G. S. COLBURN.

Means for Adjusting Cutting-Disks.

No. 216,724. Patented June 24, 1879.

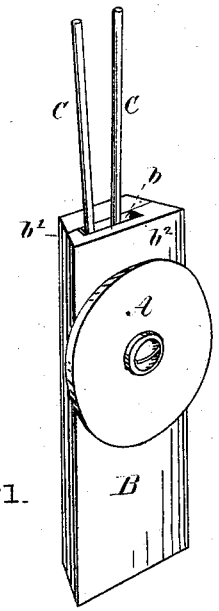

Fig. 1.

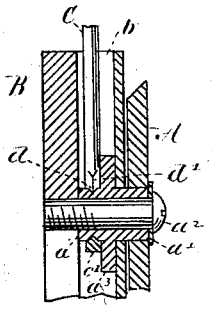

Fig. 7.

Fig. 8.

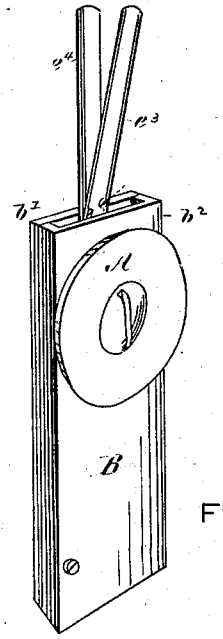

Fig. 4.

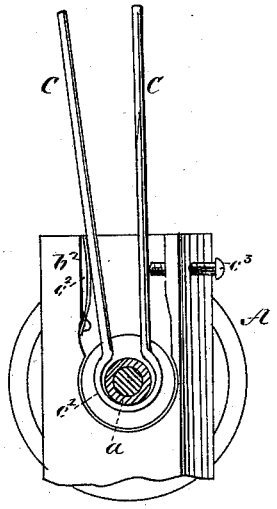

Fig. 2.

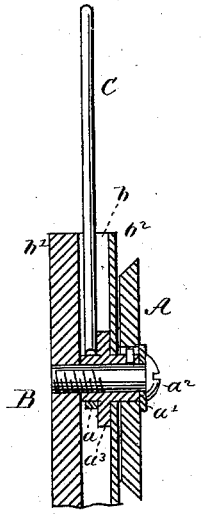

Fig. 3.

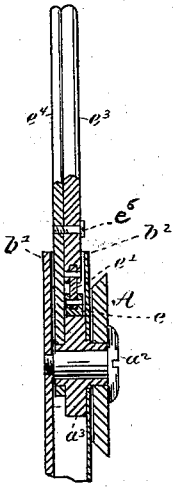

Fig. 5.

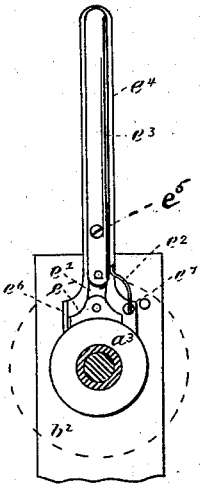

Fig. 6.

WITNESSES.

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UNITED STATES PATENT OFFICE.

GEORGE S. COLBURN, OF GARDNER, MASSACHUSETTS, ASSIGNOR TO HEYWOOD BROTHERS & CO., OF SAME PLACE.

IMPROVEMENT IN MEANS FOR ADJUSTING CUTTING-DISKS.

Specification forming part of Letters Patent No. **216,724**, dated June 24, 1879; application filed April 10, 1879.

To all whom it may concern:

Be it known that I, GEORGE S. COLBURN, of Gardner, in the county of Worcester and Commonwealth of Massachusetts, have invented an Improvement in Means for Adjusting Cutting-Disks, of which the following is a specification.

This invention has for its object the within-described means for rotating a cutting-disk to effect the adjustment of its cutting-edge in relation to the work.

It is very desirable to revolve a disk a limited distance at a certain interval of time, very often when the machine to which the disk is attached is in operation, for the purpose of presenting a new cutting-edge to the work in lieu of that portion of the edge that has become dull.

I have herein illustrated my device as applied to adjusting the cutting-disks used in trimming and gaging strands of rattan or other cane; and for further description of its employment in this connection reference is made to my pending application for improvement in rattan-shaving machines.

In the drawings, Figure 1 represents a perspective of my improvement; Fig. 2, a vertical central section; Fig. 3, a vertical section at right angles to the section shown in Fig. 2; Fig. 4, a perspective of a modification in construction; Fig. 5, a vertical section thereof; Fig. 6, a vertical section at right angles to the section shown in Fig. 5. Figs. 7 and 8 are detail views, also illustrating the construction.

The cutting-disk A is fastened to the end of the short hollow shaft *a*, which projects from the post, support, or bracket B, in which it has suitable bearing. The disk is keyed or otherwise secured to the shaft, and is held thereon by the washer a^1 and screw a^2. The shaft is provided with a collar, a^3, within a recess, *b*, of corresponding shape on its under side in the post, support, or bracket B, to provide the shaft with a suitable bearing-surface and firmly hold it within the post.

The lever is preferably made of one piece of metal so bent that it shall describe a V somewhat enlarged at its curved end, and this curved portion is arranged to embrace the shaft, substantially as shown in Fig. 2. This construction provides the two arms *c* with sufficient spring to automatically hold them apart when not in use, in which case, of course, the curved portion c^1 of the lever does not hug the shaft. In effecting a movement of the disk the arms *c* of the lever are brought together at one corner of the recess, thereby clamping the shaft within the curved portion c^1, and by the movement of the arms toward the other end of the recess the disk is partially revolved. The arms are then allowed to separate, and the shaft is no longer clamped. To secure a further movement, the arms are moved back without being closed, and the operation of bringing them together and moving them forward is repeated. The spring c^2, arranged to bear against one of the arms, serves to return them to their original position after effecting the adjustment, and the set-screw c^3 regulates the distance the arms are movable, thus controlling the extent of the movement of the cutting-edge.

It is desirable that the bearing-surface of the curved portion of the lever upon the shaft should be quite large, in order to secure sufficient friction to insure the proper clamping action when the ends of the lever are brought together, and for this purpose the wire or rod forming the lever may be flattened at that point; or, if desirable, the shaft may be provided with a V-shaped groove, *d*, as shown in Fig. 7, and the clamping portion *d'* of the lever may have a V-shaped projection arranged to close within the recess when the arms are brought together in effecting a movement of the disk. This construction gives increased bearing-surface between the shaft and the portion *d'* of the lever.

I prefer to make the support or post B in two parts, b^1 b^2, in one of which the recess *b* is formed.

A modification of this construction, whereby the shaft is clamped by the bringing together of two arms constituting the moving lever, is shown in Figs. 4, 5, and 6, where the clamping-piece *e* is attached, by a toggle-joint, e^1, to arm e^3, in which case the arms are pivoted together at e^5, and the clamping-piece is arranged to bear upon the circumference of the collar a^3. A spring, e^2, serves to automatically disengage the clamping-piece from the collar after a move-

ment has been effected. The lower end of the handle e^4 embraces the inner end of the shaft, which serves as a pivot. It is further provided with a projection, e^6, which, with the screw e^7, that fastens the spring e^2, serves as a guide in directing the vertical movement of the clamping-piece *e*.

It is obvious that in lieu of the clamping-piece and toggle-joint the lower end of the part e^3 of the lever can be extended sufficiently to serve as a pawl in connection with a spur-gear formed on the collar, in which case the bringing together of the parts e^3 e^4 would cause the pawl to engage with the spur-gear, and by the movement of both the disk would be turned.

In the operation of this modification the arms are moved to one end of the recess and brought together, thereby forcing the clamping-piece upon the collar, and both are then simultaneously moved to the other end of the recess, thereby effecting the desired change in position of the cutting-disk. Of course, the spring for automatically returning the arms and the set-screw for adjusting the extent of movement may be used in connection with the operating-levers, as above set forth.

Upon the release of the handles they are automatically separated by the spring, and can be returned to the other corner of the recess to effect a further adjustment, in the manner described.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination of the cutting-disk A, its shaft *a*, and post B with an actuating device and a suitable connecting mechanism, all constructed substantially as described, arranged to lay hold of or clamp a collar on the shaft or said shaft in effecting an adjustment of the disk in the manner indicated.

2. The combination of a cutting-disk, A, its shaft *a*, and post B with a device consisting of two actuating-arms, arranged to embrace the shaft between them, adapted to be brought together in laying hold of or clamping said shaft, and to be simultaneously moved in effecting an adjustment of the cutting-disk, all arranged to operate substantially as described.

3. The combination of the cutting-disk A, its shaft *a*, post B, and a device, constructed as described, for adjusting the cutting-disk, with a spring, e^2, for returning said device to its original position after effecting an adjustment, all arranged to operate substantially as described.

4. The combination of the cutting-disk A, shaft *a*, post B, and a device, constructed as described, for adjusting the cutting-disk, with the spring e^2 and set-screw e^3, adapted to regulate the extent of the movement of said device, all arranged to operate substantially as described.

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Witnesses:
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