

C. P. Leavitt

Sheet 1, 2 Sheets.

Spinning Drawing Frame.

N<sup>o</sup> 109,430.

Patented Nov. 22, 1870.

Fig. 2.

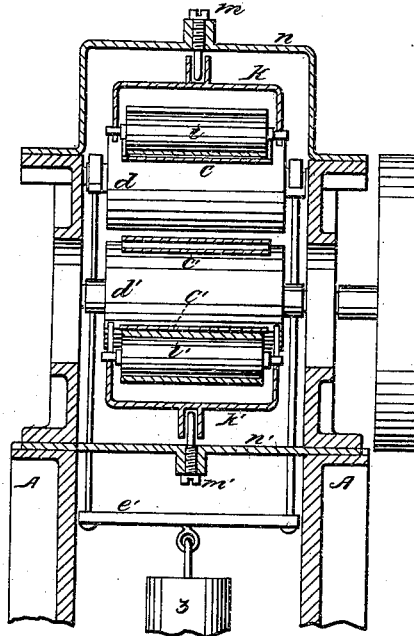
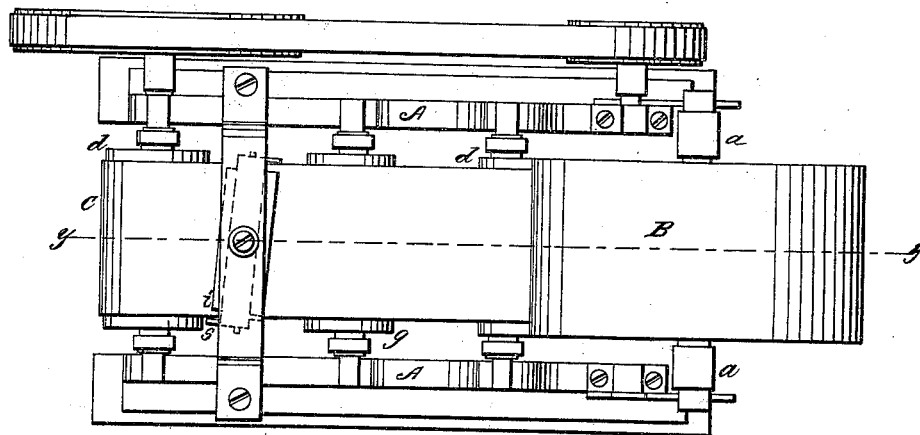


Fig. 3.



Witnesses:

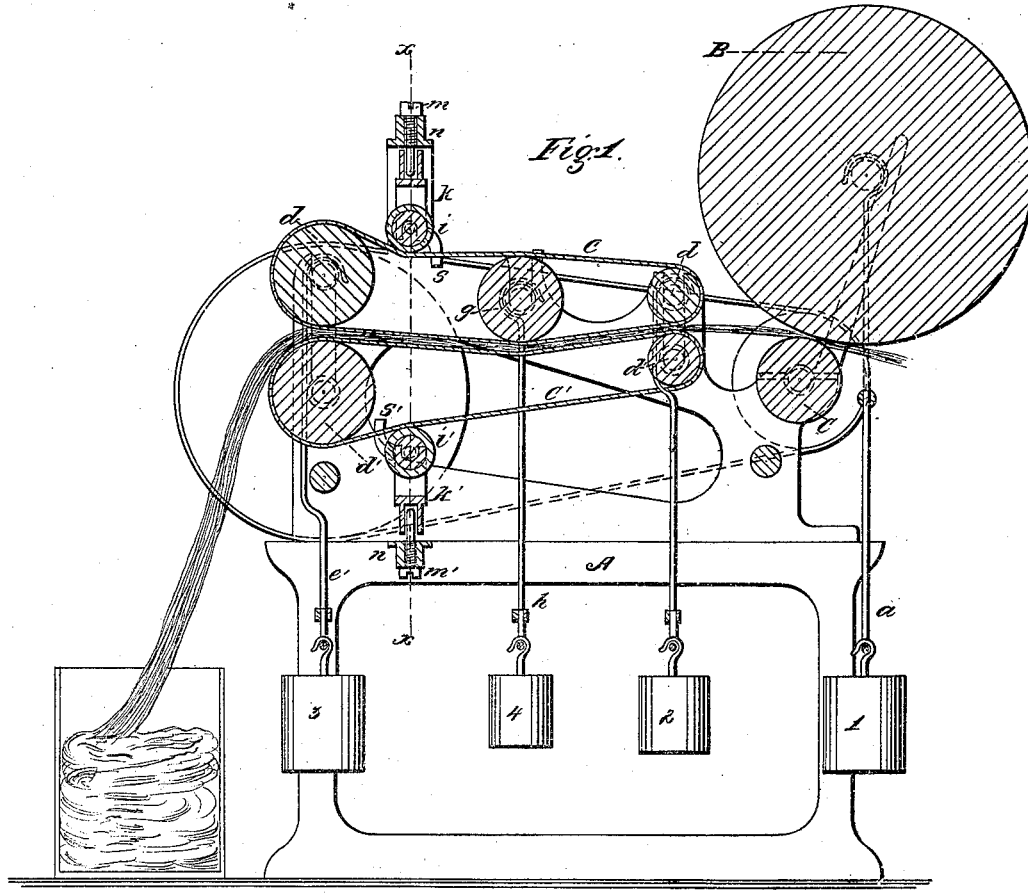
O. M. Daniel,  
G. W. Reynolds

Inventor:

Charles P. Leavitt.

Sheet 2, of 2 Sheets.

*C. P. Leavitt*  
*Spinning Drawing Frame.*  
*Nº 109,430.* *Patented Nov 22, 1870.*



*Witnesses:*  
*O. M. Samuel*  
*J. W. Reynolds*

*Inventor:*  
*Charles P. Leavitt*

# United States Patent Office.

CHARLES P. LEAVITT, OF NEW YORK, N. Y.

Letters Patent No. 109,430, dated November 22, 1870.

## IMPROVEMENT IN DRAWING-FRAMES.

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

*To all whom it may concern:*

Be it known that I, CHARLES P. LEAVITT, of New York, in the county and State of New York, have invented a new and improved Drawing-Frame for Flax, Combed Wool, and other Fibers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to understand and use the same, reference being had to the accompanying drawings forming part of this specification, of which—

Figure 1 is a longitudinal section of my improved flax drawing-frame through the line *y y*, fig. 3.

Figure 2 is a transverse section through the center-pin of the guide-rollers in the line *x x*, fig. 1.

Figure 3 represents a general plan.

Similar letters indicate the same parts in all the drawings.

My invention relates to an improved machine for drawing flax, combed wool, and other fibers; and

It consists in the application and arrangement of two belts traveling together over rollers, and operating in connection with a pressing roller or rollers, in such manner that the sliver or riband of fibers formed by the ordinary spreading frame, shall be conveyed by the belts to the drawing-rolls, while they exert an equal pressure on all the parallel fibers of longer or shorter length, and hold or detain them during the operation of drawing, for the purpose of producing a finer sliver or riband of great regularity, free from bunches, which shall make a level and superior yarn or thread.

These detaining belts are kept in place to travel straight on the rollers by means of self-adjusting guide-rollers, as hereinafter described.

A is the frame-work of the drawing-machine, similar in construction to that of an ordinary Gilpin drawing-frame.

B is the loose press or top drawing-roll, which is held down as usual upon the lower drawing-roll C by a weight, 1, attached to a swing-yoke, *a*, suspended on the journals of the top roll.

Back of the drawing-rolls B C are two horizontal leather or rubber belts, *c c*, which travel near together one over the other upon rollers *d d* and *d' d'*.

The rollers *d d* of the upper belt are held down by weights 2 3, attached to swing-yokes *e e*, suspended on the journals of the rollers, and the rollers *d' d'* of the lower belt have their journals supported in bearings in the sides of the frame A. The upper belt is thus pressed down upon the lower belt by the weights, and in order to equalize the pressure of the belts lengthwise a tension or press-roller, *g*, is placed between the upper and lower sides of the upper belt to bear it down closely upon the lower belt by means of

a weight, 4, attached to a swing-yoke, *h*, suspended on the journals of the tension-roller.

One or more tension-rollers may be used to keep the belts close together.

The "sliver" or riband of flax or other fibers is introduced as shown in fig. 1, at the rear end of the belts, so as to be conveyed lengthwise between them to the drawing-rolls B C, as the belts travel. While the sliver is thus carried forward by the belts, the upper one, *c*, bears down upon the fibers equally throughout their whole length, and thus holds or detains them at all points alike, whether the fibers are longer or shorter, while the sliver is drawn or reduced evenly by the drawing-rolls.

Above the upper belt *c* and below the lower belt *c'* are guide-rollers *i i*, made of India rubber or other proper material, extending across and bearing against the belts.

These guide-rollers are hung by journals in yoke-frames *k k*, which are pivoted on center-pins *m m*, that are screwed through fixed cross-pieces *n n*, secured at their ends to the sides of the frame A.

The rollers are held by the yoke-frames *k k*, so as to have a swivel movement on the center-pins *m m*, and thus turn a little diagonally across the face of the belts, as shown clearly in fig. 3, for the purpose of keeping the belts straight while they travel.

At each end of the guide-rollers prongs or fingers *s s*, project from the yoke-frames *k k*, curving in such a manner as to extend beyond the edges of the belts and lie close along side of them.

Whenever any irregular movement takes place by the shifting of the belts to one side or the other of the rollers on which they travel, their edges touch the prongs *s s*, which then act as levers to turn the rollers *i i* on the center-pins *m m*, and thus cause them to act instantly upon the belts, and by a self-adjusting movement keep them always straight while traveling.

Having described my invention,

What I claim, and desire to secure by Letters Patent, is—

1. The two endless-traveling belts, arranged in connection with their supporting and pressing-rollers, as shown and combined with the drawing-rollers, substantially as described.

2. The guide-rollers *i i* and fingers *s s*, hung on the pins *m m*, as described, in combination with the two endless traveling belts *c c*, constructed and operating as described.

CHARLES P. LEAVITT.

Witnesses:

O. MACDANIEL,  
G. W. REYNOLDS.