March 4, 1924. 1,485,921

R. F. HERRICK, JR

SPINNING FRAME

Filed July 5, 1923

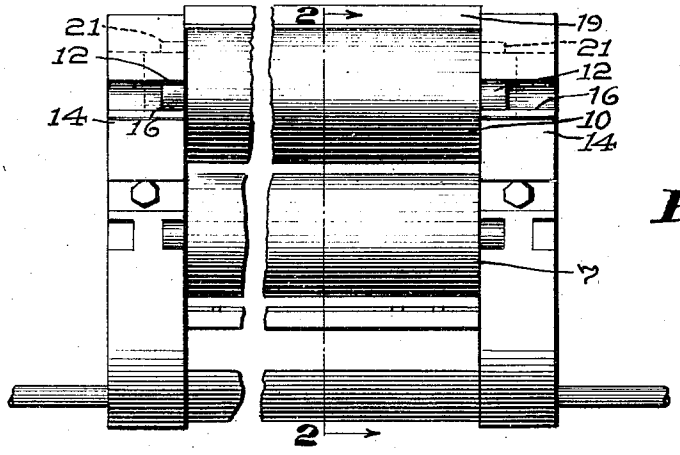

Fig. 1

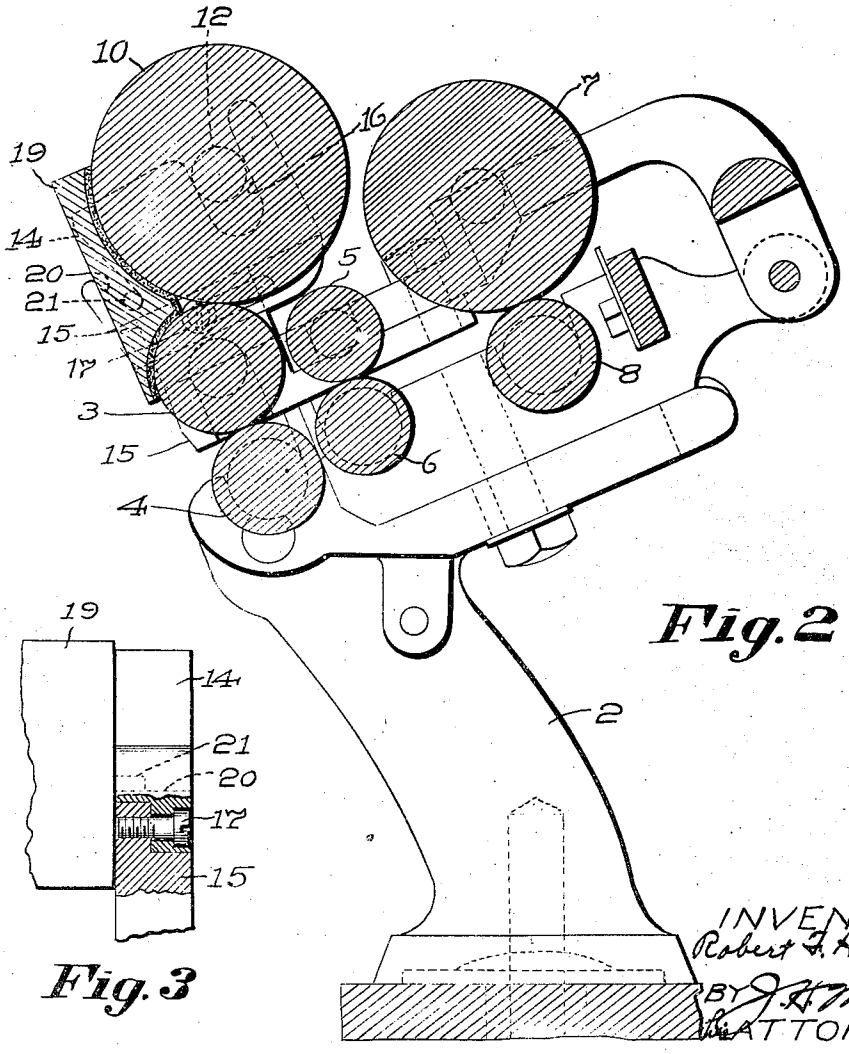

Fig. 2

Fig. 3

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Patented Mar. 4, 1924. 1,485,921

UNITED STATES PATENT OFFICE.

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SPINNING FRAME.

Application filed July 5, 1923. Serial No. 649,486.

To all whom it may concern:

Be it known that I, ROBERT F. HERRICK, Jr., a citizen of the United States, residing at Westwood, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Spinning Frames, of which the following is a specification.

This invention relates to the drawing mechanisms of spinning frames and the like, and it is especially concerned with the mechanism for weighting the drawing rolls to enable them to properly perform their drawing function.

Heretofore it has been customary to weight one or more of the top rolls of each set by means of springs or various combinations of weights and levers, and to clear the rolls of the lint and similar foreign material that collects on them by running them in contact with a revolving clearing cloth or with a stationary covered board.

With a view to simplifying this mechanism, it has been proposed heretofore to weight and clear the front top roll by means of a heavy cloth covered roll running directly in contact with it and resting on it. While this arrangement is an improvement on the construction previously used, it is nevertheless open to the objection that the combined clearing and weighting roll must itself be cleaned at intervals, and this roll is necessarily so heavy that the cleaning operation is thereby made difficult and awkward. It is the chief object of the present invention, therefore, to devise a construction which will obviate this difficulty while still retaining the advantages of this mechanism.

The nature of the invention will be readily understood from the following description when read in connection with the accompanying drawings, and the novel features will be particularly pointed out in the appended claims.

In the drawings,

Figure 1 is a plan view of a portion of a spinning frame embodying the present invention;

Fig. 2 is a vertical cross sectional view on the line 2—2, Fig. 1; and

Fig. 3 is a view, partly in front elevation and partly in cross section, showing the provision for adjusting one bracket relatively to another.

The drawings show the invention applied to a spinning frame of well known construction. This mechanism comprises a stand or frame 2, a front pair of upper and lower drawing rolls 3 and 4, respectively, intermediate rolls 5 and 6, and back rolls 7 and 8, respectively, all of these rolls being supported and driven in the usual manner.

According to the present invention the front rolls are weighted by means of a heavy metal roll 10 which bears on the upper front roll 3 and rotates in contact therewith. The opposite ends of this roll have short extensions or stub shafts 12 projecting therefrom, and two brackets 14, bolted to the front roll brackets 15, have slots 16 therein to receive and guide the shafts 12. Each bracket 14 is adjustably secured in place by a screw 17 which passes through a slot formed in a depending flange portion of the bracket and is threaded into the part 15. The weighting roll 10 thus may be adjusted backward or forward relatively to the drawing roll 3.

As the pressure roll 10 rotates in contact with the drawing roll it collects lint from the latter roll and this lint is removed from the pressure roll by means of a clearer shown at 19. This clearer consists simply of a board having concave surfaces shaped to fit against the peripheral surfaces of the rolls 10 and 3, these concave surfaces being covered with felt, cloth, or other suitable material, adapted to collect lint from the rolls. The brackets 14 have inclined slots 20 therein to receive two pins 21 which project from the opposite ends of the clearer 19, so that whenever the clearer is to be cleaned it can be removed from the machine simply by lifting it out of place, the pins sliding freely out of their slots.

It will now be appreciated that this invention provides a very simple and convenient means for weighting and clearing the upper rolls of a spinning frame, roving frame, or like machine. Inasmuch as the clearer is separate from the pressure roll, is very light in weight, and is removable from the machine without disturbing the pressure roll, this arrangement avoids entirely the difficulty which has been experienced heretofore with this method of weighting drawing rolls.

While I have herein shown and described the best embodiment of my invention that I have so far devised, it will be appreciated

that the invention may be embodied in many other forms without departing from the spirit or scope thereof. It will also be understood that other types of clearers than that shown may be used with the roll 10.

Having thus described my invention, what I desire to claim as new is:

1. In a mechanism of the character described, the combination with drawing means including an upper drawing roll, of a weighting roll bearing on said upper drawing roll, a clearer for one of said rolls, and means for holding said clearer and said weighting roll in their operative positions.

2. In a mechanism of the character described, the combination with drawing means including an upper drawing roll, of a weighting roll bearing on said drawing roll, a clearer for one of said rolls, and means for supporting said weighting roll in different operative relationships to said upper roll.

3. In a mechanism of the character described, the combination with drawing means including upper and lower drawing rolls, of a weighting roll bearing on said upper drawing roll, a clearer for both said upper and weighting rolls, and means for holding said clearer and said rolls in their operative positions.

4. In a mechanism of the character described, the combination with a spinning frame including upper and lower drawing rolls, of a weighting roll bearing on said upper drawing roll, brackets at the opposite ends of said rolls having slots therein to receive and guide extensions projecting from the ends of said weighting roll, a clearer engaging the surface of said weighting roll, and projections extending from the opposite ends of said clearer and resting in slots formed for them in said brackets.

5. In a mechanism of the character described, the combination with drawing means including upper and lower drawing rolls, of a weighting roll bearing on said upper drawing roll, a stationary clearer supported in engagement with said weighting roll, and means for holding said clearer in its operative position but permitting it to be freely removed therefrom.

ROBERT F. HERRICK, JR.