

A. H. MORTON.
HANK CLOCK FOR SPINNING, TWISTING, AND LIKE MACHINES.
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Patented Feb. 18, 1913.

1,053,312.

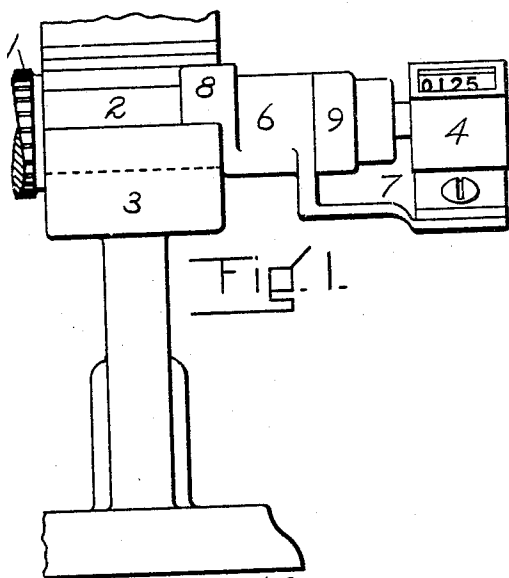


Fig. 1.

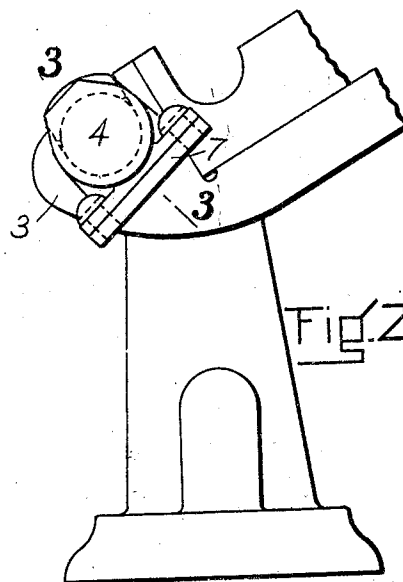


Fig. 2.

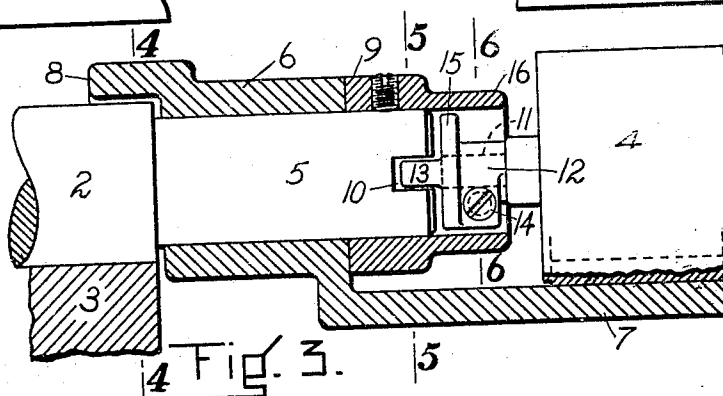


Fig. 3.

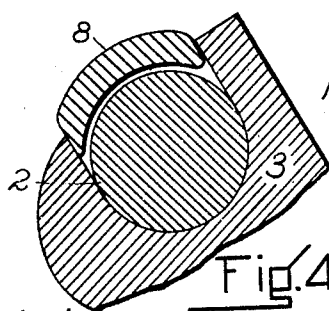


Fig. 4.

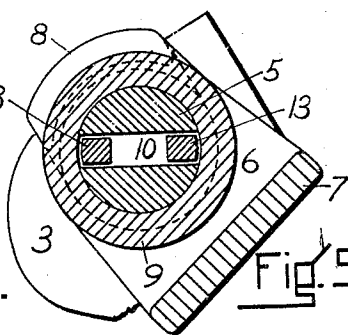


Fig. 5.

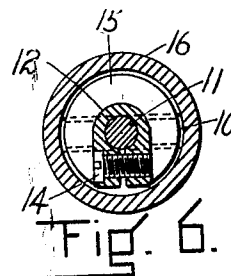


Fig. 6.

WITNESSES

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UNITED STATES PATENT OFFICE.

ALBERT H. MORTON, OF LOWELL, MASSACHUSETTS.

HANK-CLOCK FOR SPINNING, TWISTING, AND LIKE MACHINES.

1,053,312.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALBERT H. MORTON, a citizen of the United States, residing at Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Hank-Clocks for Spinning, Twisting, and the Like Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to an improvement in hank-clocks for spinning, twisting and the like machines.

The object of the invention is to improve the construction of hank-clocks, and particularly with respect to the means for supporting and connecting the hank-clock with its driving mechanism.

To the above end the present invention consists in the hank-clock hereinafter described and particularly defined in the claims.

In the accompanying drawings illustrating the preferred form of the invention;—Figure 1 is a front elevation; Fig. 2 is a side elevation of a portion of the roll and roll stand showing the hank-clock in position; Fig. 3 is an enlarged section on the line 3—3 of Fig. 2; and Figs. 4, 5 and 6 are sections, respectively, on the lines 4—4, 5—5 and 6—6 of Fig. 3.

The illustrated embodiment of the invention is described as follows:—The drawing roll 1 of a spinning, twisting or like machine has a bearing portion 2 which is received in an open bearing in the roll stand 3. The hank-clock 4 is a counting contrivance operated by the rotation of the drawing roll 1 and has a face exposing the figures of the counting wheels which indicate the hanks and fractions of a hank, reading to hundredths. The hank-clock, or counter, 4 is supported upon a bracket 6 which is mounted upon an axial extension 5 from the end of the bearing portion 2 of the roll. The bracket is journaled upon the extension 5 which rotates therein. In new work the extension 5 is integral with the drawing roll shaft; in old work the extension 5 is separate but attached to the shaft in any convenient manner. The bracket 6 is provided with a longitudinally extended support 7 which forms the base upon which the hank-clock is secured. It is supported in an in-

clined position, as shown, to present the face at a convenient angle for reading. The bracket 6 is held from rotation by a projection 8 which drops into the upper part of the bearing in the roll stand 3. The clock bracket 6 is held in position on the roll extension 5 by means of a collar 9, which embraces the roll extension 5 and is secured thereto by a set screw. See Fig. 3. There is no impediment to the removal of the drawing roll 1 from the machine, as the hank-clock is attached to the roll and is removed with it, and it may as easily be replaced in position, the only care demanded of the operative being that he should place the projection 8 in the bearing so as to hold the clock bracket from rotation. By mounting the clock bracket directly upon a portion of the spinning roll, the position of the clock with relation to the spinning roll is the same irrespective of any wear of the bearing portion 2 of the roll or of the open bearing in the roll stand. This is an important feature of the invention as it secures the maintenance of the hank-clock and the drawing roll in proper position with relation to each other irrespective of the wear of the bearings. The end of the roll extension 5 is transversely slotted at 10. The clock shaft 11 is provided with a connection sleeve 12 which has two longitudinally projecting dogs 13 which enter the opposite sides of the slot 10 in the end of the roll extension 5, thus forming a tongue and groove connection between the clock and the roll. The connection sleeve 12 is slotted, as seen in Fig. 6, and clamped upon the clock shaft 11 by means of the lock screw 14. The dogs 13 are not so long as the depth of the slot 10 nor so thick as it is wide, so that any slight inaccuracy in the position of the clock with relation to the roll extension 5 is of no moment because of the relative motion thus permitted between the dogs 13 and the roll extension 5. This feature of construction contributes to cheapness of construction and to enduring good operation. The connection member 12 is provided with a flange 15 at its end, which obstructs the entrance of flyings or dirt into the slot 10 and thus tends to keep these parts clean. The sleeve 9 is provided with a longitudinal extension 16 which surrounds the connection member 12 and further protects the members from dust and dirt. Furthermore, this sleeve protects the connections from catching on things,

such as a wiping cloth or brush used in cleaning the machine.

The invention is shown as embodied in a construction adapted for use in connection with a spinning frame, and the hank-clock is shown as driven from the front drawing roll, but it is to be understood, of course, that the invention is not limited to use in connection with spinning frames, but that it may be used in connection with twist-
 10 or other textile machines where it is desired to measure yarn. In the claims, the expression "drawing roll" is used, but this is intended in a descriptive rather than a limiting sense, as the clock is adapted for connection to any rotating part whether it draws or otherwise cooperates in feeding yarn.

The invention is not limited to the illustrated embodiment, as it may be embodied in other forms.

Having thus described the invention, what is claimed is:—

1. A hank-clock for spinning and the like machines having, in combination, a bracket adapted to be supported upon the drawing roll shaft and having a portion adapted to engage a stationary part of the machine to hold the bracket from rotation, a counter
 30 mounted thereon, connections between the counter and the roll shaft for actuating the counter, and a sleeve covering the connections between the counter and roll shaft, substantially as described.

2. A hank-clock for spinning and the like machines having, in combination, a bracket adapted to be mounted upon the drawing roll shaft and having a portion adapted to engage a stationary part of the machine to hold the bracket from rotation, a counter
 40 mounted thereon, connections between the counter and the drawing roll shaft for actuating the counter, and a flange covering the engaging parts of said connections, substantially as described.

3. A hank-clock for spinning and the like machines having, in combination, a bracket mounted upon the drawing roll shaft, having a portion adapted to engage a stationary part of the machine to hold the bracket from

rotation, a counter mounted thereon provided with an operating shaft co-axially located with the axis of the drawing roll, and a tongue and groove connection between the drawing roll shaft and the shaft of the
 55 counter, substantially as described.

4. A hank-clock for spinning and the like machines having, in combination, a bracket adapted to be mounted upon the drawing roll shaft and having a portion engaging a
 60 stationary part of the machine to hold the bracket from rotation, a counter mounted thereon, connections between the counter and the drawing roll shaft for actuating the counter, and a collar adapted to be secured
 65 on the end of the drawing roll shaft for holding the bracket thereon and provided with a connection-covering extension, substantially as described.

5. A spinning or like machine having, in combination, a drawing roll, a shaft for the drawing roll, an open bearing in which said shaft is journaled, a bracket mounted on the shaft having a projection loosely engaged in the open part of the bearing to hold the
 75 bracket from rotation and to allow the shaft to be lifted from the bearing, a counter mounted on the bracket, and connections between the counter and the shaft for actuating the counter, whereby the drawing roll
 80 together with the bracket and counter may be removed as an entirety from the machine, substantially as described.

6. A spinning or like machine having, in combination, a drawing roll, a shaft for the
 85 drawing roll, an open bearing in which said shaft is journaled, a bracket mounted on the shaft having a portion loosely engaging a stationary part of the machine to allow the shaft to be lifted from the bearing, a counter
 90 mounted on the bracket, and connections between the counter and the shaft for actuating the counter, whereby the drawing roll together with the bracket and counter may be removed as an entirety from the machine,
 95 substantially as described.

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Witnesses:

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