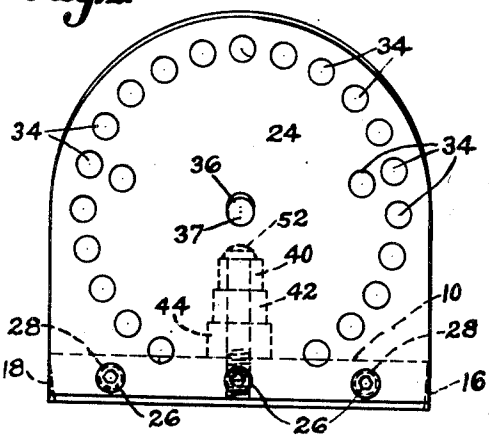
Sept. 14, 1954 R. J. AULENBACH 2,688,828

ANGLE PLATE FOR GRINDING TOOL BITS

Filed Sept. 5, 1951

Fig. 1.



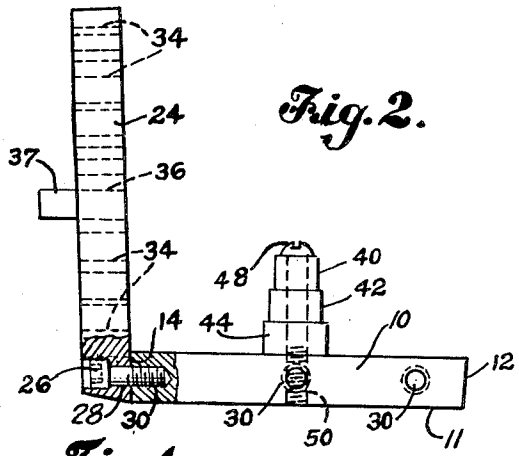


Fig. 2.

Fig. 3.

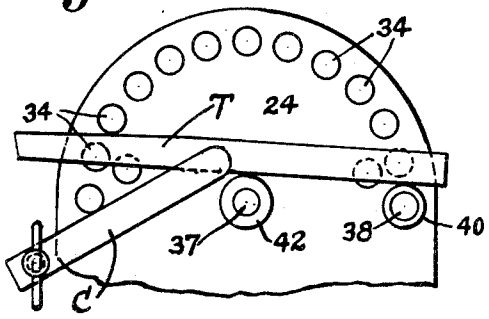


Fig. 4.

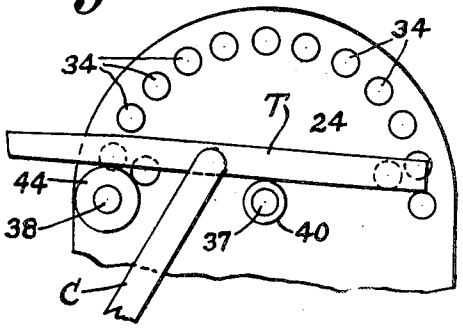


Fig. 5.

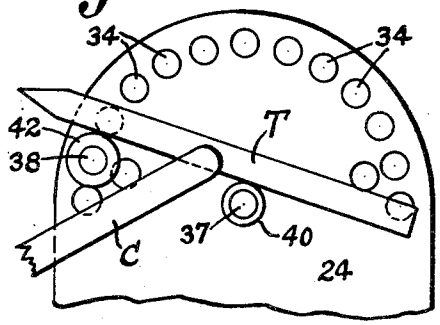
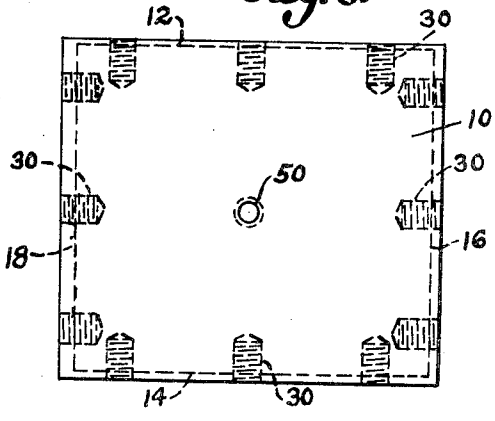


Fig. 6.



INVENTOR.

Richard J. Aulenbach

Patented Sept. 14, 1954

2,688,828

UNITED STATES PATENT OFFICE

2,688,828

ANGLE PLATE FOR GRINDING TOOL BITS

Richard J. Aulenbach, Watertown, Mass.

Application September 5, 1951, Serial No. 245,237

3 Claims. (Cl. 51—220)

1

This invention relates to an angle positioning device for tool grinding.

One object of my invention is to provide a simple and relatively inexpensive device for positioning a tool accurately, ready to grind it or the tool bit, so that back clearance can be obtained simultaneously with side clearance.

Another object is to provide a base for the above device having a plurality of side surfaces that slant outwardly at different angles, greater than a right angle, to the bottom surface.

The foregoing and other objects which will appear as the nature of the invention is better understood, may be accomplished by a construction, combination and arrangement of parts such as is disclosed by the drawings. The nature of the invention is such as to render it susceptible to various changes and modifications, and, therefore, I am not to be limited to the construction disclosed by the drawings nor to the particular parts described in the specification; but am entitled to all such changes therefrom as fall within the scope of my claims.

In the drawings:

Figure 1 is a front elevational view of my angle positioning device.

Figure 2 is a side elevational view thereof.

Figure 3 is a fragmentary, front elevational view thereof, showing a tool bit in a position ready for grinding.

Figure 4 is a view similar to Figure 3; but showing the tool bit in another position.

Figure 5 is a view similar to Figure 3; but showing the tool bit in another position.

Figure 6 is a top plan view of the base plate of my device.

As illustrated, my positioning device has a base plate **10** having a plurality of side surfaces, each preferably being at a different angle with relation to the bottom surface **11**. For example, the side surface **12** is ground to an angle of 3 degrees thereto, the side surface **14** to one of 5 degrees, the side surface **16** to one of 7 degrees, and the side surface **18** to one of 9 degrees. This enables, the user, in grinding to obtain side clearance on the tool or tool bit being ground, to the extent desired.

An upstanding plate **24**, when assembled, is adapted to bear against any one of the said base plate side surfaces, and to be fastened to said base plate **10** by set screws **26** which extend through holes **28** in said upstanding plate **24** and into threaded holes **30** in said base plate **10**, thus removably holding the upstanding and base plates together. Said upstanding plate **24**

2

has a vertically extending surface, hence the angle at which it extends is varied by the angle of the side surface of the base plate adjoining it. The bottom surface **32** of said upstanding plate **24** extends angularly upward from said base plate **10** to permit changes in the angle at which it may extend upwardly.

A plurality of holes **34** are provided in said upstanding plate **24** in an outer or border portion thereof at varying angles with respect to a center hole **36** therein. In use, a dowel pin **37** is inserted firmly in said center hole **36** and another pin **38** is inserted in a said border hole **34**, thus establishing an angular relationship between the two pins **37** and **38** whereby to accurately position a tool for grinding by laying it against the dowel pins.

In order to obtain angles to finer degrees I provide spacers of various sizes, the smaller being given the numeral **40**, a larger or medium one, is given **42** and the largest is given **44**. These preferably have a hole through the center hence they fit over said center dowel pin **37** and are handily available for use. They are held, when not in use, by a screw **48** that extends through the spacer holes and into a screw-threaded hole **50** in said base plate **10**. To establish the desired angle between a said center hole **36** and a border hole **34** a spacer of the correct size is placed on a said dowel pin **38**. Additional spacers, of different sizes could be provided as needed.

To correctly position a tool T for grinding it, said tool is placed on said center dowel pin **37** and on a spacer which is set over the dowel pin **38** set in a border hole. Which one of said holes **34** said pin **38** is set into, and which spacer is thereafter placed over said pin **38**, depends upon the angle it is desired to establish between the center pin **37** and the spacer. Of course, it is possible in some instances, to establish the desired angle between said center pin **37** and a pin **38** in a said hole **34** without the use of a spacer.

When the tool is correctly positioned, as illustrated, by said Figures 3, 4 and 5, a well known parallel clamp, indicated by C, firmly clamps it to said upstanding plate **24** and the tool bit is now ready for grinding.

To change the angle of said upstanding plate **24** said screws **26** are removed and another surface of the base plate **10** is presented to said upstanding plate **24**. If, for instance, an angle of 9 degrees relative to vertical is desired, said base plate surface **18** is presented against said upstanding plate **24**.

I claim:

1. An angle positioning device for tool grinding comprising a base plate having a side surface extending upwardly at an obtuse angle to the bottom surface, and an upstanding plate having a side surface extending upwardly and adjoining said base plate side surface and extending at an obtuse angle with relation to the bottom surface of said upstanding plate, said base plate having a central hole therein and a plurality of holes at a border portion thereof, said holes being adapted to receive pins, and means attaching said base plate and upstanding plate together.

2. An angle positioning device for tool grinding comprising a base plate having an angularly disposed side edge and an upstanding plate adjoining and extending at an obtuse angle to said base plate, means attaching said plates together, said upstanding plate having a central hole therein and a plurality of other holes therein spaced radially from said central hole, a pin in said central hole and a pin in one of said other holes, and a spacer having a hole therethrough extending over said pin in a said other hole.

3. An angle positioning device for tool grinding comprising a base plate having a plurality of side surfaces extending upwardly at differing obtuse angles to the bottom surface, and an upstanding plate having a side surface adapted to adjoin and extend upwardly and form an obtuse angle with any of said base plate side surfaces, said upstanding plate having a central hole therein and a plurality of holes adjacent a border portion thereof, said holes being adapted to receive pins, and means to attach said base plate and upstanding plate together.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,047,424	Lumsden	Dec. 17, 1912
1,304,070	Lenz	May 20, 1919
1,324,681	McDonald	Dec. 9, 1919
2,324,025	Revell	July 13, 1943
2,324,476	Becker	July 20, 1943
2,366,385	Comfort	Jan. 2, 1945
2,385,396	Baum	Sept. 25, 1945