

G. W. PITTMAN.

Improvement in Hemp Hatcheling Machines.

No. 116,092.

Patented June 20, 1871.

Fig. 1.

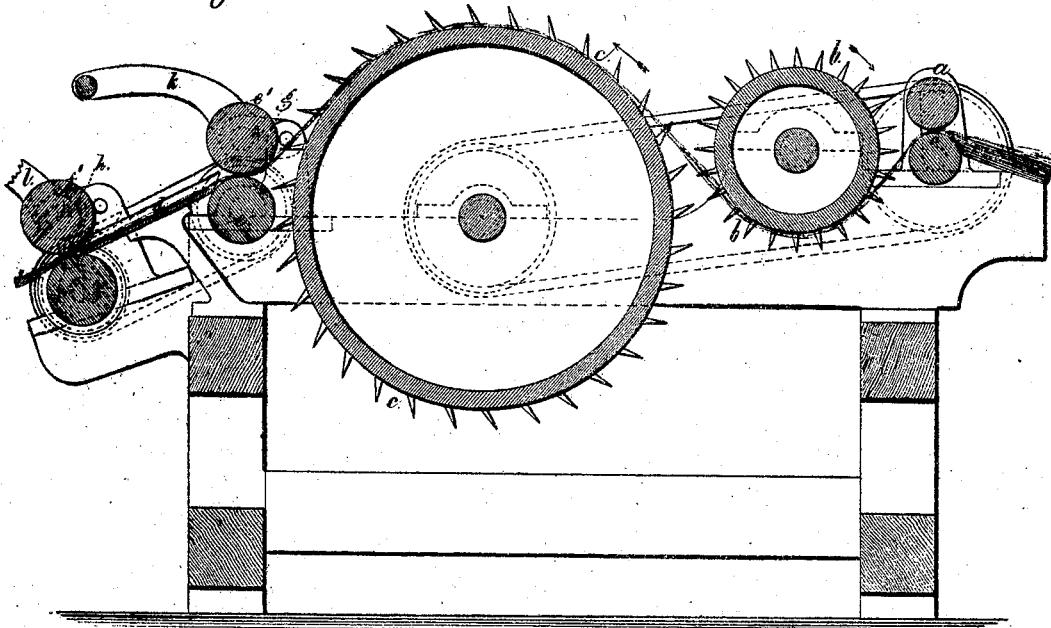
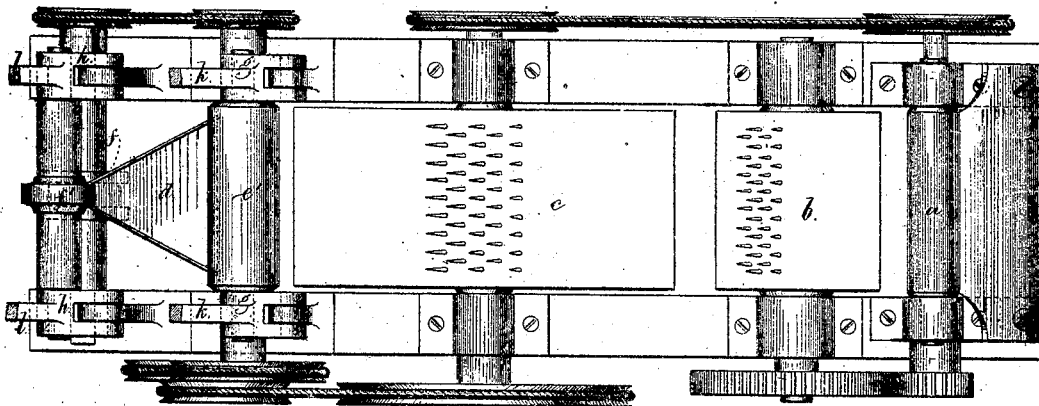


Fig. 2.



Witness.

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GEORGE W. PITTMAN, OF BROOKLYN, N. Y., ASSIGNOR TO SAMUEL I. THURSBY,
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IMPROVEMENT IN HEMP-HATCHELING MACHINES.

Specification forming part of Letters Patent No. 116,092, dated June 20, 1871.

To all whom it may concern:

Be it known that I, GEORGE W. PITTMAN, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Hatcheling and Drawing Hemp, &c.; and the following is declared to be a correct description of the same.

In hatcheling hemp the hank of fiber is usually cleaned and drawn out by hand upon a stationary comb, and then the fiber is drawn into the "lapper" by a pair of rollers and wound upon the cylinder, and then taken off by hand in a hank. The efforts heretofore made to perform these operations in a machine, so as to deliver the fiber in a sliver instead of a hank, have not met with complete success.

My invention, resulting from extended experiments, consists in the employment of primary and secondary combing-cylinders, in combination with feed-rollers and delivery-rollers, the parts being arranged and speeded in such a manner that there is an acceleration in the speed of surface gradually from the feeding-rollers to the delivery-rollers, and hence a gradual drawing of the fiber, as well as a combing of the same; thereby the fibers are straightened and delivered continuously in the form of a sliver or roving that is adapted to the subsequent operations of drawing or spinning for the manufacture of ropes, cords, &c.

In the drawing, Figure 1 is a vertical section of the said machines, and Fig. 2 is a plan of the same.

a a are the feed-rollers; *b*, the first combing-cylinder; and *c*, the secondary combing-cylinder. These cylinders are armed with rows of needle-pointed teeth, the teeth of the cylinder *b* standing radially, while those of the cylinder *c* are inclined, as shown. The drawing-rollers *ee'* are applied between the secondary combing-cylinder *c* and the converging trough *d* that directs the sheet of fiber to the grooved sliver-rollers *ff'*. The upper rollers *ee'* are mounted in swinging bearings *g h*, so that they may be lifted by the bars *k l* and weighted, if necessary, to keep them together with the necessary pressure.

The feed-rollers *a a*, combing-cylinder *b*, aux-

iliary combing-cylinder *c*, drawing-roller *ee'*, and delivery feed-rollers *ff'* are to be driven at the proper relative speeds by suitable belts or gearing—the pulleys and wheels represented being convenient means for this object. The parts, however, are to be proportioned so that a gradual increase in the speed of surface is obtained—that is to say, the surface of the feed-rollers should move with a speed that may be represented by one, and the surface speed of the combing-cylinder *b* should be about twice as much, so as to comb out the fiber that is passed in by said feed-rollers; and the secondary combing-cylinder *c* should move with a speed still faster, such as may be represented by four, to still further comb and draw the fiber; and then the drawing-rollers *ee'* move still faster to draw the fibers out straight and comb them as they are pulled off the inclined teeth of the secondary combing-cylinder *c*. Thereby there is a constant combing-and-drawing action that straightens out the fibers and causes them to be delivered in the form of a sliver continuously, without the risk of being knotted and delivered in masses, as in the machines heretofore made for acting upon fiber by belts of gill-bars.

I am aware that cylinders containing gill-bars have been employed in connection with feeding and delivery-rollers; these are liable to get out of order and do not act to open and comb the fibers as in my machine, because the inclined teeth of the cylinder *c* act to pull and comb the fiber from the straight teeth of the cylinder *b*.

I claim as my invention—

The cylinder *b* armed with radial-pointed teeth, and the cylinder *c* armed with inclined-pointed teeth, the latter traveling faster than the former so as to draw and comb the fiber, in combination with the feeding-rollers *a a* and drawing-rollers *ee'*, as and for the purposes set forth.

Signed by me this 6th day of March, 1871.

GEO. W. PITTMAN.

Witnesses:

CHAS. H. SMITH,
LEMUEL W. SERRELL.