

T. S. WINN.
DRAWING FRAME.

No. 107,146.

Patented Sept. 6, 1870.

Fig. 1.

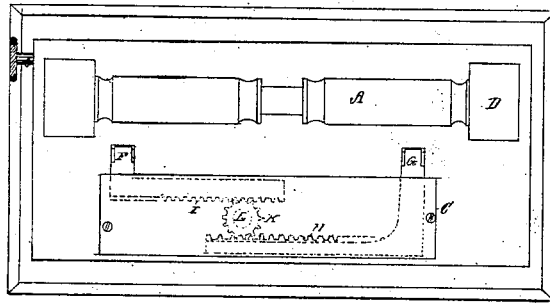


Fig. 2.

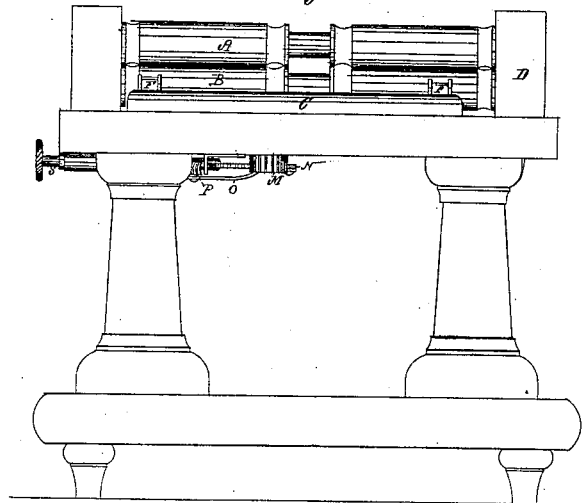


Fig. 3.

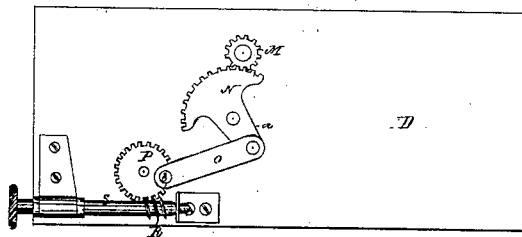
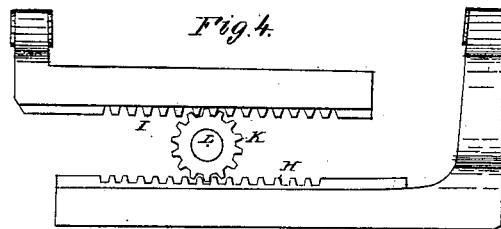


Fig. 4.



Witnesses

S. N. Piper

L. N. Mollen

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by his attorney

R. W. Brady

United States Patent Office.

THOMAS S. WINN, OF LAWRENCE, MASSACHUSETTS.

Letters Patent No. 107,146, dated September 6, 1870.

IMPROVEMENT IN DRAWING-FRAMES.

The Schedule referred to in these Letters Patent and making part of the same.

To all persons to whom these presents may come:

Be it known that I, THOMAS S. WINN, of Lawrence, of the county of Essex and State of Massachusetts, have made a new and useful invention, having reference to the draft-rollers and the transverse sliver-guides of drawing-frames, and other spinning machinery; and I do hereby declare the same to be fully described, as follows, reference being had to the accompanying drawing, of which—

Figure 1 is a top view;

Figure 2 a front elevation; and

Figure 3 an under-side view of a pair of draft-rollers with my invention applied thereto, the rack-bars and gear for moving the sliver-guides being shown in fig. 1 by dotted lines, and more particularly in Figure 4, which is a top view of them.

In common drawing-frames the weight for keeping down the top roller of draft-rollers, or pressing it upon the sliver while moving between the said pair, is generally applied at the middle or at the ends of the top roller.

The purpose of my invention is to maintain each of the sliver-guides, throughout its motions, at the same distance as the other from the middle of the top roller, in order that the amount of pressure exerted by such roller on both of the slivers extending through the guides and between the rollers may be alike.

By the common method of traversing the guides in use prior to my invention, they move simultaneously in one direction, so that, while one may be approaching the middle of the top roller, the other will be departing therefrom, but with my invention both guides approach the middle of the top roller at one and the same time, and they must simultaneously depart from it, each, in the meantime, preserving the same distance as the other from the middle of the top roller.

As the weight or power for depressing the top roller on the two strands or slivers going through the guides and between the drawing-rollers is applied at the middle, or at each end of the top roller, it will be observed that, with my improvement, the leverage or pressure on each sliver will be alike, whereas such will not be the case when the guides are simultaneously moved in the same direction, for, in the latter case, the leverage will be increasing in one sliver and diminishing on the other, thus producing irregularities of draft of the sliver or roving, and being productive of other injurious results, all of which are prevented by my invention.

In the drawing—

A and B denote a pair of draft-rollers, and D their supporting-frame.

F and G are the sliver or roving-guides, which are projected from separate slide bars or toothed racks H I, arranged on the frame, or applied thereto, so as to be capable of being moved endwise thereon, they being capped by a cover, O.

A pinion or gear, K, fixed on a vertical shaft, L, is arranged between and engages with both racks H I.

On the lower part of the shaft L is another gear, M, that engages a sectional gear, N, pivoted to the frame, and provided with an arm, a, which is extended back from it and pivoted to a connecting-rod or bar, O, applied to the crank-pin b of a worm-gear, P.

The gear P engages with a worm or screw, R, carried by a shaft, S, the whole being arranged as represented in the drawing.

On the shaft S being put in revolution, the two guides will be simultaneously moved, they first being caused to approach and next to recede from each other, with equal velocity.

I do not herein confine my invention to the special mechanism, as described, for effecting the simultaneous movements of the sliver-guides at equal velocity and at one time toward and at the next time away from each other, as any equivalent mechanism may be employed.

I claim—

In combination with the two sliver-guides and the draft-rollers, a mechanism for moving the said guides simultaneously, with equal velocity, so as to cause them to approach toward, and afterward to recede from each other, with reference to the draft-rollers, when the upper is weighted or pressed toward the lower, substantially as explained.

Also, the mechanism or combination hereinbefore explained, for so moving the two sliver-guides, such consisting of the two racks, the gears, the sectoral gear, the arm, the connecting-bar, the worm-gear, and the driving-worm or screw, the whole being arranged and applied together and to the guides and the roller-frame, substantially in the manner as hereinbefore set forth.

THOMAS S. WINN.

Witnesses:

ALFRED R. CLARK,
GEORGE DRAPER.