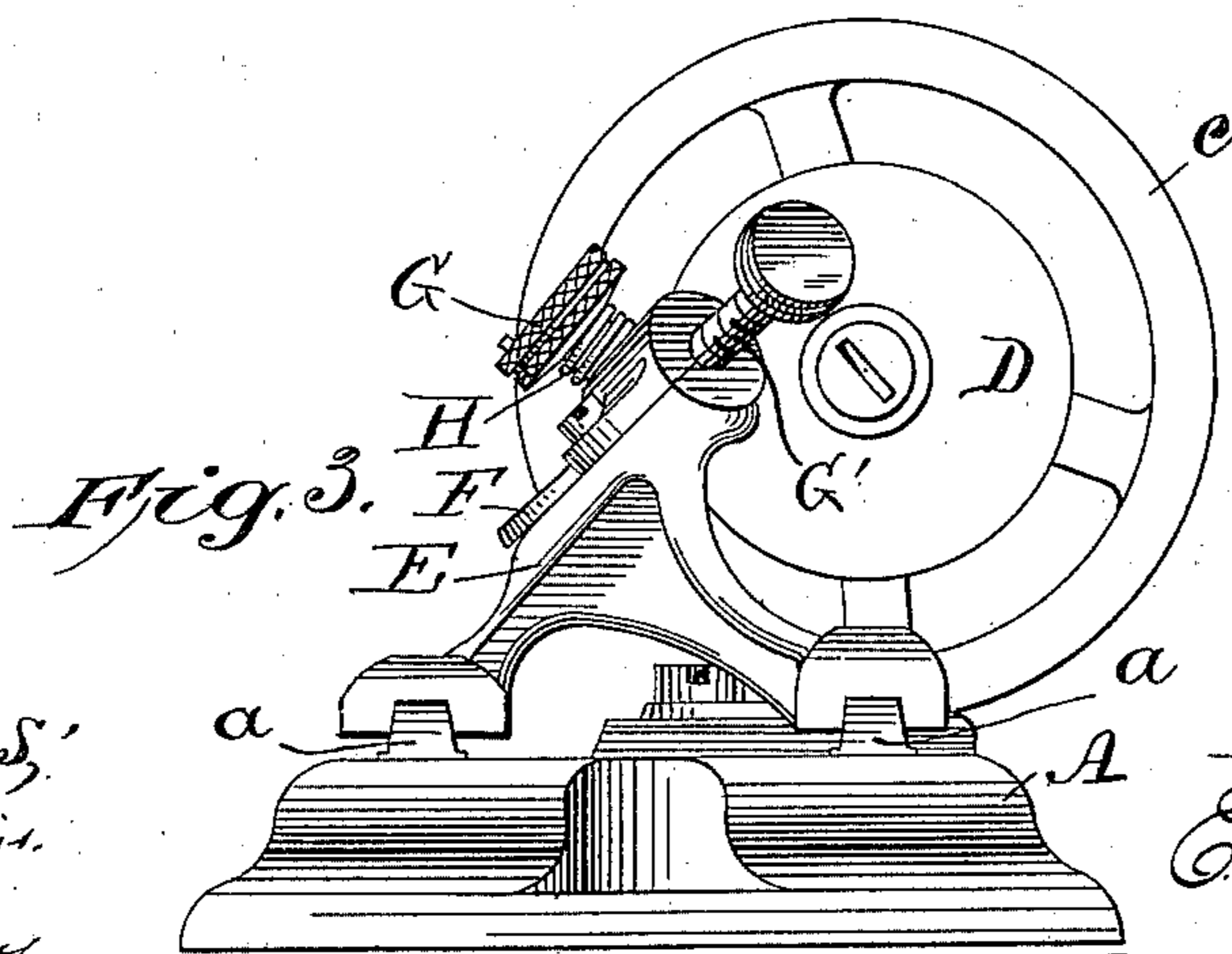
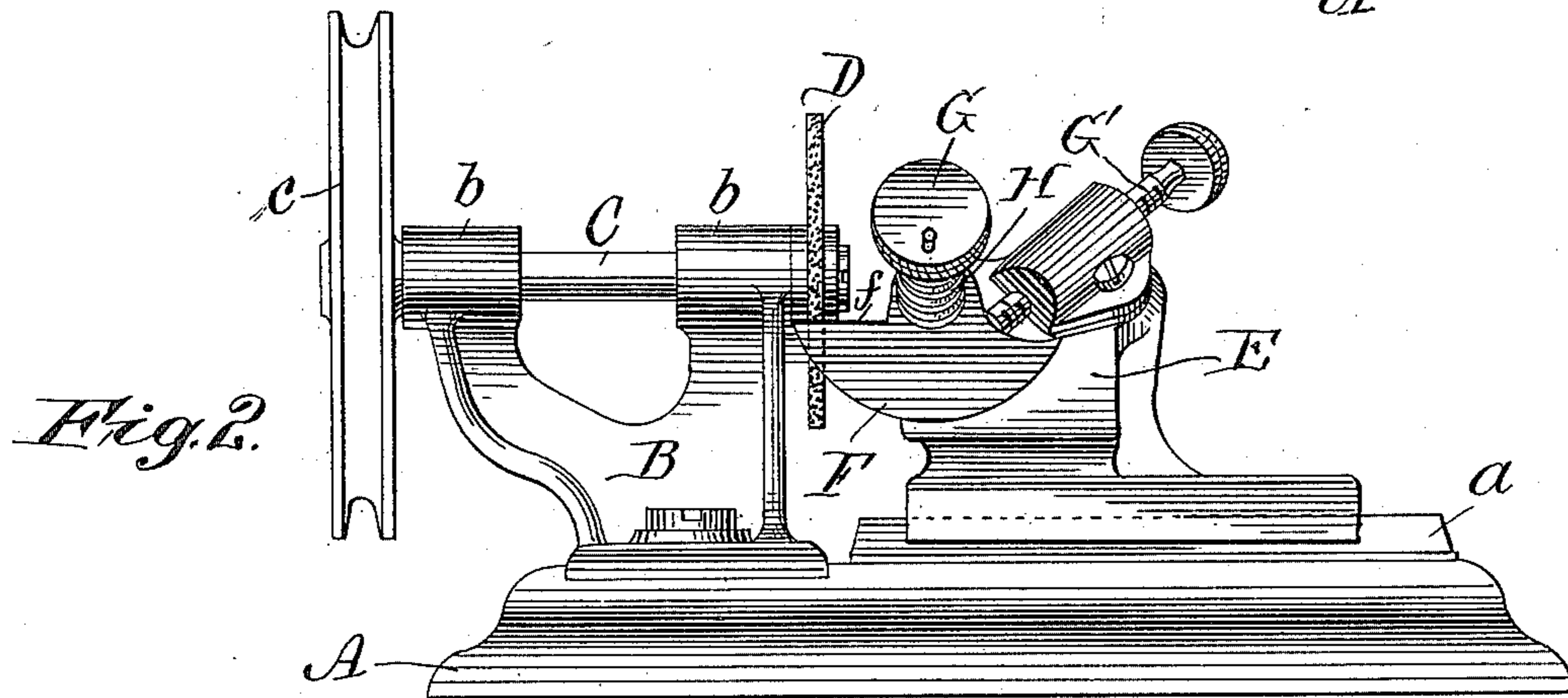
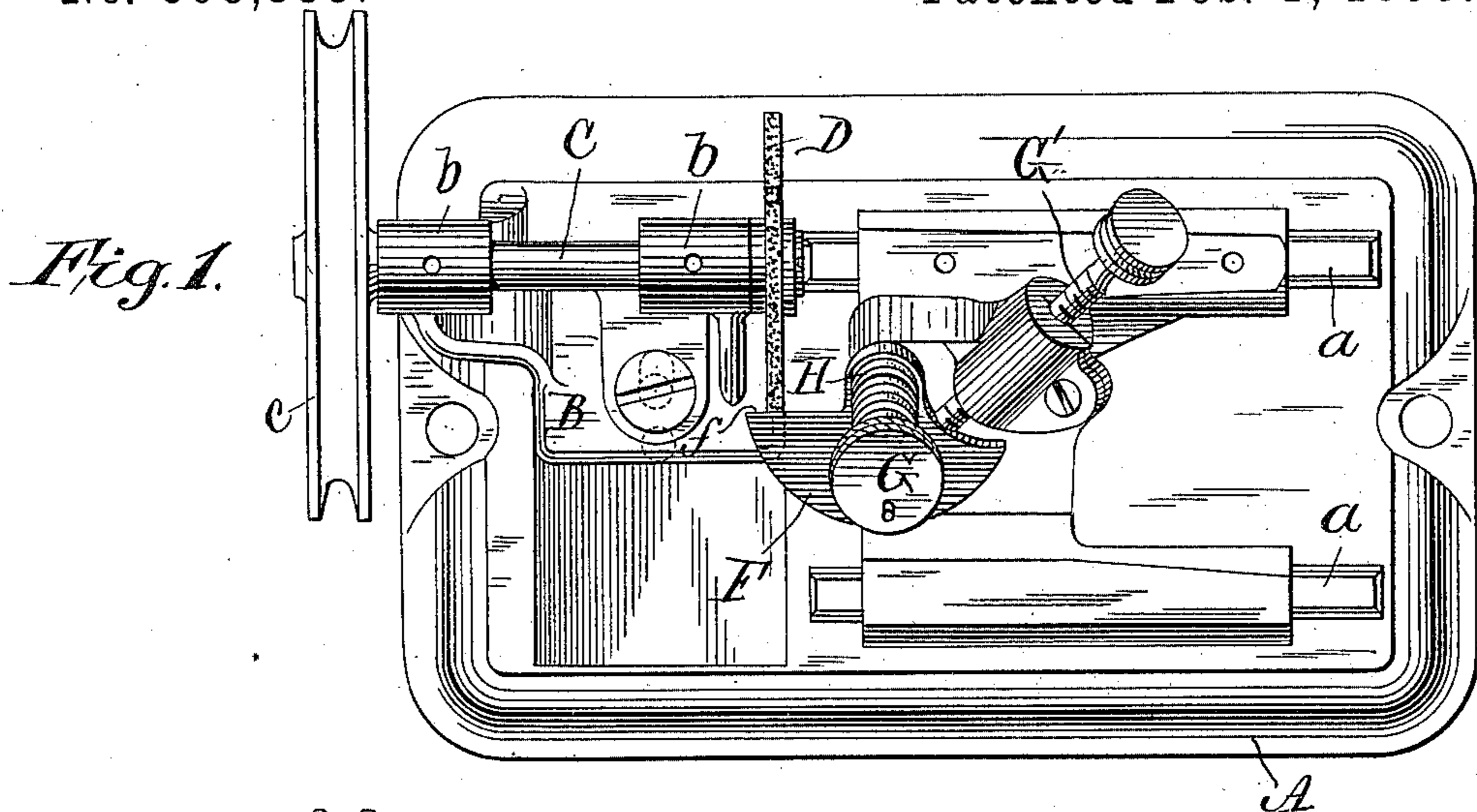


(No Model.)

E. B. ALLEN.  
BLADE GRINDER.

No. 598,333.

Patented Feb. 1, 1898.



Witnesses:  
E. B. Allen  
C. M. Sweeney.

Inventor:  
E. B. Allen  
By *Wm. L. Allen*  
Atty.

# UNITED STATES PATENT OFFICE.

EDWARD B. ALLEN, OF ELIZABETH, NEW JERSEY, ASSIGNOR TO THE SINGER MANUFACTURING COMPANY, OF NEW JERSEY.

## BLADE-GRINDER.

SPECIFICATION forming part of Letters Patent No. 598,333, dated February 1, 1898.

Application filed June 15, 1897. Serial No. 640,866. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD B. ALLEN, a citizen of the United States, residing at Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Blade-Grinders, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to a grinder more especially intended for sharpening the shear-blades of sewing-machine trimmers, although adapted for other purposes.

15 The shear trimmer-blades, for sharpening which my improved grinder is more particularly designed, are, when in use, pivotally mounted, so that when adjusted to compensate for wear they are simply turned on their pivots, and it is therefore essential that the cutting edges thereof should always preserve 20 certain tangential lines relative to their pivotal centers, as also that the bevels of their edges should always preserve certain angles, all of which objects are so reliably secured by my improved grinding device that it is practically impossible for unskilled operators in the use of my invention to grind the blades wrong.

30 Figure 1 is a plan view of my improved grinder, and Figs. 2 and 3 are side and end views, respectively, of the same.

A denotes a base-plate to be attached to a work bench or table, and B is a standard adjustably secured to said base-plate and provided with bearing arms or portions *b*.

35 C is a shaft journaled in the bearing-arms *b* and provided at one end with a driving-pulley *c* and at its opposite end with an emery or other suitable grinding wheel D, clamped to said shaft in any well-known manner. 40

The base-plate A is provided with longitudinal ribs or guideways *a*, on which is mounted a sliding carriage E, having an inclined face, against which is placed the blades, as F, to be sharpened. The guideways *a* are parallel 45 to the line of the longitudinal axis of the shaft C, so that the carriage E is movable back and forth on said guideways in a plane transverse to the plane of rotation of the grinding-wheel D, carried by said shaft, when a blade is being sharpened. 50

G is a screw tapped in the carriage E and having a milled or other suitable head, by which it may be readily turned. The segmental blade F is provided with a hole, (for 55 its pivotal mounting when in use,) through which the stem of the screw G passes, so that the said blade is thereby pivotally mounted on said screw. The blade F is preferably yieldingly held against the inclined face of the carriage E by a spring H, interposed between the head of the screw G and the said blade. 60

G' is an adjusting-screw tapped in a portion *e* of the carriage E, the lower end of said screw impinging against the blade F, so that 65 by turning said screw said blade will be turned slightly on the screw G as a pivot to bring the tangentially-arranged cutting edge *f* of the said blade against the grinding-wheel D. 70

In the use of my grinder the attendant mounts the blade to be ground on the carriage, as shown, and then adjusts the screw G' to bring the edge *f* of the blade against the revolving grinding-wheel. The carriage E is now moved back and forth by the attendant in its guideways *a* and the screw G' turned down until the desired sharpness of edge is secured. The inclined position of the blade- 80 holding part of the carriage and the certain guiding of the latter on its ways insure an even bevel and a uniform straight tangential form and disposition of the cutting edge of the blade being ground, and it will therefore be practically impossible for the most unskilled attendant to grind the blades wrong. 85

As the grinding-wheel wears away the standard B may be adjusted forward or toward the blade F, as may be necessary. 90

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

1. In a grinder, the combination with a suitable base provided with a guideway or guideways, of a sliding carriage mounted thereon 95 and having an inclined blade-supporting part, means for pivotally mounting a blade to be ground on said inclined blade-supporting part of said carriage, a rotating grinding-wheel, and a screw-adjusting device for forcing the edge of the pivotally-mounted blade 100

to be ground into proper grinding contact with said wheel, the said carriage, with the pivotally-mounted blade, being movable back and forth on said guideways in a plane transverse to the plane of rotation of said grinding-wheel.

2. In a grinder, the combination with a suitable base provided with a guideway or guideways, of a sliding carriage mounted thereon and having an inclined blade-supporting part, means for pivotally and yieldingly mounting a blade to be ground on said inclined blade-supporting part of said carriage, a rotating grinding-wheel, and a screw-adjusting device for forcing the edge of the pivotally-mounted blade to be ground into proper grinding contact with said wheel.

3. The combination with the ribs or guideways  $\alpha$ , of the standard B adjustably mounted on said base, the shaft C journaled in said standard and provided with the driving-pulley  $c$  and the grinding-wheel D, and the sliding carriage E movable on said guideways in a plane transverse to the plane of rotation of

said grinding-wheel, said carriage having an inclined blade-supporting face provided with the blade-holding pivot-screw G and blade-adjusting screw G'.

4. The combination with the base A provided with the ribs or guideways  $\alpha$ , of the standard B adjustably mounted on said base, the shaft C journaled in said standard and provided with the driving-pulley  $c$  and the grinding-wheel D, and the sliding carriage E movable on said guideways and having an inclined blade-supporting face provided with the blade-holding pivot-screw G and blade-adjusting screw G', said blade-holding screw being encircled by a spiral spring to yieldingly press the blade being ground against said grinding-wheel.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD B. ALLEN.

Witnesses:

HENRY CALVER,

JOSEPH F. JAQUITH.