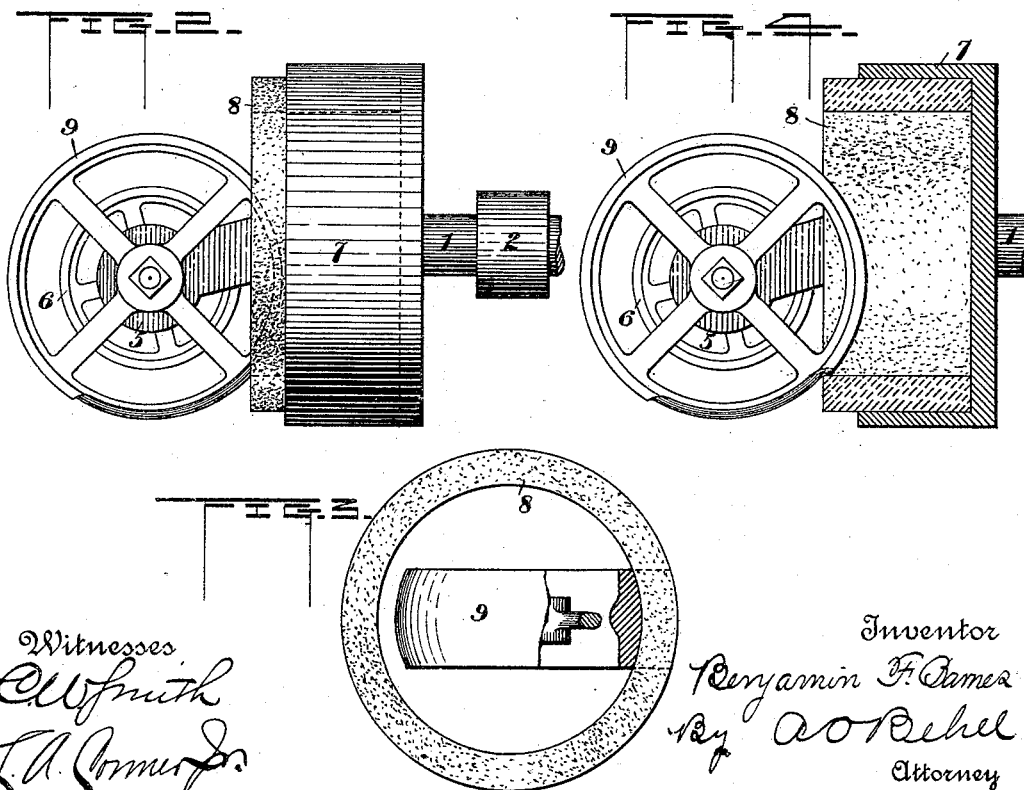


B. F. BARNES.  
PULLEY FACING MACHINE.

Patented Jan. 21, 1896.



Witnesses  
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# UNITED STATES PATENT OFFICE.

BENJAMIN F. BARNES, OF ROCKFORD, ILLINOIS.

## PULLEY-FACING MACHINE.

SPECIFICATION forming part of Letters Patent No. 553,225, dated January 21, 1896.

Application filed February 7, 1893. Serial No. 461,405. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN F. BARNES, a citizen of the United States, residing at Rockford, county of Winnebago, and State of Illinois, have invented certain new and useful Improvements in Pulley-Facing Machines, of which the following is a specification.

The object of this invention is to produce the convex face of a pulley by means of the inner edge of a tubular cylinder of grinding material.

In the accompanying drawings, Figure 1 is a side elevation of a device embodying my improvements. Fig. 2 is a plan view of the same. Fig. 3 is an end view of a grinding-cylinder, a portion of the pulley being broken away. Fig. 4 is a horizontal section through the grinding-cylinder on dotted line A A in Fig. 1.

My improved device is shown in the accompanying drawings; and it consists of a horizontal shaft 1, mounted in suitable bearings 2. A pulley 3 is mounted on the shaft between its bearings, through which motion is transmitted to the shaft. A vertical shaft 4 is supported in bearings 5, and a pulley 6 communicates motion to this shaft. Upon the end of the shaft 1 is mounted a cup-shaped receptacle 7, within which is located a tubular cylinder 8 of grinding material—emery, for instance—said receptacle and cylinder revolving with the shaft 1.

Upon the upper end of the vertical shaft 4 is secured an unfaced pulley 9 in order that a rotary motion may be imparted to the pulley.

The grinding-cylinder is placed in contact with the unfaced pulley, as shown in the drawings, so that the center of the pulley will lie in contact with the inner edge of the cylinder. A rapid rotary movement is imparted to the cylinder, and a slow rotary movement

to the unfaced pulley. The cylinder revolving at a high speed will reduce the face of the pulley at the point of contact, and as the pulley rotates its complete face will be ground, producing a convex-faced pulley having the same curve as the curvature of the edge of the cylinder at the point of its contact with the pulley by the time the pulley has made one revolution.

The extent of the crown or convex face of the pulley will depend upon the relative position of the cylinder and pulley during the grinding process.

By the term "cylinder" I do not mean to limit myself to a complete cylinder, as one end may be closed, the object being to utilize the inner concave edge for the purpose of facing the pulley.

If it is desirable to make a perfect crown—that is, the highest point of the pulley in the center of its face—in grinding the pulley the center of the pulley will be opposite the center of the grinding-cylinder, but by raising or lowering the pulley the highest point may be shifted to one end of the center of the pulley, which is especially adapted for cone-pulleys.

I claim as my invention—

In a pulley facing machine, the combination of a suitable frame work, a shaft supported thereby, a cylinder of grinding material supported by one end of the shaft, a second shaft located at substantially right angles to the first named shaft, a pulley supported by this second shaft and located with its center opposite the approximate center of the grinding cylinder, and means for rotating both shafts.

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Witnesses:

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