

No. 864,356.

PATENTED AUG. 27, 1907.

J. H. BRINDLE.

UNBREAKABLE SELF LUBRICATING LONG COLLAR FOR TEXTILE MACHINERY.

APPLICATION FILED MAR. 25, 1907.

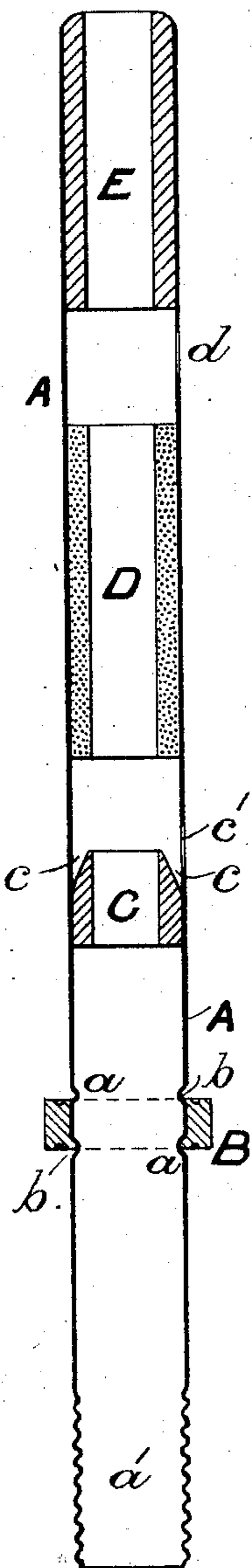


FIG. 2.

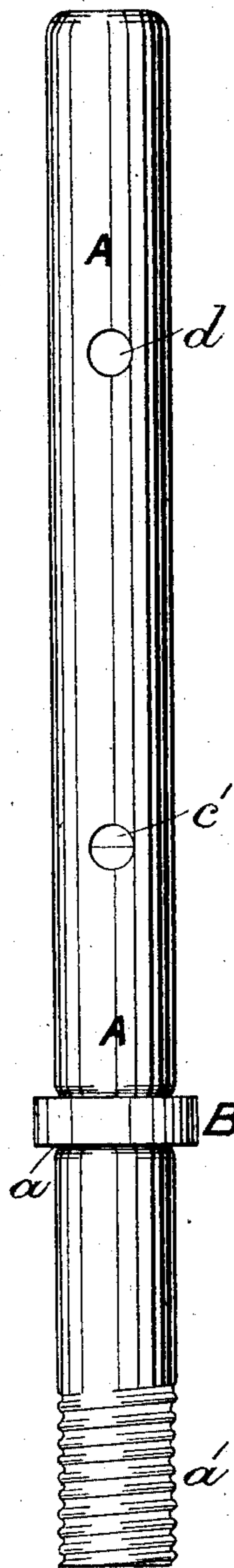


FIG. 1.

WITNESSES.

E. Howard.

Joseph Bates.

INVENTOR.

John H. Brindle  
By J. C. O'Connell  
att.

# UNITED STATES PATENT OFFICE.

JOHN HAMILTON BRINDLE, OF MANCHESTER, ENGLAND.

## UNBREAKABLE SELF-LUBRICATING LONG COLLAR FOR TEXTILE MACHINERY.

No. 864,356.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed March 25, 1907. Serial No. 364,477.

*To all whom it may concern:*

Be it known that I, JOHN HAMILTON BRINDLE, a British subject, and a resident of Manchester, county of Lancaster, England, have invented certain new and useful Improvements in Unbreakable Self-Lubricating Long Collars for Textile Machinery, of which the following is a specification.

This invention relates to what are known as "long-collars" for supporting the spindles of preparing machinery for textile fibers of the type made from a piece of drawn steel tube with a ring or shoulder shrunk or compressed upon the exterior.

It consists of a drawn steel collar constructed with a metal bush inserted at its upper end to bear upon the spindle, a felt pad immediately below the metal bush to be saturated with oil to lubricate the spindle, a hole above the felt pad through which to oil the pad, a bush with conical end below the felt pad to collect the oil flowing through or past the pad, and a hole adjacent to the conical bush through which the oil is distributed to the outer surface of the collar for the purpose of lubricating the bobbin wheel which rotates thereon.

The invention will be fully described with reference to the accompanying drawings forming part of the specification.

Figure 1. is an elevation of the long collar. Fig. 2. is a longitudinal vertical section of the same.

In carrying out the invention a drawn steel tube A of the desired diameter is cut to the length required for the long collar, a screw thread  $a'$  is formed at the bottom end thereof either cut, chased, rolled or spun and a ring B to form a shoulder thereon is secured on the exterior. To secure the ring B in position grooves  $a$  are impressed in the periphery of the tube and by means of a pair of dies one on either side of the ring B formed with projections on the faces which engage the ring, a ring or flange  $b$  of metal is forced from out of the inner surface of the ring B around the periphery of the tube into the grooves  $a$ , an hydraulic or other press being employed for the purpose.

Instead of first indenting the tube A with the grooves  $a$  the die may be applied to the top and bottom of the ring B to form the flange  $b$  and at the same time indent the tube A. The ring B is thus very firmly secured to the tube A. The ring B rests upon the ordinary lift-

ing rail of the machine, and the collar is secured thereto by nuts upon the screw thread  $a'$ . The ring B may be secured by a screw thread or otherwise. Into the interior of the tube A somewhat above the level of the ring B is inserted a cast iron or other bush C which may be of a size to fit the spindle or preferably rather larger so as not to entail any friction upon the spindle. It is made tapering at its upper end so as to form a cavity or well  $c$  between its outer surface and the interior surface of the tube A, and a hole  $c'$  is bored through the tube A to communicate between the cavity or well  $c$  and the outer surface of the tube A. Above the bush C and hole  $c'$  a felt pad D is inserted and affixed and at the top of the tube a metal bush E of cast iron, brass or other metal is inserted to form a bearing for the spindle, the upper end being so formed as to render it dust proof. Above the felt pad D preferably between it and the metal bush E a hole  $d$  is bored to give access to the felt pad for the purpose of saturating it with oil.

When in use the spindle of the machine passes through the tube A finding a supporting bearing upon the bush E, oil is applied through the hole  $d$  to saturate the felt pad D which then lubricates the spindle. The surplus oil from the pad D is collected in the well or cavity  $c$  above the conical end of the bush C, and flowing out through the hole  $c'$  is distributed over the outer surface of the tube to lubricate the bobbin wheel thereon.

What I claim as my invention and desire to protect by Letters Patent is:—

A drawn steel collar constructed with a metal bush inserted at its upper end to bear upon the spindle, a felt pad immediately below the metal bush to be saturated with oil to lubricate the spindle, a hole above the felt pad through which to oil the pad, a bush with conical end below the felt pad, to collect the oil flowing through or past the pad, and a hole adjacent to the conical bush through which the oil is distributed to the outer surface of the collar for the purpose of lubricating the bobbin wheel which rotates thereon, substantially as hereinbefore described.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN HAMILTON BRINDLE.

Witnesses:

J. OWDEN O'BRIEN,  
B. TATHAM WOODHEAD.