

No. 696,127.

Patented Mar. 25, 1902.

McCLINTOCK YOUNG.  
HACKLING MACHINE.

(Application filed Sept. 18, 1901.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.

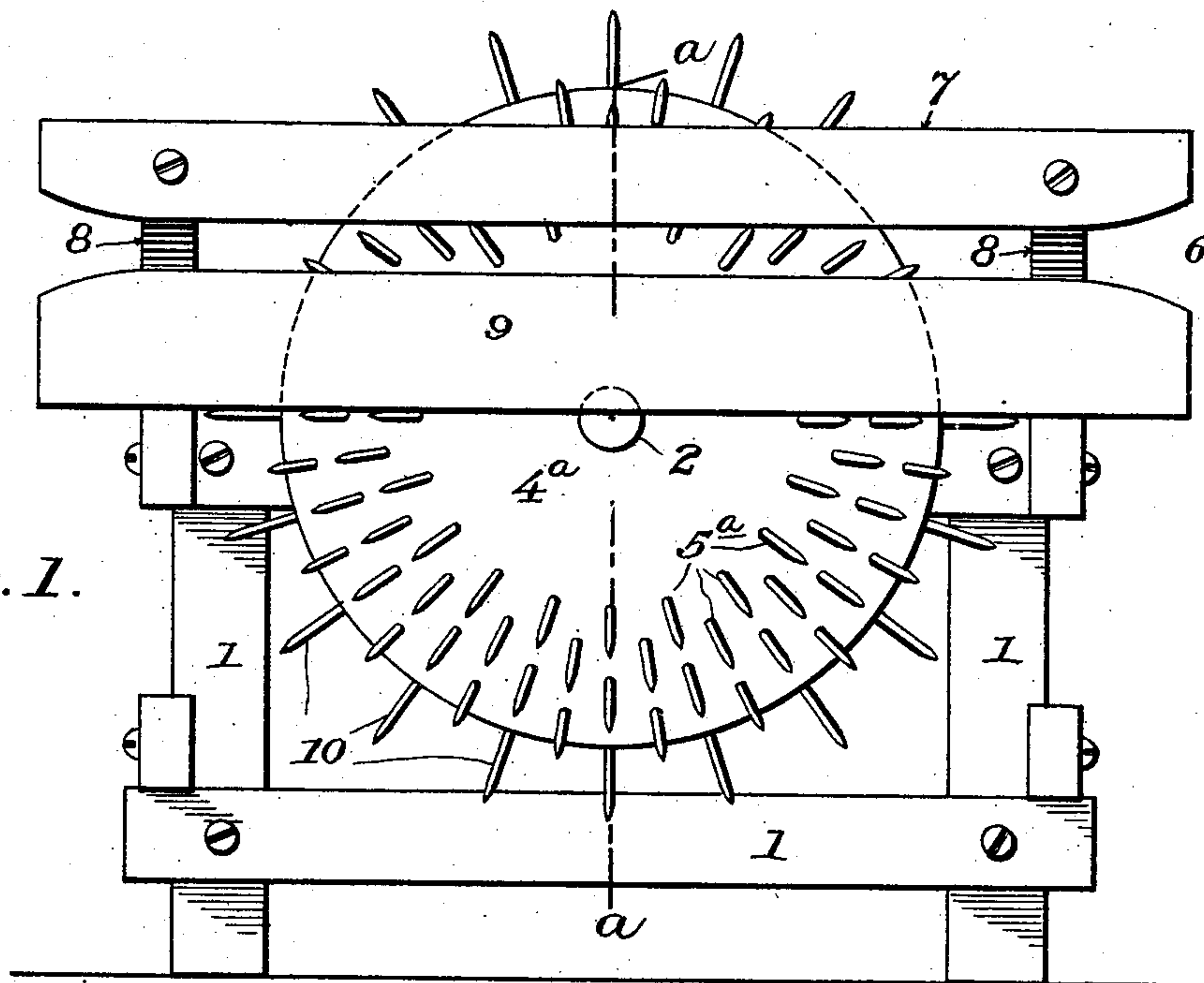
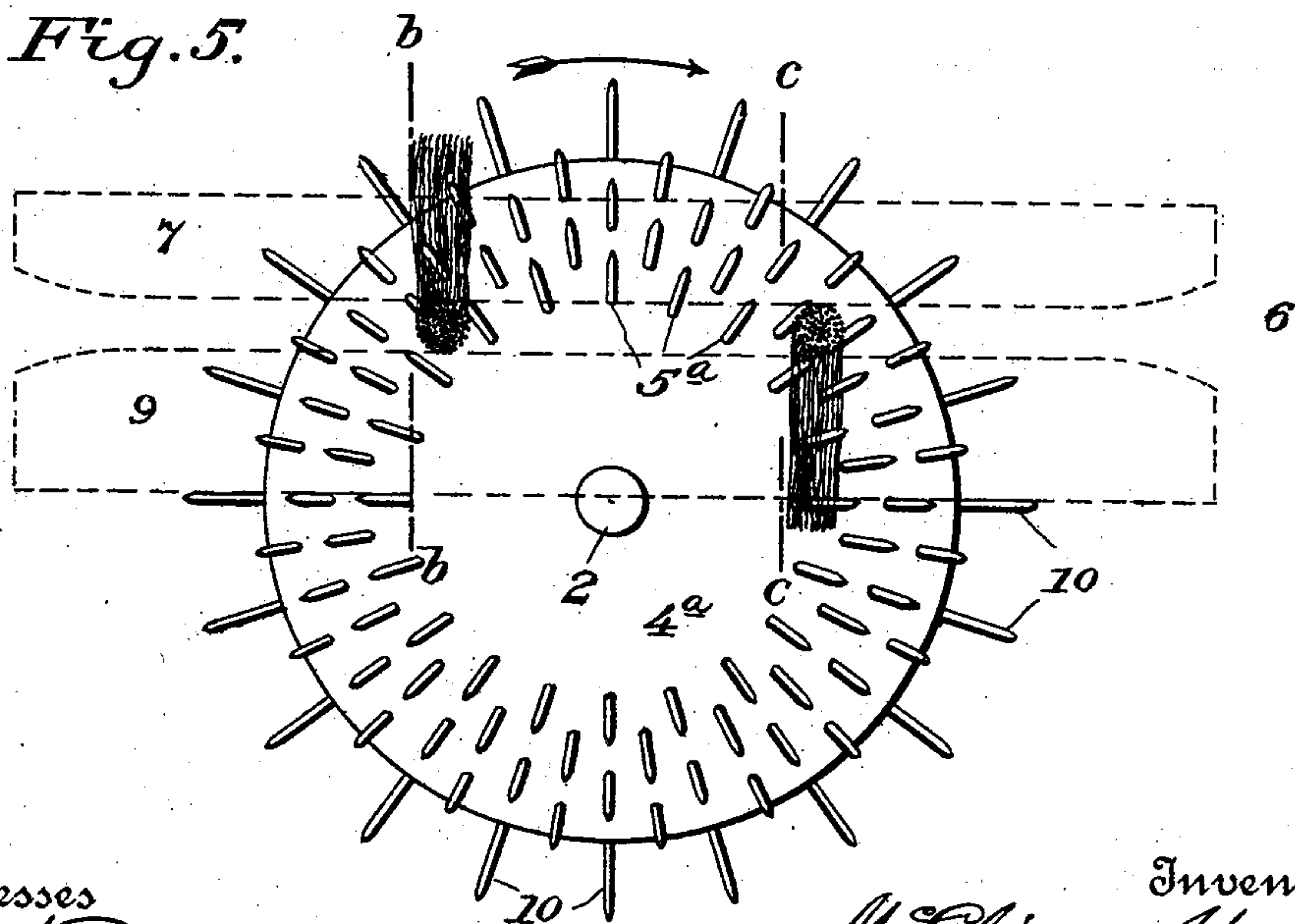


Fig. 5.



Witnesses  
J. J. Peckmore.  
W. A. Kennedy

Inventor  
McClintock Young  
By Phil. T. Dodge  
Attorney

No. 696,127.

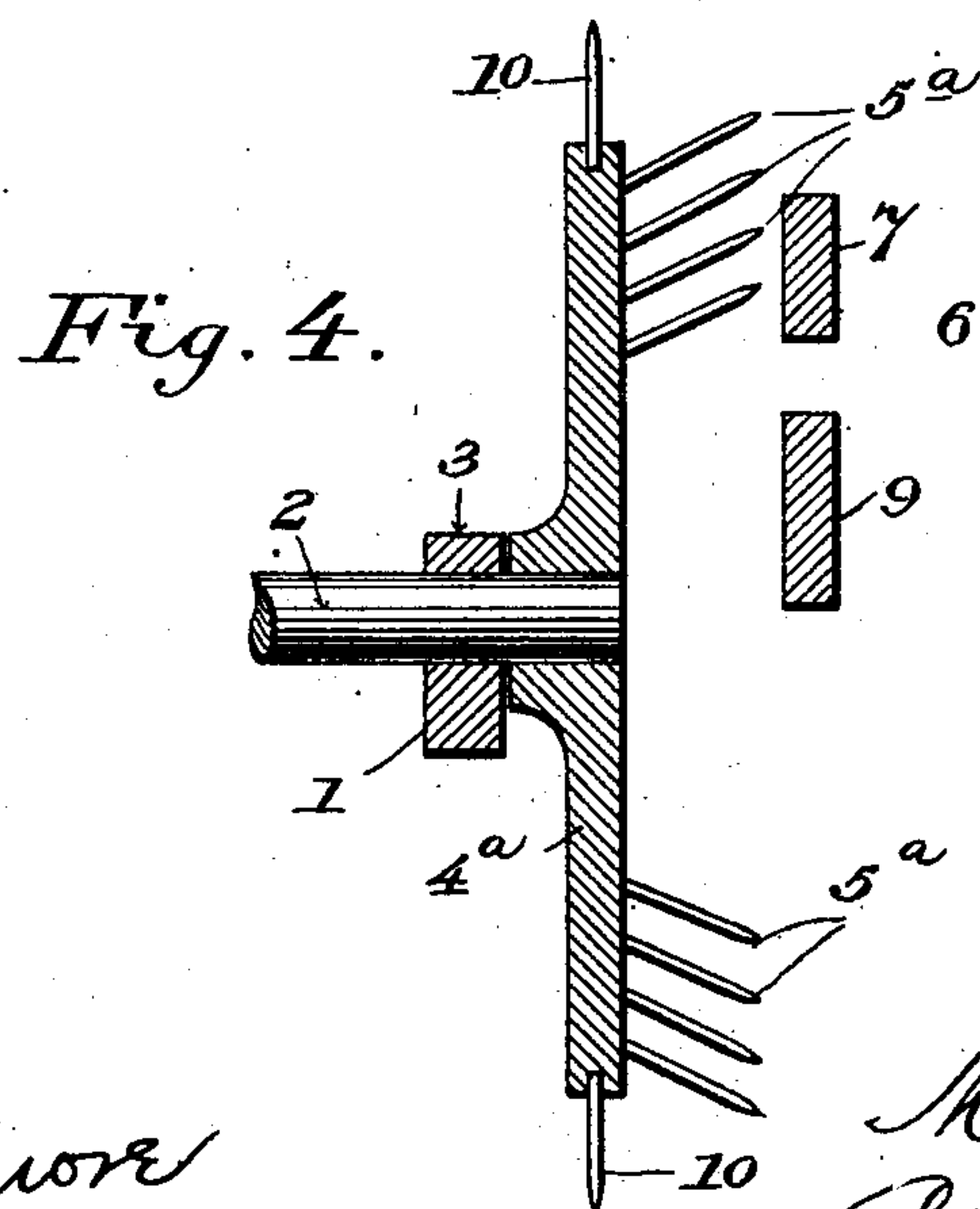
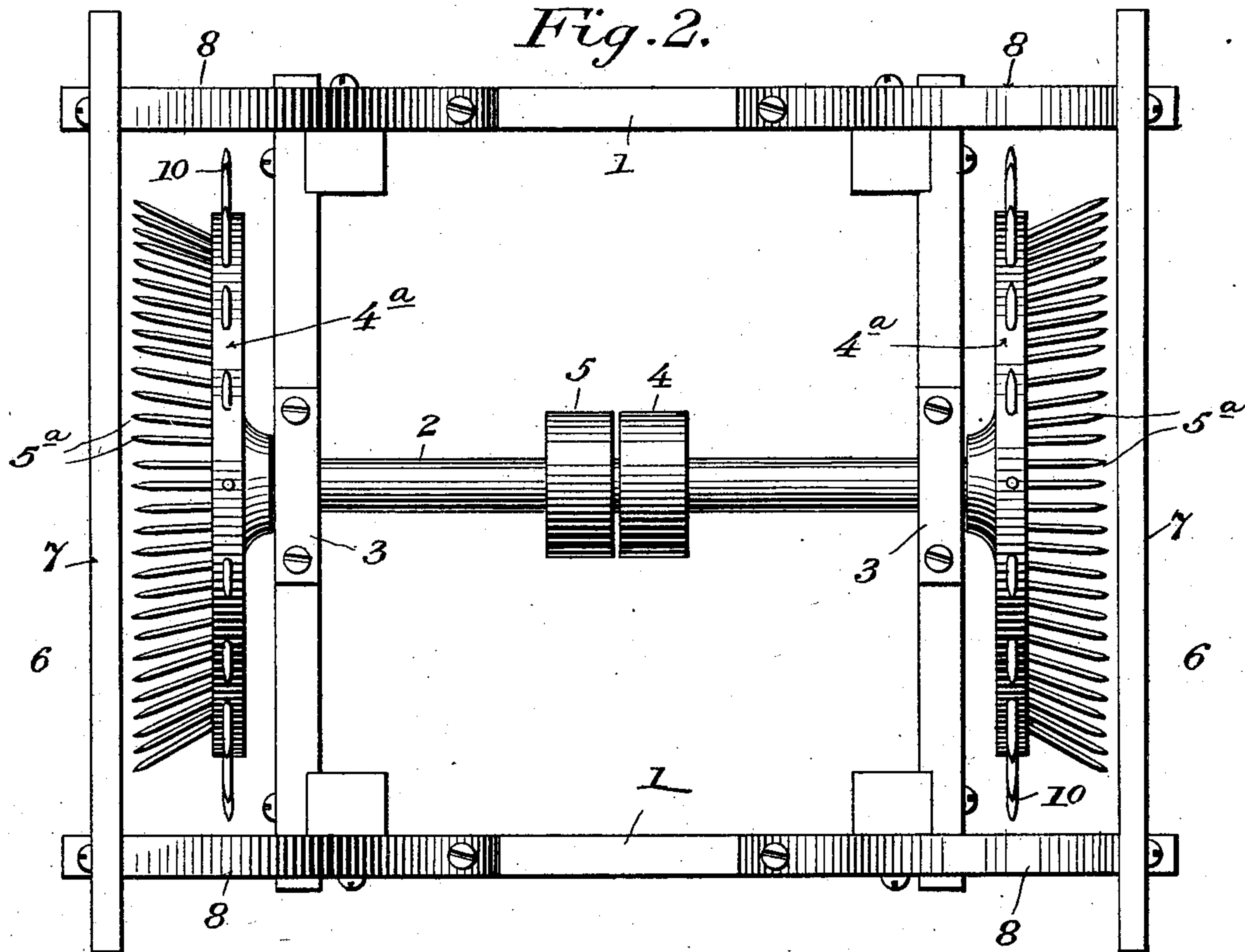
Patented Mar. 25, 1902.

McCLINTOCK YOUNG.  
HACKLING MACHINE.

(Application filed Sept. 16, 1901.)

(No Model.)

3 Sheets—Sheet 2.



Witnesses  
*G. S. Elmore*  
*H. R. Kennedy*

Inventor  
*McClintock Young*  
By *Phil. T. Dodge*  
Attorney

No. 696,127.

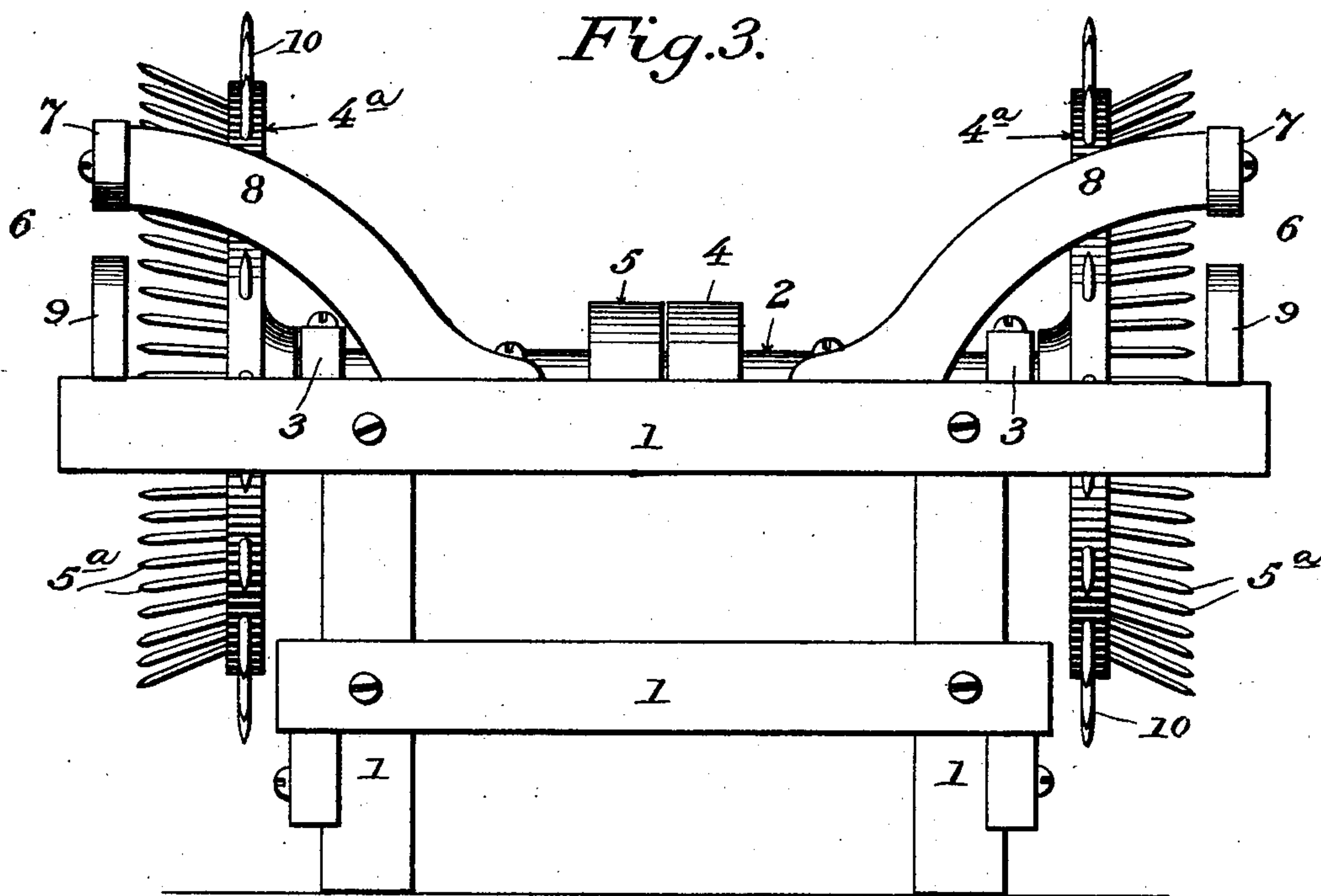
Patented Mar. 25, 1902.

McCLINTOCK YOUNG.  
HACKLING MACHINE.

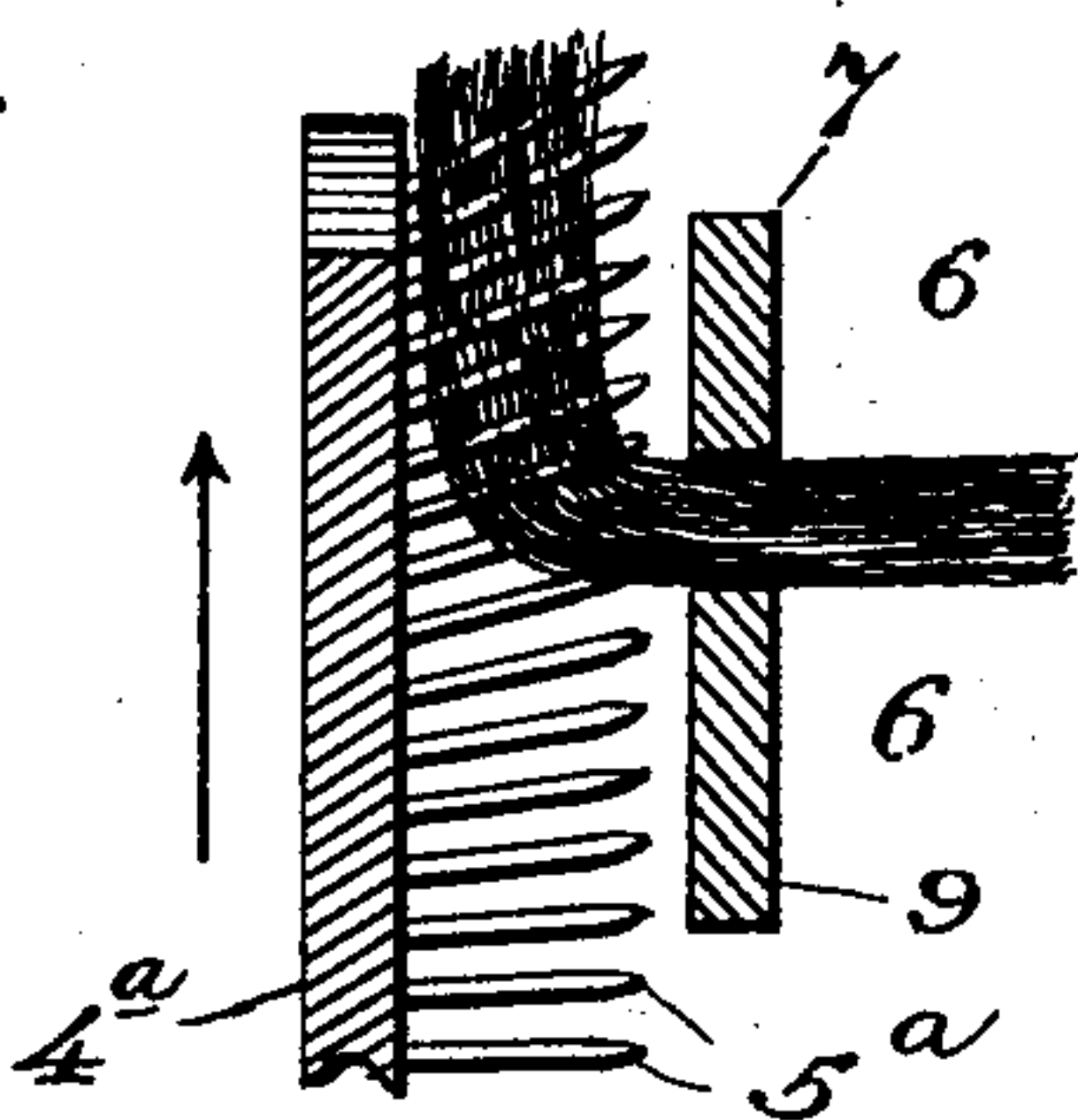
(Application filed Sept. 16, 1901.)

(No Model.)

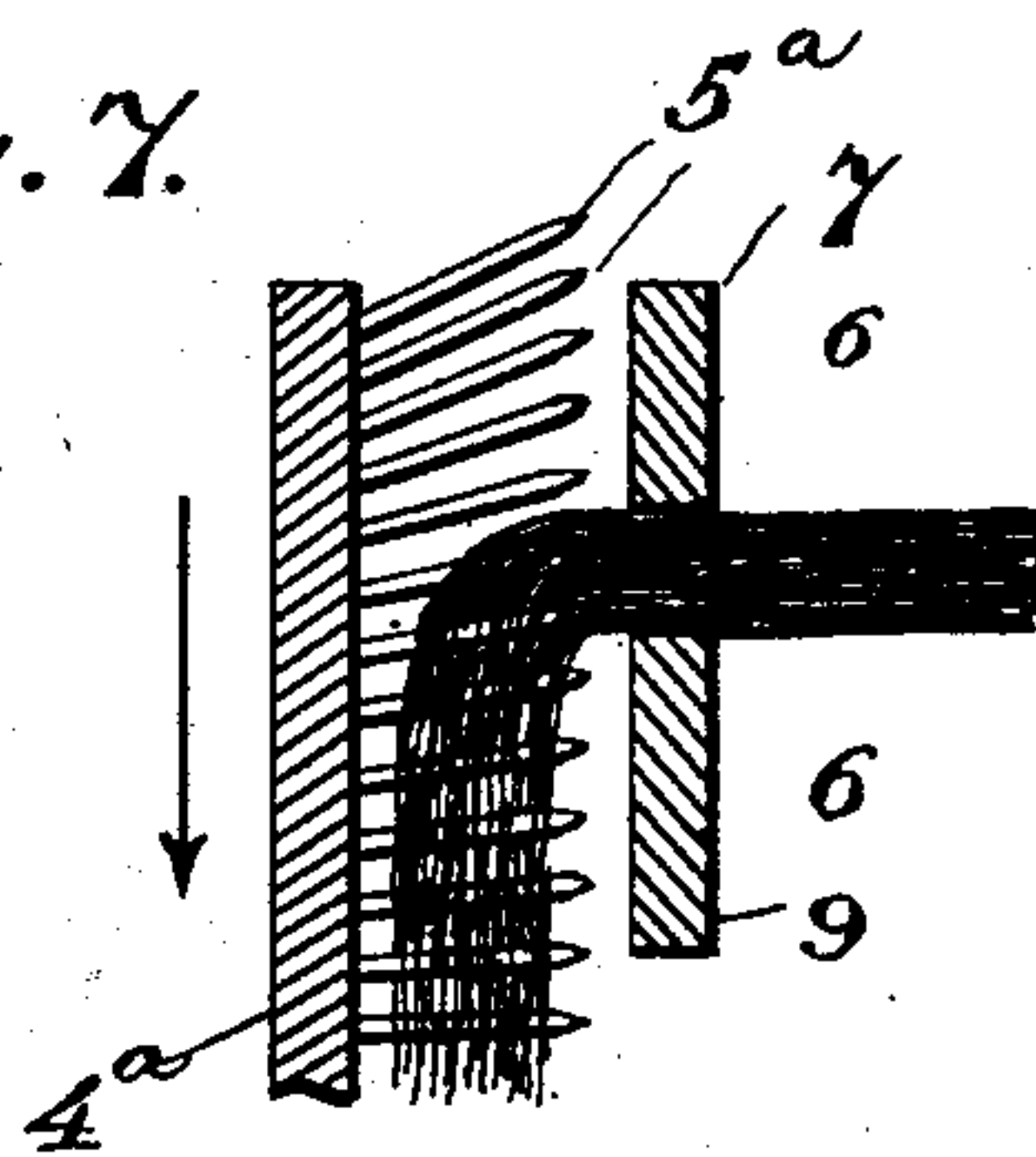
3 Sheets—Sheet 3.



*Fig. 6.*



*Fig. 7.*



Witnesses

*J. J. Elmore.*  
*H. R. Kennedy*

Inventor

*McClintock Young*  
By *Phil. T. Dodge*  
Attorney



# UNITED STATES PATENT OFFICE.

McCLINTOCK YOUNG, OF FREDERICK, MARYLAND, ASSIGNOR TO THE FIRM  
OF YOUNG AND ROBINSON, OF FREDERICK, MARYLAND.

## HACKLING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 696,127, dated March 25, 1902.

Application filed September 16, 1901. Serial No. 75,549. (No model.)

*To all whom it may concern:*

Be it known that I, McCLINTOCK YOUNG, of Frederick, county of Frederick, and State of Maryland, have invented a new and useful  
5 Improvement in Hackling-Machines, of which the following is a specification.

This invention has reference to a machine for hackling or disintegrating fibers and is intended more particularly for treating the  
10 fiber of the palmetto-boot in order to adapt the same for use in the manufacture of brushes and for similar purposes. The machine is intended to deal with the large pieces of the bark or boot which have been crushed or other-  
15 wise treated to partially loosen the fiber, and it acts to thoroughly clean the loosened fiber and effectually separate any adhering woody or pulpy material.

The machine embodies a rotary flat surface  
20 or disk equipped with outwardly-inclined hackling-teeth and combined with a support or guide for the fiber to be hackled, which support extends across the face of the disk, so that the fiber may be presented to the ac-  
25 tion of the hackling-teeth.

The invention consists also in the details of construction and combination of parts hereinafter described and claimed.

Referring to the drawings, Figure 1 is a  
30 front elevation of my improved machine. Fig. 2 is a top plan view of the same. Fig. 3 is a side elevation of the machine. Fig. 4 is a vertical longitudinal section through one of the hackling-disks and the adjacent fiber-  
35 support on the line *a a* of Fig. 1. Fig. 5 is a face view of the hackling-disk, showing how the teeth act on the opposite sides of the body of fibers as the latter are passed across the face of the disk. Figs. 6 and 7 are sectional  
40 views, respectively, on the lines *b b* and *c c* of the preceding figure.

In the accompanying drawings, 1 represents a frame, which may be of any appropriate form or material adapted to give support to the op-  
45 erative parts of the machine. On the top of this frame a horizontal drive-shaft 2 is mounted in suitable bearings 3 and provided with a fast driving-pulley 4 and a loose pulley 5, which shaft is adapted to be driven from any  
50 suitable source or power. On the ends of the shaft, beyond the sides of the frame, are mount-

ed disks 4<sup>a</sup>, provided with hackling-teeth 5<sup>a</sup>, and as these disks are identical in form and operation a description of one will suffice. As shown in Fig. 1, the hackling-teeth are on the  
55 outer face of the disk and are arranged in rows near the outer edge of the same, the center portion of the disk being free, the result being that when the disk is rotated the teeth at one edge will move in one direction, while those on the  
60 other edge will move in the opposite direction. I propose to utilize this action of the teeth to operate on the opposite sides of the body of fibers, which is presented across the face of the disk first to the action of the teeth  
65 moving in one direction on one edge and then to the action of the teeth on the opposite edge moving in the opposite direction. This is effected by providing a fiber-support 6, which extends horizontally in front of the disk ad-  
70 jacent to the teeth, as clearly shown in the drawings. This support consists of an upper rail 7, fixed on the ends of arms 8, extending outward from the top of the frame, and an underlying parallel rail 9, suitably mounted  
75 on the frame. These rails are arranged a short distance apart, leaving a space between them in which the boot is passed and advanced across the face of the disk, as shown more particularly in Fig. 5, being acted on  
80 first by the upwardly-moving teeth at the entrance end of the support and then by the downwardly-moving teeth at the opposite end of the support. I prefer to set the teeth at  
85 an inclination with respect to the face of the disk, as shown in Fig. 2, so that they will flare, and this for the reason that they will have a tendency to throw the separated substances outward by centrifugal action, thereby pre-  
90 venting any clogging of the teeth by the separated substances. I propose also to provide the edge of the disk with a row of radial teeth 10, the purposes of which are to engage the fiber as it is presented at one edge of the disk and turn them in the direction of the move-  
95 ment of the teeth on the face of the disk, so that the fibers will be in a position most favorable for the proper action of the inclined teeth.

In the operation of the machine the shaft  
100 is rotated at a high rate of speed, and the disks revolve in the direction indicated by



the arrow in Fig. 5. The bunch or body of the fiber to be hackled is entered between the two rails at the left side and is presented to the action of the radial teeth in the disk. As the end of the body of fiber encounters the radial teeth the latter, moving upwardly, will bend the fibers upward in the direction indicated in Fig. 5, and on the further advance of the fiber the upwardly-moving inclined teeth will act thereon with a combing effect and separate the foreign substances. On the further advance of the fibers they will encounter the downwardly-moving teeth on the opposite side of the wheel, and the fibers will be quickly folded downward, thereby bringing the opposite side into position to be acted upon by the hackling-teeth. It is seen, therefore, that in the passage of the fibers across the face of the wheel between the supporting-rails they are presented successively by the action of the hackling-teeth moving in opposite directions, so that first one side of the fibers is hackled and then the opposite side, the action being thus very thorough and every portion of the mass of fibers being combed and thoroughly cleaned. The fibers may be thus passed back and forth until in the proper condition, when the bunch is reversed end for end and the opposite end in a like manner presented to be hackled.

The machine is simple in its construction and effective in operation, the two disks operating to handle a large quantity of fiber and cleaning the same in an effective and rapid manner.

Having thus described my invention, what I claim is—

1. In a hackling-machine the combination with a rotary flat disk provided on its face with outwardly-inclined hackling-teeth, of a fiber-support extending across the face of the disk.

2. In a hackling-machine a rotary disk provided on its face with hackling-teeth and on its edge with radial teeth extending in the plane of the disk.

3. In a hackling-machine the combination with a frame, of a driving-shaft mounted thereon, a disk on each end of the shaft, each provided on its face with hackling-teeth, and fiber-supports extending, respectively, across the face of each disk adjacent to the teeth thereon.

In testimony whereof I hereunto set my hand, this 26th day of August, 1901, in the presence of two attesting witnesses.

McCLINTOCK YOUNG.

Witnesses:

MARSHALL FOUT,  
EDWIN C. MARKELL.