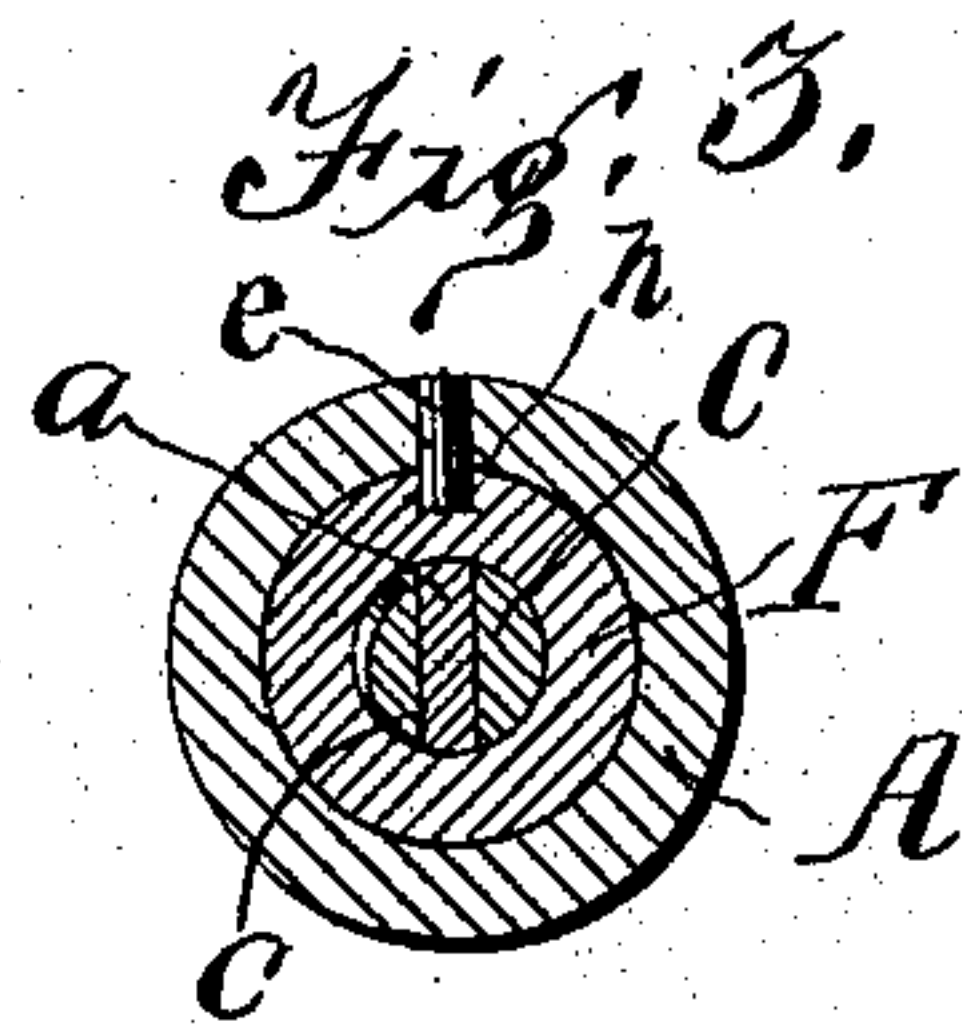
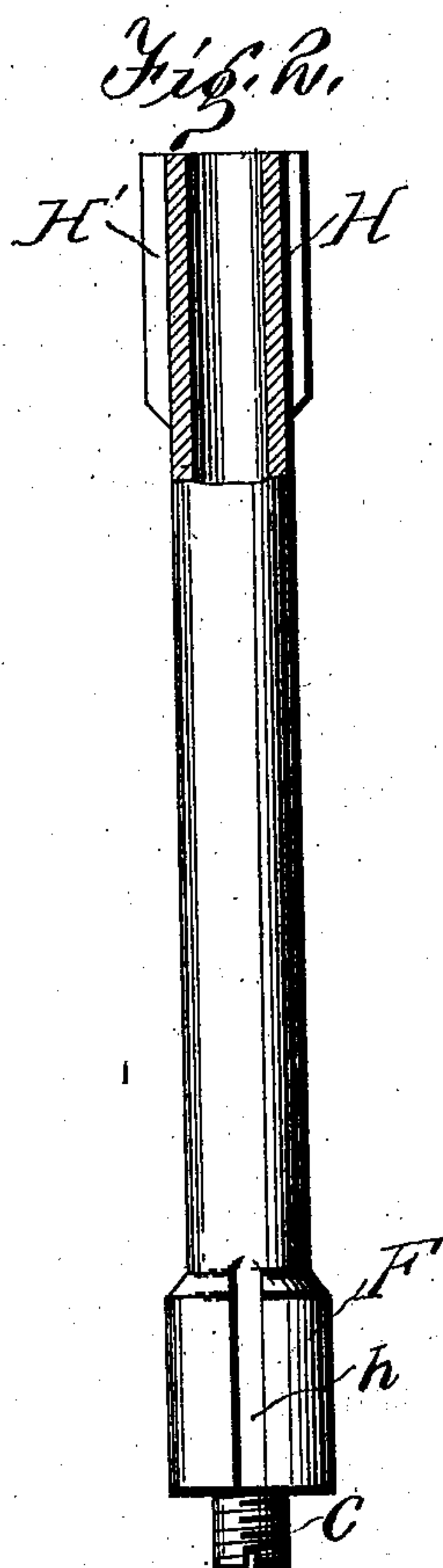
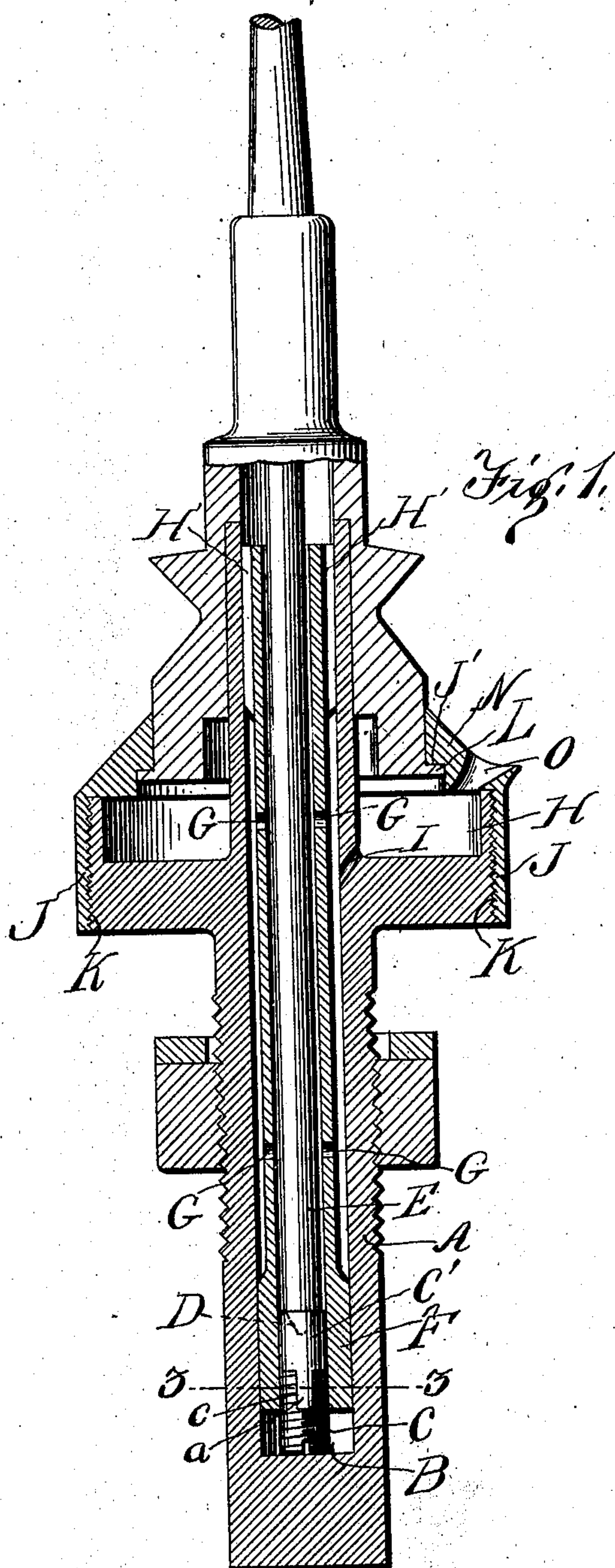


No. 815,367.

PATENTED MAR. 20, 1906.

R. MORRIS.  
SPINNING SPINDLE.  
APPLICATION FILED MAY 29, 1905.



Witnesses

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# UNITED STATES PATENT OFFICE.

ROBERT MORRIS, OF WINTHROP, MAINE.

## SPINNING-SPINDLE.

No. 815,367.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed May 29, 1905. Serial No. 262,900.

*To all whom it may concern:*

Be it known that I, ROBERT MORRIS, a citizen of the United States of America, residing at Winthrop, in the county of Kennebec and State of Maine, have invented certain new and useful Improvements in Spinning-Spindles, of which the following is a specification.

This invention relates to spindles for spinning machinery, and has for its object the provision of novel means for adjusting the spindle-bearing longitudinally and to afford means for lubricating the bearing.

Furthermore, an object of the invention is to provide an oil-cup, a whirl, and, in combination therewith, a cap for the oil-cup, so embracing the lower portion of the whirl as to effectually exclude dust from the oil-cup and the bearings of the spindle.

Furthermore, an object of this invention is to provide novel means for retaining the whirl against displacement and at the same time retaining the whirl-holding device against accidental displacement.

It is also an object of this invention to so construct the whirl and the cap that the said cap will effectually hold the whirl against undue movement.

The invention also provides means adjusted to compensate for the adjustment of the set or stop of the spindle.

Finally, an object of this invention is to produce a device of the character noted possessing advantages in points of simplicity, efficiency, and durability, proving at the same time comparatively inexpensive to produce and maintain.

With the foregoing and other objects in view the invention consists in the details of construction and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail reference will be had to the accompanying drawings, forming part of this specification, wherein like characters denote corresponding parts in the several views, in which—

Figure 1 is a view in elevation of a spindle with the bolster-casing bearings in section. Fig. 2 is a view, partly in elevation and partly in section, showing a bolster and its adjusting means. Fig. 3 is a sectional view taken on the line 3 3 of Fig. 2.

In the drawings, A denotes an ordinary bolster-casing having a central bore B and the lower wall of which is flat to form a support for the step C. The step C is threaded

in the bolster F and is so provided to permit the adjustment of the step in order that the spindle may be adjusted to position for wear, &c. The step C does not form a bearing for the spindle, as in practice objections are noted against a solid step. It is provided with a transverse groove *c* in its upper end, in which fits a tongue *a*, carried by the end of a plug C'. The opposite end of the plug is provided with a recess D, to form a bearing for the spindle E. By this arrangement the plug can be readily replaced if worn without the necessity of applying an entirely new step. This has been found very advantageous in practice, in operation, and economy. The bolster is further provided with a suitable series of holes G for the purpose of admitting lubricant to the interior, where the said lubricant may find its way to the bearing of the spindle. The ends of the bolster correspond in diameter to the diameter of the central bore of the casing; but intermediately the said bolster is reduced in diameter in order to form the space between the walls of the casing and bolster for the passage of lubricant from the oil-cup or reservoir *h*. Oppositely-arranged longitudinal grooves H' are formed in the upper end of the outer surface of the bolster, extending thereacross. A longitudinal groove *h* is formed in the surface of the opposite end of the bolster and is positioned, preferably, on a plane intermediate or centrally of the plane of the grooves H'. A pin *e* is passed through the bolster-casing and engages the walls of the groove *h*. This is done to hold the bolster against rotation, a movement liable to occur from friction between the spindle and the bolster in case of lack or exhaust of lubricant.

The oil within the reservoir H passes through the orifice I to and within the bolster-casing A and passing through to the spindle E. What oil there may be lifted by centrifugal force of the spindle above the bolster will drop through the groove H' back within the bore of the bolster-casing.

The oil-cup is preferably formed integral with the bolster-casing, and the walls thereof are preferably thin in order that the capacity of the cup may be large. A suitable orifice I affords a means of communication between the oil-cup and the interior of the bolster-casing through which the oil from the oil-cup finds its way to the bearing.

The cap N, which is provided for the oil-cup, fits the outer surface of the cup, and the



upper wall of said cap is thickened to form a guard which surrounds the flange of the whirl and is preferably in light contact therewith to form a joint which would be comparatively  
5 dust-proof, yet permitting the free rotation of the spindle. The hole O is formed in the cap for the purpose of permitting the reservoir to be supplied with lubricant, and it is apparent that the inner wall of the opening O  
10 is below the plane of the end of the flange. The cap N has the lower portion J of its inner surface screw-threaded to engage the threads K of the oil-cup. Within the thickened portion of the cap is formed an annular shoulder  
15 J', which engages a flange L on the lower edge of the whirl, and thereby holds the said whirl in position, as will be readily understood from the drawings. It will be seen that when the step C is adjusted within the bolster F the  
20 cap N can also be adjusted to compensate for the vertical change of the spindle E.

The central bore of the whirl is of such diameter as to accommodate the upper end of the bolster-casing, and the parts may be so  
25 adjusted by reason of the step C as to cause but very light engagement between the end of the bolster-casing and the wall of the whirl, or, if desired, the adjustment may be such as to cause the end of the bolster-casing to clear  
30 the middle of the recess or bore, the said arrangement being such as to permit the adjustments of the elements of the combination to suit particular requirements.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is— 35

In a device of the character described, a bolster-casing, a bolster therein, said bolster being reduced in diameter intermediate its ends, and being provided with oppositely-  
40 disposed apertures near the end of its reduced portion, longitudinal grooves formed through the upper normal portion of the bolster, a sectional step threaded within the bolster, a spindle mounted in the bolster and bearing  
45 on the step, an oil-cup formed on the casing, a whirl on the spindle, said whirl embracing the upper portion of the bolster-casing, a flange formed on the lower edge of the whirl, a cap threaded on the oil-cup, said cap being  
50 provided with an inner annular shoulder engaging the flange of the whirl, said cap being provided with an orifice communicating with the oil-cup, said orifice being arranged to one side of the shoulder and terminating beneath  
55 the flange of the whirl when the device is assembled, and means passing through the bolster-casing engaging the bolster to hold the bolster against rotation within the casing.

In testimony whereof I affix my signature, 60  
in the presence of two witnesses, this 23d day of May, 1905.

ROBERT MORRIS.

Witnesses:

JAMES EDWARD HOULEHAN,  
C. B. MURPHY.