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W. MONK.

DIFFERENTIAL TRAVERSE BAR FOR TEXTILE FRAMES.

APPLICATION FILED JAN. 3, 1906.

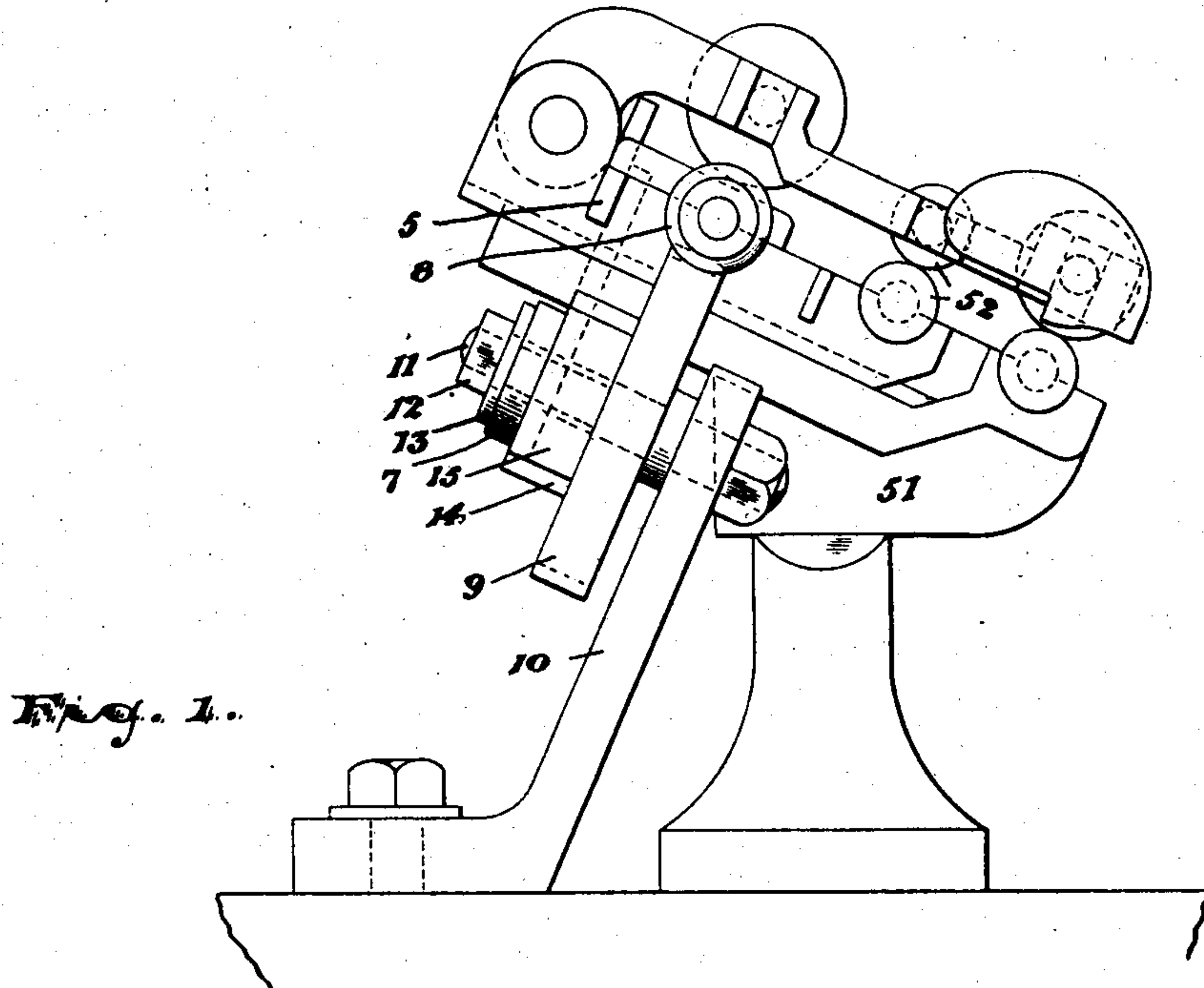


Fig. 1.

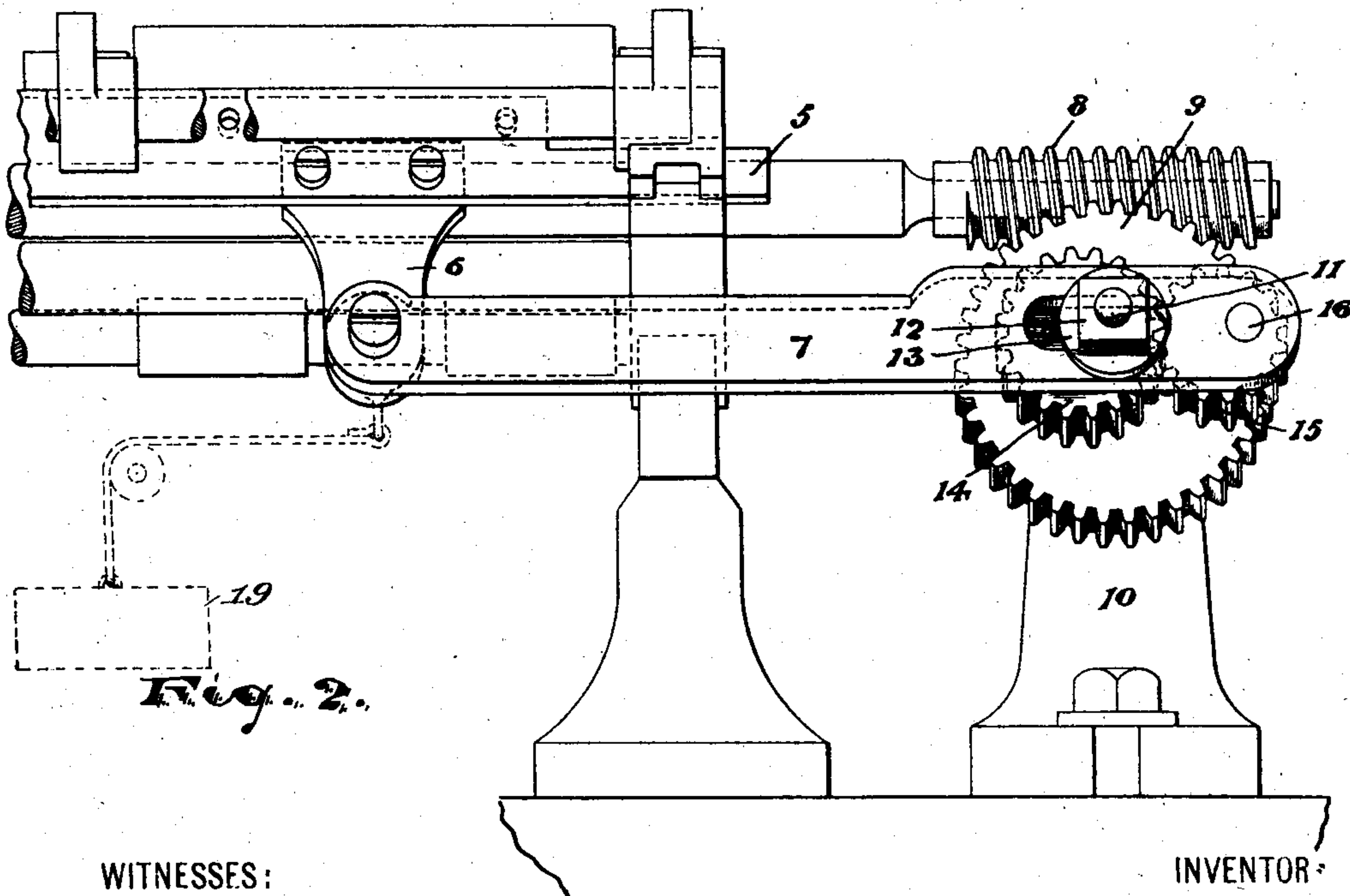


Fig. 2.

WITNESSES:

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DIFFERENTIAL TRAVERSE-BAR FOR TEXTILE-FRAMES.

No. 834,017.

Specification of Letters Patent.

Patented Oct. 23, 1906.

Application filed January 3, 1906. Serial No. 294,434.

To all whom it may concern:

Be it known that I, WILLIAM MONK, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Differential Traverse-Bars for Textile-Frames; 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, reference being had to the accompanying drawings, and to numerals of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in traverse-bars for ring-frames in machines for spinning cotton yarn in the art of weaving or thread-making.

The objects of the present improvements are to vary the movements of the traverse device, whereby the effective lifetime of the leather rolls in said ring-frame will be greatly increased and the cost of maintenance of the machine will be materially reduced and to prevent the cockling of the yarn by maintaining the leather rolls in effective condition. I also improve the quality of the yarn. It may be understood that by the old arrangement the said leather rolls soon become, to some extent, worn centrally between their sides, so as to reduce the perfection of the spinning, and yet the expensive rolls were passably efficient, so as to render it undesirable to throw the said rolls away. By my improvement the wear on the roll is more uniform and the quality of the work resulting from its use is longer maintained.

The invention consists in the improved traverse-bar and connections for ring-frames for textile fabrics, and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth, and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like numerals of reference indicate corresponding parts in each of the figures, Figure 1 is a side elevation of a portion of an ordinary ring-frame to which my improvements have been applied, and Fig. 2 is a detail view showing my improvements more clearly.

In said drawings, 5 indicates the ordinary traverse-bar of a ring-frame 51, having leather rolls 52. Said bar has an arm 6, which is in connection with the "motion-

bar" 7. This motion-bar heretofore has been ordinarily provided with a pin, on which a roller was mounted, which roller engaged a heart-cam to obtain a uniform reciprocal movement.

In my construction I employ, in connection with the ring-frame 51, a worm-wheel 8, which engages with a cog-wheel 9, pivoted concentrically on a standard 10, having the pivot 11 extending up through the connecting-rod 7, which rod is slotted to receive it. The said connecting-rod is held down in proper operative relation by a nut 12 and washer 13, the said nut permitting a free sliding of the rod 7 beneath. Upon the said cog-wheel 9, at one side thereof, is fastened eccentrically a cogged pinion 14, which turns with said cog-wheel 9 and engages a small pinion 15. Said wheel 15 is itself eccentrically pivoted, the pivot 16 being in connection with the connecting rod or bar 7.

The rotation of the cog-wheel 14 with the cog-wheel 9 causes a corresponding rotation of the eccentric cog-wheel 15 in engagement therewith, which effects a reciprocating movement of the rod 7 against the pressure of an ordinary spring or weight 19 in connection with the connecting-rod 7, which spring or weight tends to hold the two cog-pinions 14 15 in operative engagement. The cogged pinions 14 and 15 are of different sizes. The pinions 9 14 are separable and may be exchanged for others of different sizes, so as to vary the speed and throw of the traverse-rod. The said eccentric pinions 14 15, being of different sizes, it is obvious that the difference of reciprocal movement will vary, one reciprocating movement being longer or shorter than the next in order. Thus the "sliver" or "roving" is caused to vary in its movements over the peripheries of the leather rolls 52, so as to prevent the formation of what may be termed "marked" hollows or shoulders in the roll, due to uniform movements of said sliver, it being understood that a very little wear at any one point of the roll 52 is objectionable in its results.

Having thus described the invention, what I claim as new is—

1. The combination with a frame having leather rolls, a traverse-bar and a screw-shaft, of a cog-wheel in mesh with the screw-shaft, a slotted connecting-rod, and a pair of pinions between the cog-wheel and the connecting-rod, these pinions being in mesh, one of them being eccentrically secured to the

cog-wheel, and the other one eccentrically pivoted on the connecting-rod.

2. The combination with a frame having leather rolls, a traverse-bar and a screw-
5 shaft, of a cog-wheel in mesh with the screw-shaft and arranged to rotate on a standard, a connecting-rod having a slot, the slot being arranged over the pivot of the cog-wheel, and a pair of pinions arranged to mesh with one
10 another and lie between the connecting-rod and the cog-wheel, one of the pinions being eccentrically secured to the cog-wheel, and the other eccentrically pivoted to the connecting-bar.

15 3. The combination with a frame having

leather rolls, a traverse-bar and a screw-shaft, of a cog-wheel in mesh with the screw-shaft, a connecting-rod, and a pair of pinions to operate the connecting-rod from the cog-wheel, the pinions being eccentrically
20 mounted, one on the cog-wheel and one on the connecting-rod.

In testimony that I claim the foregoing I have hereunto set my hand this 23d day of December, 1905.

WILLIAM MONK.

Witnesses:

CHARLES H. PELL,
M. T. DOYLE.