

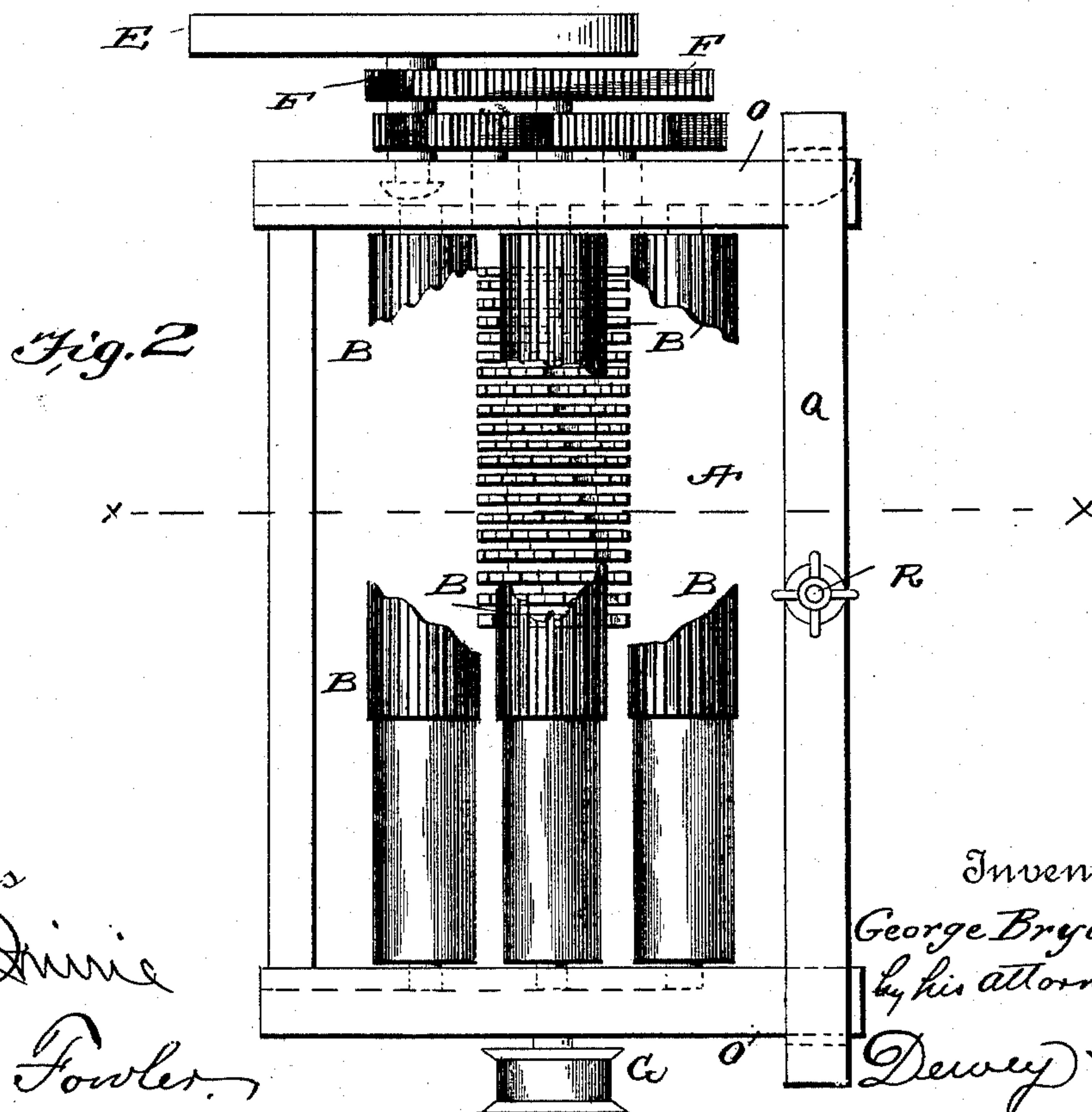
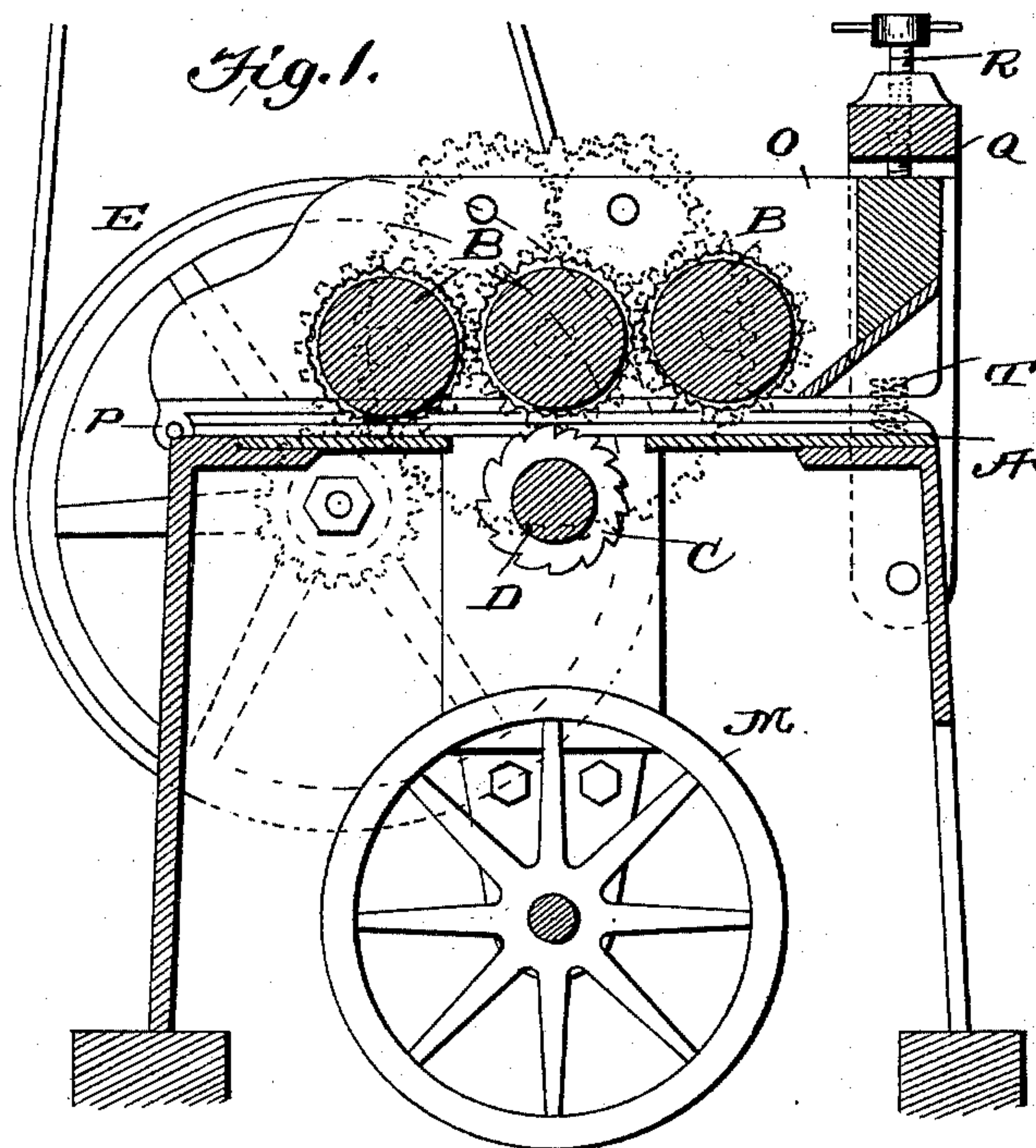
(No Model.)

2 Sheets—Sheet 1.

G. BRYANT.  
MACHINE FOR GROOVING SHOE SOLES.

No. 483,319.

Patented Sept. 27, 1892.



Witnesses

*John D. Davis*  
*J. W. Fowler*

Inventor

*George Bryant.*  
*By his attorneys*  
*Dewey & Co.*

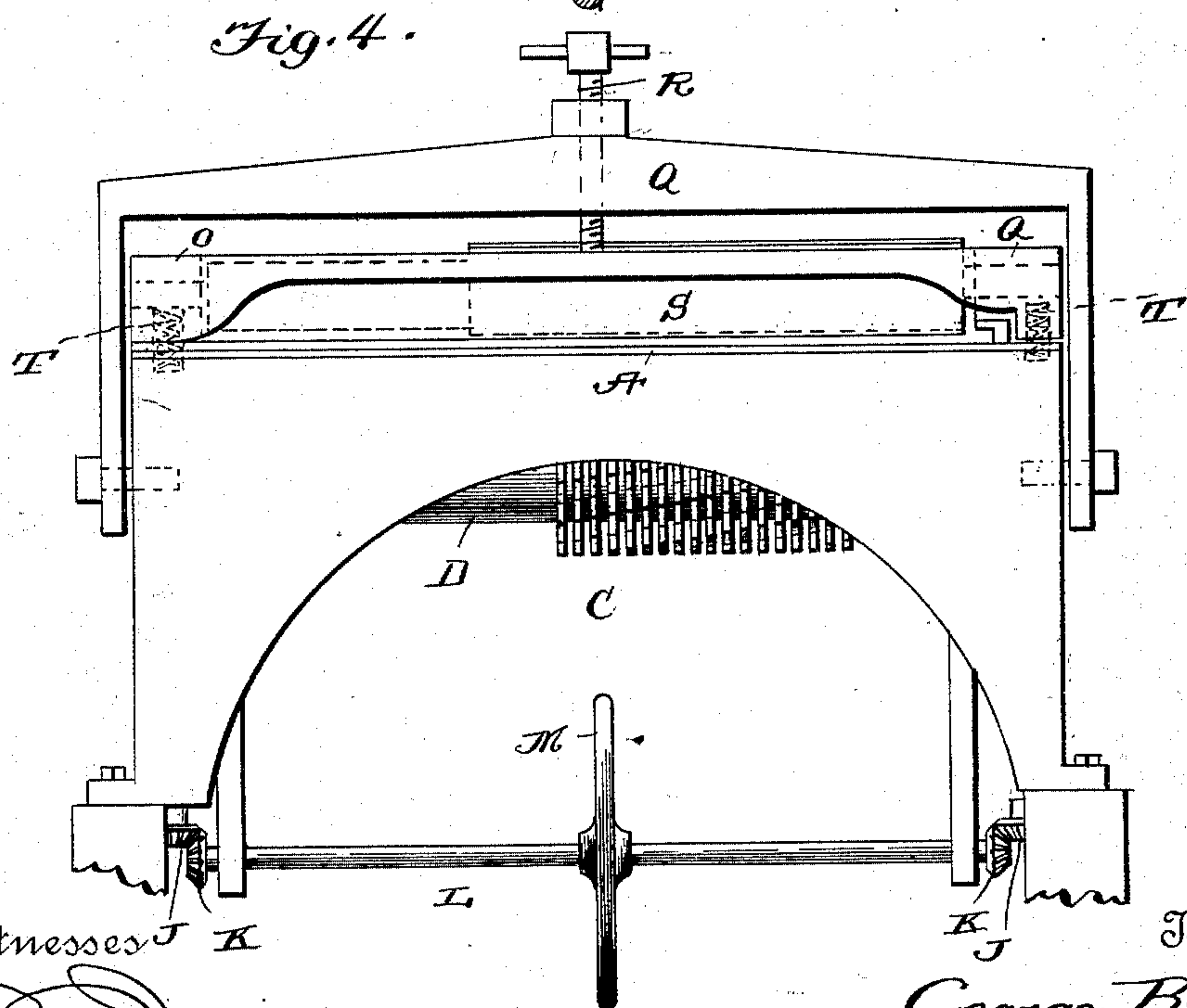
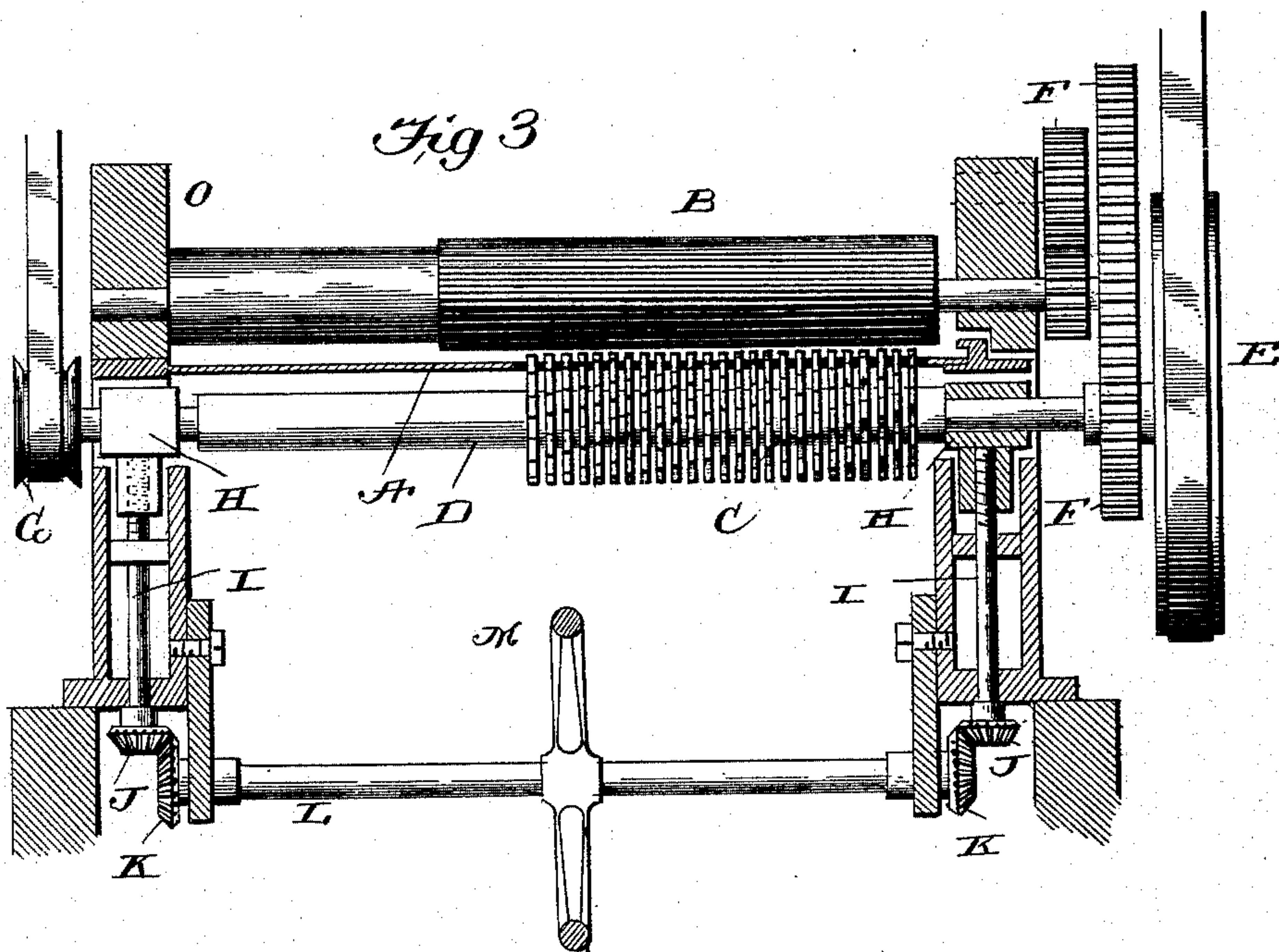
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2 Sheets—Sheet 2.

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MACHINE FOR GROOVING SHOE SOLES.

No. 483,319.

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Witnesses J K

Inventor

*John D. Durrin*  
*J. W. Fowler*

*George Bryant,*

By his Attorneys

*Dewey & Co*



# UNITED STATES PATENT OFFICE.

GEORGE BRYANT, OF SAN FRANCISCO, CALIFORNIA.

## MACHINE FOR GROOVING SHOE-SOLES.

SPECIFICATION forming part of Letters Patent No. 483,319, dated September 27, 1892.

Application filed October 30, 1891. Serial No. 410,398. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE BRYANT, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Boot and Shoe Sole Grooving Machines; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a machine for grooving or channeling leather.

It consists in certain details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a transverse vertical section of the apparatus, taken through  $x x$  of Fig. 2. Fig. 2 is a plan view showing the upper feed-rollers broken away to expose the grooving-roller. Fig. 3 is a longitudinal vertical section. Fig. 4 is a front view of the machine.

The object of this machine is to form grooves or channels upon the surface or surfaces of sole-leather and transversely with the soles at that part where they cross the ball of the foot.

A is a suitable framework or table, and B are a series of longitudinally-corrugated metallic rollers journaled above the surface of the table at such a point that their lower surfaces will seize the leather when they are rotated and carry it through upon the surface of the table and beneath the rollers. In the present case I have shown three of these rollers, one at the receiving side, another at the delivery side, and a third one directly above an open space in the surface of the table, through which the upper part of the grooving-roller C projects. This roller is formed with a great number of disks, the edges of which project above the surface of the roller, and the cutting-edges may be made of any suitable shape to form the desired grooves. They may be either V-shaped, rectangular, or preferably in the curve of an arc. The disks or cutters may be formed directly with the roller, or the disks may be slipped upon an arbor and clamped firmly together, this latter construction allowing any one or more of them to be removed or changed at will. These disks are cut into teeth or cutting-points, and these cutting-teeth are arranged spirally around the roller, the object of this spiral arrangement being to produce a cleaner and smoother cut and to prevent any binding while the work is being done.

The feed-rollers B are driven from a belt-wheel E, and by means of intermediate gearing F a proper direction is given to the feed-rollers B, so that the lower peripheries travel in the same direction, thus carrying the leather directly across the table and above the cutters C, which are mounted upon a shaft D. These cutters are driven at as high a rate of speed as may be necessary by means of the belt-pulley G, which is driven independently of the pulley E.

The journal-boxes H of the cutter-shaft D are so arranged as to be raised or lowered by means of the vertical screw-shafts I, which have beveled pinions J upon their lower ends. These pinions are engaged by corresponding pinions K upon a horizontal shaft L, so that when this shaft L is turned by means of the hand-wheel M the two vertical screw-shafts I will be rotated exactly alike and both ends of the cutter-shaft will be raised or depressed simultaneously and to the same extent. By this arrangement the cutter C will be raised so as to project more or less above the surface of the table, and the grooves or channels in the leather will be made as deep or shallow as may be required, the thickness and character of the soles governing this.

The journal-boxes of the feed-rollers are carried in frames O, which are hinged to one side of the table A, as shown at P.

Q is a yoke extending across above the edge of the table opposite to the hinges of the frames O, and a screw R passes through this yoke and presses upon the center of a bar S. This bar acts upon the hinged frames O, and by turning the screw these frames and the feed-rollers may be moved closer to and farther away from the surface of the table. Spiral springs T act to raise these frames and the rollers when the pressure of the screw is relieved.

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

1. A leather-grooving apparatus consisting of a table, a series of longitudinally-corrugated feed-rollers situated above the surface of the table, gearing whereby they are caused to rotate in the same direction, an independently-driven cutter-shaft journaled below the surface of the table, a series of disks or cut-



ters having their cutting points or edges arranged spirally around the shaft and projecting through an opening in the surface of the feed-table, and means whereby said cutters  
5 may be raised or depressed with relation to the table, substantially as herein described.

2. In a leather-grooving machine, a table, a series of longitudinally-corrugated feed-rollers with driving and direction gears, whereby  
10 they are caused to rotate in the same direction above the surface of the table, hinged frames within which said feed-rollers are journaled at each end of the machine, and an adjusting-screw and springs whereby the pressure upon the leather is regulated and the feed-rollers adjusted to the thickness of the leather  
15 to be grooved, and a shaft rotating beneath the table, having cutting-disks secured thereto and projecting through an opening in the  
20 surface of the table, whereby grooves or channels are cut in the surface of the leather, which is carried across the table by the feed-rollers, substantially as herein described.

3. In a leather-grooving machine, a feed-table, a series of longitudinally-corrugated  
25 rollers vertically adjustable with relation to the surface of the table, and gearing whereby

they are caused to rotate in the same direction, an independently-driven cutter-shaft with toothed disks or cutters secured to and  
30 carried thereby, said disks having the spirally - arranged cutting - points projecting through the surface of the table, so as to form grooves or channels in the lower surface of  
35 the leather, which is carried over the cutters by the feed-rollers, journal-boxes at each end of the table, in which the cutter-shaft rotates, vertical screw-shafts connected with said journal-boxes, having pinions at their lower ends,  
40 and a horizontal hand-wheel shaft extending across the lower part of the table, having pinions engaging those of the vertical screw-shafts, whereby the opposite ends of the cutter-shaft are raised and depressed simultaneously with relation to the feed-table and  
45 independently of the adjustment of the feed-rollers, substantially as herein described.

In witness whereof I have hereunto set my hand.

GEO. BRYANT.

Witnesses:

D. A. MULLIN,  
J. HUDSON.