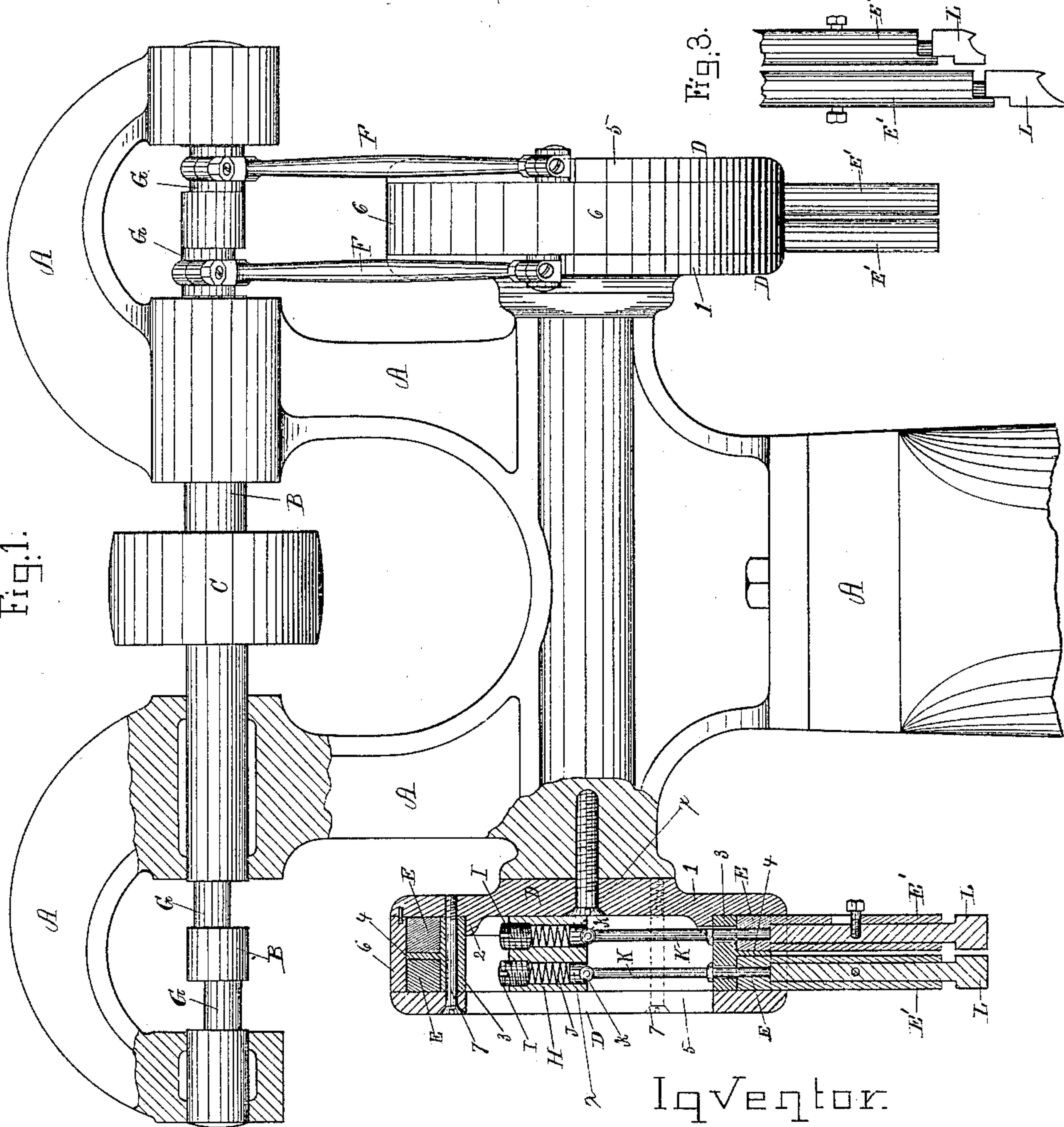
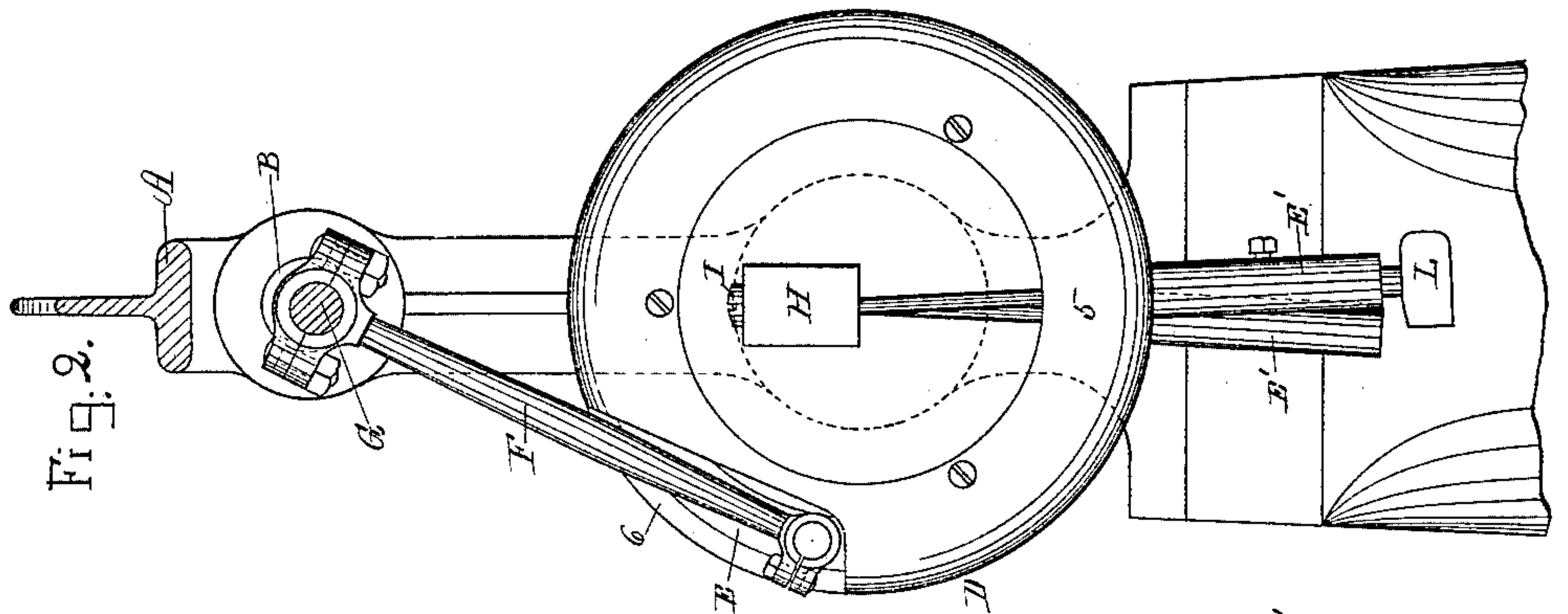


(No Model.)

J. W. DODGE.
MECHANICAL MOVEMENT.

No. 318,456.

Patented May 26, 1885.



Witnesses.
Lauritz N. Moller.
Carl N. Moller

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UNITED STATES PATENT OFFICE.

J. WESLEY DODGE, OF MALDEN, MASSACHUSETTS.

MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 318,456, dated May 26, 1885.

Application filed April 20, 1885. (No model.)

To all whom it may concern:

Be it known that I, J. WESLEY DODGE, of Malden, in the county of Middlesex and the State of Massachusetts, have invented certain
5 Improvements in Mechanical Movements, of which the following is a specification.

The invention relates to certain improvements in mechanical movements in which two tools are caused to reciprocate simultaneously
10 in opposite directions, and are for certain purposes improvements on Patent No. 298,671, granted to me May 13, 1884.

The invention consists of a hollow disk secured to a suitable frame, and formed on its
15 outer edge with two annular recesses into which are fitted two metal rings, each of which is connected by a rod or pitman with an eccentric on a driving-shaft, the eccentrics being on opposite sides of the shaft, and when
20 the shaft is rotated it imparts through the pitman to the rings a simultaneously reciprocating motion in opposite directions. On the lower outward edge of each ring a socket or tool-holder is secured, provided with a spring-
25 catch or other device to engage the shank part of the tool and retain it in place when the tool is introduced into the socket or holder, on which is formed a stop to prevent the tool from being pressed upward beyond a certain
30 point. A portion of the cover 6, on its lower edge, is cut away to allow the free movement of the tool-holders. As a degree of elasticity is necessary for burnishing purposes, a projection or spring-holder is secured to the disk
35 above its center, in which is placed one or more springs (in drawings, two independent springs are shown) held on their upper ends by screw-plugs and on their lower ends by slides that fit in the block.

40 Referring to the accompanying drawings, Figure 1 represents a side elevation, partially in section, of mechanical movements constructed according to my invention. Fig. 2 is an end view of the same, also partially in section.
45 Fig. 3 is a side view showing a modification of the tools and tool-holders.

A represents the frame of the machine; B, the driving-shaft, and C the driving-pulley.

To the frame A are secured two hollow
50 disks, D D, formed on their periphery, each with two annular recesses, into each of which

is fitted a metal ring, E, formed at its lower end with a tool-holder, E'. I prefer to make the disk D in four separate parts and bolt them together, as shown in Fig. 1—that is, of
55 a disk, 1, secured to the frame of the machine and provided with a lip or flange, 2, around which fits a ring, 3, provided with a central projection, 4, an outer ring or face-plate, 5, and a cap or cover, 6, the whole
60 being secured together by bolts 7. This is a simple and cheap mode of construction.

H is a projection on the upper part of disk D 1, provided with openings in which blocks
65 X X are free to slide. I I are screw-plugs that confine the springs J J on their upper ends. The slide-blocks X X are formed on their lower ends to connect, by ball-and-socket or other joints, with the upper ends of rods K K,
70 and near the lower ends of these rods shoulders are made, which bear on the inner surface of the rings E E, to prevent their being forced outward too far by the springs. These rods extend through slots in ring 3 and holes
75 in rings E E into the tool-holders, and bear upon the ends of the shanks of the tools L L. The point of contact between the rods K K and slides X X being as near the center of the rings E E as practicable, a very slight movement results at this point, while the ends of
80 the rods that pass through the rings are free to move with the rings.

It will be seen that as the shaft B is rotated the cranks or eccentrics G G will, through the pitmen F F, impart a reciprocating motion to
85 the rings E E simultaneously in opposite directions.

In use the operator, either with or without the assistance of shoe-holding mechanism, presses the surface to be burnished against the
90 face of the tool or tools, and while the reciprocating of the tools produces the required finish the elasticity of the springs J J, through the medium of rods K K, allows the tools L L to readily adjust themselves to the inequalities
95 of the surface operated upon.

In the drawings I have shown a double machine; but single machines may be constructed according to my invention, if desired.

What I claim as my invention is—

1. The improved mechanical movement embracing the following elements: the disks D D
100

and rings E E provided with tool-holders E' E', in combination with pitmen F F and eccentrics G G on the driving-shaft B, substantially as shown, and for the purpose described.

5 2. Rods K K, the inner ends of which, being near the center of moving circular rings, are substantially at rest, the outer ends of which move with the rings and bear upon operating tools, in combination with a spring or springs
10 for the purpose of transmitting to such tools a degree of elasticity, as shown and described.

3. The disk D, in combination with two

rings E E and tool-holders E' E', having a simultaneous reciprocating motion in opposite directions, substantially as set forth, and for 15 the purpose described.

In testimony whereof I have signed my name to this specification, in presence of two subscribing witnesses, this 17th day of April, 1885.

J. WESLEY DODGE.

Witnesses:

L. N. MÖLLER,
C. MÖLLER.