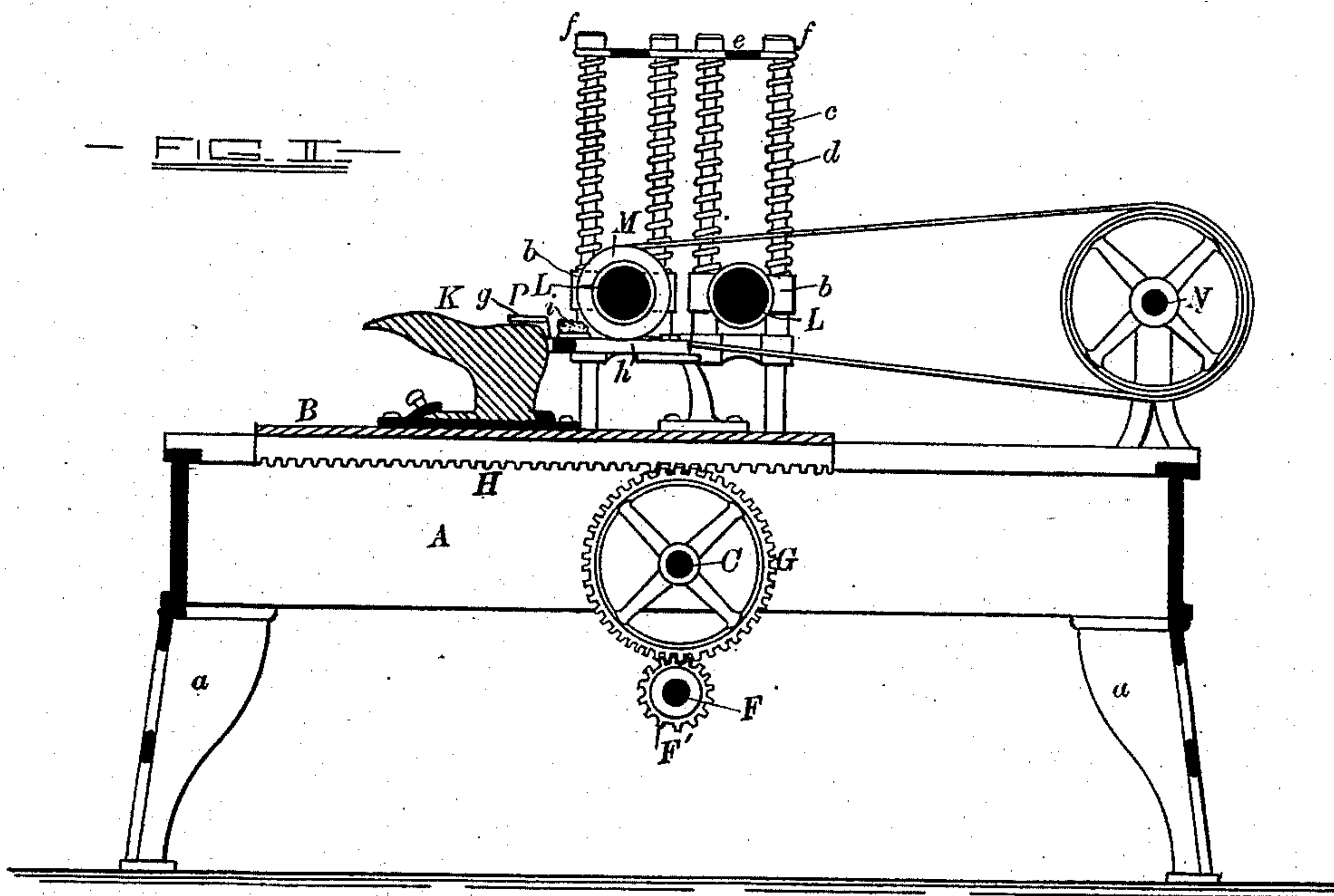
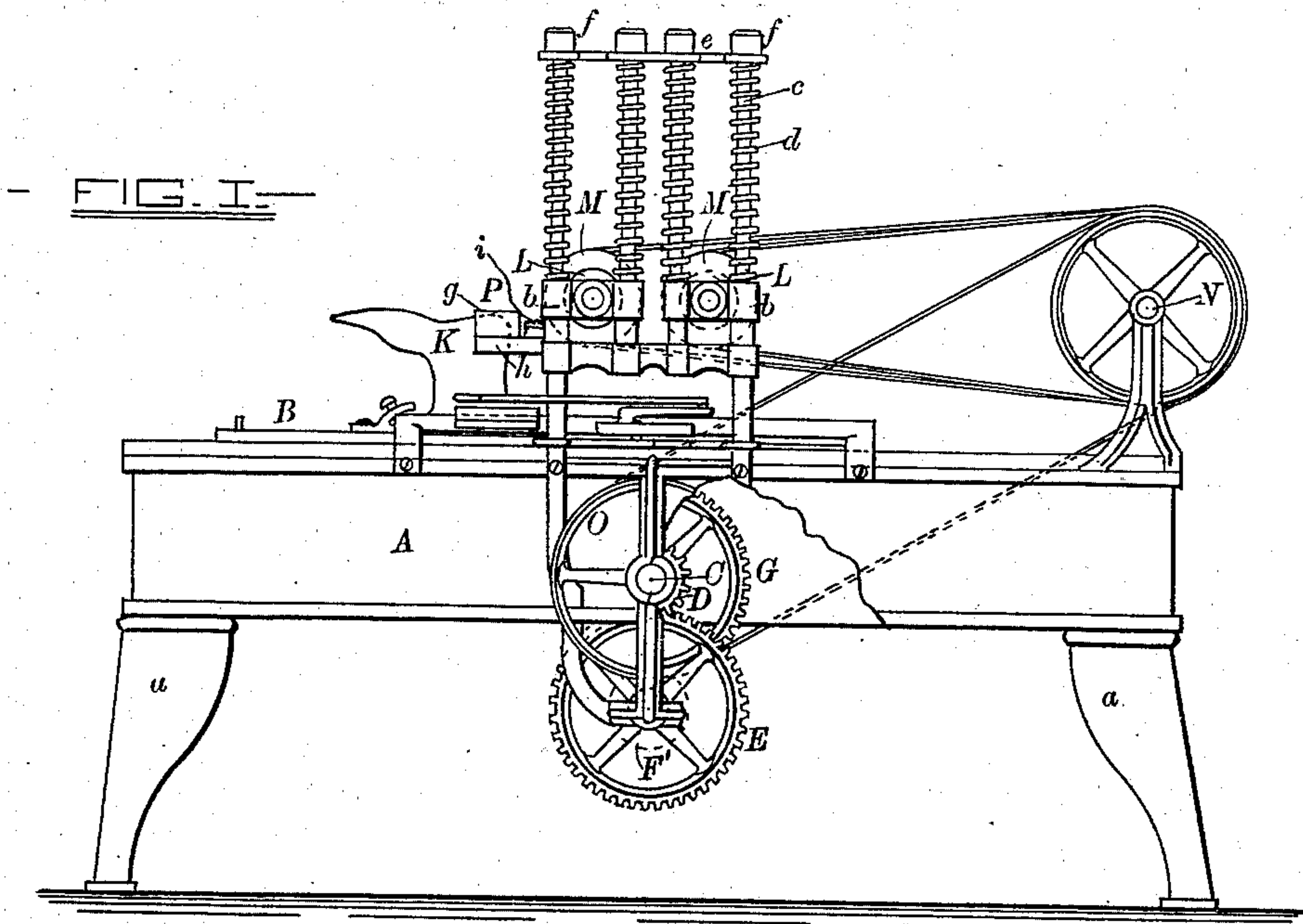


(No Model.)

2 Sheets—Sheet 1.

N. J. ROOP.

Machine for Shaping Boot and Shoe Soles.  
No. 239,849. Patented April 5, 1881.



WITNESSES

Harry V. Albaugh  
H. J. Bailey

INVENTOR

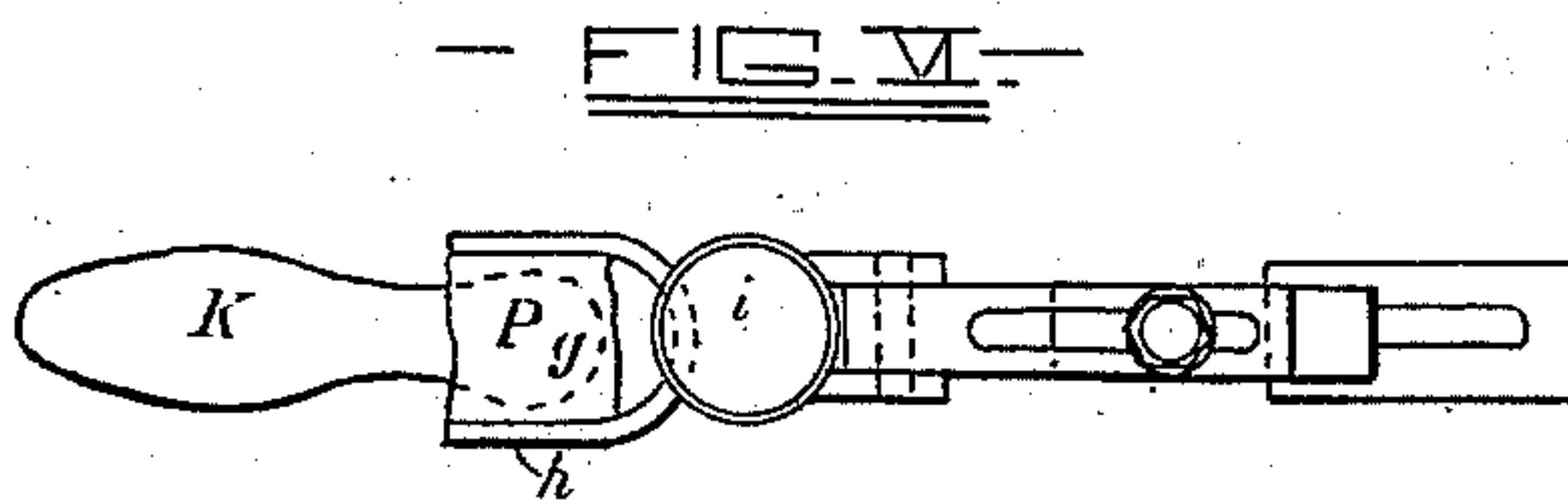
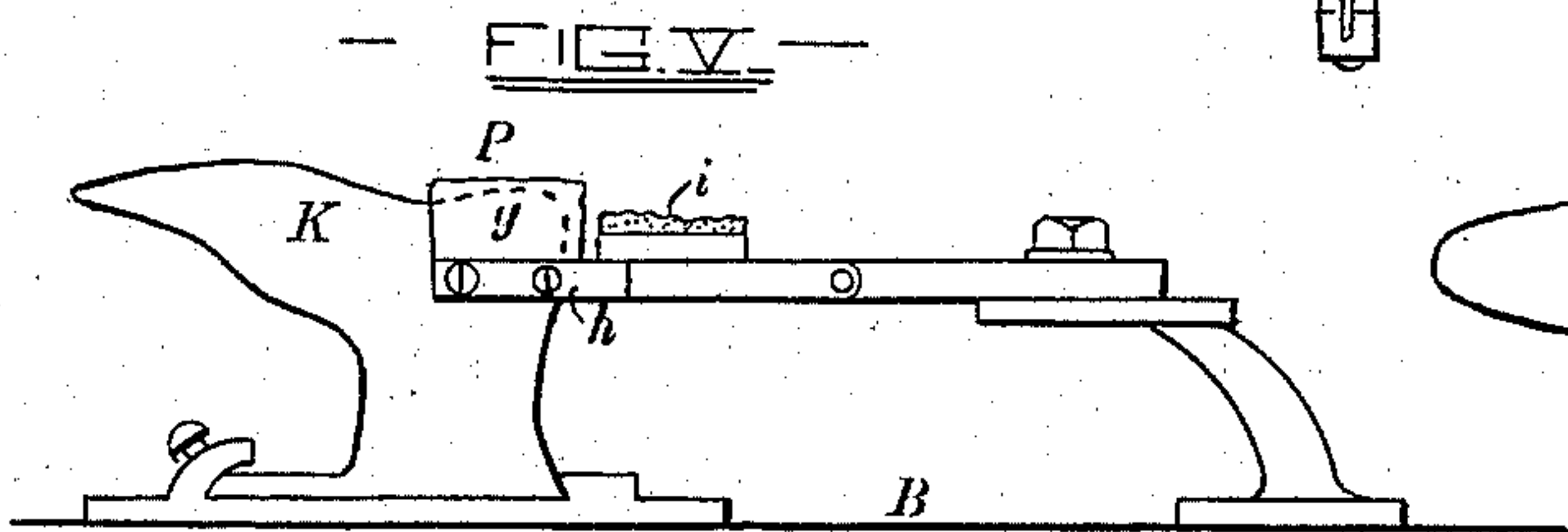
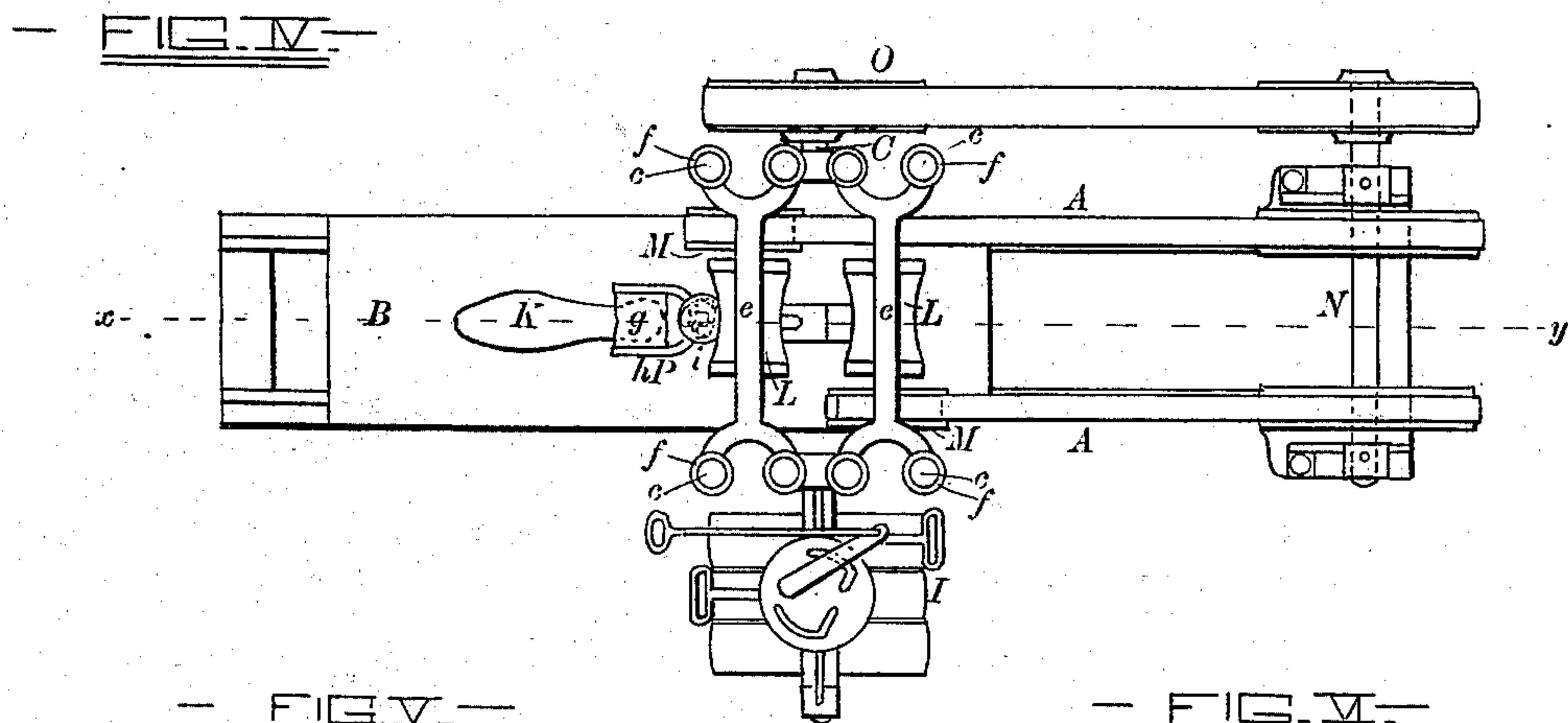
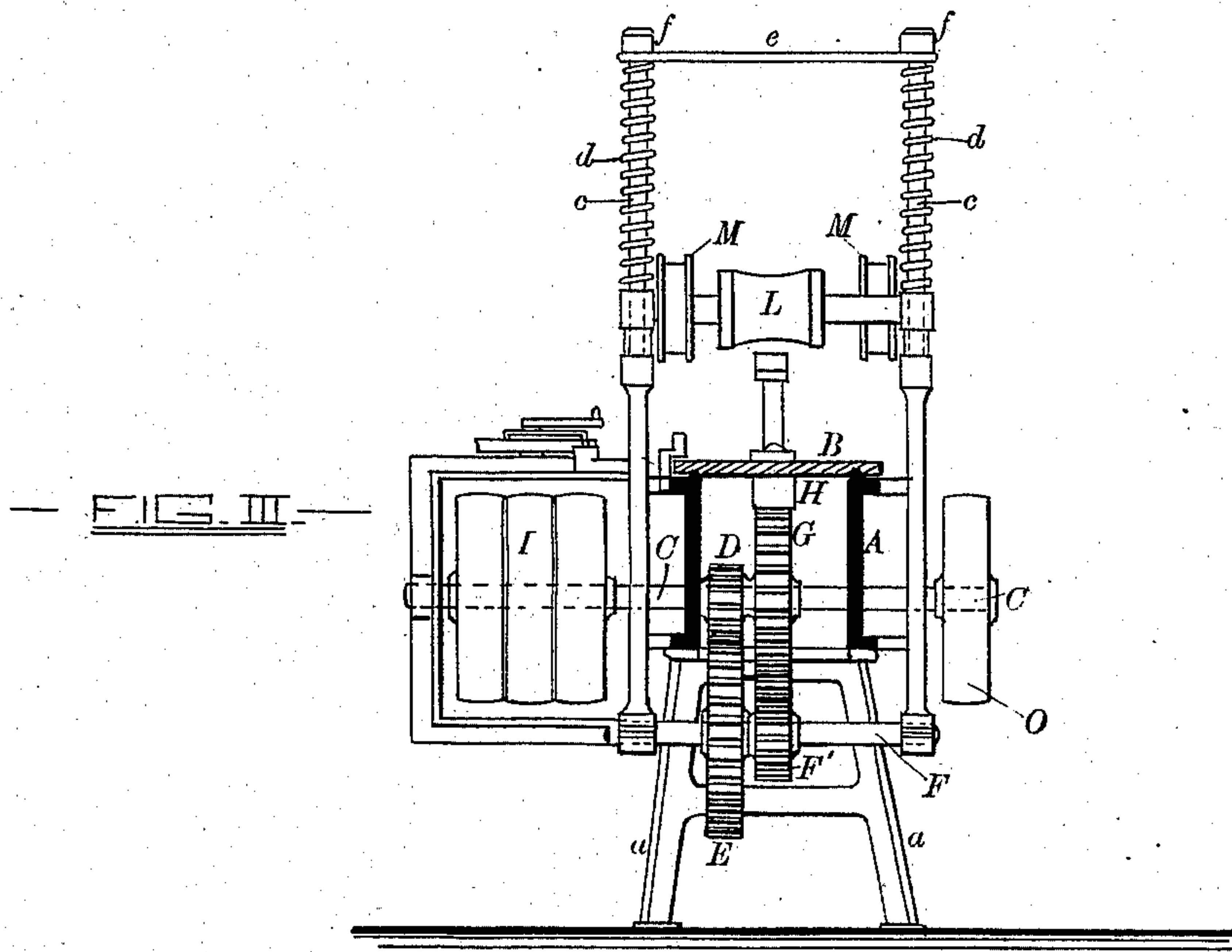
Nicholas J. Roop  
by C. H. N. Howard  
Atty.-

(No Model.)

2 Sheets—Sheet 2.

N. J. ROOP.

Machine for Shaping Boot and Shoe Soles.  
No. 239,849. Patented April 5, 1881.



WITNESSES

Harry V. Albough,  
A. J. Bailey.

INVENTOR

Nicholas J. Roop,  
by E. H. Howard,  
Atty.



# UNITED STATES PATENT OFFICE.

NICHOLAS J. ROOP, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF  
TO JOSEPH DAVIS, OF LYNN, MASSACHUSETTS.

## MACHINE FOR SHAPING BOOT AND SHOE SOLES.

SPECIFICATION forming part of Letters Patent No. 239,849, dated April 5, 1881.

Application filed January 26, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, NICHOLAS J. ROOP, of the city of Baltimore and State of Maryland, have invented certain Improvements in Machines for Shaping Boot and Shoe Soles, of which the following is a specification; and I do hereby declare that in the same is contained a full, clear, and exact description of my said invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to certain improvements in a machine for forcing the sole of a boot or shoe closely in contact with the last, thereby giving to the sole the required longitudinal and transverse curvature and removing lumps and inequalities in its surface. The said machine also closes the groove in which the stitches holding the upper to the sole are located, and smooths the outer surface of the sole without removing any portion thereof.

In the further description of my said invention which follows reference is made to the accompanying drawings, forming a part hereof, and in which—

Figure I is a side view of the improved machine with certain parts thereof shown in section. Fig. II is a longitudinal section of the machine, taken on the dotted line *xy* of Fig. IV. Fig. III is a transverse section of the invention. Fig. IV is a plan of the machine. Figs. V and VI are views of parts of the machine on an enlarged scale.

Similar letters of reference indicate similar parts in all the views.

A is the frame of the machine supported by the legs *a*.

B is a table adapted to have a reciprocating sliding movement longitudinally of the frame A.

C is a driving-shaft extending entirely through the frame A, provided with a pinion, D, secured thereto. The pinion D is geared into a larger wheel, E, fastened to a second shaft, F, which shaft carries a second pinion, F', in gear with a wheel, G, adapted to turn freely on the driving-shaft. The wheel G engages with a toothed bar or rack, H, on the under side of the table B, and in its revolution effects a longitudinal movement of the table. The forward and backward motion of the table B is effected, primarily, by means of tight

and loose pulleys and straight and cross belts, together with devices for shifting the said belts alternately to and from the tight driving-pulley, which is represented by I.

The belt-shifting devices which I employ are commonly used in machines having a reciprocating sliding table. A detailed description thereof is therefore not necessary herein.

K is a last, secured removably to the upper surface of the plate B, upon which the shoe to be operated upon is placed.

L L are rolls, supported at their ends by cross-heads *b*, and adapted to bear with considerable pressure on the sole of the shoe as the same is carried underneath the said rolls in the sliding movement of the table B. A yielding pressure of the rolls on the shoe-sole is preferably obtained by placing the cross-heads over vertical rods *c*, and confining spiral springs *d* between the said cross-heads and an upper frame, *e*, adjustable in height by means of nuts *f*. The rolls L are of such shape as to practically fit or form a close connection with the upper surface of the last K, one of the said rolls conforming in shape to the sole proper, and the other to the shank of the shoe, and they are revolved rapidly by means of belts and pulleys M from a shaft, N, which receives its motion from a pulley, O, on the driving-shaft C. It is preferred that the rolls revolve at all times in a direction contrary to that of the table and last, and this is effected by driving them from the shaft C, whose movement is changed with the shifting of belts, as described.

Parts of the invention not yet alluded to will be described and their uses set forth in the description of the operation of the improved machine which follows. The shoe to be operated upon is placed over the last K, and a heel-protector, P, which consists of a piece of leather, *g*, secured to a hinged forked bar, *h*, placed over the heel. The machine is then put in operation, and as the shoe passes underneath the rolls L the sole is forced closely in contact with and made to conform in shape to the last. When the shoe returns to the starting-point the heel-protector is raised and the shoe removed and another one placed on the last.

It will be seen that the forked bar *h*, carry-



ing the heel-protector, is adjustable in length in order to suit different-sized lasts. A pad, saturated with coal-oil or other suitable liquid, is placed in the rear of the heel-protector, and as the rolls pass over it they are cleansed, and a bright surface thereby maintained.

I claim as my invention—

1. In a machine for shaping boot or shoe soles by pressure, a last having a reciprocating sliding movement, a roll or pair of rolls adapted to bear on the said last or on a shoe placed thereon, in the reciprocating movement of the said last, and mechanism for effecting the rotation of the rolls, and the reciprocating movement of the last, substantially as herein specified.

2. In a machine for shaping boot or shoe soles by pressure, a last having a reciprocating

ing sliding movement, a roll or pair of rolls adapted to bear on the said last or on a shoe placed thereon, in the reciprocating movement of the said last, and a removable heel-protector, substantially as herein specified.

3. In a machine for shaping boot or shoe soles by pressure, a last having a reciprocating sliding movement, a roll or a pair of rolls adapted to bear on the said last or on a shoe placed thereon, in the reciprocating movement of the said last, and a spring or series of springs bearing upon the said rolls, substantially as herein specified.

NICHOLAS J. ROOP.

Witnesses:

WM. T. HOWARD,  
JNO. T. MADDOX.