

J. P. CHATEL.
BOBBIN FOR LOOMS.
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976,120.

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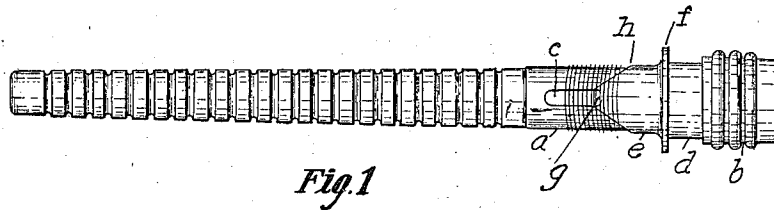


Fig. 1

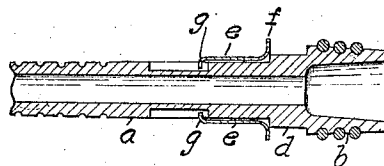


Fig. 2

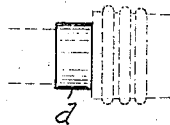


Fig. 3

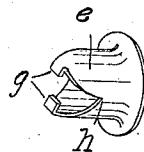


Fig. 4

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UNITED STATES PATENT OFFICE.

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BOBBIN FOR LOOMS.

976,120.

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To all whom it may concern:

Be it known that I, JOSEPH P. CHATEL, a citizen of the United States, residing in Manchester, in the county of Hillsboro and State of New Hampshire, have invented a new and useful Improvement in Bobbins for Looms, of which the following is a specification.

This invention relates to bobbins provided with a filling change, and more particularly to bobbins which are provided with a sleeve or hollow cylinder on the spindle which is held in position by the thread until but little thread is left on the spindle when said sleeve or hollow cylinder moves from its position, and allows the bobbin through the action of the feeler to be drawn off, a bobbin provided with a sleeve of this character being shown in Letters Patent of the United States, Number 879,278, granted February 18, 1908. In the Letters Patent referred to the sleeve is connected with the spindle by means of ears or projections which extend from the inner end of the sleeve substantially at right angles into longitudinal slots in the spindle. It has been found in actual use that in sleeves with straight parallel ends or edges, provided with ears of this shape and without a supplemental shoulder on the spindle to coöperate with the ears of the sleeve in steadying the sleeve upon the spindle, the thread is frequently pinched or caught against or under the inner edge of the sleeve and is thereby broken, the ears proving inadequate to prevent the thread from making such contact.

My invention has for its principal object the removal of this difficulty by preventing the thread, at or about the time when the sleeve is being released by the unwinding of the thread, from coming in contact with the said edge of the sleeve, the supplemental shoulder of the spindle (hereinafter called the seat) preventing lateral play of the sleeve upon the spindle and consequent biting of the thread, the thread being further guarded from such contact by the improved shape of the sleeve at its inner end.

The nature of the invention is fully described below and illustrated in the accompanying drawings, in which—

Figure 1, is a view of the spindle with my improved seat thereon and with my improved sleeve in position on the spindle, the thread being nearly unwound from the bobbin, and that which is left on the spindle

and adjacent to the sleeve being kept from contact with the sleeve by the V-shaped cuts therein. Fig. 2, is a longitudinal section of a portion of the spindle with the improved seat and sleeve in the same position as in Fig. 1. Fig. 3, is a longitudinal view of the improved seat. Fig. 4, is a view in perspective of the improved sleeve removed from the spindle.

Similar letters of reference indicate corresponding parts.

a represents the spindle and *b* the head thereof, said spindle being provided with opposite longitudinal grooves *c*, and the seat *d*. On the portion of the spindle between the grooves and the seat is a loose hollow cylinder or sleeve *e*, of a diameter somewhat greater than that of the spindle, the rear or outer end of the sleeve being formed into a smooth-edged annular flange *f*, which may be engaged by any suitable mechanism exposed to the direct blows of the feeler. The inner end of the sleeve is provided with two projections, forming toward their extremities, the tongues *g* which are opposite each other and engage in the grooves *c*, and with two openings or cuts *h*, preferably in the form of the letter V, also opposite each other and at right angles with and intervening between said projections. Each of these projections and terminating tongues is integral with the sleeve, the portion *g* bending inwardly at substantially right angles into the groove *c*. As the sleeve, in practical operation, rests firmly against the seat *d*, while any thread remains upon the sleeve and upon the spindle immediately in front of the sleeve, preventing in conjunction with the tongues in the grooves lateral swinging and rotary motion of the sleeve upon the spindle, and the V cuts in the sleeve present no edges parallel with the thread, all danger of the thread pinching or catching under or against the sleeve is removed. The seat upon the spindle, by thus preventing lateral and rotary motion of the sleeve, further serves the purpose of preventing soft or loose spinning of the yarn upon the spindle, thus tending to obviate breakages of the thread in the shuttle while in operation.

While I have, in the drawings, chosen to illustrate an embodiment of my invention in combination with a bobbin provided with metal rings upon its head and parallel annular grooves in its spindle, my improved seat and sleeve are equally applicable to any

form of bobbin; it is apparent that the seat while shown as integral with the spindle may be improvised upon any bobbin as, for instance, by the forcing of a split or other metal ring upon the spindle to a suitable position; that while two grooves to engage the two tongues of the sleeve are shown, longitudinal slots may be required in spindles having thinner walls; and that one or more grooves and one or more corresponding tongues may be employed, all without departing from the spirit of my invention.

While I have chosen to adopt the V shaped cuts or openings in the sleeve as best preserving the strength of the sleeve, I do not limit myself to that form since it is clear that cuts or openings in other forms, such as U shape may be employed.

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

1. A bobbin of the character described comprising a spindle with a suitable head, a seat, and a longitudinal groove near said seat; a sleeve on said spindle between the groove and the seat, a projection on the inner end of the sleeve terminating in a tongue extending parallel with the base or outer end

of the sleeve into the groove, and in the side of the sleeve adjacent to the tongue a V shaped opening extending longitudinally toward the base of the sleeve for the purpose set forth.

2. The combination of a bobbin with a suitable head and spindle, a sleeve on the spindle, said sleeve being provided with V-shaped openings extending from the inner end toward the outer end thereof whereby tongues are formed adapted to engage the spindle for the purpose of connecting the said sleeve and spindle.

3. The combination in a bobbin of a suitable head and spindle, said spindle having a longitudinal groove, a sleeve on the spindle provided with suitable means to enter said groove, the side of the sleeve adjacent to such means cut away longitudinally in V shape toward its base, so as to present no edge substantially parallel to the yarn and with a supplemental shoulder near the bobbin head to serve as a seat for the sleeve, as and for the purpose stated.

JOSEPH P. CHATEL.

Witnesses:

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