

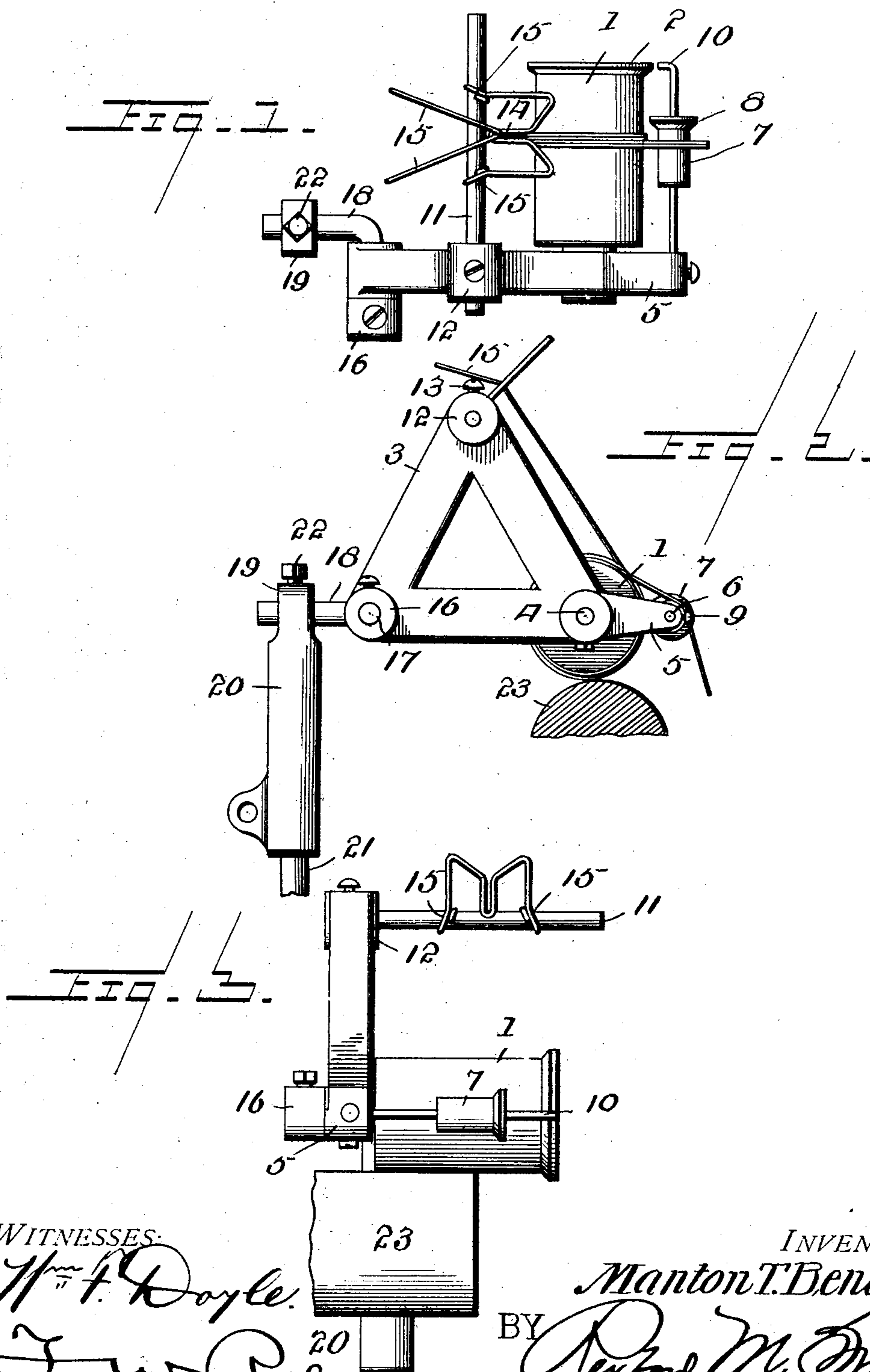
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M. T. BENTLEY.
FEED ROLL FOR SPINNING MACHINES.

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NO MODEL.



WITNESSES:

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FEED-ROLL FOR SPINNING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 764,980, dated July 12, 1904.

Application filed August 12, 1903. Serial No. 169,266. (No model.)

To all whom it may concern:

Be it known that I, MANTON T. BENTLEY, a citizen of the United States, residing at York, in the county of York and State of Pennsylvania, have invented a certain new and useful Feed-Roll for Spinning-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to feed-rolls for spinning-machines, and has special reference to the construction and mounting of the feed-roll and its frame whereby the said feed-roll is adapted to be moved into and out of engagement with the driving-roll for automatically stopping the feeding or drawing off of the yarns or threads from the spool or spools upon which the same are wound.

In spinning-machines the yarns or threads are drawn from one or more spools or sets of spools and twisted and carried to and wound upon another spool at a uniform rate of speed. At times one or more of the threads break, and at such time it is necessary to stop the feed of the broken threads, so that the broken ends may be reunited. In order to do this, means must be provided for stopping the feed-roll, which draws the threads or yarns from the primary spool or spools.

The object of this invention is to mount the feed-roll in such manner that it may be thrown out of operation upon the breakage of one or more threads.

With the above and other objects in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination, and arrangement of parts, as hereinafter fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a plan view of feed-roll mechanism constructed in accordance with the present invention. Fig. 2 is a side elevation of the same. Fig. 3 is a front elevation thereof.

Like reference-numerals designate corresponding parts in all the figures of the drawings.

Referring to the drawings, 1 designates a feed-roll which is, by preference, provided at

one end with a circumferential flange 2 to prevent the yarn or threads from passing off the end of said roll.

3 designates a feed-roll frame, which, by preference, is triangular, as shown in Fig. 2. At or near one of the angles the frame is provided with a shaft or spindle 4, upon which the feed-roll 1 is journaled, and extending outward from the same corner of the frame is an extension-arm 5, having secured in its outer end a rod or stem 6, upon which is rotatably mounted a carrier-roll 7, provided at its outer end with a flange for the purpose of holding the yarns or threads in engagement therewith. The stem 6 is fastened in the extension-arm 5 by means of a binding-screw 9, and the outer extremity of said stem is bent at an angle, as shown at 10, to form a stop for limiting the outward movement of the carrier-roll 7.

At the upper corner or angle of the feed-roll frame 3 is a guide-stem 11, the inner end of which is received in a sleeve 12, formed integrally with the feed-roll frame, as shown, the guide-stem being held by means of a screw or other suitable fastener 13. Upon the stem 11 is mounted a threaded gathering-guide consisting of a piece of wire bent substantially in the form of the capital letter M, the central portion thereof being shaped into the form of a loop 14, between which the threads 15 are received prior to passing the same around the feed-roll. The extremities of the guide are bent and passed around the guide-stem 11, as shown at 15, so as to obtain a firm frictional hold thereon, thereby enabling the gathering-guide to be adjusted to any suitable angle to catch the threads as they come from the supply spool or spools and direct the same properly onto the feed-roll, as shown in Figs. 1 and 2. The threads after being brought together by the gathering-guide are passed once around the feed-roll and then carried outward over the carrier-roll and thence downward to the spool or bobbin upon which they are to be wound, the carrier-roll thus serving to prevent the chaffing of the threads or yarns against each other and

reducing the liability of breakage of the threads.

The feed-roll frame 3 is provided at its remaining or inner angle or corner with a bearing-sleeve 16, mounted upon the journal portion 17 of an angle-rod 18. One arm of the angle-rod 18 forms the journal upon which the feed-roll frame swings up and down, while the other arm of said angle-rod, which extends at right angles to the first-named arm, passes through and is received in a bearing-sleeve 19 at the upper end of the holder or head-sleeve 20, which is mounted on one of the vertical rods 21 of a spinning-machine.

22 designates the set-screw for holding the angle-rod fixed, if desired. By leaving the angle-rod loose, however, in the bearing-sleeve 19 a universal joint is established between the head-sleeve or holder 20 and the feed-roll frame, which allows the feed-roll 1 to rest upon and adjust itself gradually at all times to the driving-roll 23 of the spinning-machine. The feed-roll and its frame are so mounted that the end portion of the feed-roll extends beyond the end of the driving-roll, as shown in Fig. 3. This enables the threads or yarns to be passed around the feed-roll and carried over the carrier-roll without interference on the part of the driving-roll.

In the construction of the spinning-machine any suitable means may be employed for swinging the feed-roll frame 3 and lifting the feed-roll out of operative engagement with the driving-roll upon the breakage of one or more threads.

The adaptability of the carrier-roll 7 to move endwise insures even tension and uniform strain on the yarn or thread.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. A feed-roll mechanism for spinning-machines comprising a holder, a feed-roll frame having a universal connection with said holder, a feed-roll journaled on said frame and adapted to rest upon the driving-roll of the spinning-machine, a carrier-roll journaled on the feed-roll frame and movable therewith, so as to maintain the parallelism of the feed and carrier rolls, and a gathering-guide carried by said frame.

2. Feed-roll mechanism for spinning-machines comprising a holder, a feed-roll frame, an angle-rod connecting the frame with the holder and adapting said frame to adjust itself to the angle of the driving-roll of a spinning-machine, and a feed-roll journaled on said

frame and movable into and out of engagement with the driving-roll.

3. Feed-roll mechanism for spinning-machines comprising a holder, a feed-roll frame having a universal connection therewith, a feed-roll journaled on said frame and provided with an end flange, and a carrier-roll also journaled on said frame and rotatable on an axis parallel to the axis of the feed-roll, the carrier-roll being also flanged for the purpose specified.

4. Feed-roll mechanism for spinning-machines comprising a holder, a feed-roll frame having a universal connection therewith, a feed-roll journaled on said frame, a carrier-roll arranged at one side of the feed-roll, a guide-stem extending parallel to the feed-roll, and a gathering-guide mounted on said stem and adjustable around and lengthwise of said stem.

5. Feed-roll mechanism for spinning-machines comprising a holder, a feed-roll frame having pivotal connection therewith, a feed-roll journaled on said frame with the end portion thereof projecting beyond the end of the driving-roll of the spinning-machine, and a smooth carrier-roll journaled on the feed-roll frame and capable of endwise movement relatively to the feed-roll, the feed and carrier rolls being so mounted as to maintain their parallelism, substantially as and for the purpose specified.

6. Feed-roll mechanism for spinning-machines comprising a holder, a feed-roll frame having a pivotal connection therewith, a feed-roll journaled on said frame, an extension-arm projecting outward from said frame at or near one end of the feed-roll, a stem carried by said extension-arm, and a carrier-roll journaled on said stem at one side of the feed-roll, substantially as described.

7. Feed-roll mechanism for spinning-machines comprising a holder having a bearing-sleeve, a feed-roll frame, a feed-roll journaled thereon, and an angle-rod one end of which is received in the bearing-sleeve of the holder and the other end of which forms the journal upon which the feed-roll frame is mounted, and a set-screw for holding the angle-rod in fixed relation to the bearing-sleeve on the holder.

In testimony whereof I affix my signature in presence of two witnesses.

MANTON T. BENTLEY.

Witnesses:

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J. HARRY WOOLIDGE.