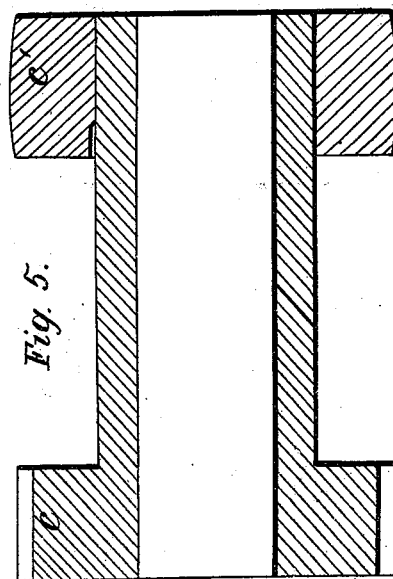
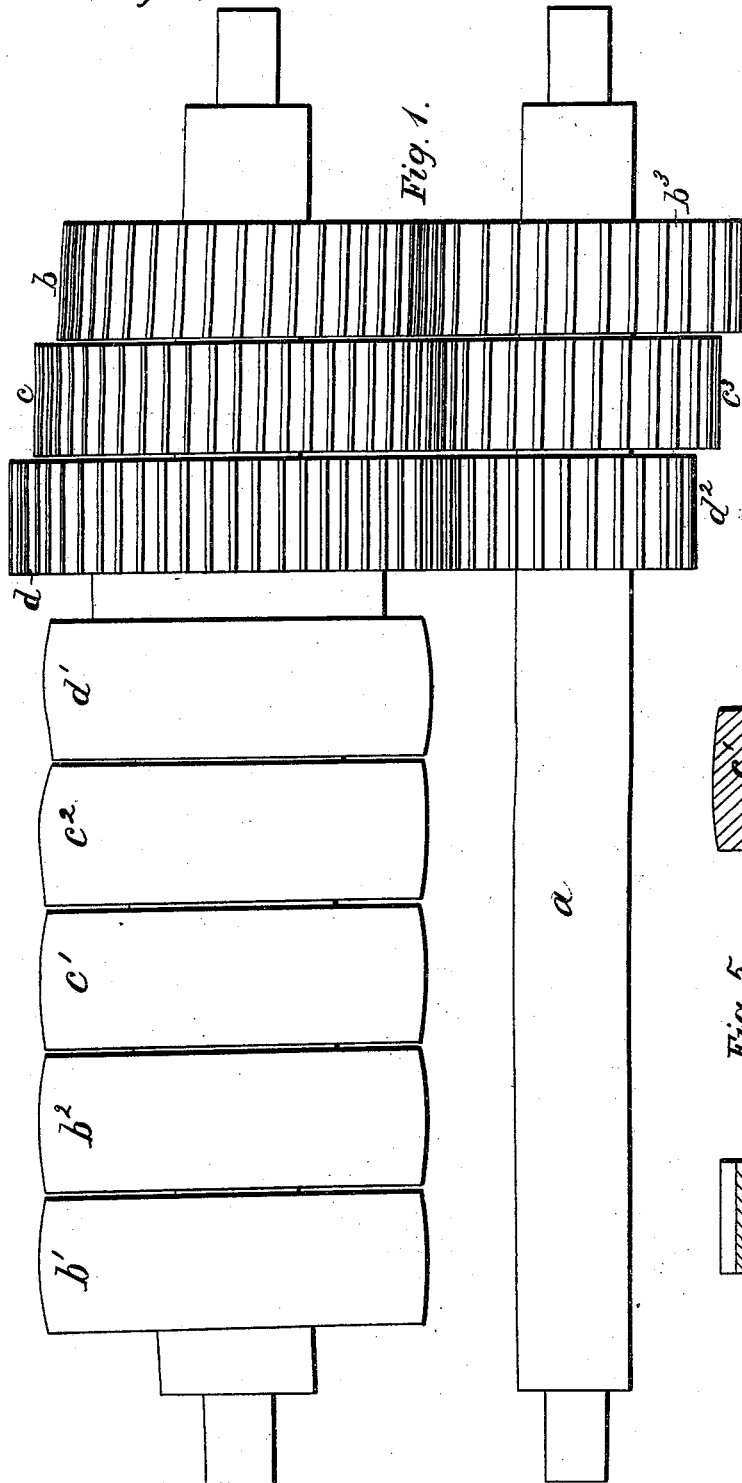


H. Maclean.

Spinning Drawing Head.

No. 5,341.

Patented Oct. 23, 1847.



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Spinning Drawing Head.

N^o 5,341.

Patented Oct. 23, 1847.

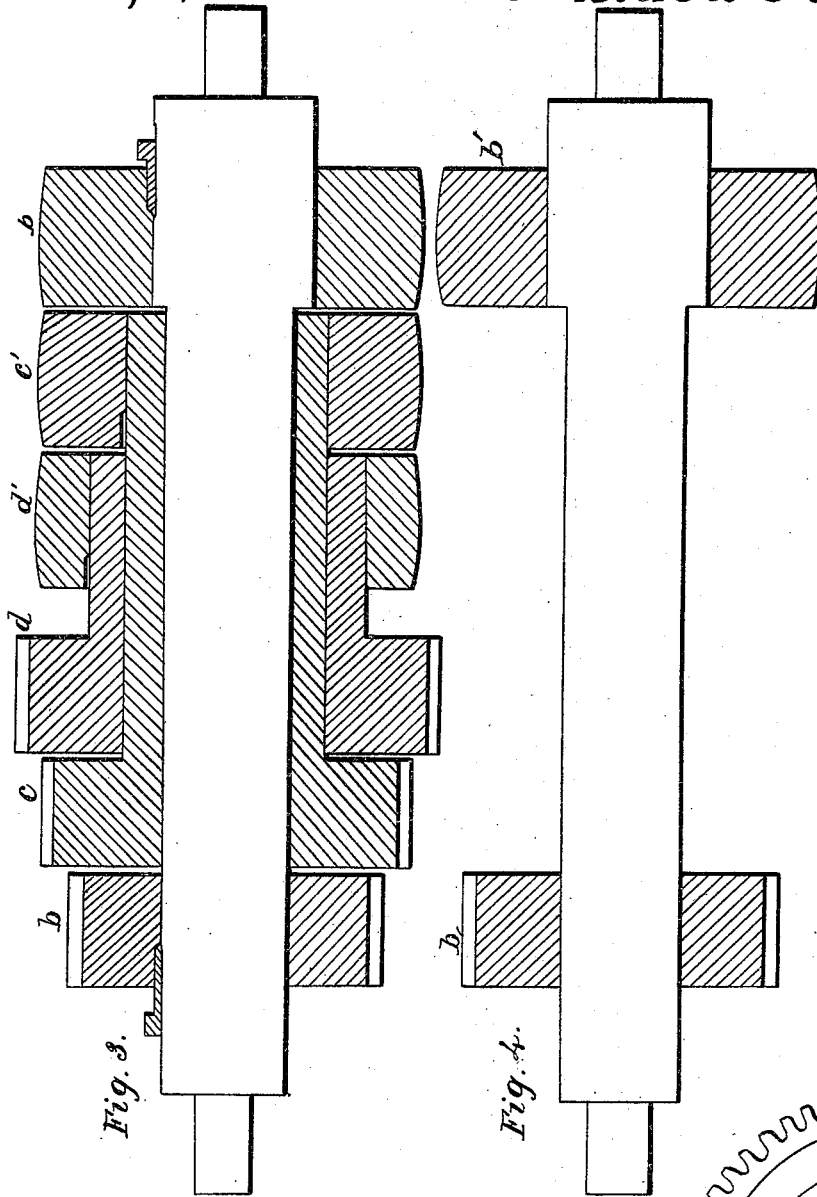
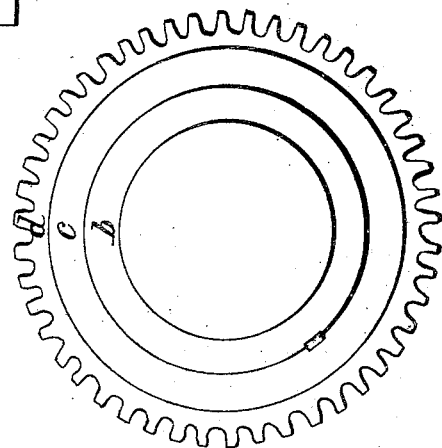


Fig. 7.



UNITED STATES PATENT OFFICE.

HUGH MACLEAN, OF PATERSON, NEW JERSEY.

REGULATING THE SPEED OF DRAWING-HEADS.

Specification of Letters Patent No. 5,341, dated October 23, 1847.

To all whom it may concern:

Be it known that I, HUGH MACLEAN, of Paterson, in the county of Passaic and State of New Jersey, have invented certain Improvements in that Part of Cotton Machinery known as the "Railway Drawing-Head;" and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure I is a plan of the gearing as proposed to operate by a belt; Fig. II, is also a plan, and shows the method of using toothed wheel gearing instead of a belt, for the purpose of sliding from one part to the other so as to change the gear; Fig. III, is a section of the changing gear and tubes, as combined taken through the center; Figs. IV, V, VI, and VII, are each sections to be referred to in the description.

Similar letters refer to similar parts in all the figures.

The nature of my invention consists in providing a more speedy and effectual means of changing the gearing so as to give an increased or decreased speed to the front roller, so that an even and uniform thread shall be produced whether one, two or more cords are running to produce the sliver, even without limit to the number of such cords.

To enable those skilled to make and use my invention, I will describe its construction and operation; I provide a series of tubular shafts the said shafts increasing in size, but diminishing in length at the same time, and are graduated, so as to play freely upon one another, the longest shaft being the smallest, and innermost one. On each shaft a driving wheel or pulley is secured, and at the opposite end different sized gear wheels are keyed. The gear wheels last mentioned are those acting upon the front roller of the drawing head. In the drawings as seen at Fig. I, the front roller (*a*), is seen in combination, with the series of shafts, described. On one end of the longest and innermost shaft a small sized gear wheel is attached as seen at (*b*), and at the opposite end a driving pulley (*b*¹) or gear wheel. On

the second shaft, a larger gear wheel is secured in like manner with a driving pulley attached as seen at (*c*, *c*¹) and likewise on the third and outermost shaft, a still larger gear wheel (*d*) is secured with its driving pulley (*d*¹). The letters (*b*² and *c*²) are loose pulleys revolving upon the outermost shaft. These take the belt in its transition from one driving pulley to another or is allowed to play upon one of them when the machine is at rest. In the section however as seen at Fig. III, the shafts are represented without the loose pulleys upon them. The gear wheels (*b*³, *c*³, *d*³) attached to the front roller (*a*) are of different sizes and reversed in their order from those upon the shafts as is clearly seen in Figs. I and II. In Fig. II, there are upon the shaft gear wheels instead of the driving pulleys before mentioned. It will be now readily seen that different speeds can be given to the front roller by simply changing the driving belt from one pulley to another and thus regulate the thickness of the "sliver" for any number of cards which may be attached at the time. Thus if the belt is carried onto the pulley (*d*¹), motion is communicated to the largest gear wheel (*d*), which is attached to this shaft and this again puts in rotation the roller (*a*) by the small wheel (*d*³), and consequently the most rapid motion is obtained by this connection. All the other wheels and pulleys are however at the same time in motion, but one revolving merely upon one another's shafts. For instance, the shaft (*d*, *d*¹) has for its axis (*c*, *c*¹) and it, for its axis (*b*, *b*¹), while the central shaft (*b*, *b*¹) has its bearings upon the frame of the machine itself. By this attachment to the drawing head, the thickness of the "sliver" can be regulated in nicest manner, for the number of cards attached any time to the drawing head, and when one or more cards are removed from the drawing head, and it becomes necessary to reduce the speed of the roller, all we have to do is to shift the belt, to that driving pulley corresponding to the number of cards attached.

I do not claim the changing of the speed

Fahs & Lochman,
Bedstead Fastening,
No. 5,342, *Patented Oct. 30, 1847.*

