

O. PEARL.

Bobbin for Spinning, &c.

No. 102,587.

Patented May 3, 1870.

FIG. 1.

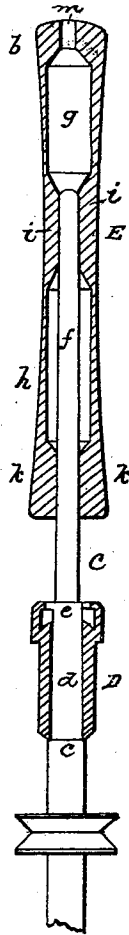
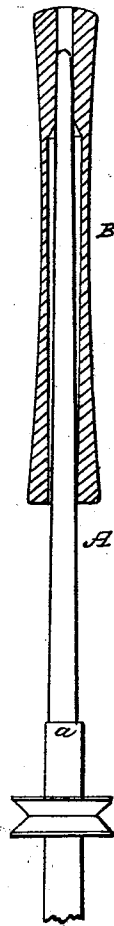


FIG. 2.



WITNESSES:

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IMPROVEMENT IN BOBBINS FOR SPINNING, &c.

Specification forming part of Letters Patent No. 102,587, dated May 3, 1870.

To all whom it may concern:

Be it known that I, OLIVER PEARL, of Lawrence, of the county of Essex and State of Massachusetts, have made a new and useful invention having reference to Machinery for Spinning; and do hereby declare the same to be fully described as follows, reference being had to the accompanying drawings, of which—

Figure 1 denotes a vertical section of a ring-spindle and bobbin provided with my invention. Fig. 2 is a vertical section of a ring-spindle and bobbin, such as were in common use prior to the date of my said invention.

In order to render a bobbin lighter it has been customary to make it with a bore extending through it, and bushed at either or each end to receive the spindle. A bobbin thus made is liable to become crushed or broken on account of its want of strength at or about its middle. Bobbins have also been constructed in manner as shown in Fig. 2 of the accompanying drawings, in which A denotes a ring spindle, and B a bobbin applied to it. This figure represents the spindle, as extending nearly, if not quite, up to the upper end of the bobbin, and taking a bearing close to the said end, as well as at or near the lower end of the bobbin. The spindle is also exhibited as formed with a single shoulder, *a*, arranged at the lower part of that portion of it usually encompassed by the bolster.

In Fig. 1 the spindle C is shown as formed with the primary shoulder *c*, such as is shown at *a* in Fig. 2, and also with the bolster D applied to it. That part *d* of the spindle which runs within the bolster is cylindrical, and terminates at an auxiliary shoulder, *e*, from which the portion *f* of the spindle, which extends above the bolster, projects, and is tapered in manner as exhibited in such Fig. 1.

The bobbin E instead of being made with a single chamber, I form with two chambers, *g h*, and an intervening bearing or re-enforce, *i*. The bobbin also has a bottom bearing or bushing, *k*, to receive and fit to the spindle, which also takes a bearing within or fits to the re-enforce *i*, and terminates at the upper part thereof.

From the above it will be seen that the spindle does not project into the upper cham-

ber of the bobbin, but takes a bearing in the re-enforce immediately below such chamber. The upper chamber, at its top, should be plugged, the plug shown at *b* being formed either with or without a hole, *m*, extended axially through it. By making it with the hole or bore it will generally be of sufficient strength and be rendered lighter than it would be were it without a bore. The plug serves in this case to preserve the bobbin from being broken or crushed at its upper end.

While the re-enforce performs the functions of supporting the bobbin on the spindle and of strengthening the bobbin at its middle, the bottom bushing operates to support the bobbin on the spindle, and to strengthen the bobbin at its lower end.

The advantages of my improvement in the bobbin are that it is rendered stronger, and less liable to be crushed or broken at its middle, and it can be employed with a shorter spindle, thus dispensing with much of the spindle which tends to cause vibration while it may be in revolution.

The auxiliary shoulder of the spindle not only enables the spindle to be made lighter when within the bobbin, and therefore less liable to vibrate while in revolution, but in case of it becoming worn to a less diameter on the part of it which is within the bolster, it admits of the bolster being removed, and the substitution of one of a smaller bore—that is, with one to fit to the worn part of the spindle. This could not be effected with the ordinary spindle, or one not having the auxiliary shoulder, for in that case the worn part would be surmounted by a part larger in diameter, which would prevent the application of a bolster having a bore to fit to the worn part of the spindle.

I make no claim either to the bobbin or the spindle as represented in Fig. 2 of the drawings.

I claim as of my invention the following, viz:

1. The bobbin, as made with the middle re-enforce *i* and the two chambers, *g h*, and foot bushing or bearing arranged therewith, as set forth.
2. The bobbin, as made with the middle re-enforce *i*, the two chambers *g h*, and the up-

per and lower end plugs, bushing or heads, whole being substantially as hereinbefore explained.

3. The combination of the bobbin, made with the central re-enforce *i* and the two chambers *g* *h*, and lower bearing or bushing, with a spindle made to terminate at top in the cen-

tral bushing or lower part of the upper chamber of the bobbin, as specified.

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Witnesses:

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