

O. S. LEAVITT.

Hemp Brake.

No. 7,668.

Patented Sept. 24, 1850.

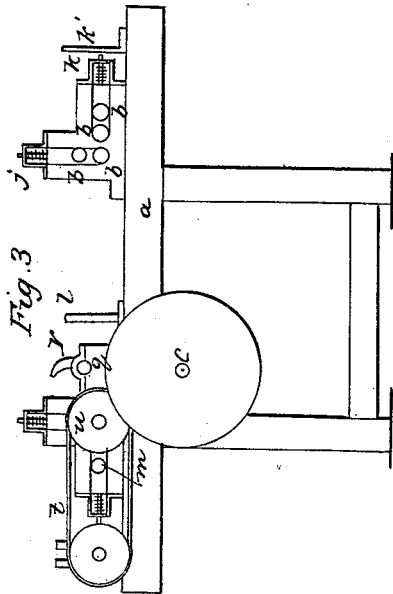


Fig. 2

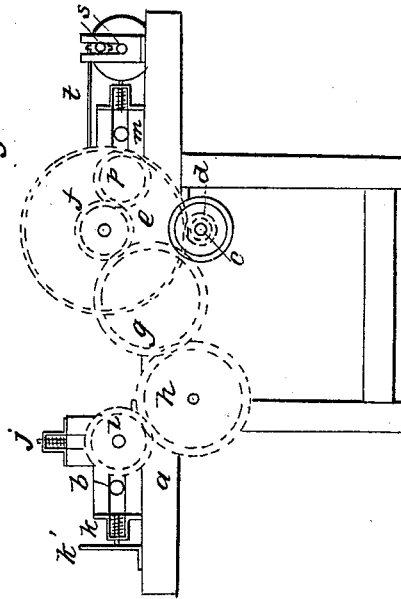
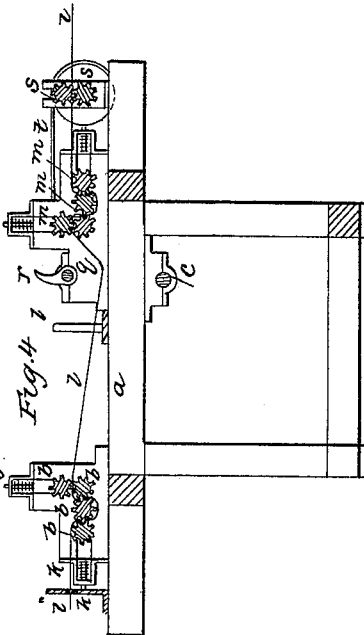
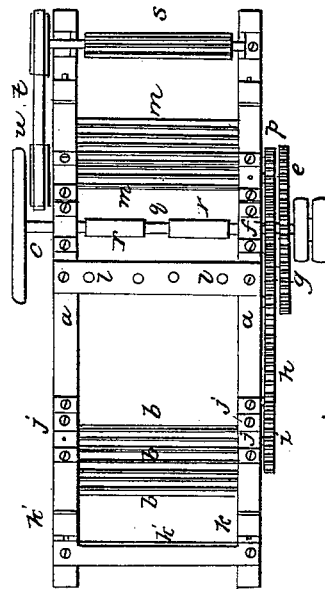


Fig. 1



UNITED STATES PATENT OFFICE.

O. S. LEAVITT, OF MAYSVILLE, KENTUCKY.

IMPROVEMENT IN MACHINERY FOR DRAWING HEMP AND PARTING ITS FIBERS.

Specification forming part of Letters Patent No. 7,668, dated September 24, 1850.

To all whom it may concern:

Be it known that I, O. S. LEAVITT, of Maysville, in the county of Mason and State of Kentucky, have invented a new and useful Machine for Parting or Separating the Fibers of Flax or Hemp, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan; Figs. 2 and 3, elevations of the right and left hand sides, and Fig. 4 a longitudinal vertical section.

The same letters indicate like parts in all the figures.

The object of my invention is to reduce the fibers of slivers of flax or hemp to a nearly uniform length by breaking the long fibers contained in such slivers; and to this end the principle or character of my invention, which distinguishes it from all other things before known, consists in combining a rotating cam or cams with two sets of holding fluted rollers, between which the sliver or slivers pass, and by which it or they are held; the second set of fluted rollers, which deliver the said sliver or slivers, being geared to rotate with greater velocity than the first set.

In the accompanying drawings, *a* represents a suitable frame, which may, however, be varied at pleasure; and *b b b b*, a set of fluted rollers, consisting of four. The first three are arranged in a horizontal plane, and the fourth in a vertical plane, over one of the three, which may be called the "driving-roller," as it receives motion from the driving-shaft *c* by a train of wheels, *d e f g h i*. As the flutes of the rollers mesh into one another, they all receive motion from the driver. The fourth roller is pressed onto the first or driven by springs *j j*, and the second and third, which have their journals in the same slots of the frame, are pressed toward each other and the first by springs *k k*. The slivers of hemp *l l* pass through holes in a plate, *k'*, thence down between the third and second rollers, up between the second and first, and thence out between the first and fourth. By this means the slivers in passing through are firmly held by the flutes of the series of rollers. The slivers pass along each between two vertical studs to another series of rollers, *m m m m*, arranged and mounted like the first set, but in a reversed position, and deriving motion from the driving-shaft by a train of wheels, *d e f p*, so proportioned relatively to the gearing of the

first set of rollers that the second set shall rotate with a slightly faster motion than the first to keep a constant pull on the slivers. Between the stud-pins and the second set of holding-rollers there is a horizontal shaft, *q*, which carries cams *r r*, (one or more for each sliver,) so that, as the slivers pass through between the two sets of holding-rollers, which by the difference in their motions draw or stretch them out, the cams as they rotate come in contact with the slivers, and by bending them out of their line of motion stretch them so much as to break the fibers, which are so long as to extend from one to the other set of holding-rollers. In this way the fibers are so reduced and equalized in length in the slivers as more readily to draw out in the process of spinning, and hence produce more perfect and even threads than by any other known mode. Back of the second set of holding-rollers there is a pair of fluted delivery-rollers, *s s*, which receive motion by a belt, *t*, from a pulley, *u*, on the arbor of the driving-roller of the second set.

If desired, the two sets of rollers can be made adjustable relatively to each other, so as to vary the distance between them by making the frame in which one set of rollers are mounted movable on the main frame.

It will be obvious that the arrangement of each set of rollers and the form of the cams may be varied without changing the principle of my invention, as the object is to have the rollers so arranged and formed that in carrying the slivers through they shall not permit them to slide, but exert a drawing motion on them, and the cams have an intermittent action upon the slivers to give the required pull to break the fibers, which are of such length as to be held at the same time by both sets of rollers, and therefore strikers having a reciprocating motion to strike the slivers may be substituted for the cams, and would be the equivalent thereof.

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

The employment of two sets of holding and drawing rollers, substantially as herein specified, in combination with a rotating cam or cams, or the equivalent thereof, for each sliver, in the manner and for the purpose substantially as described.

Witnesses: O. S. LEAVITT,

C. P. DE LAMATTER,
CHRISTOPHER LEAVITT.