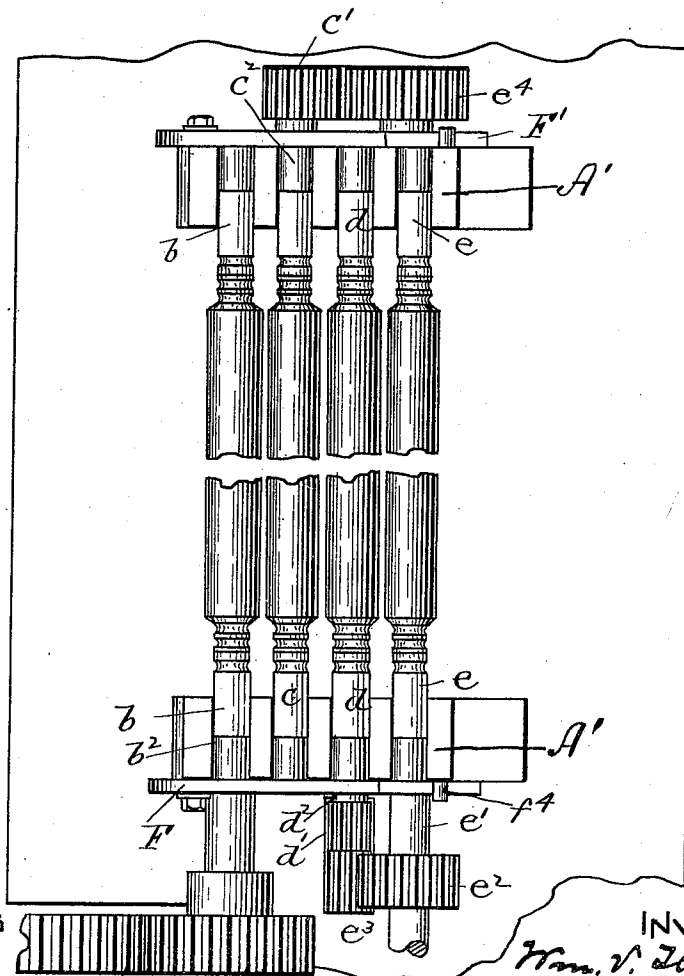
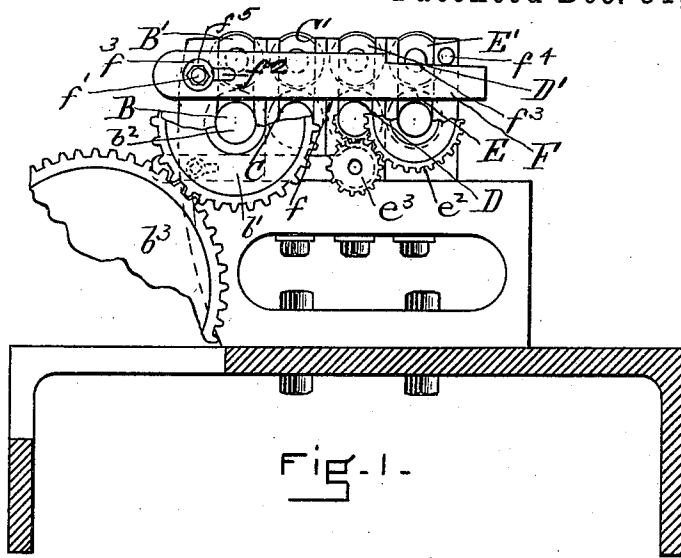


(No Model.)

W. V. THRELFALL.
DRAWING FRAME.

No. 552,339.

Patented Dec. 31, 1895.



WITNESSES

J. W. Dolan.
John McGrath.

INVENTOR

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Charles H. Raymond

UNITED STATES PATENT OFFICE.

WILLIAM V. THRELFALL, OF NEWTON, MASSACHUSETTS, ASSIGNOR TO THE
PETTEE MACHINE WORKS, OF SAME PLACE.

DRAWING-FRAME.

SPECIFICATION forming part of Letters Patent No. 552,339, dated December 31, 1895.

Application filed August 1, 1894. Serial No. 519,154. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM V. THRELFALL, a citizen of the United States, residing at Newton Upper Falls, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Drawing-Frames, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

Drawing-frames for drawing sliver have a number of pairs of drawing-rolls, each of which draws the sliver as it is run through them, the rolls rotating at different surface speeds. Heretofore these rolls have been generally held in open bearings in order that they may be readily removed, and there is a tendency upon the part of the lower rolls to occasionally ride upward in these open bearings. This is largely due to the manner in which they are geared together; but it is desirable to provide the open bearings because it is necessary that the rolls should be easily removed from time to time, and it also forms a cheap construction; and my invention relates to means whereby the lower rolls are held in place in their bearings, the said means comprising flat plates secured to the frames or supports for the roll-shafts in a manner to bear upon the shafts of the lower rolls, and also to be movable and adjustable crosswise them, both for the purpose of easily bringing the plates to a bearing and for the purpose of taking up wear as it occurs.

Referring to the drawings, Figure 1 is a view principally in end elevation of so much of a drawing-frame as is necessary to show the features of my invention. Fig. 2 is a view in plan thereof.

A A' are the bearing-blocks for the rolls, four pairs of which are shown, and they are lettered respectively B B', C C', D D', E E', and each pair is held in open bearings in the said blocks A A', the said bearings being respectively b c d e in each block. The lower rolls are geared in any desired way. The usual way is that represented in the drawings, and their shafts are extended beyond the blocks A A' to receive the connecting-gears.

The shaft e' of the roll E has the driving-gear e^2 , which meshes with the intermediate gear c^3 , which in turn meshes with the gear d' on the shaft d^2 of the roll D. The shaft e' has at the end opposite that carrying the gear e^2 the gear e^4 , which meshes directly with the gear c' on the shaft c^2 of the roll C. The roll B has the gear b' upon its shaft b^2 , which is driven by the gear b^3 . The ends of the shafts of the upper rolls do not extend beyond the outer edges of the bearing-blocks A A'. Consequently this affords a space for the placing of the plates F F'. Each of these plates bears by its lower edge f upon the shafts e' , b^2 , c^2 , and d^2 , and each is secured to the outer side of its respective block by means of a screw-stud f' extending through a slot f^2 and a nut and washer f^3 , the stud extending into the side of the block and the plate being adjustable upon it lengthwise the slot f^2 . These are located at the forward ends of the plates. Each of the rear ends of the plates has an inclined upper surface f^3 , which extends under a pin or stud f^4 , projecting outward from the side of the bearing-block and it serves to hold down that end of the plate, each plate being held with its edge f in contact with the roll-shafts by the stud f' at one end and the pin f^4 at the other, and by means of the slot f^2 and the incline f^3 each plate is brought to a bearing relation to the shafts and is maintained in such relation, thereby requiring but little care in the fitting, also providing for an adjustment for wear and also providing means whereby the plates may be easily removed, thereby releasing all the shafts at the same time.

Another advantage arises from the fact that the plates may be set at any desired tension upon the shafts and that they may be set to bear with but little friction, and that they absolutely prevent the rolls from riding up in their open boxes.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a drawing frame, in combination with the blocks A A' and the lower rolls having shafts extending beyond the outer edges of said blocks, the shaft holding plates F F' se-

cured to the blocks upon the outer side of each block and bearing by their edges upon the shafts of the lower rolls which project beyond the outer surfaces of said blocks, as and for the purposes described.

2. The combination in a machine of the character specified, of the bearing blocks A A' having open bearings for the upper and lower drawing rolls, with the plates F F' to bear upon the shafts of the lower rolls, the said plates being vertically adjustable, as and for the purposes described.

3. The combination in a machine of the character specified, of the drawing rolls, the lower of which are positively driven and have shafts extending beyond their bearing blocks, with the shaft holders F F' horizontally and vertically movable in relation to the shafts, as and for the purposes described.

4. The combination in a machine of the character specified of the drawing blocks A, A', the upper and lower drawing rolls, the latter having shafts extending beyond the bearing blocks and the detachable shaft holding

plates F, F', resting on the shafts of the lower rolls, as and for the purposes described.

5. In a machine of the character specified, the combination of the bearing blocks, the drawing rolls, the shafts of the lower of which extend beyond the bearing blocks, the plates F F' each having the slots f^2 and inclined surface f^3 , with the screw studs f^2 passing through the slots and nuts carried thereby to clamp the plates in place and the pins f^4 co-acting with the inclined surfaces f^3 , as and for the purposes described.

6. In a machine of the character specified, the combination with the bearing blocks and lower rolls having shafts extending beyond the bearings, of the plates F F' movable horizontally and means for depressing them as they are moved horizontally, as and for the purposes described.

WILLIAM V. THRELFALL.

Witnesses:

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