Dec. 1, 1931. H. STROINK 1,834,878

DRAWING MECHANISM FOR SPINNING AND LIKE FRAMES

Filed March 21, 1929

Fig. 1.

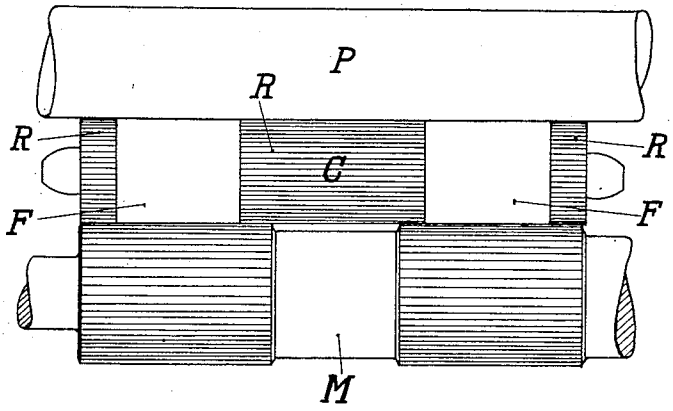
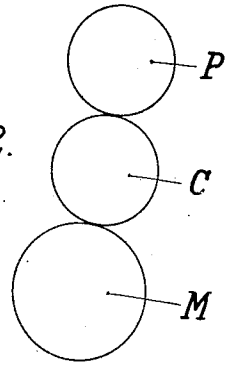


Fig. 2.



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UNITED STATES PATENT OFFICE

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DRAWING MECHANISM FOR SPINNING AND LIKE FRAMES

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This invention relates to drawing mechanism for spinning and like frames and consists of an improvement in or modification of the mechanism forming the subject of U. S. application Ser. No. 186,425. Such drawing mechanism is characterized by a large diameter of the bottom middle roller in comparison to the front and rear bottom rollers and by the elevated position of the middle roller relatively to these two rollers. The middle roller thus has an especially important function in the drawing operation. In the drawing or spinning process it serves not only for the feeding of the fibrous material in combination with the pressure rollers lying thereon, as in the usual drawing frames, but it also forms the base or support for the drawing operation of the three-cylinder drawing frame, and thus for combining the drag due to gripping and that due to sliding, over which base or support the tuft of fibres to be drawn is guided in a stretched condition by means of the two pressure rollers.

Forms of drawing mechanism are known, of the three or four roller type, wherein one or a plurality of pressure rollers are also employed, which for the better holding of the roving fibres or for the better driving of the pressure rollers by the bottom rollers are either covered with leather or fluted or provided over their whole surface with ribs or corrugations of other suitable form.

The special method of producing the surface of these pressure rollers serves solely for increasing the adhesion of the pressure rollers on their support, whether such support be the tuft of fibres of the roving or the bottom roller itself.

In the drawings mechanism in the parent case the middle roller as already mentioned is of especial importance, since the drawing operation takes place over its periphery. It must therefore be protected against the accumulation of cotton fibre, dust and other débris during the drawing process. In other constructions of drawing frame the cleaning of the bottom middle roller is effected from beneath by means of bottom cleaner rollers. This arrangement fulfils its purpose only very imperfectly in practice and forms a hindrance to those who attend the machine; it is therefore generally removed. The cleaner however the running or dragging surface for the tuft of roving fibres to be spun and the more uniformly the pressure rollers lie on the bottom rollers, the more uniformly can the drag take place over the periphery of the bottom roller.

According to the invention the cleaning of the draft rollers is effected fully and entirely by a special formation of the rear pressure roller resting on the middle roller.

This heavy pressure roller is provided on its surface, at the places which are not touched by the roving fibres moved to and fro in the spinning, with a special fluting or grooving which lies either parallel or inclined to the axis of the roller. This fluting or grooving can be produced in various ways, viz. it may be in the form of ratched-teeth, facets or fish-scales. The ribs, teeth or the like must however lie in the surface of the pressure rollers and should not project beyond the smooth surface for receiving the roving.

The accompanying drawings show by way of example, one constructional form of the subject of the invention viz:

Figure 1 shows in front elevation the rollers in question of the drawing mechanism.

Figure 2 is a side elevation thereof.

On the ribbed or fluted roller C there lies a wood or metal clearer roller P covered with plush, which is driven by friction by the rotation of the pressure roller C. The fluted portions of the pressure roller C are indicated at R and are located at the terminal and central portions of the roller, the portions of the latter lying intermediate the flutings indicated at F being smooth. The cleaning device operates as follows:

The dust, which collects on the bottom roller M, is carried along by the ribs or fluting of the pressure roller C or is forced laterally along the smooth running surface or towards the ends of the pressure roller. The clearer roller P bearing thereon takes up the dust from the smooth surface or the dust collects at the ends of the pressure roller at the sides of the ribbed or fluted surfaces of the bottom middle roller M beneath the bear-

ings of the pressure roller, where it is removed in the cleaning of the machine.

I claim:

In a three-roller drawing frame, a middle drawing roller, a combined pressure and dust conveying roller, flutings on the pressure roller at the middle and terminal portions thereof, and smooth surfaces intermediate the flutings, said pressure roller being arranged above and bearing on the top of the middle roller, the flutings being arranged at points on the pressure roller contacting with the portions of the middle roller carrying the greatest accumulation of fly, and a plush covered clearer roller bearing on the top of and frictionally driven by the pressure roller, the dust being conveyed from the middle roller and delivered to the clearer roller by the flutings of the pressure roller.

In testimony whereof I have signed my name to this specification.

HERBERT STROINK.