

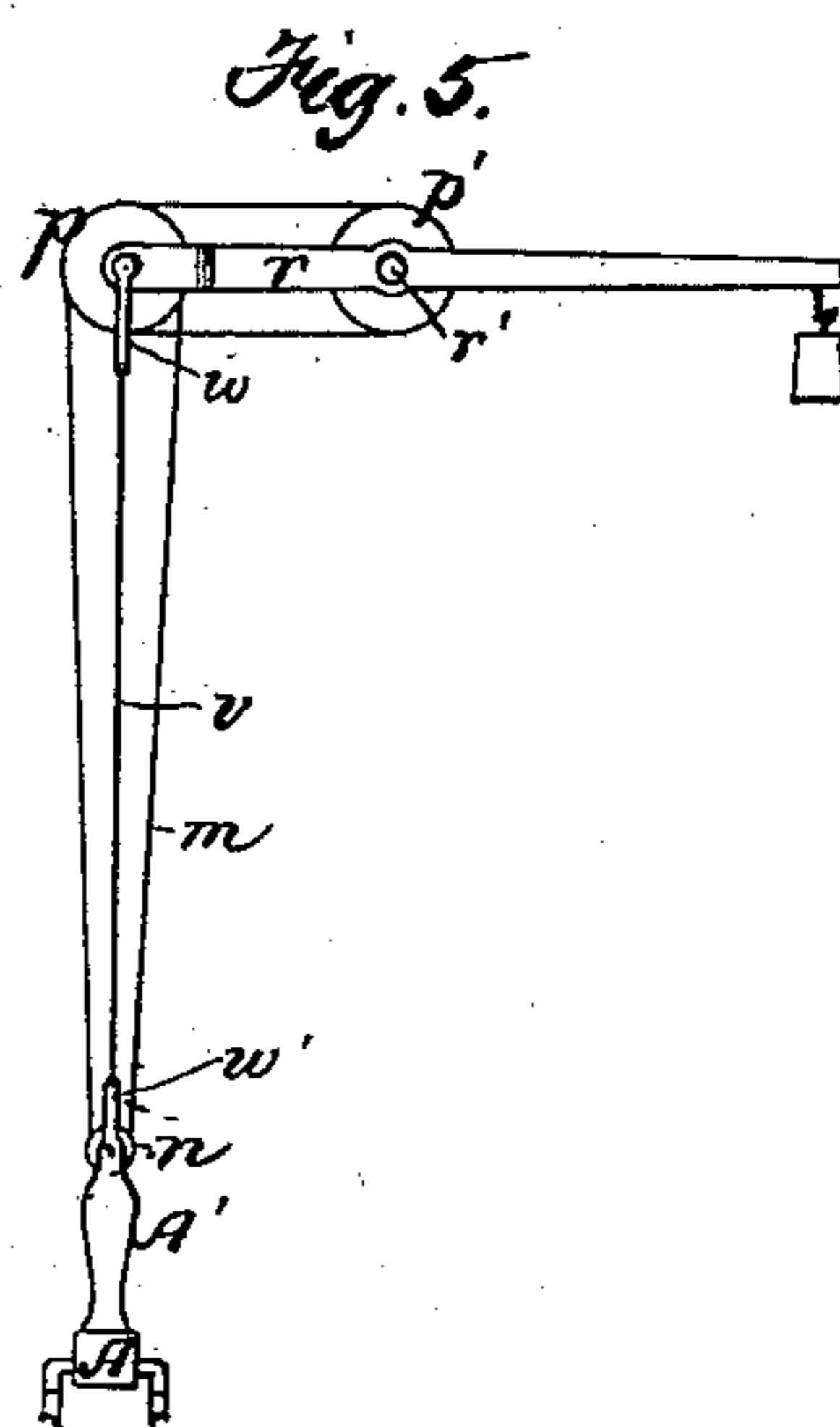
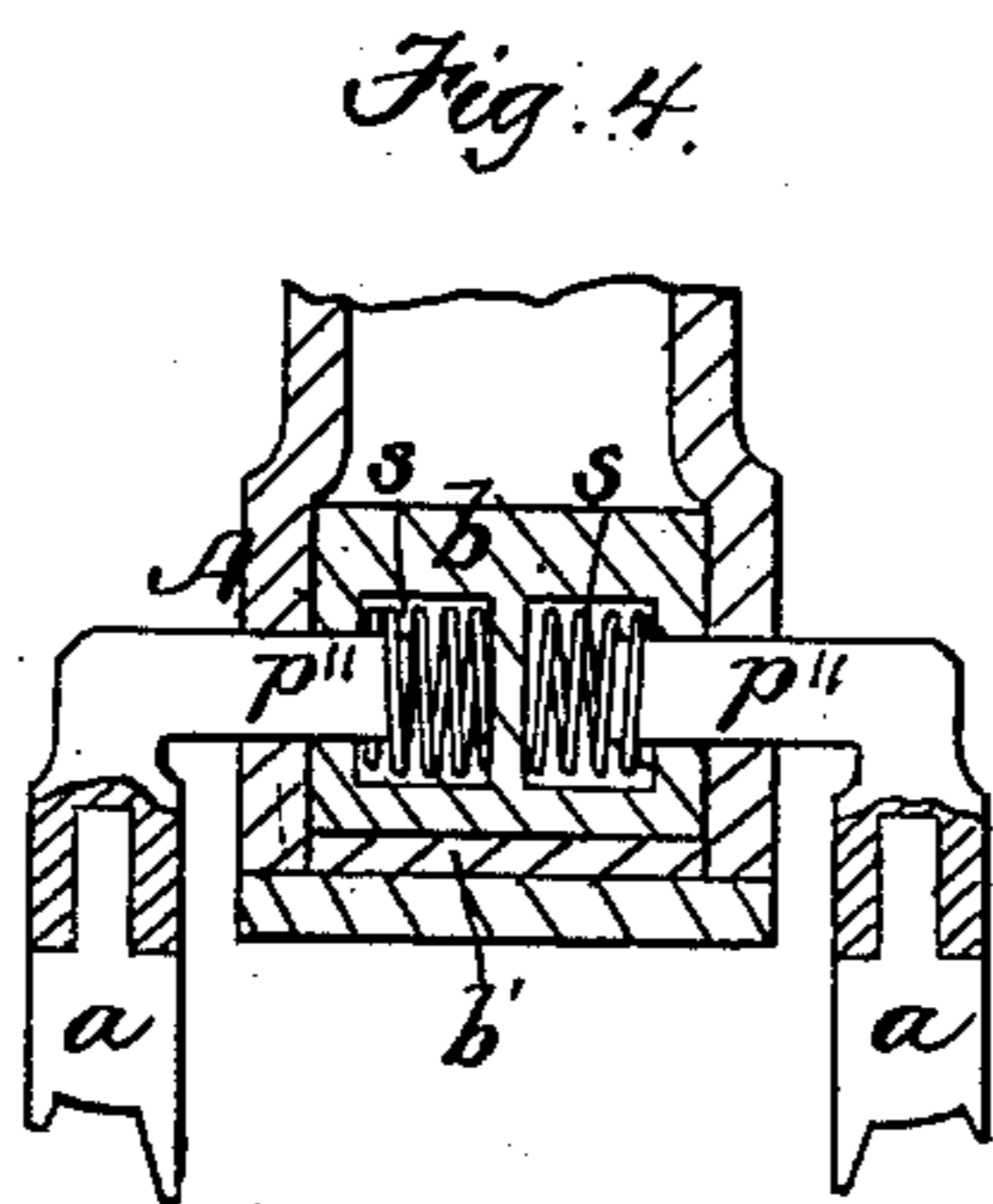
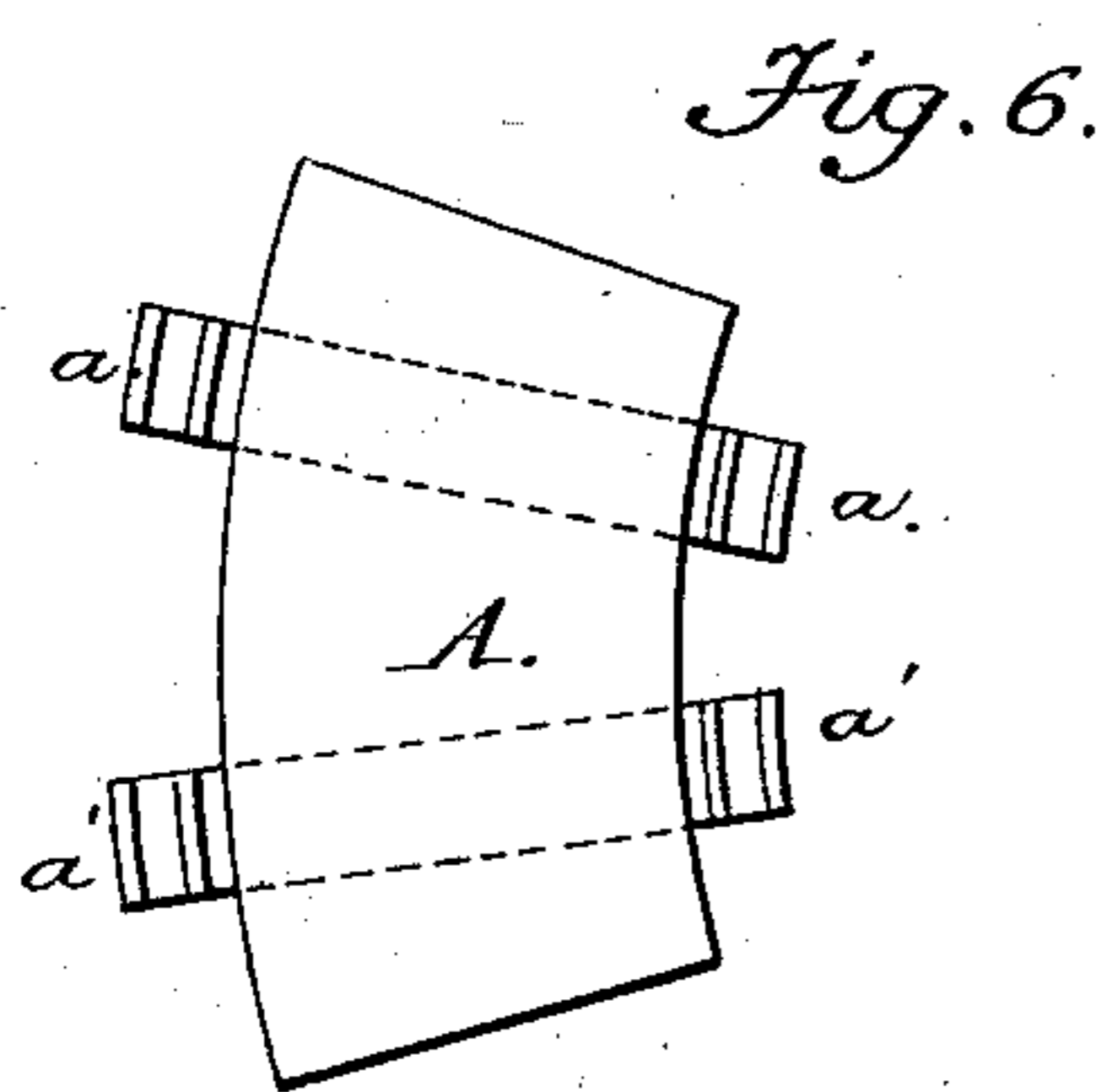
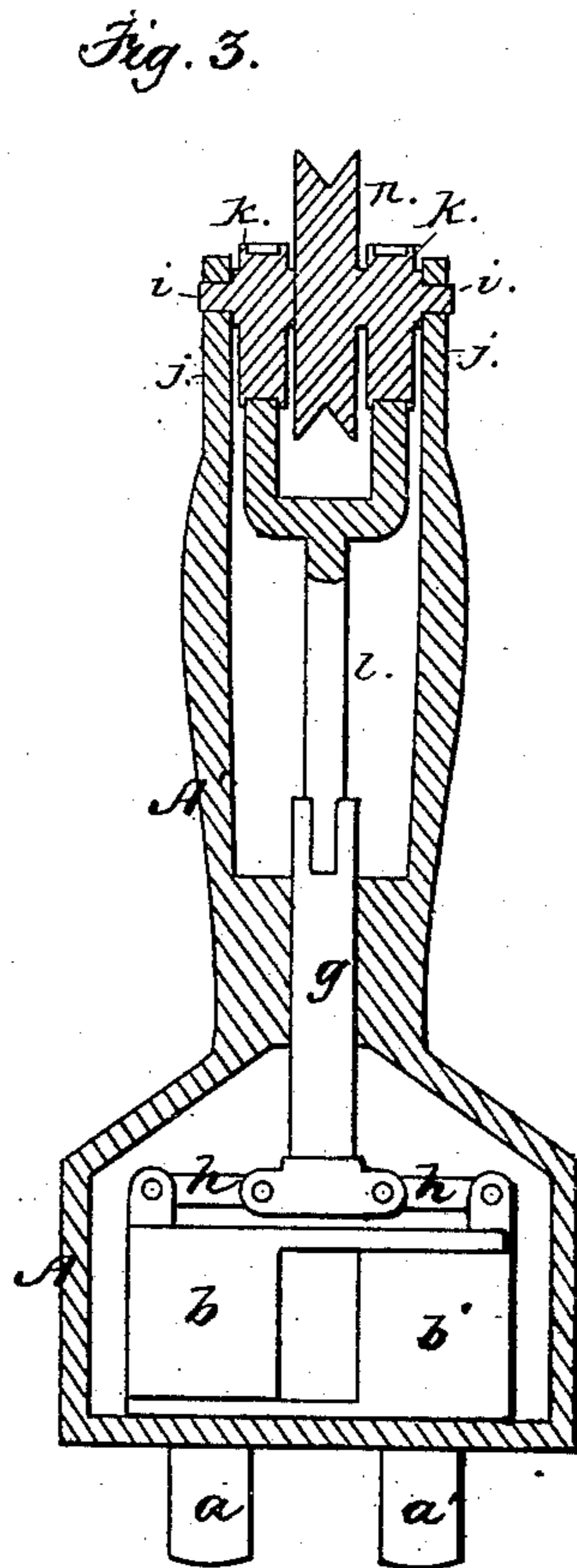
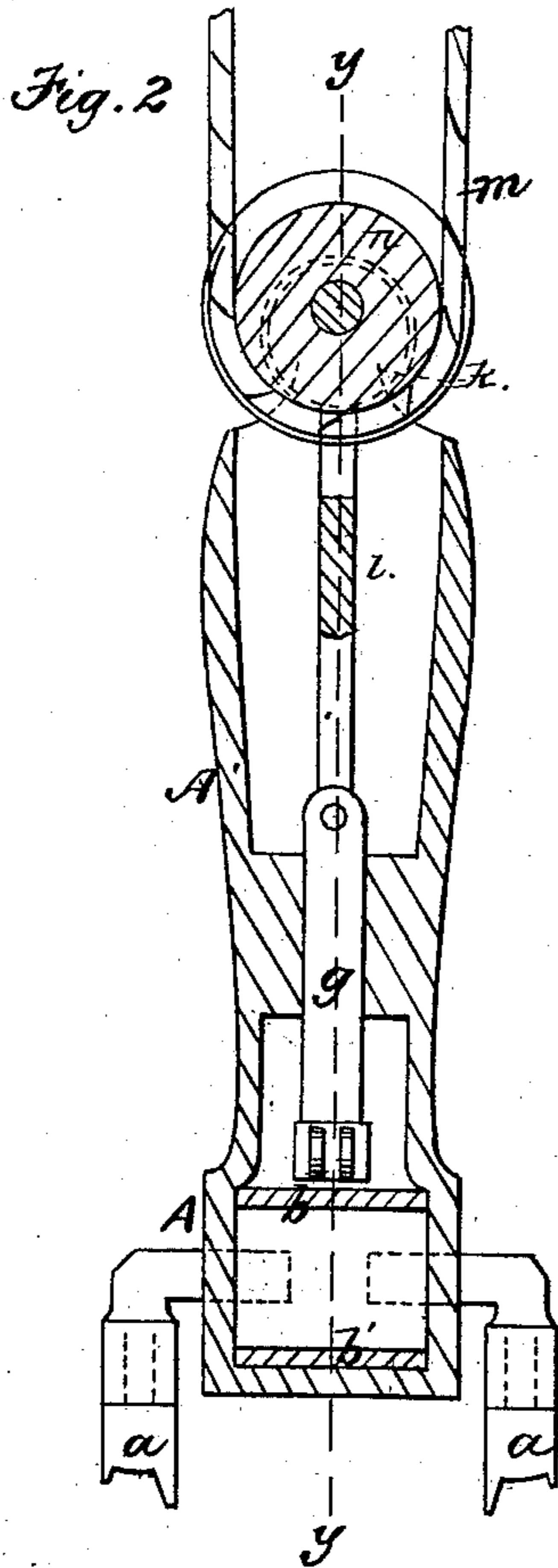
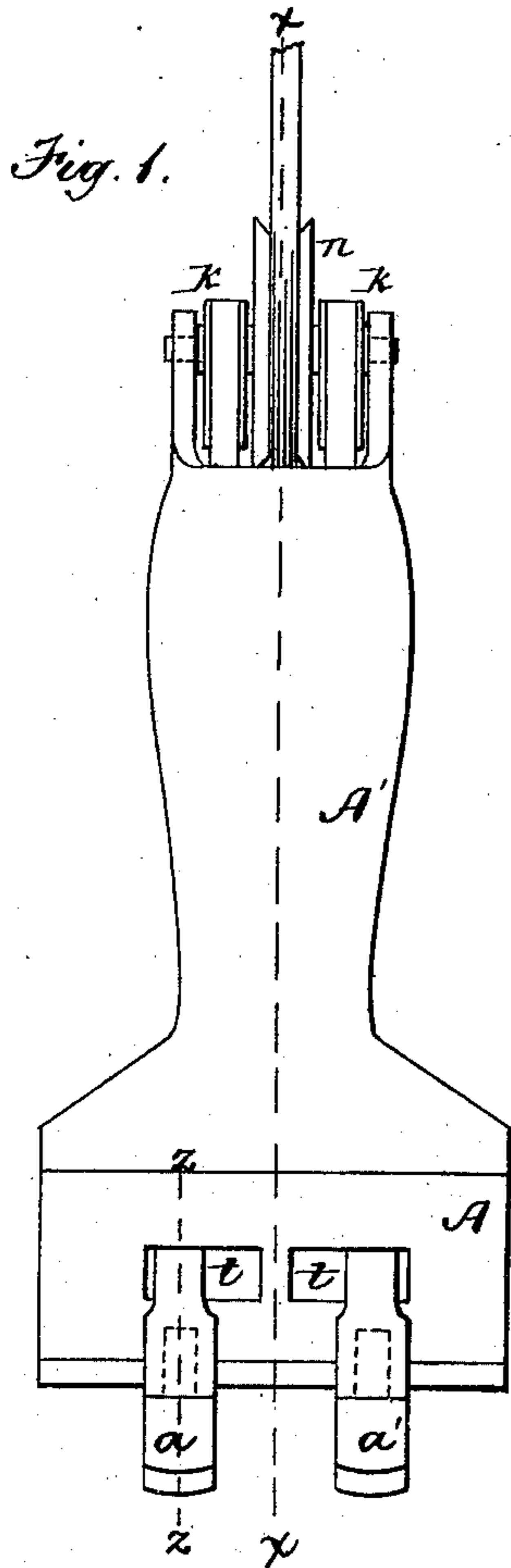
(No Model.)

J. W. MALOY.

SOLE EDGE BURNISHING MACHINE.

No. 245,964.

Patented Aug. 23, 1881.



Witnesses:
C. T. Brown
J. G. Madlin

Inventor:
James W. Maloy

UNITED STATES PATENT OFFICE.

JAMES W. MALOY, OF SOMERVILLE, MASSACHUSETTS.

SOLE-EDGE-BURNISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 245,964, dated August 23, 1881.

Application filed June 2, 1881. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. MALOY, of Somerville, in the county of Middlesex and State of Massachusetts, have invented certain Improvements in Sole-Edge-Burnishing Machines, of which the following is a specification.

This invention relates to that class of sole-edge-burnishing machines employing a reciprocating burnishing-tool located in a movable stock or head provided with a handle adapted to be moved and guided by the operator along the edge of a sole, the latter being held on a jack.

Heretofore, in this class of machines, the movable stock has been provided with a single reciprocating tool. Said tool is reciprocated very rapidly, usually about twenty-five hundred strokes per minute, and its action on the edge of the sole imparts a trembling motion to the stock and its handle, which not only makes it difficult for the operator to hold and guide it, but also imparts a sensation of numbness to his hand and arm, so that he is obliged frequently to stop operating the machine.

My invention has for its object to enable a burnishing-machine of this class to be operated with less muscular effort on the part of the operator, and without the benumbing effect above mentioned.

To this end my invention consists in providing the movable stock or head with two burnishing-tools adapted to reciprocate simultaneously in opposite directions, and thereby neutralize the tendency of each tool to shake the stock and handle.

The invention also consists in providing each burnishing-tool with a yielding movement, to enable both tools to conform more readily to curved portions of the sole-edge, all of which I will now proceed to describe and claim.

Of the accompanying drawings, forming part of this specification, Figure 1 represents a front elevation of a movable head embodying my invention. Fig. 2 represents a section on line *x x*, Fig. 1. Fig. 3 represents a section on line *y y*, Fig. 2. Fig. 4 represents a section on line *z z*, Fig. 1. Fig. 5 represents a side view of the head and the tool-driving mechanism. Fig. 6 represents a bottom view of the head, showing its curvature.

The same letters refer to the same parts in all the figures.

In the drawings, A represents a movable stock or head provided with a handle, A', and adapted to support and permit the reciprocating movement of two burnishing-tools, *a a'*, said tools being adapted to reciprocate simultaneously in opposite directions. The form of the stock or handle, the means for connecting the tools to the stock, and the mechanism for reciprocating the tools may be variously modified without departing from the spirit of my invention. In the present instance the head is formed as a curved guide or holder, and the tools are attached to slides *b b'*, which are adapted to reciprocate in said guide or holder. The head is provided with a pair of burnishing-tools at each side, and one side of the head has a concave curve corresponding to the convex upward and downward curves of the sole at the ball of the foot, while the opposite side has a convex curve corresponding to the concave upward and downward curve of the sole at the shank, so that by turning said head the burnishing-tools at its front side can be caused to conform to either of said curves. The head is flexibly supported, so that it can be turned freely in any direction, and either side can be brought to the front.

The means shown for reciprocating the tools *a a'* are a rod, *g*, reciprocated longitudinally in a guide above the head, and links *h h* connecting said rod with the slides *b b'*. The guide for the rod *g* is a portion of the handle A', and the mechanism for reciprocating said rod is an arbor, *i*, journaled in lugs *j j* in the upper part of the handle A', eccentrics *k k* on said shaft reciprocating the rod *g*, through the medium of a forked connecting-rod, *l*, within the handle A'. The arbor *i* is rotated by a flexible belt, *m*, running from a pulley, *n*, on said arbor to a suitable driving-pulley, as shown in Fig. 5, said belt constituting the above-named flexible support for the head A and its attachments.

The operation of a machine provided with the described improvements is the same as of other machines of its class—*i. e.*, the boot or shoe is placed on a suitable pivoted jack, which the operator rotates with one hand while he grasps the handle A' with the other hand and presses the tools *a a'* against the sole-edge, moving the tools back and forth and rotating the jack from time to time until the work is done.

The simultaneous movement of the tools in opposite directions causes each to neutralize the shaking or jarring effect of the other on the head and handle, so that the operator is not troubled by any sensation of numbness, and is enabled to easily control the tools.

It is obvious that any desired number of tools a multiple of two may be applied to a single head and divided into two equal series moving simultaneously in opposite directions without departing from the spirit of my invention.

I prefer to give each burnishing-tool a yielding movement by adapting the shank p'' , to which it is attached, to move in the slide b or b' , so that the tool can move toward or from the head, and providing each shank with a spring, s , as shown in Fig. 4, the spring being adapted to force the tool outwardly from the holder. This provision enables the tool to vary in its line of movement from the curve of the head A , so that the tools can follow the described curves of the sole, whether said curves are parallel with the curved sides of the head or not.

The head A is provided with slots tt to permit the reciprocating movements of the tools, and the shanks of the tools and the apertures in the slides through which said shanks pass are formed to prevent said shanks from rotating.

The head A may be straight instead of curved, if so desired, so as to guide the tools in a straight instead of a curved line.

The pulley p , which drives the pulley n , is preferably mounted on a weighted arm, r , which is pivoted at r' on the shaft of a main driving-pulley, p' . The pulley p is therefore adapted to rise and fall.

I prefer to interpose a rigid rod, v , between the arm r and the handle A' , as shown in Fig. 5, to prevent the belt m from being slackened by

the upward movement of the head A . The rod v is swiveled in a bail, w , attached to the rod r , and to a bail, w' , attached to the handle A' .

Having thus described my invention, I claim—

1. In a sole-edge-burnishing machine having a flexibly-supported head adapted to be moved by the operator, the combination, with said head, of two reciprocating burnishing-tools adapted to operate simultaneously on the edge of a sole and to move simultaneously in opposite directions, whereby the tendency of each tool to shake or jar the head and its handle is neutralized, as set forth.

2. A flexibly-supported head or holder adapted to be moved by the operator, and curved, as described, combined with two slides adapted to reciprocate in said head, each carrying two burnishing-tools located at opposite sides of the head, and mechanism for reciprocating said slides simultaneously in opposite directions, substantially as and for the purpose set forth.

3. The combination of the movable head A , having the hollow handle A' , the burnishing-tools $a a'$, the slides $b b'$, and mechanism, substantially as described, supported by said head and handle for reciprocating the tools simultaneously in opposite directions, as set forth.

4. In a sole-edge-burnishing machine, the combination of the movable head A , two slides adapted to reciprocate in said head, and burnishing-tools carried by said slides, each tool having a yielding movement, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 31st day of May, A. D., 1881.

JAMES W. MALOY.

Witnesses:

H. G. WADLIN,
C. F. BROWN.