

W. BERRY.
GRINDING MACHINE.
APPLICATION FILED DEC. 9, 1908.

917,526.

Patented Apr. 6, 1909.

Fig. 1.

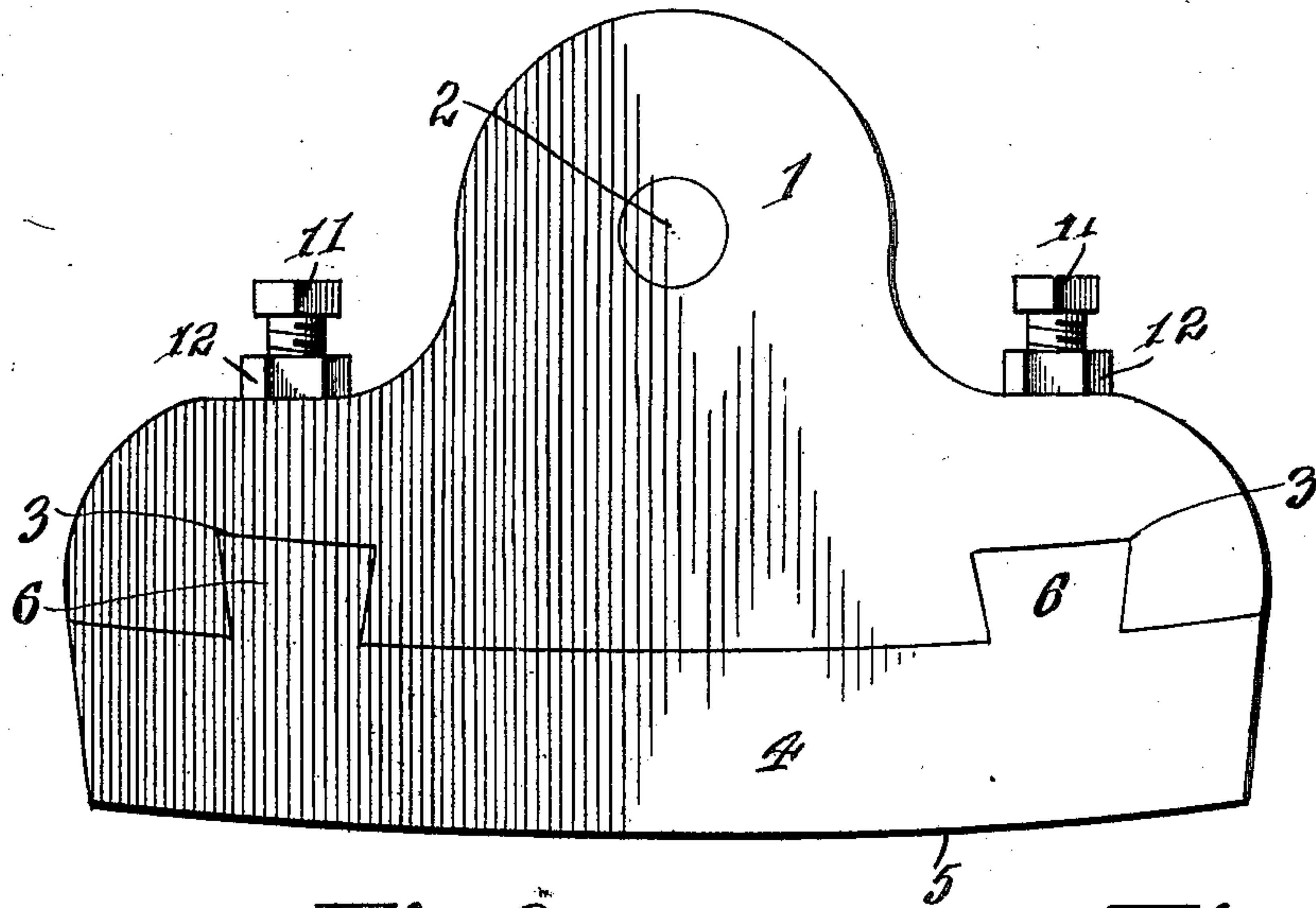
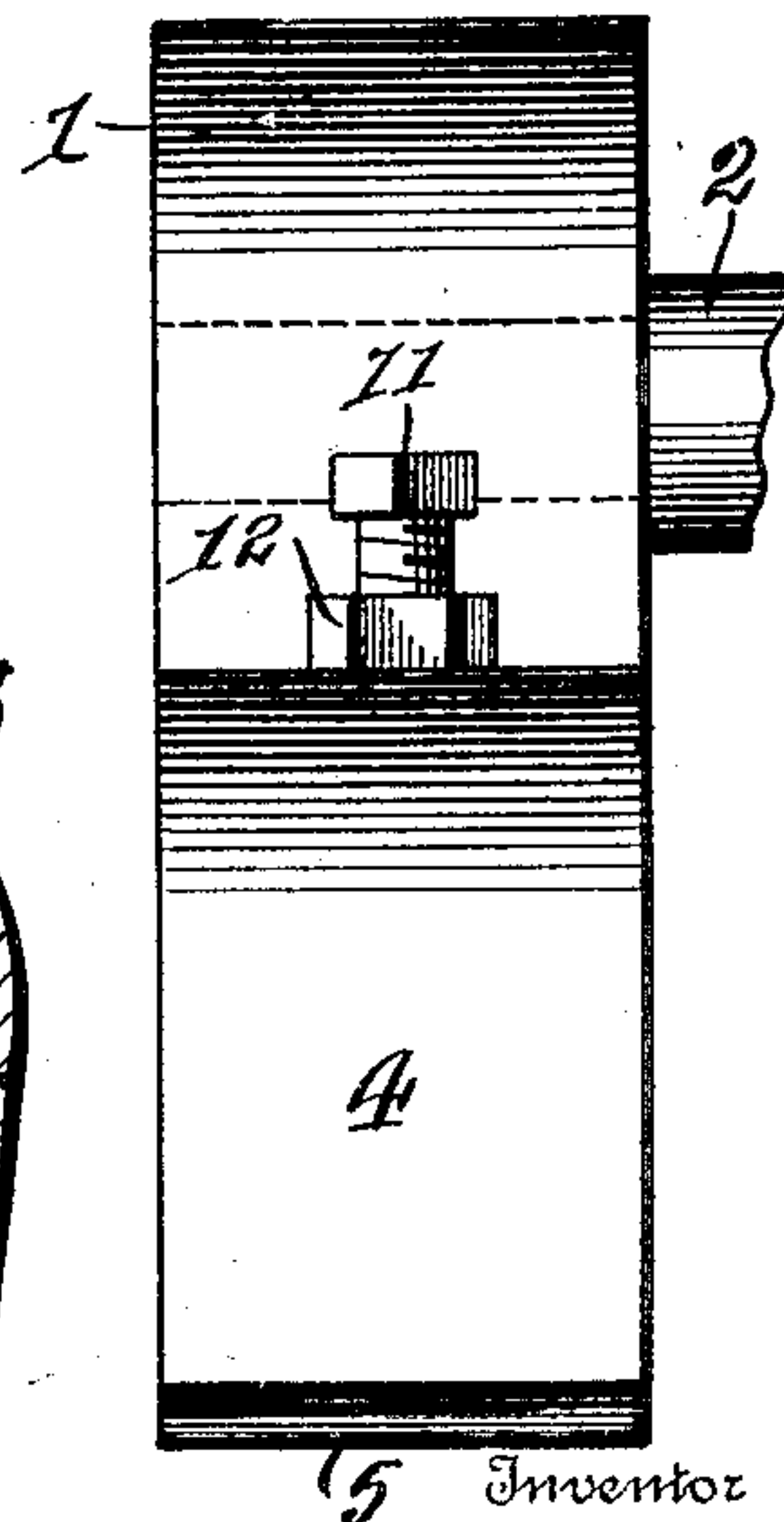
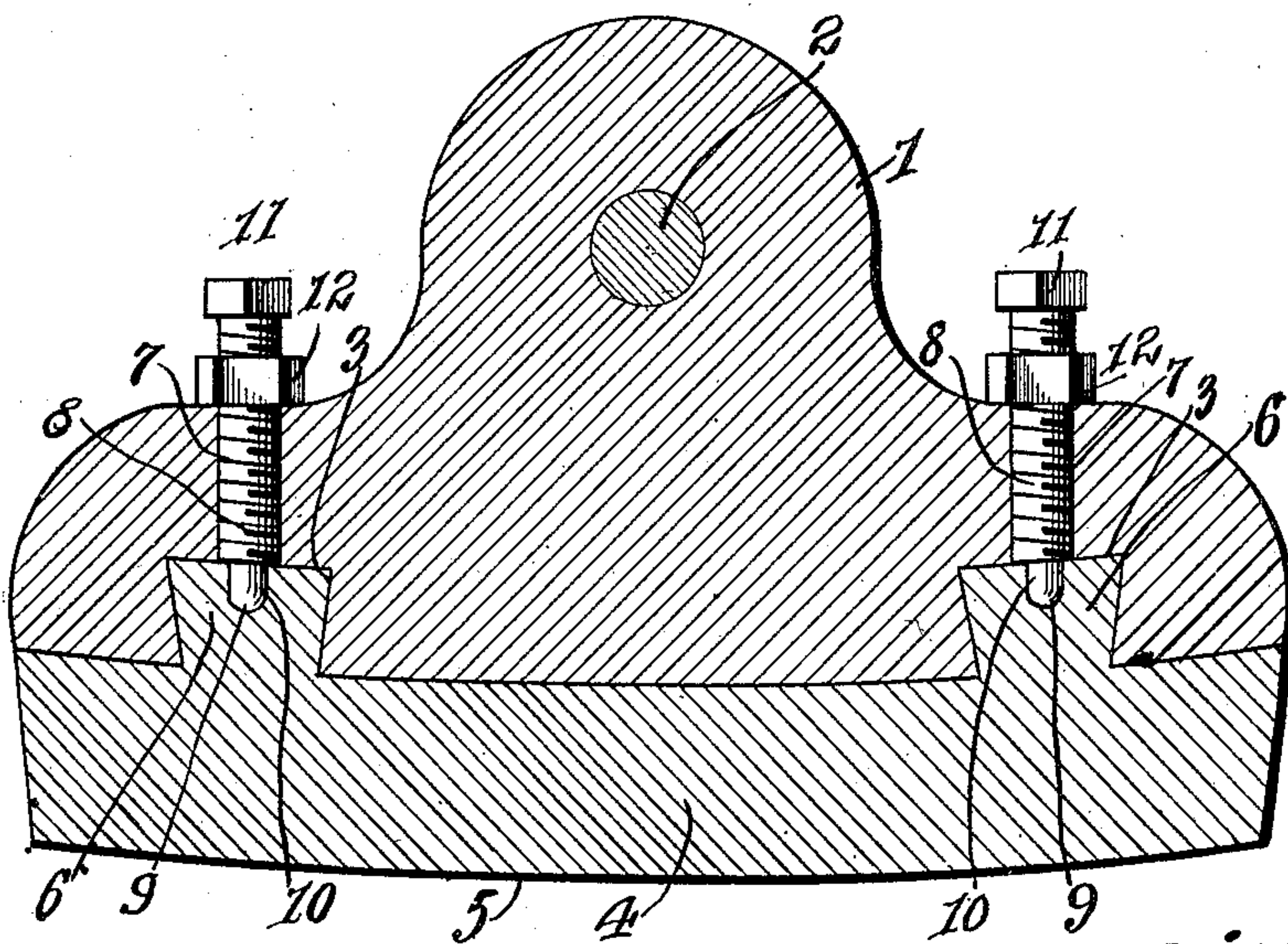


Fig. 2.

Fig. 3.



Witnesses

William C. Linton.

E. P. Bunnell

William Berry.

By *Victor J. Evans*

Attorney

UNITED STATES PATENT OFFICE.

WILLIAM BERRY, OF CLIFTON, ARIZONA TERRITORY.

GRINDING-MACHINE.

No. 917,526.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed December 9, 1908. Serial No. 466,676.

To all whom it may concern:

Be it known that I, WILLIAM BERRY, a citizen of the United States of America, residing at Clifton, in the county of Graham and Territory of Arizona, have invented new and useful Improvements in Grinding-Machines, of which the following is a specification.

This invention relates to grinding machines designed for the purpose of grinding or smoothing mill ring dies, and one of the principal objects of the invention is to provide improved means for holding the grinding shoes to the head or holder.

In machines for grinding mill ring dies, as at present constructed, the grinding shoe is secured to the head or holder by means of bolts which pass entirely through the shoe and are provided with squared tapering heads which lie flush with the face of the grinding shoe. In operation the heads of these screws coming in contact with the ring die form a groove and prevent the smooth operation of the shoe and often ruin the die.

It is to overcome the defect referred to in machines for grinding ring dies that my invention is designed, means being provided for holding the shoe to the head or holder which will not pass through the shoe and will thus not interfere with the smooth and proper operation of the shoe upon the ring die.

The objects and advantages above referred to may be attained by means of the construction illustrated in the accompanying drawing, in which,—

Figure 1 is a front elevation of a grinding head and shoe made in accordance with my invention. Fig. 2 is a vertical section taken through the same. Fig. 3 is a side elevation of the same.

Referring to the drawing, the numeral 1 designates the head or holder of the grinding device, and 2 is the shaft fitted tightly therein and secured by any suitable means, as by shrinking or by means of binding screws. Formed in the lower face of the head 1 are dovetailed recesses 3 extending entirely across the face of the holder.

The grinding shoe 4 is provided with a curved bearing face 5, and upon its upper side said shoe is provided with dove-tailed tenons 6 made to exactly fit in the dove-

tailed grooves 3 of the head 1. Threaded bolt holes 7 extend vertically through the shoulders at the opposite sides of the holder 1, said bolt holes communicating with the dovetailed recesses 3, and fitted into these bolt holes are threaded bolts 8, said bolts having projecting studs 9 at their ends, said studs being smooth and rounded upon their outer ends. Sockets 10 are formed in the dovetailed tenons 6 in which the studs 9 are fitted to prevent the sliding movement of the shoe relatively to the holder. The bolts 8 are each provided with a square or polygonal head 11 by means of which said bolts may be turned upon application of a wrench. A lock nut 12 is fitted to the shank of the bolt 7 to limit the insertion of the bolt. In some of the grinding mills the grinding shoe is of somewhat different contour from the one herein illustrated and described, and hence a shoe having a beveled face may be substituted for the one described without departing from the spirit and scope of my invention as defined by the claim.

The operation of my invention may be briefly described as follows:—Whenever it is desired to secure the shoe 4 to the head 1, the bolts 8 are withdrawn sufficiently to remove the studs 9 from the dovetailed grooves 3. The shoe 4 is then slipped into place and when properly centered, the bolts 8 are turned until the studs 9 are inserted in the sockets 10 of the dovetails 6. Whenever it is desired to reverse the shoe 4, this may be done by turning the shoe end for end, the dovetails 6 fitting in the grooves 3, as before. In the usual construction of grinding heads of this character, the bolts which pass entirely through the shoe are constantly worn away, thus making it necessary to have a large number of these bolts on hand. By means of my construction one pair of bolts may last a long time and will do very much better work, providing a smooth abrading surface to the shoe and permitting the same to be readily reversed and quickly secured in place.

I claim:—

In a device for grinding mill ring dies, a head or holder provided with dovetailed grooves, a shoe provided with dovetailed

tenons to fit said grooves, threaded bolts extending through the head and communicating with the dovetailed grooves, said bolts having projecting studs thereon to fit
5 sockets in the dovetailed tenons of the shoe, and lock nuts on said bolts to limit the projection of the studs.

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

WILLIAM BERRY

Witnesses:

GEO. T. GAINES,
C. C. DAWBER.