

Draper & Bancroft,

Spindle.

No. 102514.

Patented May 3. 1870.

Fig. 1.

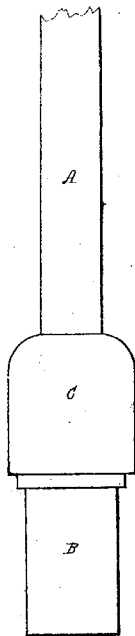
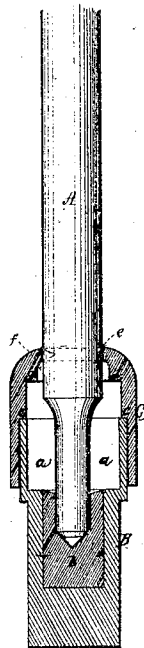


Fig. 2.



Witnesses

S. N. Piper

J. Brown

W. F. Draper & J. B. Bancroft

by their attorney

N. Waddy

UNITED STATES PATENT OFFICE.

WILLIAM F. DRAPER AND JOSEPH B. BANCROFT, OF HOPEDALE, MASS.

IMPROVED SPINDLE STEP-CAP.

Specification forming part of Letters Patent No. 102,514, dated May 3, 1870.

To all whom it may concern:

Be it known that we, WILLIAM F. DRAPER and JOSEPH B. BANCROFT, of Hopedale, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in the Step-Caps of Spindles of Spinning Frames or Machines; and we do hereby declare the same to be hereinafter fully described, and to be represented in the accompanying drawings, of which—

Figure 1 is an elevation; Fig. 2, a vertical section of a spindle and its step and the cap of the latter, such cap being furnished with our invention.

The nature of the said invention consists, mainly, in constructing the cap between its supporting-shoulder and its spindle-passage with one or more offsets or shoulders arranged within the cap, so as to extend around the spindle while within the cap, the purpose of such offset or offsets, shoulder or shoulders, being to estop the oil that may rise in the spindle and out the cap, and be thrown off the spindle against the interior surface of the cap, from passing upward and being discharged through the spindle-opening of the cap.

In the drawings, A denotes a spindle; B, its step, and C the cap of the step. The said step is furnished with an oil-chamber, *a*, and a bushing, *b*.

The cap C, which encompasses the upper part of the step, is formed with a shoulder, *c*, to rest on the top of the step and support the cap thereon. Such cap also has one or more auxiliary shoulders, *d*, formed in its interior, and between the shoulder *c* and the spindle-mouth *e* of such cap, the purpose of the said shoulder *d* being as hereinbefore mentioned. There is also above the shoulder *d*, and between such and the mouth *e*, a space, *f*, which encompasses the spindle, and is made with a diameter a little larger than that of the part

of the spindle encircled by it. This space serves to insulate the shoulder *d* from the spindle, and also aids in preventing the escape of oil from the cap.

When the cap is formed without the supporting-shoulder, such cap has to be made to fit closely to the outer cylindrical surface of the step, in which case it is liable to adhere thereto so strongly as to be often difficult of removal. The supporting-shoulder allows the part of the cap below it to be made to fit loosely to the step, and thus avoids the above-mentioned difficulty. The common bell-cap of the step usually rests on the spindle-rail, which is objectionable. It has been found better to support it by the step, in which case it is not liable to be caught by the spindle and revolved, so as to cause the spindle to irregularly wear its step.

We claim—

1. The spindle step-cap as provided with one or more shoulders or offsets, *d*, arranged on it between its spindle-mouth *e* and sustaining-shoulder *c* or surface, substantially as and for the purpose as hereinbefore explained.
2. The spindle step-cap as made with the shoulder *d* and the insulating-space *f* arranged together and in such cap, and with respect to the mouth *e* and the supporting-shoulder *c* or sustaining-surface, substantially in manner as hereinbefore described.
3. The spindle step-cap C as made with the shoulder *c*, and to extend around the outside of the step, in manner as represented.
4. The cap C as made with the supporting-shoulder *c*, and with one or more oil-intercepting offsets, *d*, arranged in it, as set forth.

WM. F. DRAPER.

JOSEPH B. BANCROFT.

Witnesses:

EBEN D. BANCROFT,

WARREN W. DUTCHER.