

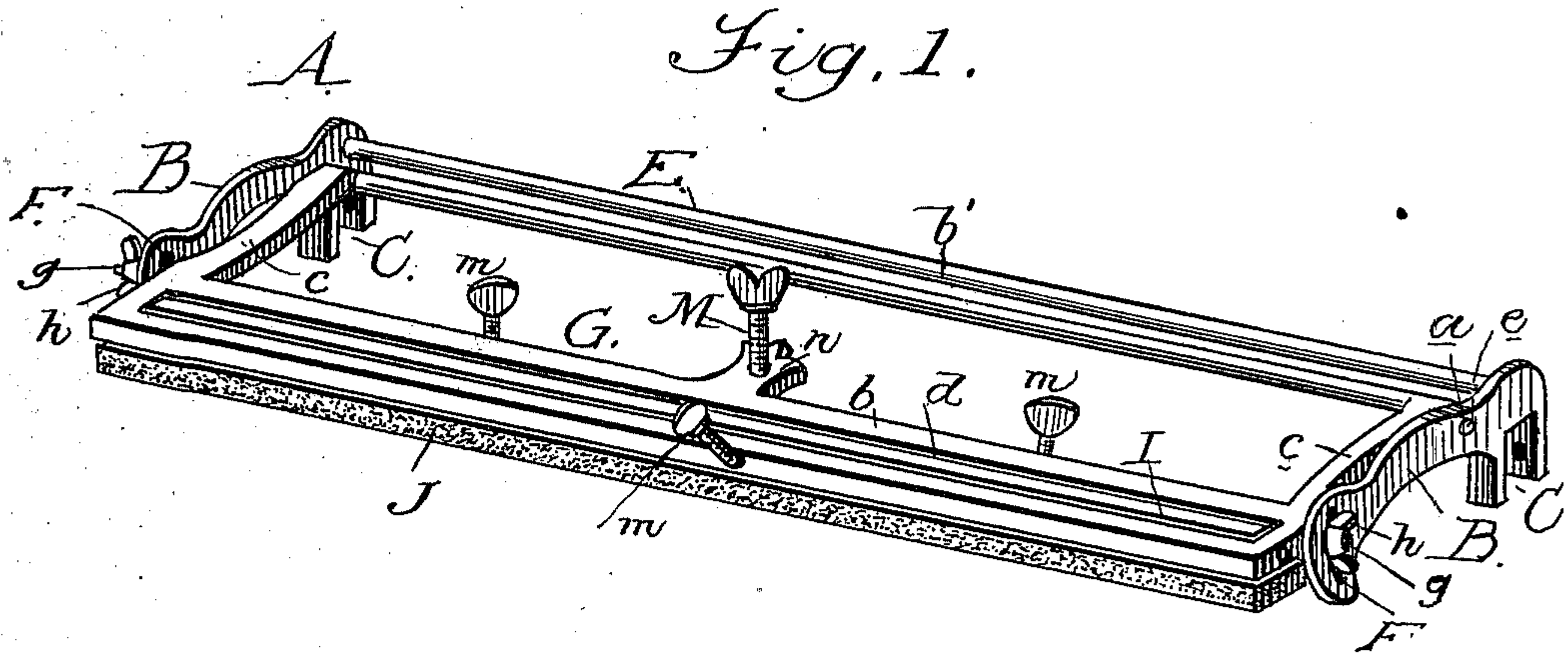
No. 669,468.

Patented Mar. 5, 1901.

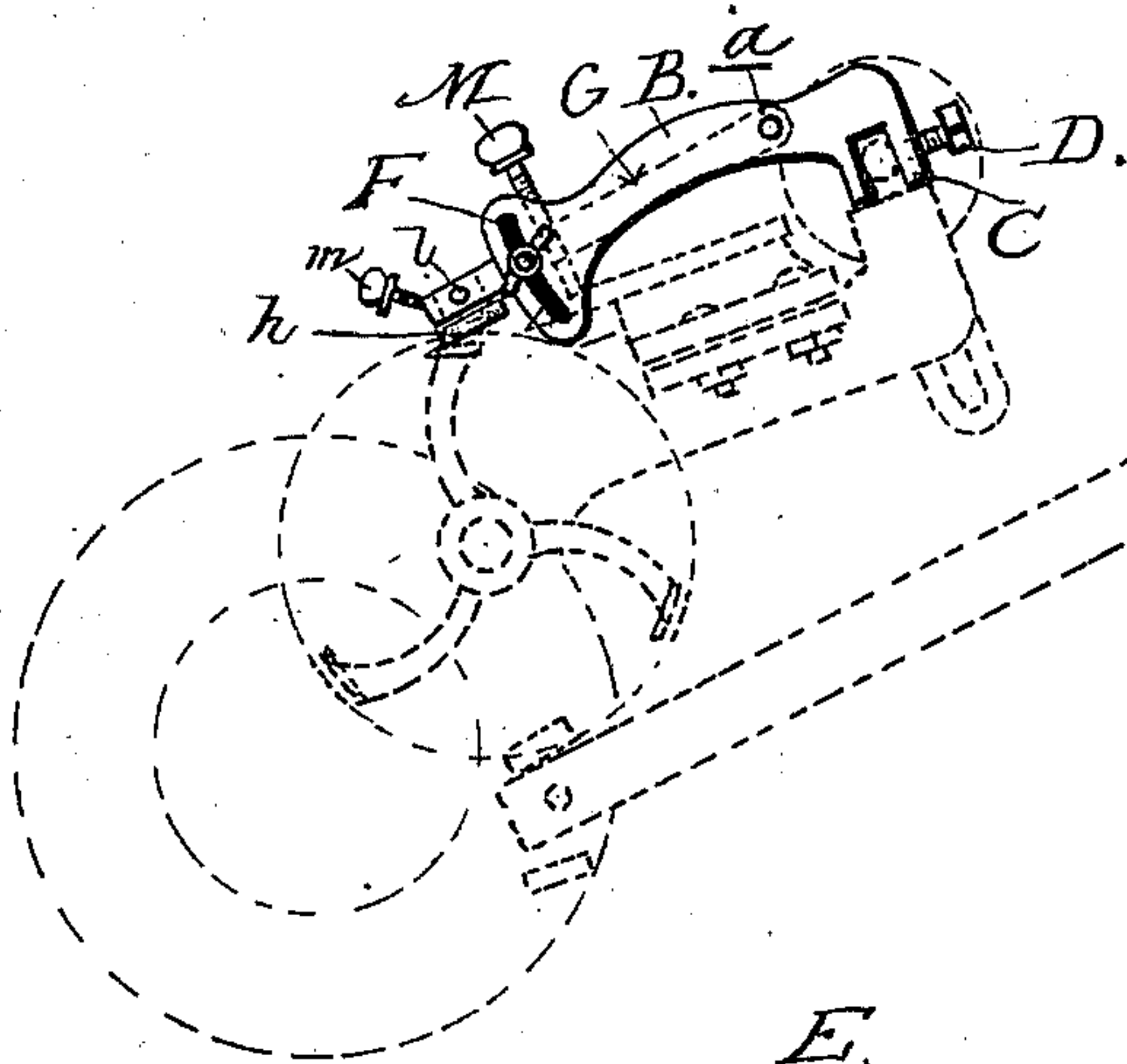
G. A. ROBBINS.  
LAWN MOWER SHARPENER.

(Application filed July 20, 1900.)

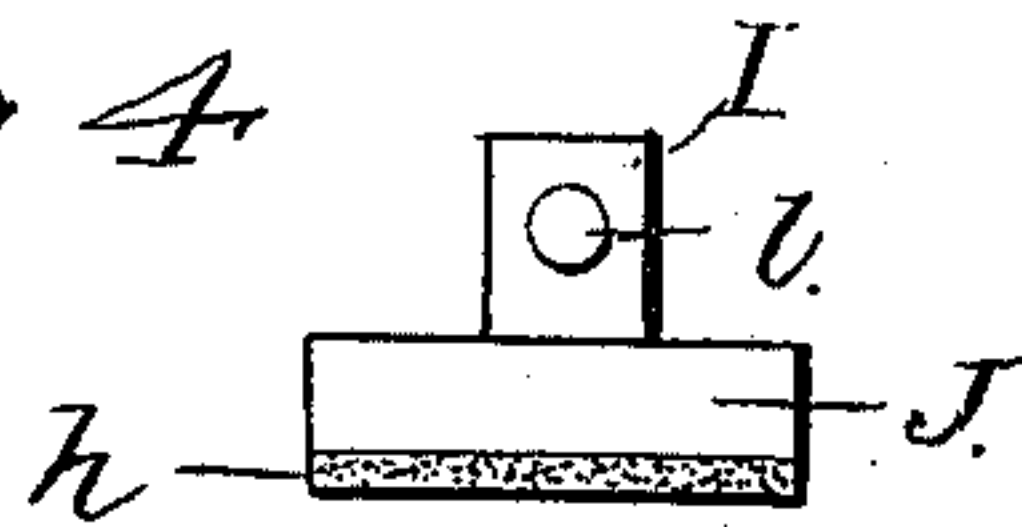
(No Model.)



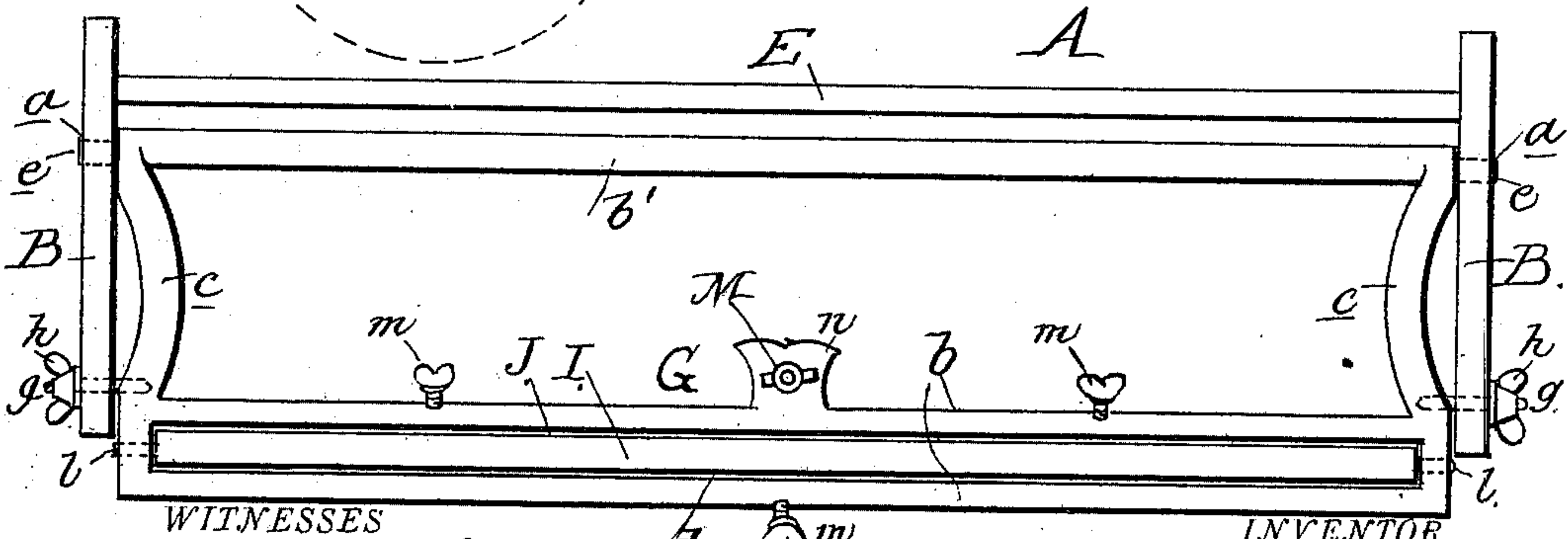
*Fig. 2.*



*Fig. 4.*



*Fig. 3.*



WITNESSES

*Walter Endicott*  
*R. H. Krich*

INVENTOR

*George A. Robbins*  
by *T. Walter Fowler*  
His Attorney



# UNITED STATES PATENT OFFICE.

GEORGE A. ROBBINS, OF SLATEHILL, NEW YORK, ASSIGNOR OF ONE-THIRD  
TO SAMUEL W. HORNBECK, OF SAME PLACE.

## LAWN-MOWER SHARPENER.

SPECIFICATION forming part of Letters Patent No. 669,468, dated March 5, 1901.

Application filed July 20, 1900. Serial No. 24,321. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE A. ROBBINS, a citizen of the United States, residing at Slatehill, in the county of Orange and State of New York, have invented new and useful Improvements in Lawn-Mower Sharpeners, of which the following is a specification.

This invention relates to attachments for lawn-mowers, adapted for sharpening the knives or blades thereof; and the object of the invention is to simplify and render effective the devices of this character and to provide a sharpening device which may be accurately adjusted to sharpen the rotary knives or blades at any desired bevel and to afford facilities for the proper and expeditious manner of attaching the device and of positioning the emery bar or surface with relation to the knives or blades, so that the latter may have their cutting edges renewed.

The invention includes a main frame having end bars or plates provided with means for attaching said frame in operative position on the mower, said bars being formed with curved slots, a rocking frame pivotally mounted in said main frame and having pins or studs working in the slots of the end bars, and means for adjustably fixing the rocking frame in proper position, said rocking frame having a longitudinally-extending slot or channel in which is axially mounted a block or bar of emery or an equivalent block having an emery or other abrading surface, said block or bar being capable of independent adjustment by means of set-screws.

The invention further includes the parts and the constructions and combinations of parts hereinafter described and claimed.

In the accompanying drawings, forming part of this specification, and in which similar letters of reference indicate like parts, Figure 1 is a perspective view of a lawn-mower sharpener embodying my invention. Fig. 2 is an end view, parts of a lawn-mower being shown by dotted lines. Fig. 3 is a top plan view. Fig. 4 is a detail.

As shown in the drawings, this attachment comprises what I term a "main frame" and a "supplemental frame," one contained within the other. The main frame A may be of any appropriate and ornamental character

and is preferably made of metal—say iron. This frame A includes in its construction two end bars B of suitable design, each of which is recessed to form jaws C, which enable the frame to be fitted to the lawn-mower after the latter has been reversed, so that its bottom or under portion is presented upwardly. The jaws C straddle the shaft or some fixed part of the mower construction, and they are held rigidly in place by means of clamping or set screws D. A rod or bar E joins the two end pieces and forms a rigid connection therebetween. In the end pieces B are formed bearings *a*, and in the portions of said ends opposite to the jaws are formed curved slots F, struck from the center of the bearings *a*.

Between the ends of the main frame A is located a supplemental or rocking frame G of substantially rectangular form and including front and rear longitudinally-extending bars *b b'* and transverse end bars *c*, said front bar being longitudinally slotted or channeled at *d*, and the end bars *c* being provided or formed with journals or trunnions *e*, adapted to fit and rock in the bearings *a*, formed in the ends of the main frame. The inner or supplemental frame is thus mounted to swing or rock on the journals, so that its free end may be adjusted to different positions.

To secure the rocking frame in any desired adjusted position, I provide it with pins or threaded bolts *g*, which work in the curved slots F and are engaged by wing-nuts *h* or equivalent means, whereby the position of the rocking frame may be fixed.

Within the slot or channel of the front longitudinal bar of the rocking frame is placed a block or bar J of emery or equivalent abrading material. This bar may be composed entirely of emery or abrading material, or it may be a metal or other bar or block having a surface of emery or abrading material fixed to one side, as shown at *h*. In either instance the block or bar J has preferably substantially a T shape in cross-section, with the lug or portion I loosely mounted in the slot *d* and provided with end journals *l*, adapted to rock in bearings in the end walls of the slot. The purpose of this arrangement is to provide sufficient movement for the independent adjustment of the emery block or bar with



relation to the knives or blades, so as to enable the latter to sweep across the face of the block or bar, and thereby automatically renew the cutting edges of said knives or blades. This adjustment is made after the adjustment of the rocking frame before mentioned, and it is accomplished by means of inclined adjusting-screws *m*, passing through the front bar *b* of the rocking frame and having their inner ends to engage the block or bar *J*, and thereby cause the latter to swing upon its journals to properly position the abrading-face of the emery block or bar with relation to the path of movement of the knives or cutters, whereby as the machine is moved across the ground the knives or cutters are revolved and sweep across the abrading-surface, with the result that their cutting edges are renewed and given the proper bevel for satisfactory work.

To facilitate and perfect the adjustment of the rocking frame, I also prefer to use an adjusting-screw *M*, which works through a lug *n* on the rear of the bar *b*, as shown, said screw operating in conjunction with the wing-nuts *h* and the pins or bolts *g*, which pass through the curved slots *F* of the main frame, for obtaining and maintaining the adjustment of the parts to insure the proper bevel being given the knives or blades.

The operation of my device is substantially as follows: The mower being reversed bottom upward, the jaws *C* are clamped to the mower and the wing-nuts *h* are loosened to permit the rocking frame to be adjusted to a proper position to bring the abrading-face of the emery block or bar in the path of movement of knives or blades. If this result is not accurately obtained, the set-screws are operated to independently adjust the emery block or bar to position the abrading-face of the block or bar, so that the proper bevel may be given the knives or blades as they revolve past and in contact with said face when the machine is operated. When the sharpening of the cutting edges is effected, the attachment may be readily removed by the simple detachment of the jaws from the mower.

It will be understood that changes in the form, proportion, and minor details of construction may be resorted to without a material modification or departure from the spirit of the invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a lawn-mower sharpener, the combination of a main frame including transverse end bars and a longitudinal connecting-bar said end bars having jaws whereby the frame may be fixed in position on the mower, a supplemental frame pivotally mounted within

the main frame and including transverse end bars and longitudinal connecting-bars, means for adjusting the supplemental frame with relation to the main frame, and an abrading-surface carried by the supplemental frame and adapted to be fixed in position in the path of rotation of the mower knives or blades.

2. A lawn-mower sharpener comprising a main frame including transverse end bars and a longitudinal connecting-bar said end bars having means for fixing the frame in position on the mower, said main frame having its end bars provided with curved slots, a supplemental frame pivotally hung within the main frame and having pins or bolts working in said slots whereby the supplemental frame may be adjusted, means engaging the pins or bolts and fixing the supplemental frame in its adjustment, and a block or bar carried by the supplemental frame and provided with an abrading-surface across which the knives or blades sweep during their rotation.

3. In a lawn-mower sharpener, the combination of a main frame and means for fixing it in position on the mower, a frame mounted to rock within the main frame and means for securing it with relation to said main frame, said rocking frame having transverse end bars and front and rear longitudinal connecting-bars one of said longitudinal bars having a longitudinal slot or channel, a block or bar having a longitudinally-extending lug with end journals whereby the block is mounted to rock in the slot or channel, and means for independently axially adjusting the block or bar whereby the abrading-surface thereof insures the proper bevel to the knives or blades.

4. A lawn-mower sharpener comprising a main frame including end bars and a bar or rod connecting the same said end bars formed with jaws and curved slots; a supplemental frame comprising front and rear bars and connecting end pieces said end pieces having trunnions mounted in the ends of the main frame and said front bar longitudinally slotted or channeled; clamping devices carried by the main frame and engaging said curved slots for adjusting the supplemental frame within the main frame; an emery block or bar pivotally mounted in the slot or channel of the supplemental frame, and screws engaging said block or bar and adjusting the position of the same with relation to the path of rotation of the knives or blades.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE A. ROBBINS.

Witnesses:

ELIJAH G. COCK,  
GRANT EVANS.