

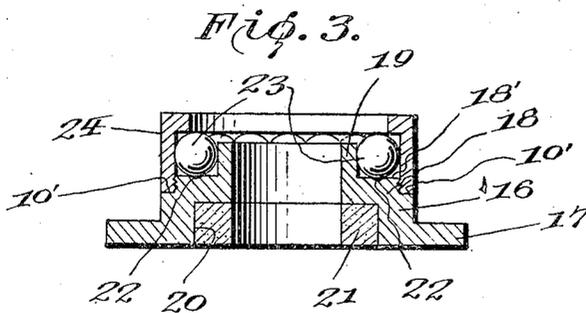
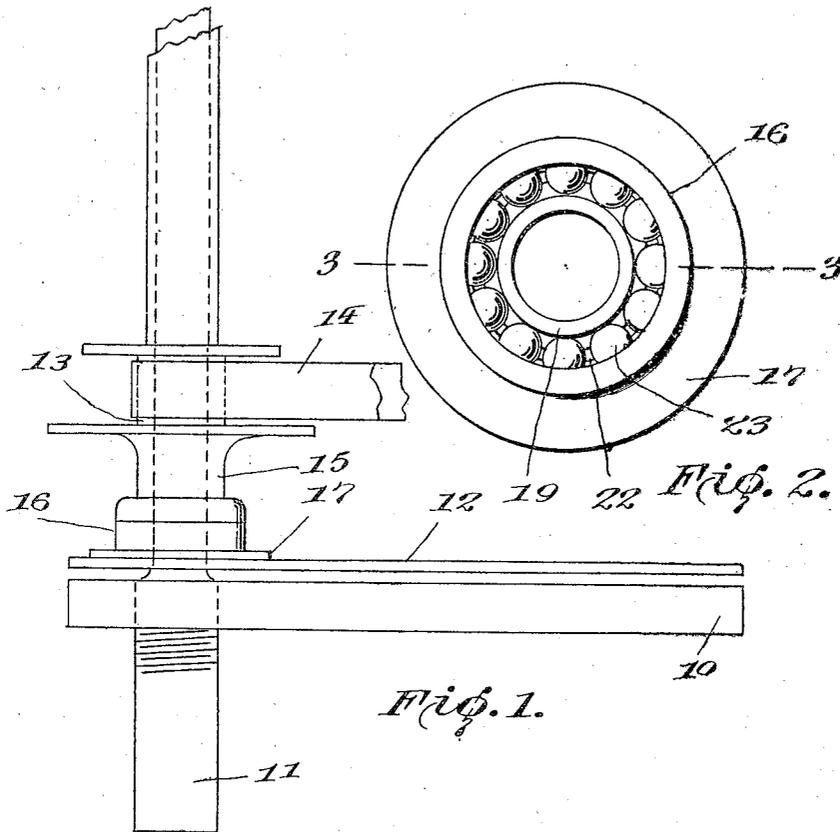
Apr. 17, 1923.

1,452,425

J. T. HEMINGWAY

CAP SPINDLE WASHER

Filed July 26, 1921



Inventor:

James T. Hemingway

By *Charles Charles*

Attorneys

# UNITED STATES PATENT OFFICE.

JAMES T. HEMINGWAY, OF WOONSOCKET, RHODE ISLAND.

## CAP-SPINDLE WASHER.

Application filed July 26, 1921. Serial No. 487,763.

*To all whom it may concern:*

Be it known that I, JAMES T. HEMINGWAY, a citizen of the United States, residing at Woonsocket, in the county of Providence, State of Rhode Island, have invented certain new and useful Improvements in Cap-Spindle Washers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in anti-friction devices and particularly to anti-friction devices for the cap spindles of spinning machines.

One object of the invention is to improve the construction of devices of this character whereby greater efficiency is obtained, and wherein dust, and other foreign substances, are excluded from the bearings.

Another object is to provide a device of this character wherein the whirl of the spindle is adapted to be partly received in the device so that the whirl will rotate more evenly.

Other objects and advantages will be apparent from the following description when taken in connection with the accompanying drawing.

In the drawing:

Figure 1 is an elevation of a portion of a cap spindle showing the invention in position in connection therewith.

Figure 2 is a plan view of the improved washer removed from the spindle.

Figure 3 is an enlarged transverse sectional view through the washer, on the line 3—3 of Figure 2.

Referring particularly to the accompanying drawing, 10 represents the spindle rail of a spinning machine, in which is screwed the lower end of the vertical spindle 11. The usual lifting rail 12 is arranged above the spindle rail and receives the spindle loosely therethrough. On the spindle is arranged the whirl 13 which is driven by the belt or tape 14. The lower end of the whirl is reduced, as shown at 15, and it is this part of the whirl which engages with the washer to be more particularly described herein.

The washer rests on the lifting rail 12,

and includes the main shell 16 having the peripheral flange 17 on its lower end and reduced in successive steps, as shown at 18—19. The latter reduction 19 is in the form of a tube, the bore of which extends through the shell. In the bottom of the shell there is formed a recess 20 in which is disposed the felt washer 21. The spindle 11 extends vertically through the washer 21 and the central bore of the shell. On the upper face of the shoulder 18' there is formed a groove 22, which receives the circular series of bearing balls 23. Fitted frictionally on the portion 19 is the depending flange of the cap 24, the lower edge of said cap resting on the shoulder 10' of the shell. The upper portion of the cap extends horizontally toward the center of the bore of the shell, and sufficiently far to retain the balls 23 within the shell. As the whirl 13 is rotated its lower reduced end 15 runs smoothly on the upper portions of the balls 23, the said reduced portion fitting snugly within the circular opening within the horizontal portion of the cap 24. The positioning of the portion 15, within the shell, serves to exclude dust from the bearings, while lubricant can pass upwardly from the felt washer 21.

What is claimed is:

A device of the class described comprising a centrally bored body, the outer face of the body having a series of circumferential steps, a series of balls on one of the steps, the vertical face of the ball supporting step being threaded, and a cap screwed onto the said threaded portion of the step in such position that the flange of the cap serves to prevent outward movement of the balls, the body having a vertical flange above the ball carrying step serving to prevent inward movement of the balls, and the upper wall of the cap being formed with a central opening exposing portions of the balls for engagement by and supporting engagement with a spindle whirl.

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

JAMES T. HEMINGWAY.

Witnesses:

D. J. GABARD,  
MATHIEU CONRADT.