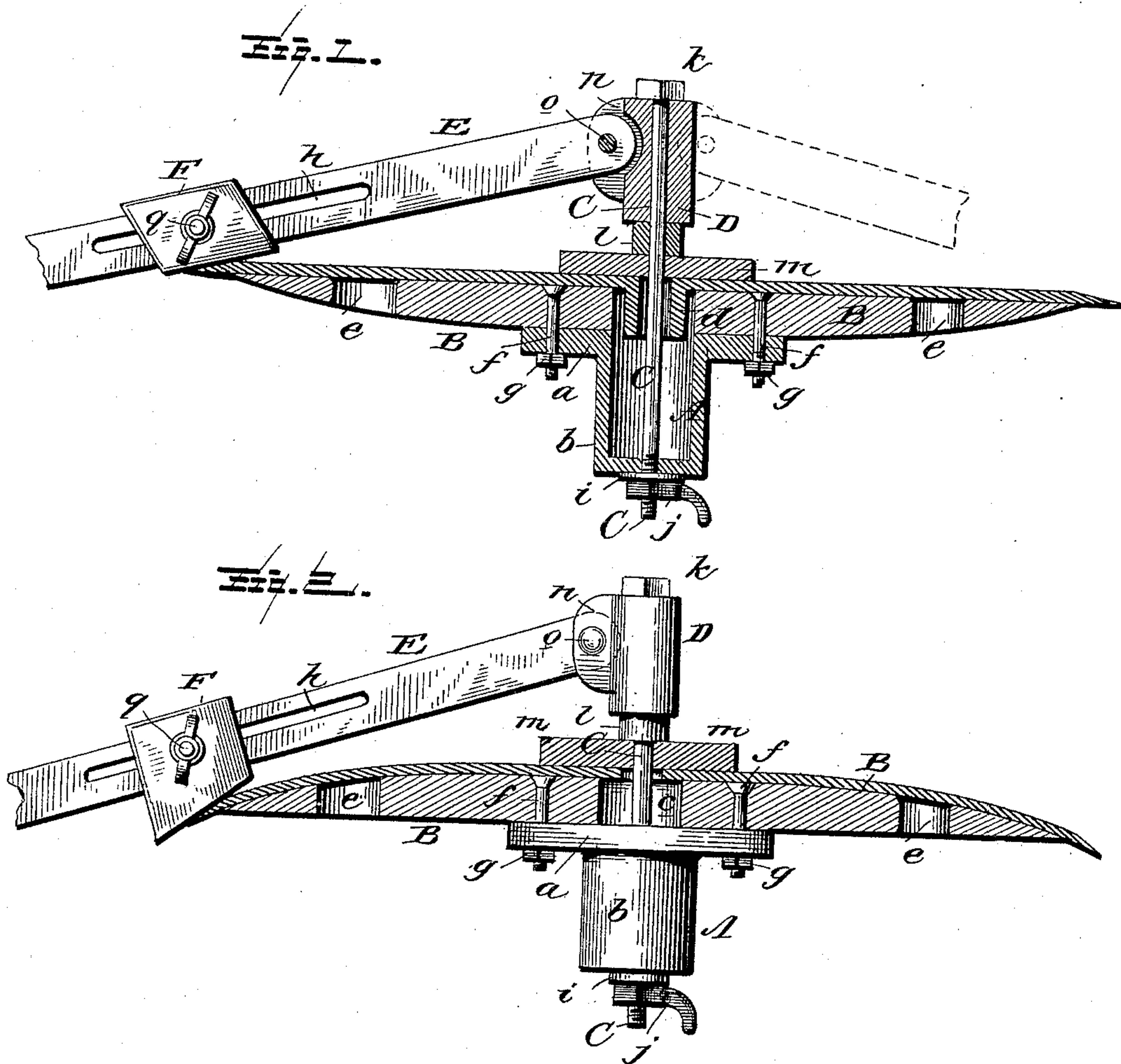


(No Model.)

G. H. MARKILLIE.
SHARPENER FOR HARROW DISKS, &c.

No. 436,530.

Patented Sept. 16, 1890.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE H. MARKILLIE, OF ELVASTON, ILLINOIS.

SHARPENER FOR HARROW-DISKS, &c.

SPECIFICATION forming part of Letters Patent No. 436,530, dated September 16, 1890.

Application filed June 12, 1890. Serial No. 355,153. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. MARKILLIE, a citizen of the United States, residing at Elvaston, in the county of Hancock and State of Illinois, have invented certain new and useful Improvements in Sharpeners for Harrow-Disks, &c.; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

This invention relates to certain new and useful improvements in means for sharpening disk cutters, roller cutters, and other analogous devices; and it has for its object to provide a simple, cheap, and efficient device of this character by which various forms of cutters may be sharpened with little labor and expense, and which will not readily get out of order.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a vertical section through a device embodying my invention, the same shown arranged for sharpening a disk cutter. Fig. 2 is a like view, with parts in side elevation, showing the device with the disk-plate reversed and adapted to receive a convex cutter.

Like letters of reference indicate like parts throughout the two views.

Referring now to the details of the drawings by letter, A designates a hub-holder for holding the rolling cutters and disk-plate, which is provided with a horizontal portion *a* and a tubular portion *b*, which latter is held in a vise (not shown) with the tubular portion extending downward, as shown.

B is the disk-plate, flat upon one side and convex upon the other, as shown. It is provided centrally with an opening *c*, to receive the hub or boss *d* on the cutter, as seen in Fig. 1, and is preferably provided with a plurality of holes *e*, to lessen the weight thereof. This disk-plate is secured to the horizontal portion of the hub-holder in any suitable

manner—as, for instance, by the bolts and nuts *f* and *g*. When a convex cutter is to be sharpened, as shown in Fig. 2, the disk-plate is arranged with its convex side uppermost, as shown in said Fig. 2. When a flat cutter is to be sharpened, the disk-plate is reversed, as shown in Fig. 1, the upper face of the horizontal portion of the hub-holder being preferably concave to receive the convex face.

C is a vertical rod passed through the tubular portion of the hub-holder and through an opening in the lower end thereof, the lower end of the rod being screw-threaded, as shown, and upon the outside of the said end of the tubular portion provided with a washer *i* and a thumb-nut *j*. The upper end of the rod is provided with a head *k*, which bears on the block D, which is loosely sleeved on the said rod, a washer *l* and wear-plate *m* being provided, as shown, between the block and the horizontal portion of the hub-holder.

E is a lever pivoted between ears or lugs *n* on the said block by means of a transverse pivot *o*, and provided with a longitudinal slot *p*. Sufficient play is provided at the pivot of the lever, so as to allow of vertical movement of the outer end of the lever when desired.

F is the sharpener, which is connected to the lever by means of a set-screw *q*, which passes through the block and through the slot of the lever in such a manner as to allow the sharpener to be adjusted to different angles to suit the various angles at which the cutting-edges of the cutters are arranged, and also to suit the various thicknesses and diameters of cutters.

The operation will be readily understood. The lever and sharpener can be moved clear around the cutter without change of sharpener or position.

What I claim as new is—

1. The combination, with the disk-plate and the hub-holder attached to and supporting said plate, of the vertical rod, the lever, and the sharpener carried by the lever, as set forth.

2. The combination, with the disk-plate and the hub-holder attached to and supporting said plate, of the vertical rod, the lever sleeved thereon, the said lever being provided with a longitudinal slot, and the sharpener adjustable in the said slot, as set forth.

3. The combination, with the hub-holder
and the reversible disk-plate having one side
convex, of the vertical rod, the block sleeved
thereon, the lever pivotally secured on the
5 block, and the sharpener adjustably carried
by the lever, substantially as and for the pur-
pose specified.

4. The device described, consisting of the
tubular hub-holder having a horizontal sup-
10 porting portion, the disk-plate detachably
held to the said portion of the hub-holder and
having one side convex, the vertical rod
passed through the end of the tubular portion
of the holder, the block loosely sleeved on

the rod above the disk-plate, the thumb-nut 15
on the lower end of the rod, the lever pivoted
on the block and provided with a longitudinal
slot, and the sharpener held to the lever by
a set-screw working in said slot, substantially
as and for the purpose specified. 20

In testimony that I claim the above I have
hereunto subscribed my name in the presence
of two witnesses.

GEORGE H. MARKILLIE.

Witnesses:

CHARLES A. RUNYON,
DUANE PENNOCK.