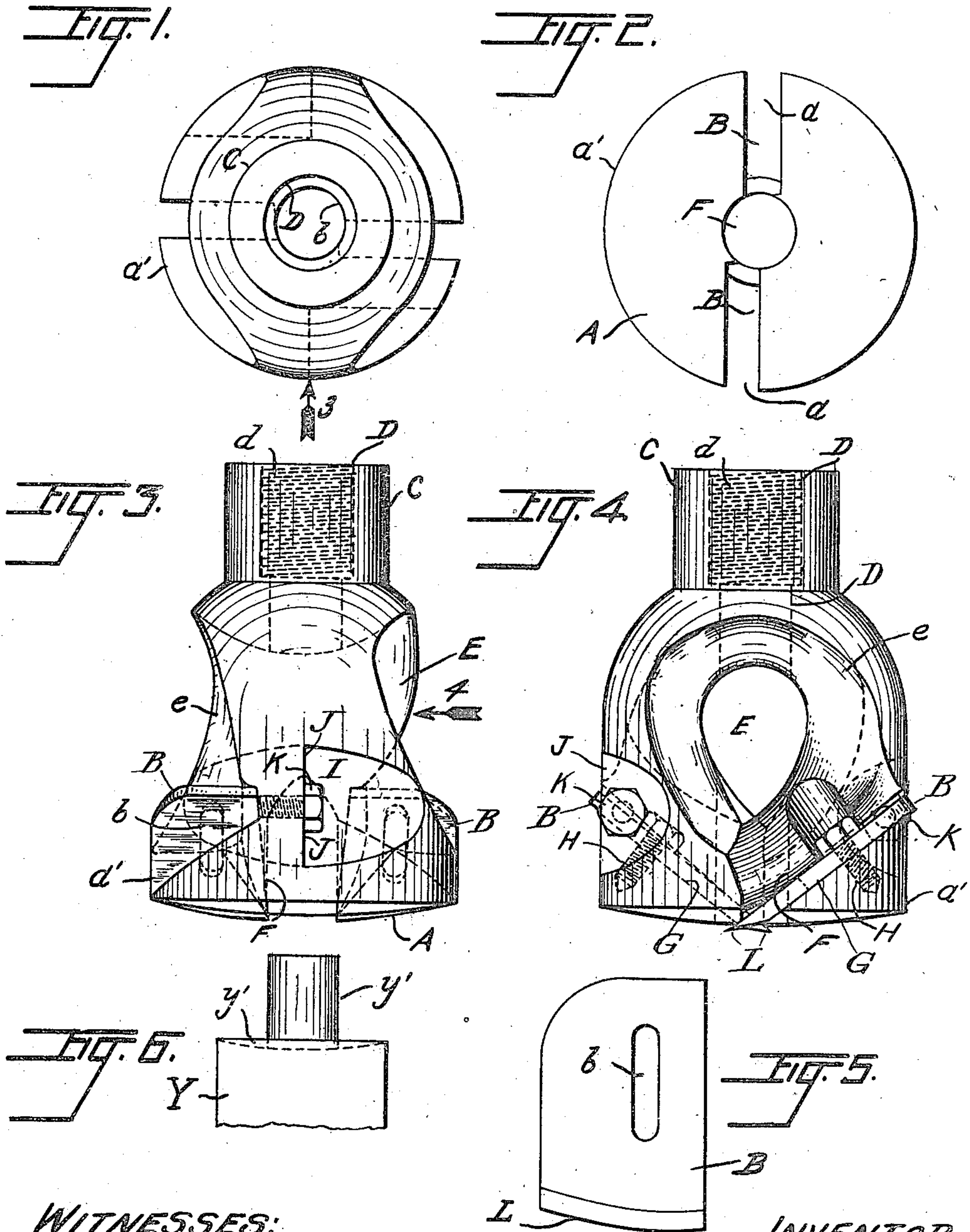


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CHUCK.  
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Patented July 12, 1910.



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# UNITED STATES PATENT OFFICE.

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CHUCK.

964,195.

Specification of Letters Patent.

Patented July 12, 1910.

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*To all whom it may concern:*

Be it known that I, WERNER E. ANDERSON, a subject of the King of Sweden, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Chucks, of which the following, when taken in connection with the drawing accompanying and forming a part hereof, is a full and complete description, sufficient to enable those skilled in the art to which it pertains to understand, make, and use the same.

This invention relates to chucks which are removably attached to lathes and which are arranged to hold cutting tools.

The object of the invention is to obtain a device of the kind named to which cutting tools may be removably and adjustably attached and by means of which pins may be cut on the ends of sticks, or other pieces of wood.

A further object of the invention is to obtain a device of the kind named by means of which the shoulder adjacent to the pin obtained will not be in a plane but will be in a spherical form, or concaved.

A further object of the invention is to obtain a device of the kind described which will provide for an adjustment of the cutting tools, to permit a variation in the size of the pin obtained thereby; and a further object of the invention is to obtain a device of the kind described, combined with cutting tools adjustably attachable thereto by means of which the turnings or cuttings made in the use thereof will be automatically removed to prevent clogging.

In the drawing referred to Figure 1 is a top plan view of a device embodying the invention. Fig. 2 is a bottom plan view of the device, with cutting tools removed therefrom. Fig. 3 is a side elevation viewed in the direction indicated by the arrow which is marked 3 in Fig. 1. Fig. 4 is a side elevation viewed at an angle of 90 degrees from the view illustrated in Fig. 3, that is, viewed in the direction indicated by the arrow which is marked 4 in Fig. 3. Fig. 5 is a front view of one of the cutting tools of the device, and Fig. 6 is a side elevation of one end of a stick or piece of wood having a pin integral therewith and cut thereon by a device embodying this invention.

A reference letter applied to designate a

given part is used to indicate such part throughout the several figures of the drawing wherever the same appears.

The chuck embodying the invention is illustrated as having end and side walls. The side walls are illustrated in the drawing as cylindrical.

A is one end of the chuck. End A is provided with slots or recesses *a, a*, through which the cutting tools B, B, extend sufficiently to engage with the article to be cut thereby. Cutting tools B, B, are, respectively, provided with rectangular apertures through which a bolt or set screw passes, as is hereinafter more fully described.

The end of the device which is attached to a lathe or placed in an ordinary chuck is lettered C. End C is provided with an aperture (D) and said aperture is provided with the internal screw threads *d*, (indicated by broken lines in Figs. 3 and 4). When the device is put on a lathe without other chuck the screw threads *d* engage with the external screw threads on an ordinary mandrel.

E is an aperture extending through the chuck from side to side, that is, from the cylindrical wall on one side to the cylindrical wall on the other side. Aperture E is enlarged at its outer ends, as at *e, e*.

F is an aperture extending from the end A of the block or chuck to and communicating with aperture E.

G, G, are plane surfaces commencing at slots or recesses *a, a*, (or terminating in said slots or recesses). Plane surfaces G, G, are made at a suitable angle to the end A to bring the cutting edge of the cutting tools B, B, into proper relation with said end A when said cutting tools are laid on said surfaces and secured thereto.

H, H, are set screws which are passed through the apertures *b, b*, in cutting tools B, B, and into screw threaded holes provided therefor to secure the cutting tools in position on the plane surfaces G, G.

I, I, are recesses on the sides of the chuck. One end of the recess I, is provided with the plane surface J.

K, K, are adjusting bolts passing through screw threaded holes provided therefor; said holes arranged so that the heads of said bolts are in the recesses I, I, and the ends of said bolts are against the edges of



the cutting tools. The function of said bolts K, K, is to adjust the cutting tools to vary the size of the pin cut by the device.

L, Fig. 5, is the cutting edge of cutting tools B. Cutting edge L is slightly curved to obtain a concave face to shoulder  $\gamma$  (indicated by broken lines in Fig. 6).

Y is a stick, and  $\gamma'$  a pin on said stick. Pin  $\gamma'$  is integral with stick Y and said pin, together with the shoulder  $\gamma$ , is made by the use of the device embodying this invention. The concave shape or face to shoulder  $\gamma$  is made to insure a tight fit of the edges of the shoulder to the face of the stick against which said shoulder abuts and also to insure the retention of some glue to secure said stick Y in place.

In use, after the chuck is secured on a mandrel as hereinbefore described, it is rapidly rotated, and the work done by the device is obtained from the cutting edges L, L, of the cutting tools B, B.

When the cutting tools B, B, are adjusted so that the pin  $\gamma'$  is of slightly less diameter than aperture F it will be found, in the operation of the device on the ends of sticks or pieces of wood, that some cuttings from said sticks or pieces of wood, will pass through the aperture F, as well as through the slots  $\alpha$ ,  $\alpha$ , and the aperture E in such case not only permits the passage of said cuttings but also produces such currents of air as to throw said cuttings from the tool and prevent clogging thereof.

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

1. In a device of the kind described, a block provided with an aperture from side to side thereof the inlets to said aperture flared to produce moving currents of air upon the rapid rotation of the device, and said block provided with apertures at its ends, one of the ends of said block provided with inwardly extending recesses, and the

aperture at said end communicating with the first named aperture, and said block provided with plane surfaces terminating in said end recesses, said surfaces arranged at an angle to the recessed end.

2. In a device of the kind described, a cylindrical block provided with an aperture from side to side thereof and with apertures at its ends, one of the ends of said block provided with inwardly extending recesses, and the aperture at said end communicating with the first named aperture, said block provided with plane surfaces terminating in said end recesses, said surfaces arranged at an angle to the recessed end, the inlets to the first named aperture flared and made to meet said plane surfaces, to produce moving currents of air upon the rapid rotation of the device, and said block provided with additional recesses on the side thereof, said additional recesses respectively provided with screw threaded apertures.

3. A cylindrical body of two diameters, provided at its ends with apertures having cylindrical walls concentric with the outer walls of the body and provided with a cross aperture extending from one side of the cylindrical body of larger diameter to the other side of said body and communicating with the end aperture in said larger body, the ends of said cross aperture flared to produce moving currents of air from said communicating aperture through said cross aperture on the rotation of said cylindrical body, inclined cutting-tool seats at the ends of the cross aperture, said tool seats terminating in recesses on the end of the cylindrical body of larger diameter, set screws to secure cutting-tools to said seats and additional set screws to maintain the sides of the tools in an adjusted position.

WERNER E. ANDERSON.

In the presence of—

CHARLES TURNER BROWN,  
CORA A. ADAMS.