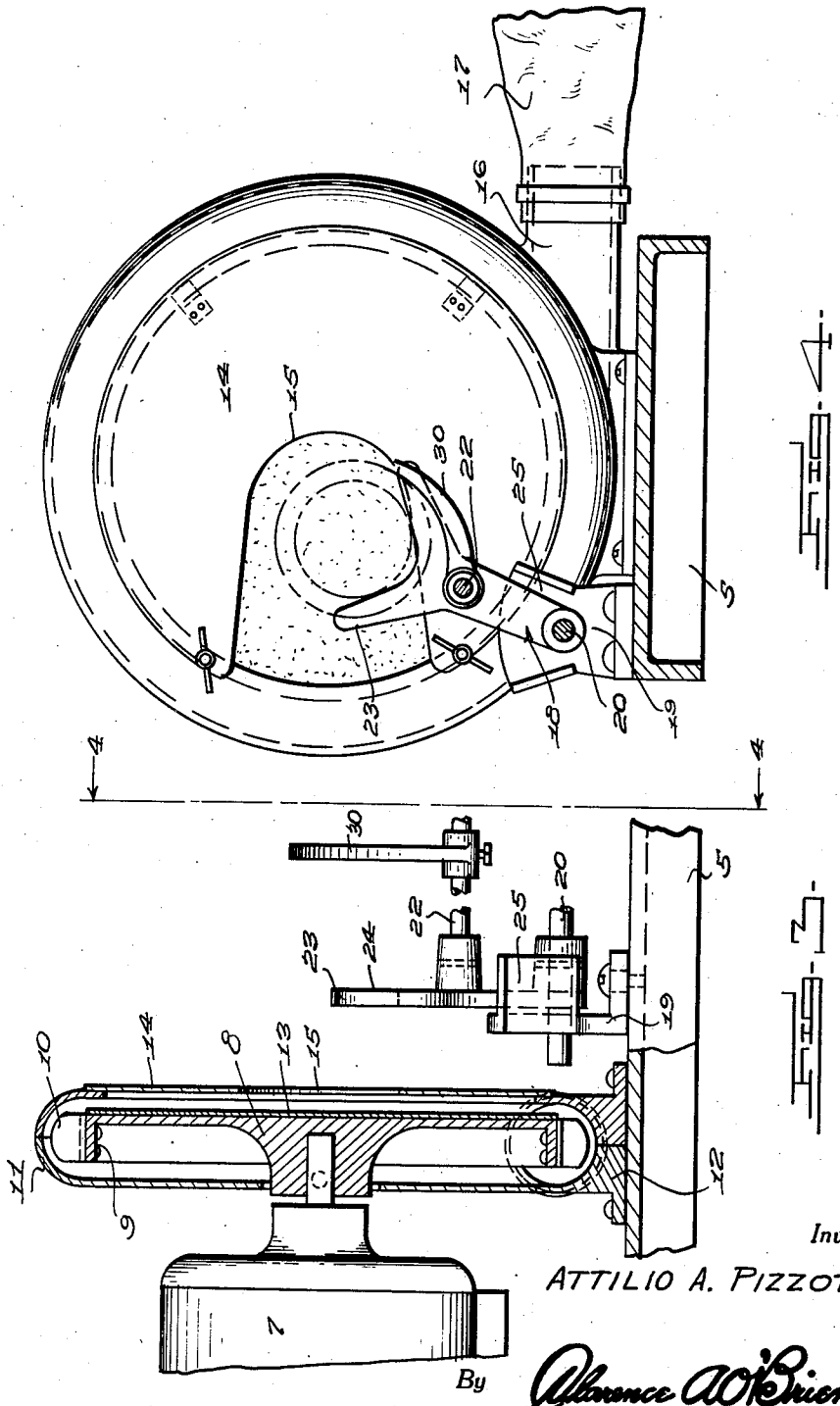
Inventor
ATTILIO A. PIZZOTTI,

By Clarence A. O'Brien and Hyman Berman
Attorneys

June 25, 1940. A. A. PIZZOTTI 2,205,541

BOWLING PIN RECONDITIONING MACHINE

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Inventor

ATTILIO A. PIZZOTTI,

By Clarence A. O'Brien and Hyman Berman

Attorneys

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BOWLING PIN RECONDITIONING MACHINE

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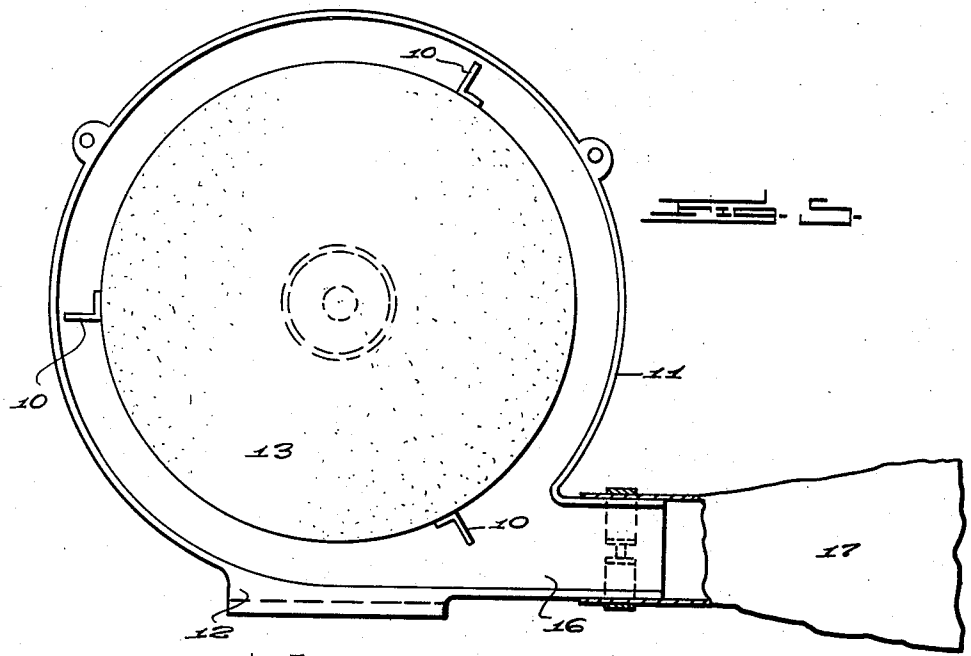


FIG. 5.

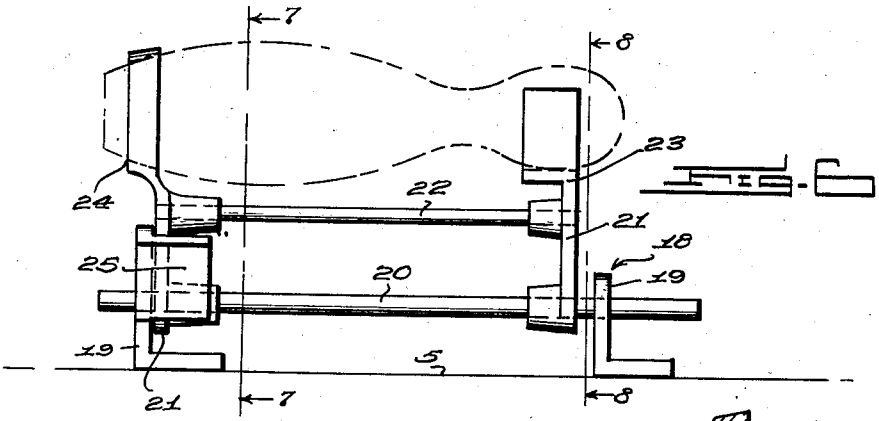


FIG. 6.

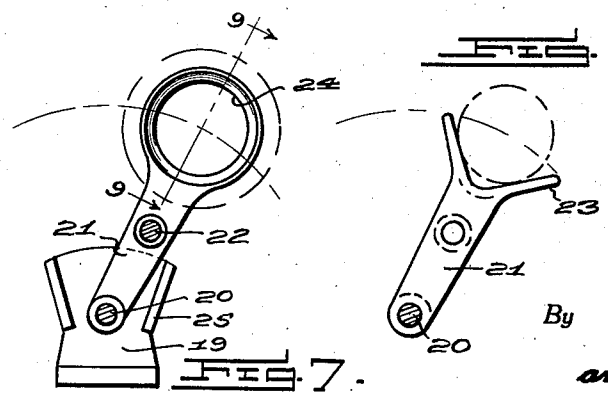


FIG. 7.

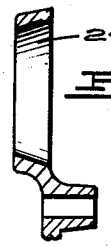


FIG. 8.

FIG. 9.

Inventor

ATTILIO A. PIZZOTTI,

By Clarence A. O'Brien and Hyman Berman

Attorneys

Patented June 25, 1940 2,205,541

UNITED STATES PATENT OFFICE

2,205,541

BOWLING PIN RECONDITIONING MACHINE

Attilio A. Pizzotti, Plymouth, Mass.

Application December 30, 1938, Serial No. 248,605

1 Claim. (Cl. 51—124)

This invention relates to a reconditioning machine especially adapted for refinishing bowling pins, either the duck pin, candle pin, or ten pin type, and has for the primary object the provision of a device of this character which will be extremely simple in construction and easy to operate for refinishing the ends or bases as well as the sides of pins without the danger of chipping, splitting, or otherwise damaging the pins and which will permit scars on the pins to be easily and quickly removed for restoring the pins in perfect condition for further use.

With these and other objects in view, the invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which

Figure 1 is a side elevation illustrating a bowling pin reconditioning machine constructed in accordance with my invention.

Figure 2 is a top plan view illustrating the same.

Figure 3 is a fragmentary vertical sectional view illustrating the grinding means for reconditioning the base or supporting end of a pin and showing a portion of the support for the pin during the refinishing operation.

Figure 4 is a transverse sectional view taken on the line 4—4 of Figure 3.

Figure 5 is a transverse sectional view showing the refinishing disc with the blades thereon for creating a suction for taking away grindings and depositing said grindings in a bag.

Figure 6 is a side elevation illustrating the support for a ten pin or duck pin.

Figure 7 is a transverse sectional view taken on the line 7—7 of Figure 6.

Figure 8 is a transverse sectional view taken on the line 8—8 of Figure 6.

Figure 9 is a fragmentary vertical sectional view showing one of the holders of the support for the pin, taken on the line 9—9 of Figure 7.

Referring in detail to the drawings, the numeral 5 indicates a base of any conventional construction carrying a stand 6 on which is mounted an electric motor 7, the shaft of which has secured to one end a disc 8 provided with a peripheral flange 9 on which is mounted a series of fan blades 10. The disc 8 operates within a sectional casing 11, each section being of annular formation and including a base portion 12 bolted or otherwise secured on the base 5. One of the sections has an annular opening to expose the major portion of one side face of the disc and on which is suitably secured a sheet of abrasive material 13. Removably mounted on the last-named section of the casing is a guard plate 14 covering a portion of the abrasive material and having a cutout portion or slot 15 extending from the central portion of the guard plate to the periphery and opening outwardly therethrough providing a work space for the work to engage with the abrasive material and permit a comparatively large range of movement of the work relative to the disc 8 or the abrasive material thereon.

The guard plate is removably mounted on the casing for the purpose of gaining access to the abrasive material for the purpose of replacing the latter when worn and damaged.

A discharge neck 16 is formed on the casing and has detachably connected thereto a collecting bag 17 in which the air under pressure from the fan blades passes and carrying therewith the grindings The collecting bag 17 being removable from the neck 16 may be emptied of the grindings whenever desired.

A pin support or rack 18 is carried by the base 5 and consists of spaced brackets 19 supporting a rod or shaft 20 on which are journaled supporting arms 21 connected by a brace 22 and terminating in pin engaging portions 23, one of which is formed of fork shape and the other of annular formation having a tapered bore 24 to receive the base end of a pin, as clearly shown in Figure 6, with the base exposed for contact with the abrasive material on the disc 8 within the slot 15. One of the supporting arms 21 operates between spaced lugs 25 formed on one of the brackets 19 for limiting the pivotal movement of the arms on the shaft 20. The brace connecting the arms causes said arms to move in unison and also provides an efficient hand grip for the operator to move said arms backward and forward which brings about the movement of the base of the pin inwardly and outwardly of the slot 15 against the abrasive material of the disc 8, and the latter being in rotation brings about efficient refinishing of the base of the pin to remove blemishes, scars and the like therefrom without the danger of splitting or chipping the pin and reconditioning of the pin so that it will rest evenly on a bowling floor. The arms 21 also may have a limited sliding movement endwise of the shaft 20 so that the base of the pin may be moved toward and from the abrasive material.

The tapered bore 24 of the pin engaging por-

tion 23 of one of the arms 21 will form an effective seat for the pin by frictionally engaging therewith and with the forked portion engaging the head end of the pin the latter will be supported in such a way that its base will be brought in contact properly with the abrasive material to bring about efficient refinishing of the base.

The brackets 19 may be adjusted on the base 5 so that the rack 18 may be adjusted relative to the abrasive disc for refinishing the different types of pins as above described, the brackets 19 being secured in place by bolts which may extend through different openings provided in said base.

The other end of the shaft of the motor 7 has secured thereto a substantially conical shaped chuck 27 to receive the head end of a pin and spaced a selected distance therefrom and in axial alignment therewith is a pointed pin 28 carried by a standard 29 to engage with the base end of a pin and form a support therefor while the head end is received in the chuck 27. It is to be understood that the bowling pin may rotate on the pin 28 and the latter may be adjusted endwise of the standard 29 and held in any of its adjusted positions by a handle 29' provided thereon. A bowling pin when adapted to the chuck 27 and the pin 28 with the motor 7 in operation may readily have its walls refinished by sanding, the operator bringing abrasive material in engagement with the walls during the rotation of the bowling pin so that bruises, indentations and the like may be removed without the danger of splitting or chipping the bowling pin.

When reconditioning a candle type pin, as indicated by the character A supporting arms are used on the rack each with bifurcated or forked ends, as clearly shown in Figure 2, and a centering arcuately curved finger 30 is adjustably mounted on the brace of the pin supporting rack and is adapted to be brought in engagement with the candle type pin intermediate the ends of the latter.

It is believed that the simplicity and advantages of my invention will be perfectly apparent to those skilled in the art to which such a device relates, and while I have herein set forth a satisfactory embodiment of my invention, it is to be understood that such changes therefrom as fairly fall within the scope of my claim may be resorted to when desired.

Having thus described my invention, what I claim is:

A bowling pin reconditioning device comprising a horizontally arranged shaft, means for supporting said shaft, arms journaled on said shaft, a bar connecting said arms for movement in unison, one of said arms including a forked portion to receive a bowling pin and the other arm including an annular portion having beveled walls to receive and frictionally fit the bowling pin, a plate formed on said means, and spaced lugs formed on the plate and lying in the path of movement of said latter-named arm for limiting the swinging movement thereof on the shaft in opposite directions and permitting said arms to slide endwise of the shaft.

ATTILIO A. PIZZOTTI.