

(No Model.)

3 Sheets—Sheet 1.

F. J. FREESE.  
SOLE CHANNELING MACHINE.

No. 506,630.

Patented Oct. 10, 1893.

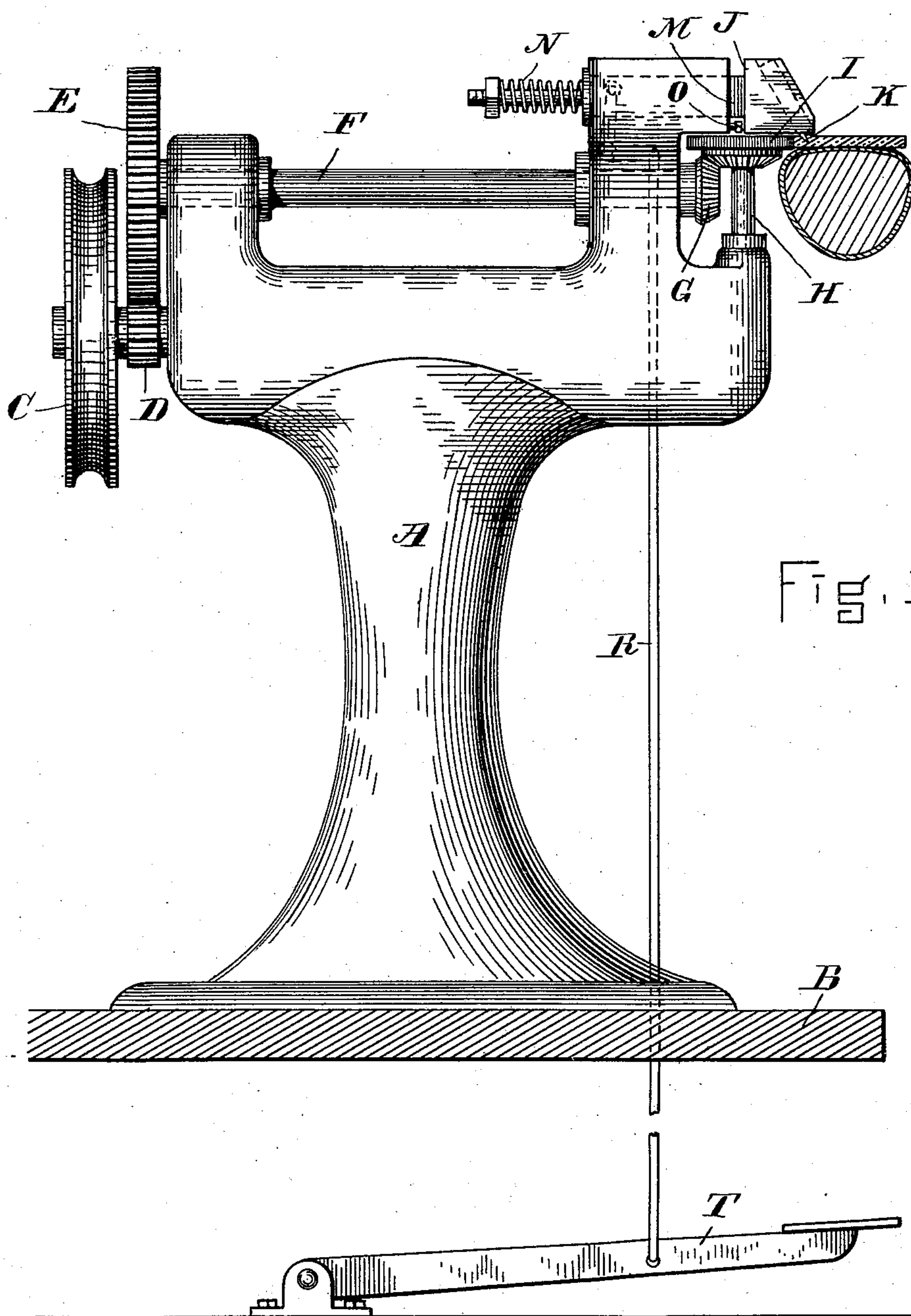


Fig. 1.

WITNESSES.

*G. Henry March.*  
*Wm. H. Spricer.*

INVENTOR.

*Francis J. Freese*  
*by A. H. Peuce*  
*Attorney*

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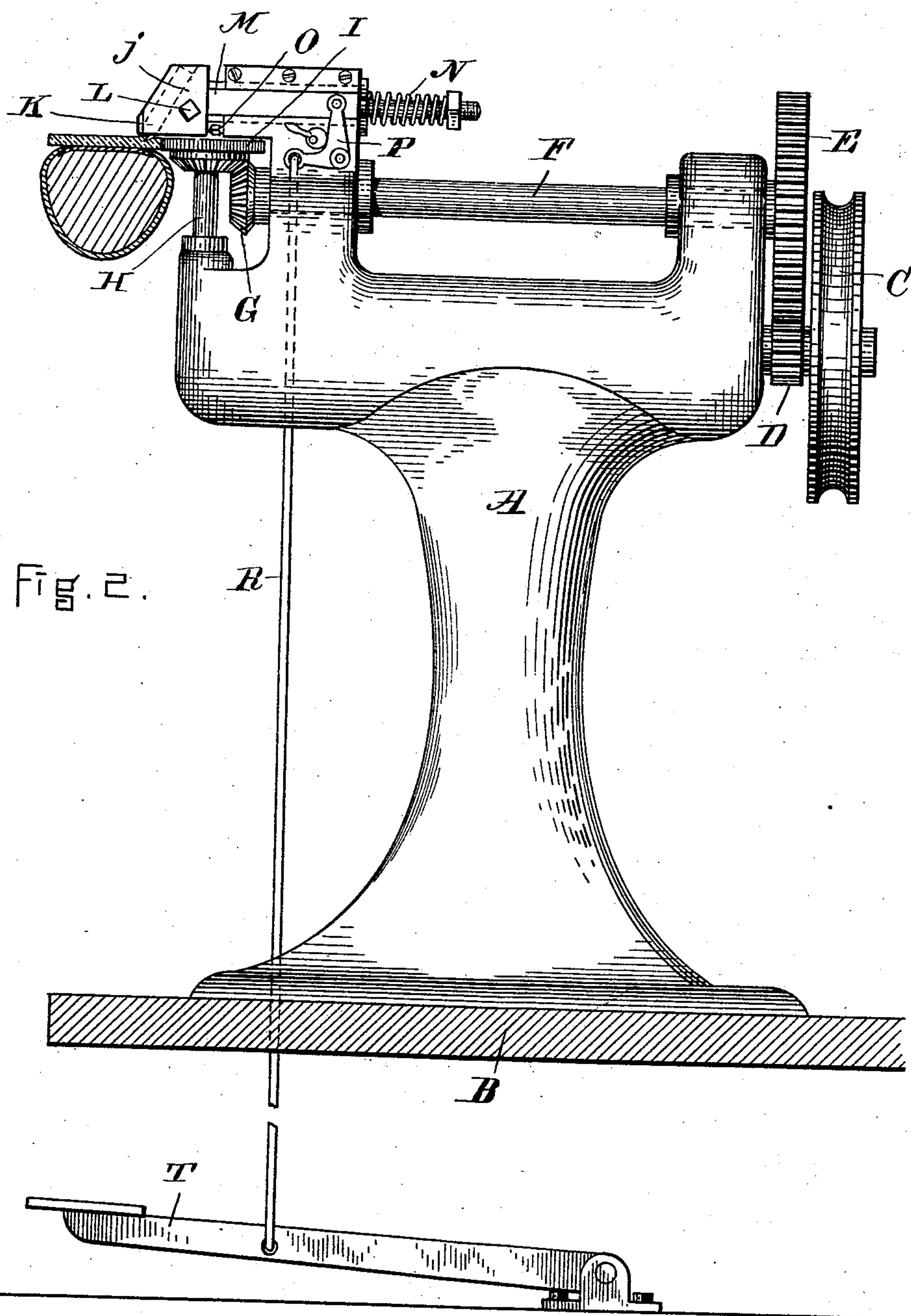


Fig. 2.

WITNESSES.

*G. Henry Marsh.*  
*Wm. H. Spencer.*

INVENTOR.

*Francis J. Freese*  
*by A. H. Brewer*  
*attorney.*



(No Model.)

3 Sheets—Sheet 3.

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Fig. 3.

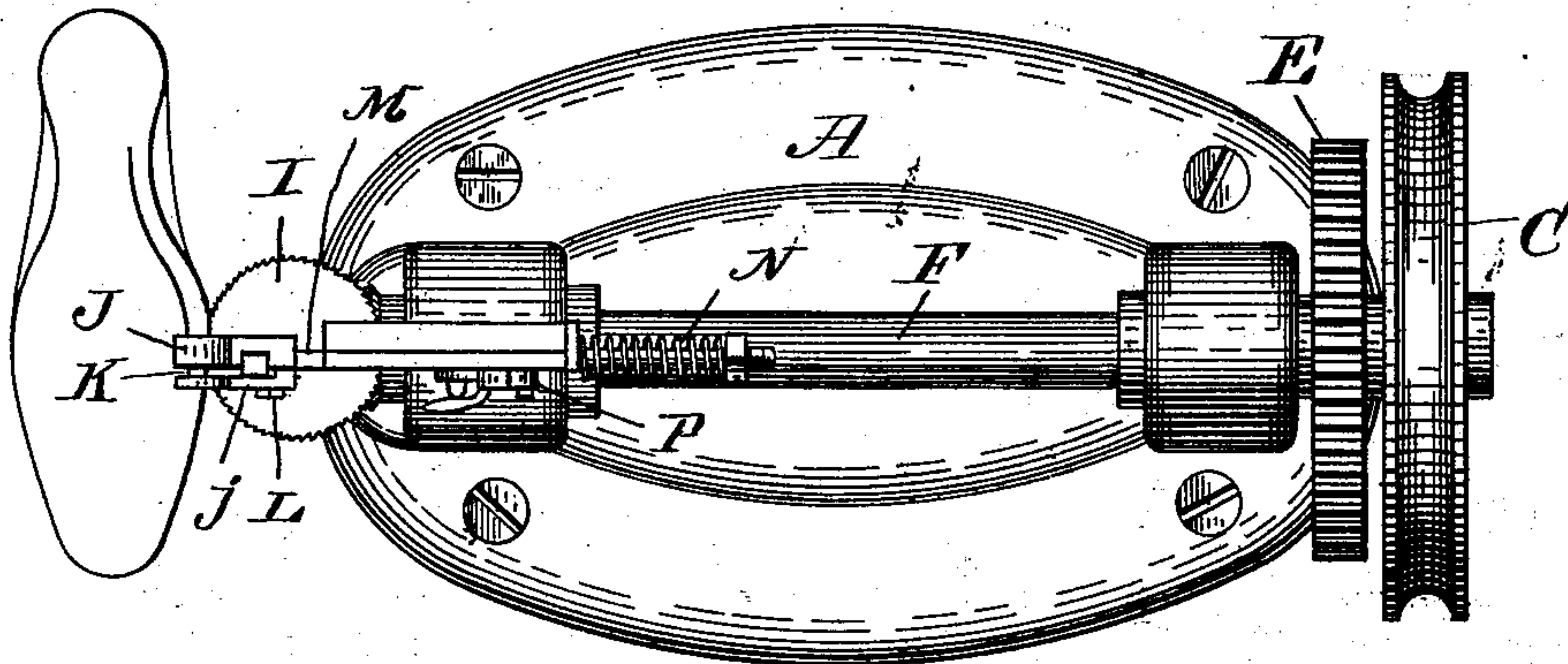


Fig. 4.

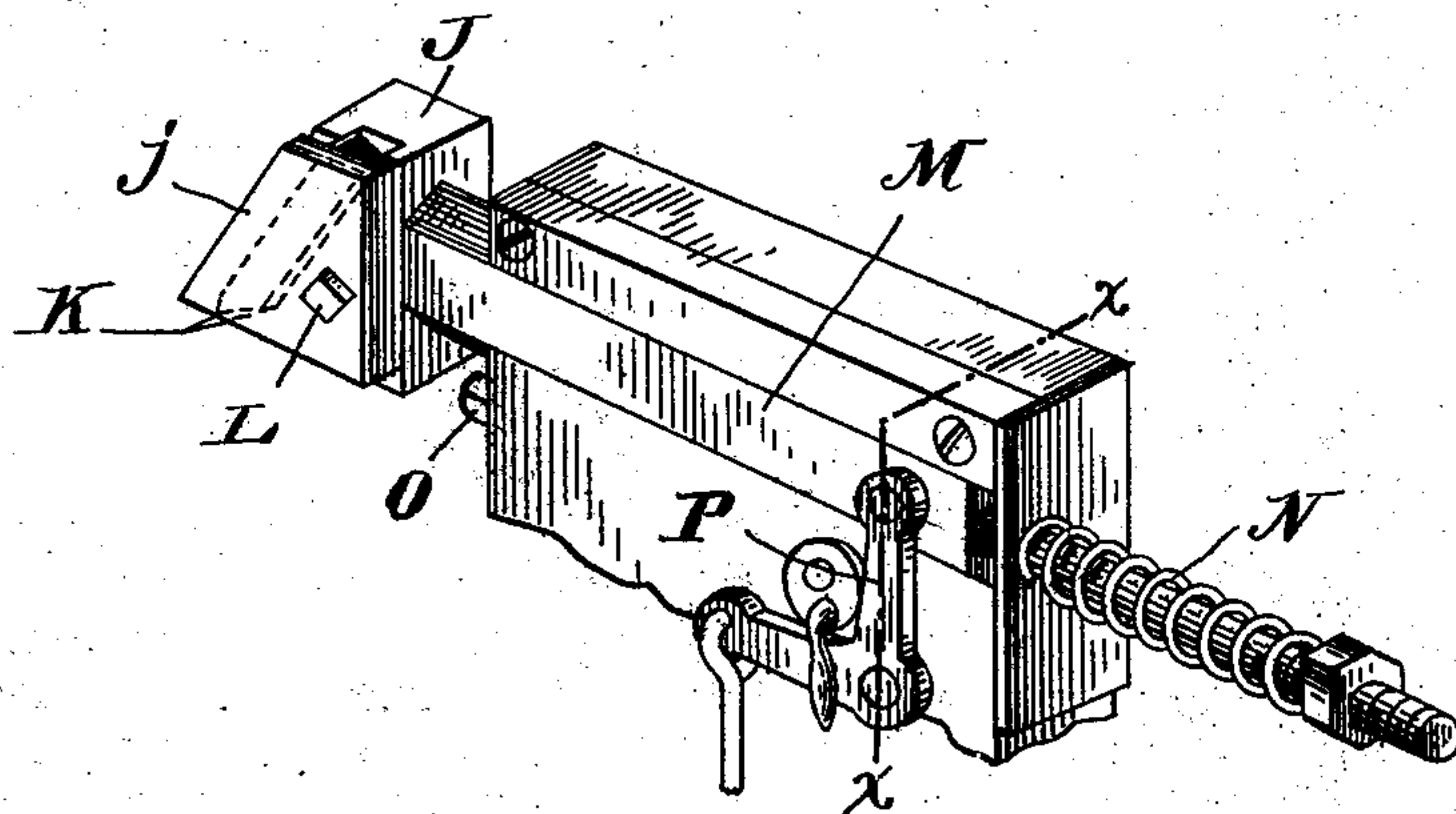


Fig. 5.

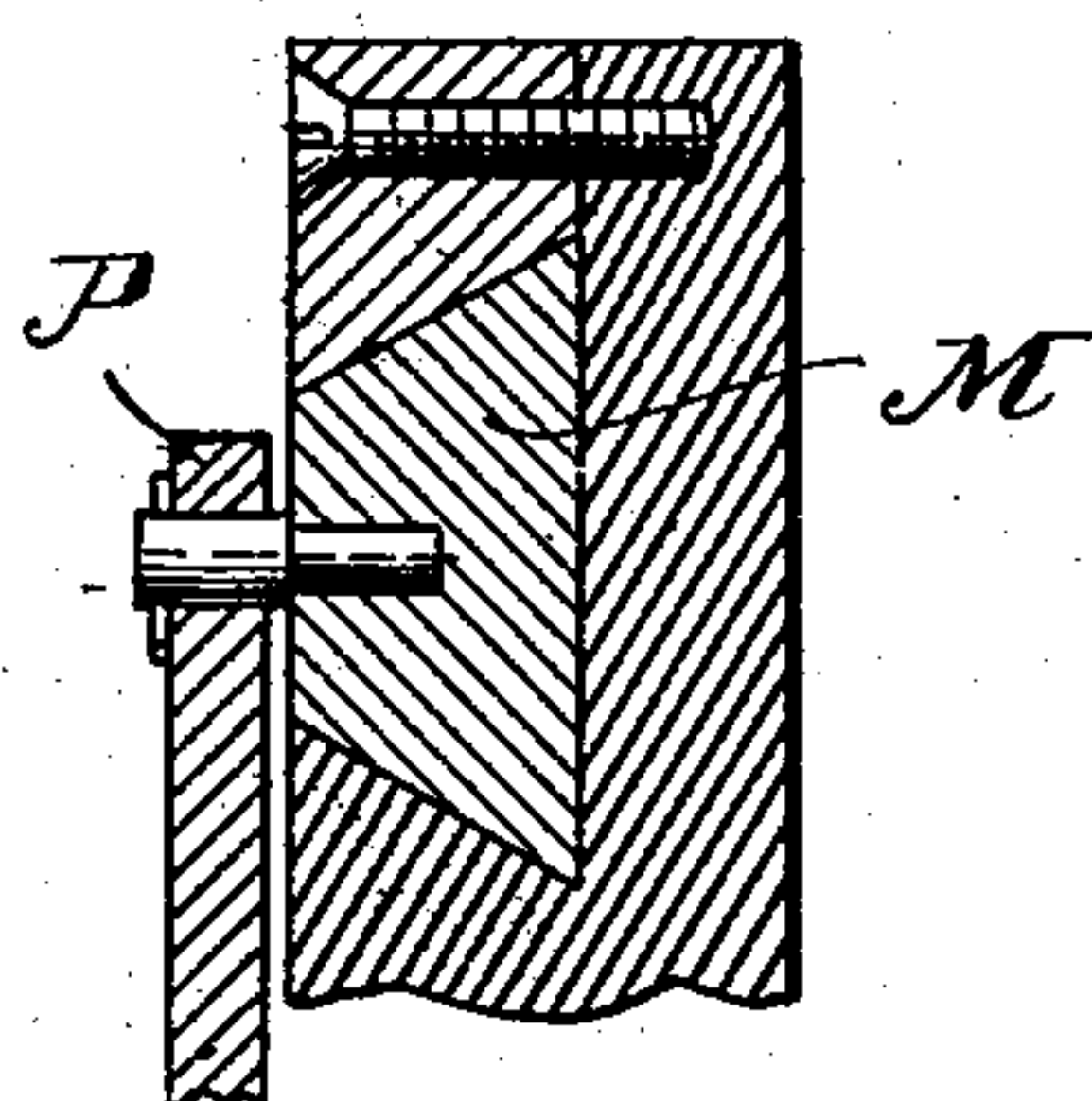


Fig. 6.

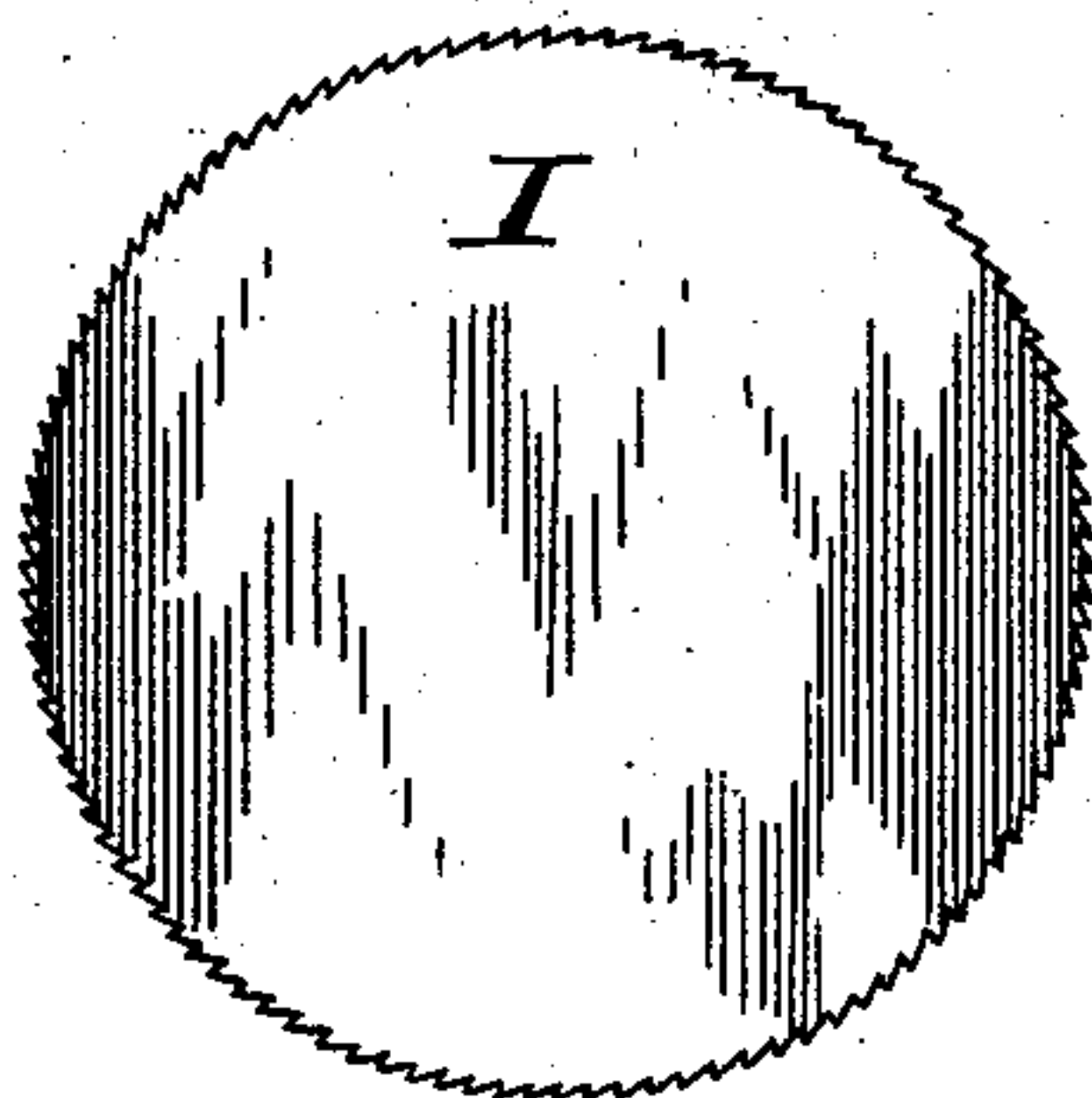
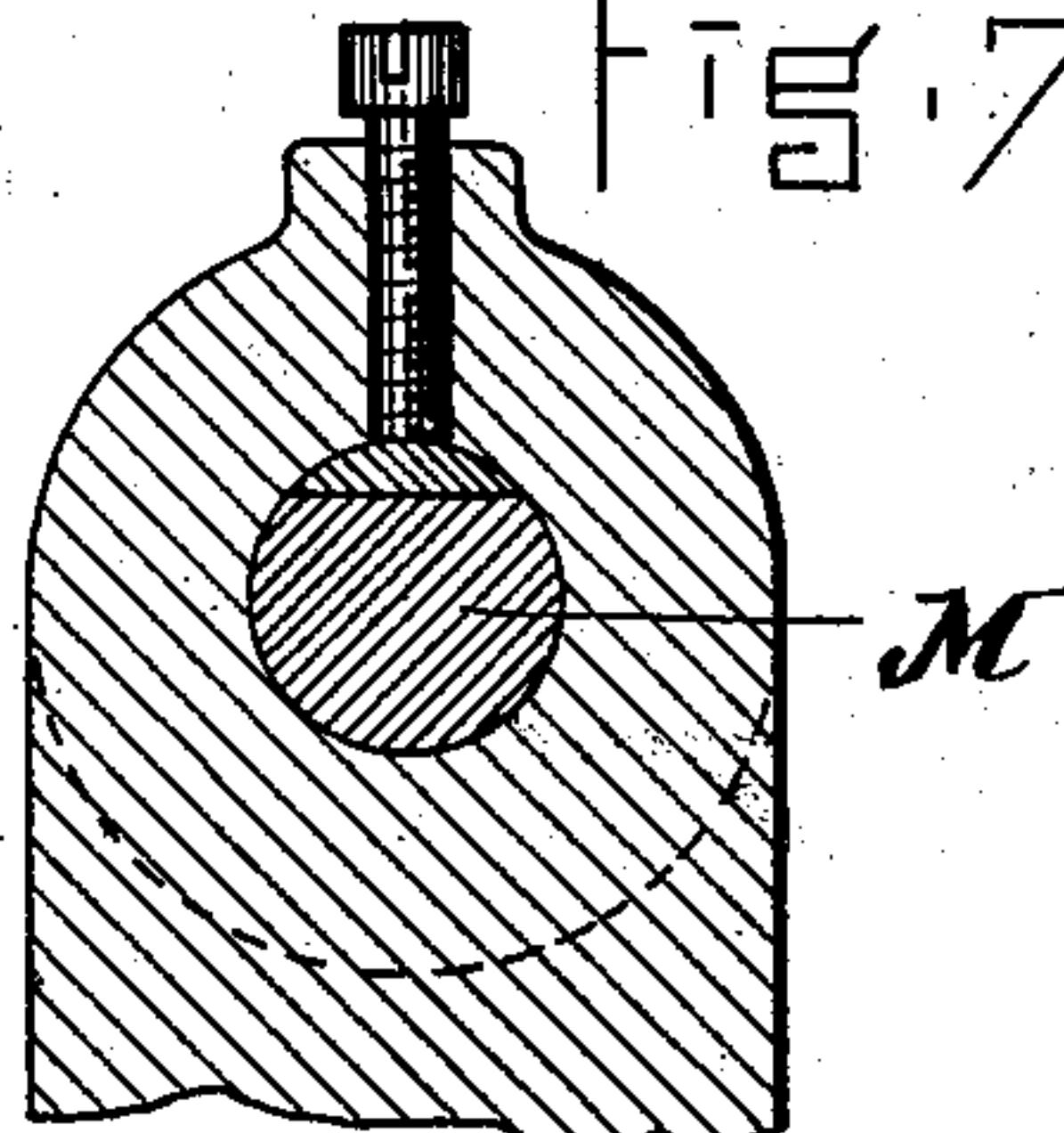


Fig. 7.



WITNESSES.

*G. Henry Marsh.*  
*Ada W. Spencer.*

INVENTOR.

*Francis J. Freese*  
*by A. H. French,*  
*Attorney.*



# UNITED STATES PATENT OFFICE.

FRANCIS JOSEPH FREESE, OF LOWELL, MASSACHUSETTS, ASSIGNOR TO THE  
GOODYEAR SHOE MACHINERY COMPANY OF CANADA, OF NEW YORK,  
N. Y., AND MONTREAL, CANADA.

## SOLE-CHANNELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 506,630, dated October 10, 1893.

Application filed February 20, 1892. Serial No. 422,183. (No model.)

*To all whom it may concern:*

Be it known that I, FRANCIS JOSEPH FREESE, of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Shoe-Channeling Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

The object of my invention is to provide an improved channeling machine of a more simple and efficient character than any heretofore in use. I dispense wholly with a jack for holding the shoe, and make the gage serve as a feed wheel to move the shoe against the edge of a stationary channeling knife; and I provide means for adjusting the distance of the knife from the edge of the feed wheel; and also for varying that distance when desired while operating upon a shoe.

In the drawings, Figures 1 and 2 are elevations, showing the opposite sides of the machine and the shoe in section. Fig. 3 is a top plan of the machine. Fig. 4 is a perspective detail of the devices for holding and adjusting the knife. Fig. 5 is a transverse section at line  $x-x$ , Fig. 4. Fig. 6 is a plan of the feed wheel, and Fig. 7 a modified form of sliding device, in transverse section.

A represents a suitable standard for the machine, secured upon a bench B. C is a driving pulley, shown as revolving upon a counter shaft having a small pinion D meshing with the gear wheel E to reduce the speed of rotation of the shaft F, which, by means of bevel gears G gives rotation to the vertical shaft H. At the upper end of this vertical shaft is the gage and feed wheel I, and above this the movable head J holding or carrying the channeling knife K, the cutting edge or point of which projects obliquely below the lower surface of said head.

The gage or feed wheel I is milled or finely serrated on its periphery, as in Fig. 6, so that when the edge of the shoe sole is pressed thereon by the operator, the shoe will be turned about in his hands, and the knife K, protruding below the lower face of the head J, against which the sole is also pressed, will cut the required channel at the desired dis-

tance from the sole edge, see Figs. 1, 2 and 3. The knife K is held in an oblique recess in the head J, preferably by means of a clamping plate  $j$  pressed against the side of a knife body by a bolt L, Fig. 4. The head J has a sliding stem M, preferably of the dovetailed form shown in Fig. 4, so that it may be moved slightly, to carry the knife to the required distance from the edge of the feed wheel. A spring N on the extension of this stem holds the head back against a set screw O, or other stop, capable of being set as desired.

A treadle T, connecting rod R, and bell-crank lever P, or equivalent devices, are provided, to enable the operator, by foot-pressure, to form the channel slightly farther from the sole-edge, along the shank of the shoe, if desired, without changing the adjustment of the stop O.

By my improved method of channeling soles, the shoe is held up to the knife and feed wheel by the operator without any intermediate gage, and is turned about by the feed wheel while supported by the operator, the projecting head, over said wheel, forming a depth-gage for the knife. This is in marked contrast with the action of machines such as set forth in the patent to Gates, dated February 15, 1876, No. 173,614, which, before lasting, seize the sole between the edges of two rotating disks which bear against its opposite flat surfaces. With my machine the shoe is first lasted and its sole-edge trimmed to shape. Then the operator presses its edge against the serrated edge of the single feed wheel and upwardly against the under face of the knife-carrying head. The rotary movement of the feed-wheel turns the shoe about in the hands of the operator while the projecting knife cuts the channel.

I claim as my invention—

1. In a sole channeling machine, a single power driven feed wheel having a roughened surface in position to engage the outer periphery or edge of a shoe sole, and a channeling knife supported at a little distance from the edge of the wheel and extending in a direction to enter the face of a sole when the periphery of said sole bears against the pe-



riphery of the feed wheel, substantially as described.

2. In a sole channeling machine, the power driven feed wheel presenting its periphery or  
5 edge to the periphery or edge of the shoe sole, the knife arranged at a little distance from the edge of said wheel so as to enter the face of a shoe sole, and means for adjusting said  
10 knife in a direction toward or from the wheel, so as to regulate the distance of the channel from the edge of the sole, substantially as described.

3. In a sole channeling machine, the power driven feed wheel presenting its edge or pe-  
15 riphery to the edge or periphery of the shoe sole, the knife adjustably supported on the frame to enter the face of the shoe sole, and a treadle mechanism connected to the knife by which its position relatively to the feed

wheel may be adjusted, substantially as de- 20 scribed.

4. The improvement in the art of channeling boot and shoe soles, which consists in holding the edge of the sole of the lasted shoe, by hand, against a continuously rotat- 25 ing surface, increasing, diminishing, or suspending the feed by change of manual pressure of such edge against said surface, and forming the channel by suitable means as the boot or shoe is thus rotated. 30

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 22d day of January, A. D. 1892.

FRANCIS JOSEPH FREESE.

Witnesses:

HENRY BENJAMIN,  
R. H. GAIRDNER.