

D. Hussey.
Drawing Roller for Spinning.
N^o 54,732. *Patented May 15, 1866.*

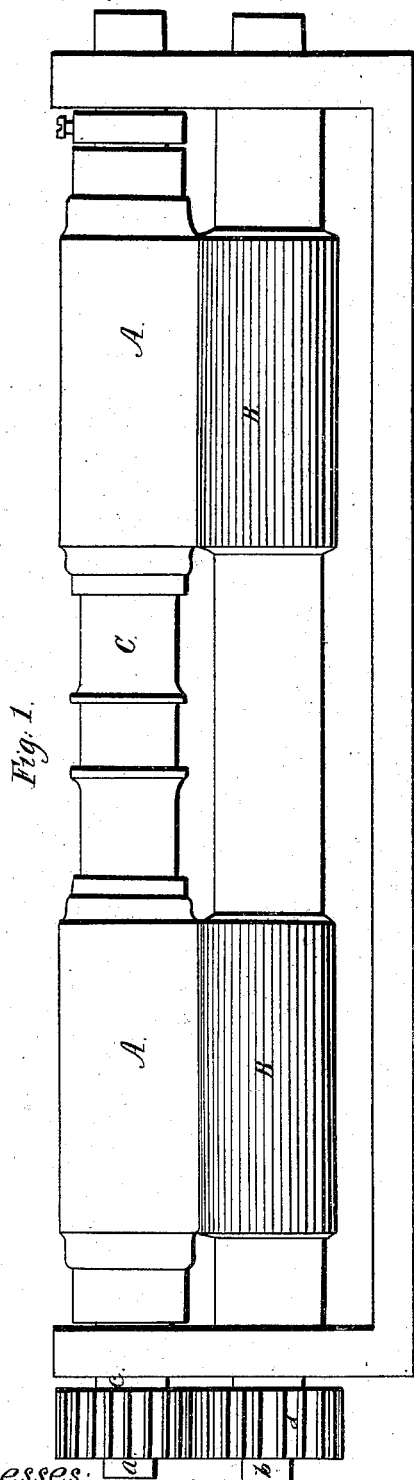


Fig. 1.

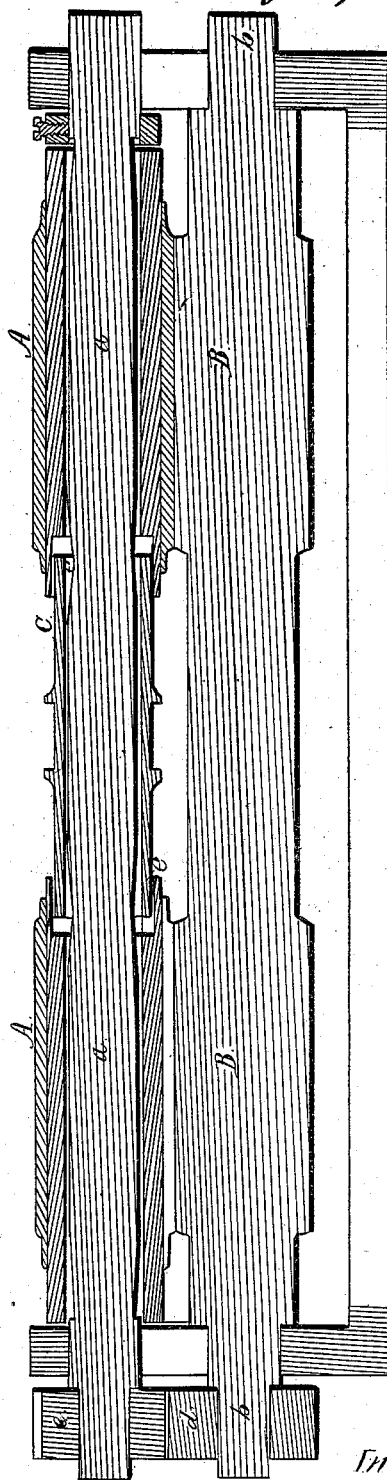


Fig. 2.

Witnesses:

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 R. H. Hedy*

UNITED STATES PATENT OFFICE.

DANIEL HUSSEY, OF NASHUA, NEW HAMPSHIRE.

IMPROVEMENT IN DRAWING-ROLLERS.

Specification forming part of Letters Patent No. 54,732, dated May 15, 1866.

To all whom it may concern:

Be it known that I, DANIEL HUSSEY, of Nashua, in the county of Hillsborough and State of New Hampshire, have made a new and useful invention having reference to the Drawing-Rollers of either Spinning, Drawing, or Roving Frames; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a side elevation; Fig. 2, a longitudinal section of two pairs of top and bottom drawing-rollers as provided with my invention, which relates to those drawing-rollers in which the body of the upper roller is a tube or sleeve to freely revolve on and encompass the shaft to which the weight is applied, my improvement consisting in combining with the sleeve-roller, its weight-shaft, and the lower or fluted roller a gear to engage with a gear fixed on the said lower or fluted roller-shaft, and to be fixed to the weight-shaft, so as to cause the latter to be revolved with and by a power independent of the upper roller.

Furthermore, I have combined with the weight-shaft and the tubular drawing-rollers a sleeve or tube for supporting the weight, such sleeve being arranged between two of the said rollers, each of which is made so as to encompass and overlap that end of the sleeve which is next adjacent to it.

The upper tubular top roller has heretofore revolved the weight-shaft more or less by its friction against it, and thus the said roller has not only had to perform its work of drawing the sliver, but it has been subjected to the friction of the weight-shaft caused by the weight applied thereto to press the top roller toward the bottom roller.

In carrying out my invention I affix to the weight shaft *a* of the tubular top rollers, *A A*, arranged and so as to turn freely on the said shaft, *a*, gear *c*, to engage with the driving-gear *d* of the shaft *b* of the lower or bottom rollers, *B B*. Thus the two shafts are geared together, so that when the lower one is put in revolution in the usual manner its gear *d*, acting on the gear *c*, will cause the shaft *a* to revolve with the top rollers, and thus the tubular

top rollers will be freed from most if not all the friction of the weight-shaft.

C represents the tube or sleeve for supporting the weight. This tube is placed concentrically, and so as to be capable of revolving freely on the weight-shaft, the weight employed to press the top rollers downward being supported on the middle part of the tube. The said sleeve *C*, at each of its ends, enters the next adjacent top roller a short distance, as shown at *e*, the same being to prevent dust and filaments of fibrous material from getting between the sleeve *C* and the shaft *a*.

The object of the sleeve *C* is to prevent the usual heating of the shaft created by friction induced by the pressure of the weight on it. The sleeve also serves to prevent the generation of electricity which results from such friction. As the shaft *a* can revolve freely within the sleeve *C*, the tendency of the shaft to become heated is very much diminished thereby, particularly if the surfaces of the shaft and sleeve in contact be kept well lubricated. Electricity collected on the top rollers is a serious detriment to them, as it causes filaments of the fibrous material to collect on them, and as a consequence renders frequent stoppages of the mechanism necessary for the removal of such collections.

By gearing the two shafts *a b* together I am enabled to dispense with the friction of the weight-shaft on the tubular roller, also to keep the tubular roller from slipping on the shaft, and by so doing to prevent generation on the roller of electricity, which causes fibrous filaments to collect on the roller. I also prevent what is termed "cutting" of the sliver and insure evenness of draft of it. The gain in the amount of work done, effected by the employment of the improvement, is very great, as with it the spinning or drawing frame requires little or no stoppage in comparison to what becomes necessary without the invention.

I do not claim the tubular top draft-roller combined with the weight-shaft and the bottom draft-roller; but

What I do claim as my invention is—

1. The combination of the gears *c d*, or their

equivalents, with the tubular top roller, A, the weight-shaft *a*, and the bottom roller, B, or the shaft *b* thereof, the whole being substantially as and for the purpose set forth.

2. The combination of the weight-bearing sleeve C with the shaft *a* and the tubular top rollers, A A, thereof.

3. The arrangement of the sleeve C with

respect to each of the top rollers, viz., so that one shall extend into the other a short distance and be encompassed by it, substantially as and for the purpose as specified.

DANIEL HUSSEY.

Witnesses:

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