

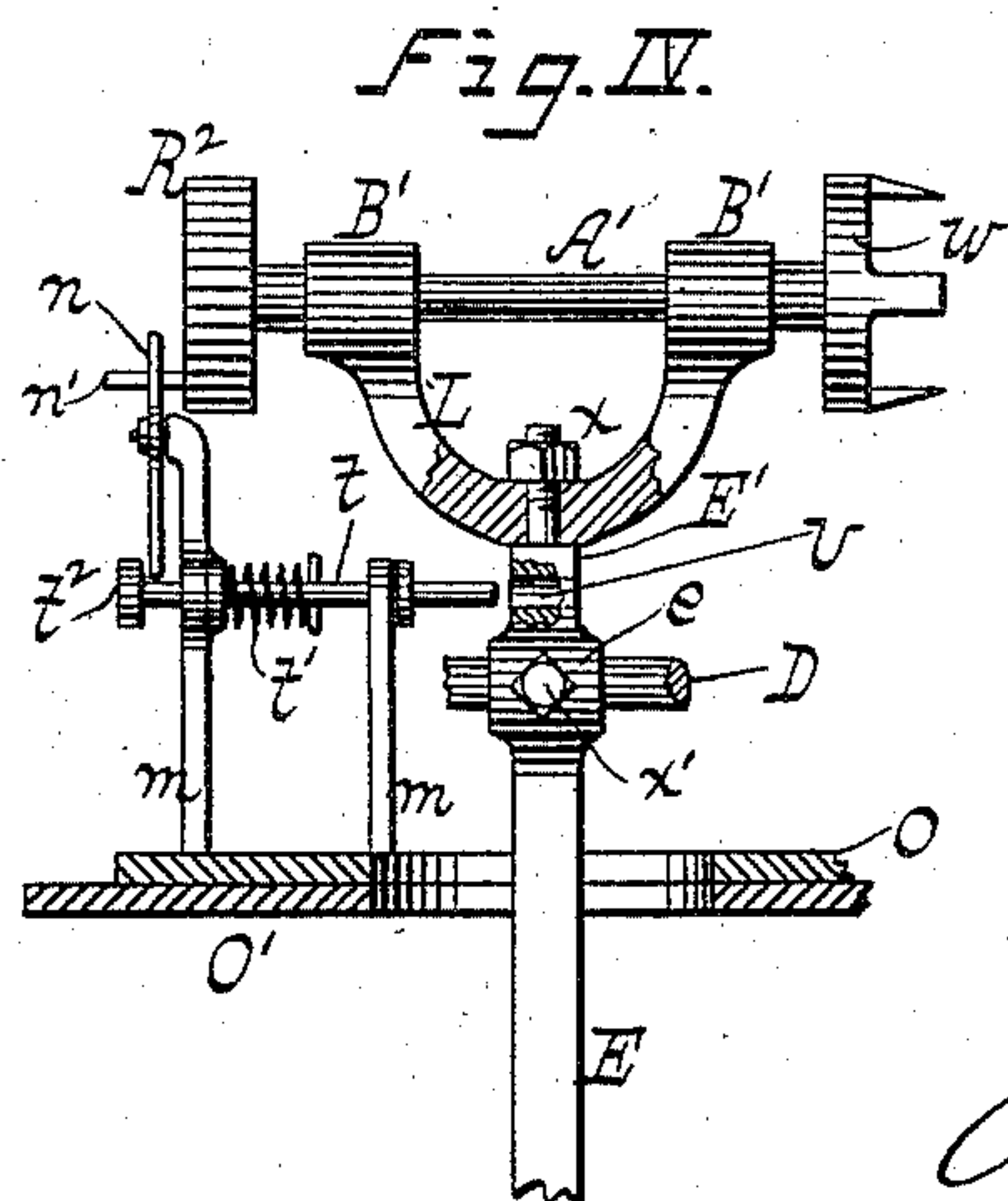
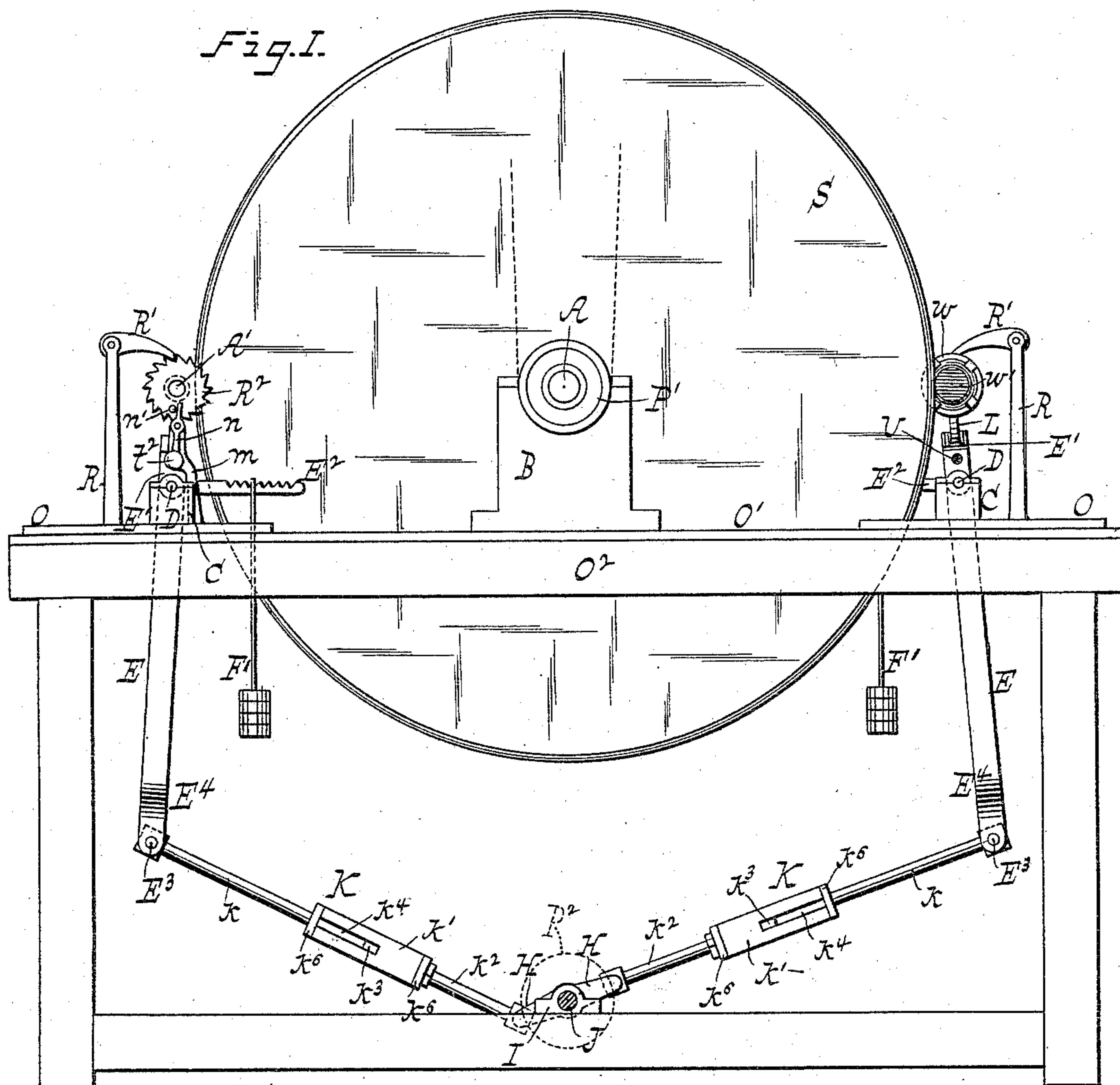
(No Model.)

2 Sheets—Sheet 1.

H. C. WOOD.
MACHINE FOR POLISHING GLASSWARE.

No. 445,708.

Patented Feb. 3, 1891.



WITNESSES:
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J. H. Sherman

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Harry C. Wood
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ATTORNEY.

(No Model.)

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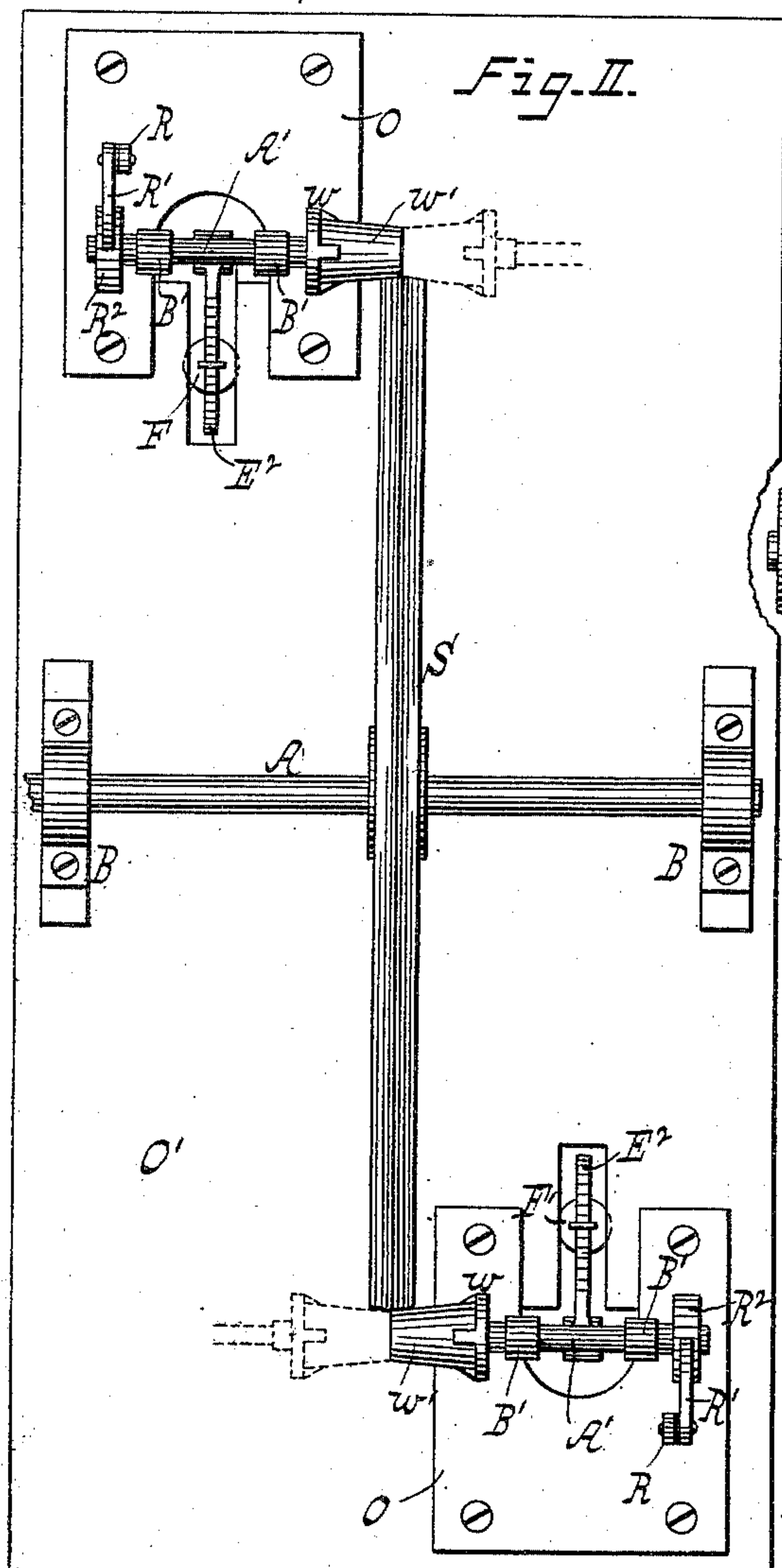


Fig. II.

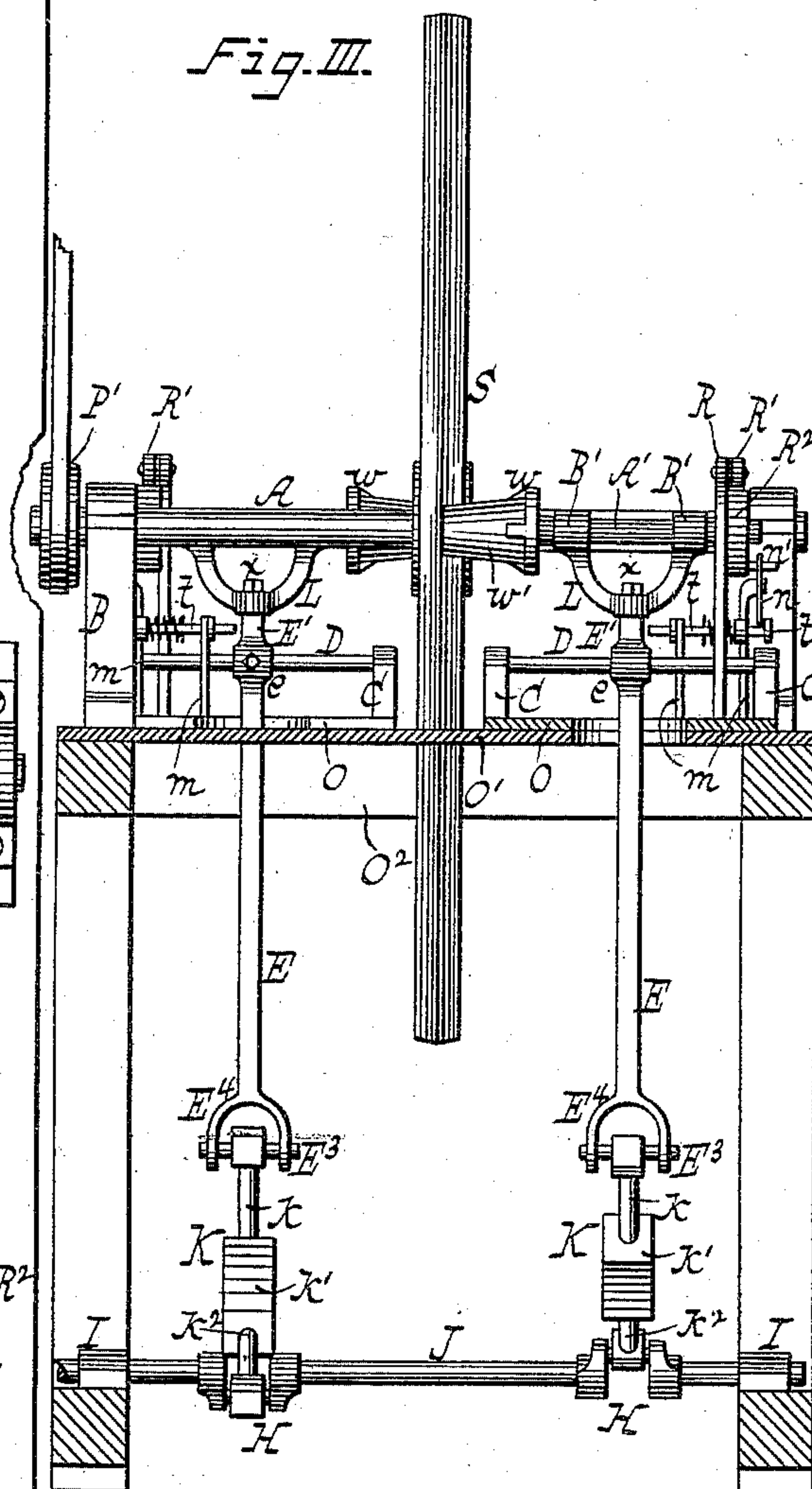


Fig. III

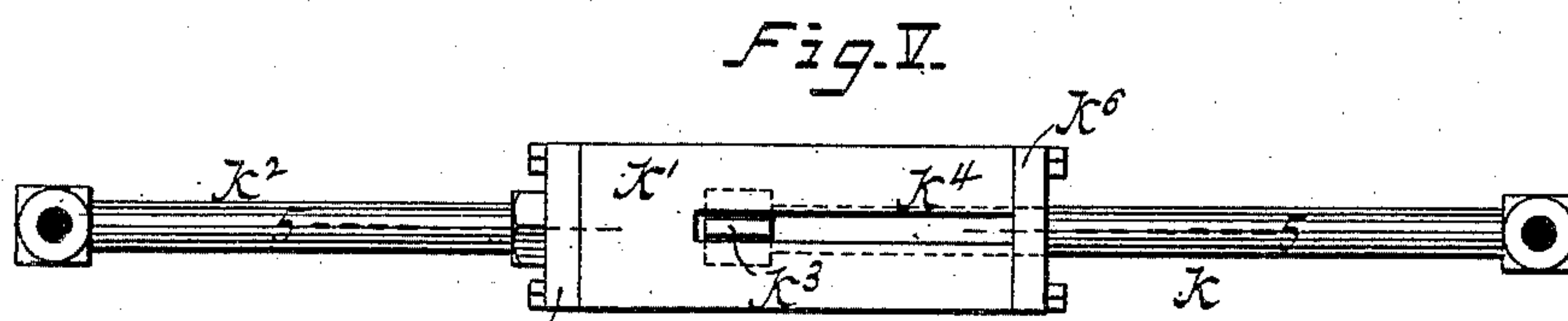


Fig. V.

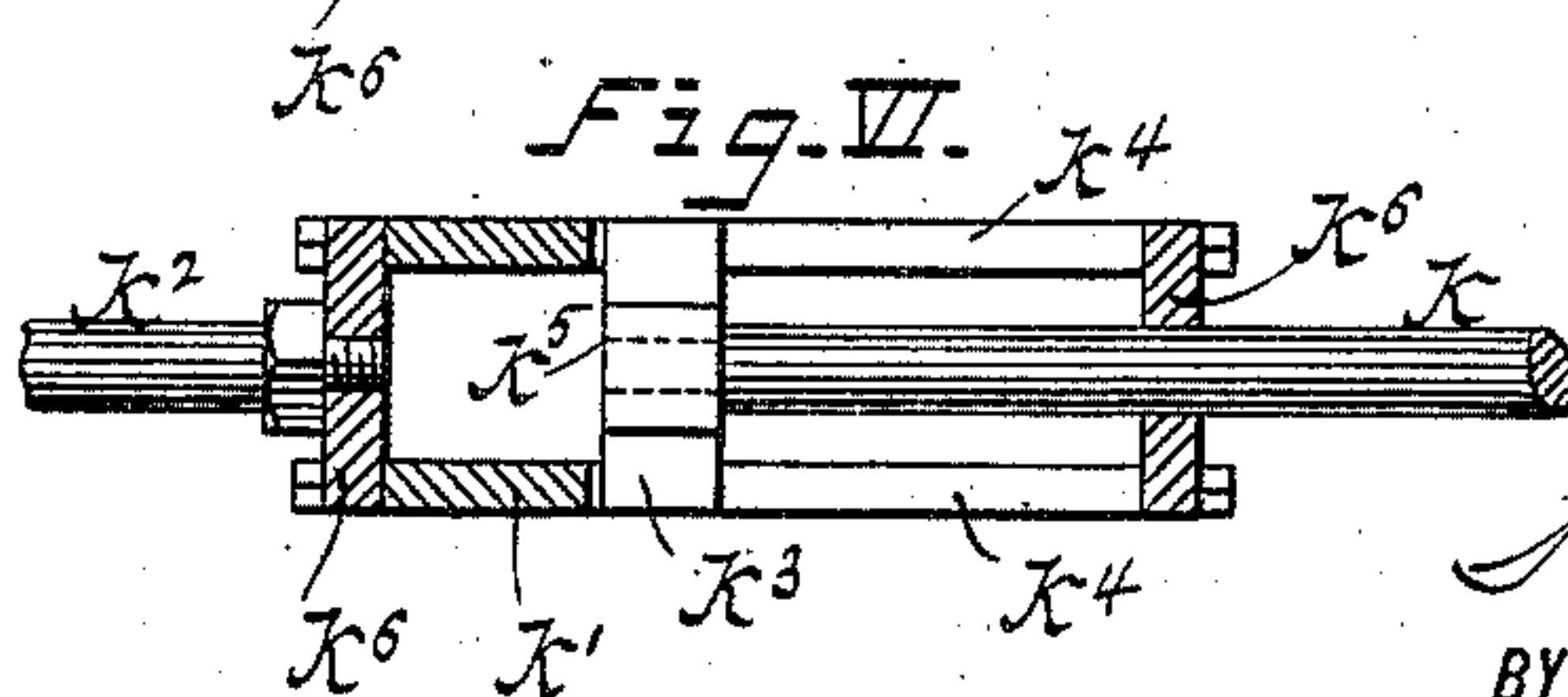


Fig. IV.

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UNITED STATES PATENT OFFICE.

HARRY C. WOOD, OF NEW BRIGHTON, PENNSYLVANIA.

MACHINE FOR POLISHING GLASSWARE.

SPECIFICATION forming part of Letters Patent No. 445,708, dated February 3, 1891.

Application filed April 24, 1890. Serial No. 349,318. (No model.)

To all whom it may concern:

Be it known that I, HARRY C. WOOD, of New Brighton, in the county of Beaver and State of Pennsylvania, have invented new and useful Improvements in Machines for Grinding and Polishing Glassware; and I do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in machines for grinding or polishing the facets or flutes around the sides of articles of glassware, and it has special reference to the details of the mechanism for presenting the different portions of the tumbler to the grinding or polishing wheel.

My invention consists in the construction and combination of parts, as hereinafter described, and pointed out in the claims.

In the drawings which accompany and form a part of this specification, Figure I is a side elevation of a complete machine embodying my improvements. Fig. II is a plan view, and Fig. III is an end view, of the same. Fig. IV is an enlarged detail view of the chuck-operating mechanism. Fig. V is an enlarged detail view of one of the pitmen hereinafter referred to, and Fig. VI is a section on line 5 5 of Fig. V.

Similar letters of reference indicate corresponding parts in the several views.

On a suitable frame O' O^2 are mounted the bearings B for the shaft A of the grinding or polishing wheel S , said shaft having also a belt-wheel P' .

At each end of the bench or frame is secured a plate O , carrying two uprights and bearings C for a shaft D , a post R for the pawl R' , and two posts or uprights m to support the small sliding shaft or bolt t . This bolt t has a head t^2 , and a spring t' is coiled around the bolt and connected so as to give a pressure to the right, as shown in Fig. IV. One of the uprights m is longer than the other, and to its upper end is pivoted a trigger n , said trigger being hung so as to swing in the plane of the bolt-head t^2 and to rest behind and hold said head until the trigger is swung to one side by the pin n' , projecting from the

face of the ratchet-wheel R^2 , mounted on shaft A' , presently to be described.

On the shaft D is hung a sleeve e , carrying three arms E E' E^2 , and through the sleeve is threaded the set-bolt X' , the inner end of which is to be tightened against the shaft for holding the sleeve and its arms in any desired adjustment along the length of the shaft to enable longer or shorter flutes to be cut on the glass.

The upwardly-projecting arm E' is provided with a hole U and carries a bifurcated head L , having bearings B' for the shaft A' , which carries at one end the ratchet R^2 and at the other end a chuck W , of any suitable construction, to hold the glass w' to be cut. This head is fitted so as to be turned on the end of arm E' and held in its adjusted position by screwing the nut x down upon the threaded end of the arm, the object of this being to adjust the angle at which the flute or facet will be cut.

The horizontal arm E^2 has a number of notches for holding at any desired distance from the sleeve e the cord and weight F , adjustment of which alters the amount of pressure of the glass articles w' against the wheel to the amount necessary to produce the desired cut.

The downwardly-projecting arm E extends considerably below the top of the bench or table O' , and at its lower end carries a stirrup E^4 , to which is connected the end of pitman K by means of pin E^5 . The stirrup is wider than the end of the pitman, in order that the sleeve e and its arms may be adjusted without affecting the position of the pitman.

The pitman is made in three parts k k' k^2 and connected to the crank H , of which there are two bent in shaft J , said shaft having a belt-wheel at P^2 and having bearings I .

The central portion k' consists of a square or box-like casting, of any suitable metal, having its heads k^6 bolted to it, and having slots k^4 cut through two of its sides nearly the length of said sides. The rod k^2 is firmly secured to one head k^6 , and the rod k passes freely through a hole or bearing in the other head k^6 , and has secured to its end by a bolt k^5 a flat piece of metal k^3 , forming wings to

fit and slide in the slots k^4 . These wings and slots, in connection with the hole in the head, form bearings for giving an easy motion in the sliding of the parts.

5 The operation is as follows: A glass being fitted to the chuck W, the wheel S and shaft J are revolved. The motion of the crank H allows weight F' to turn sleeve e on shaft D and press the glass against the wheel, and
10 further motion of crank H and rod k^2 of the pitman is taken up by the sliding of the rod k and its wings in the box or casing k' . When the crank has turned sufficiently for the wings k^3 to reach the end of the casing, it
15 causes the pitman to pull the arm E and to remove the glass from the wheel. As the glass is so moved backward, the ratchet R² turns the shaft A' and chuck by reason of the pawl R' engaging the said ratchet, and
20 so turns the glass to bring a new portion of its surface opposite the wheel. The continued motion of the crank allows the glass to be again presented to the wheel, and again removed and partially rotated, and so
25 on, until the complete revolution of the shaft A' and ratchet R² causes the pin n' in the ratchet to swing the trigger out from behind head t^2 of bolt t , when the spring t' immediately causes the bolt to enter the hole U in
30 arm E', and this occurs just as the arm E' is turned backward and said hole is in alignment with the bolt. Continued motion of crank H is completely taken up in casing k' until the attendant has removed the finished
35 glass from the chuck, inserted a new one, and withdrawn bolt T from hole U and allowed weight F to present the said glass to the wheel. On completion of the cutting of one flute and the turning of the ratchet to the
40 next the pin n' has passed trigger n , so as to allow the attendant to place the lower end of the trigger behind head t^2 of the bolt t , after which he is at liberty to pass to the other chuck or another machine.

45 If desired, four chucks and their operating mechanism can be used, the position of the two additional chucks being indicated by dotted lines in Fig. II; or, if desired, two chucks only can be employed, both being on
50 the same side of the plane of the wheel.

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

55 1. In a glass-cutting machine, the combination, with the wheel, of a shaft mounted on a swinging arm and carrying a chuck and a

ratchet, a pawl, a pin projecting from the ratchet, a swinging trigger, a spring-bolt for intercepting the motion of said arm, and means for swinging said arm, substantially as described. 60

2. In a glass-cutting machine, the combination, with the wheel and a reciprocating chuck, of a pitman for reciprocating said chuck, said pitman consisting of a slotted casing, a rod 65 secured to one end of the casing, and a second rod passing through the other end of the casing and having wings to fit and slide in said slots, substantially as described.

3. In combination with a grinding or polishing wheel, the plate O, having bearings C and shaft D, uprights m , spring-bolt t , and ratchet and post R' R, the arm E, mounted on shaft D and having hole U and head L, and the shaft A', mounted in head L and carrying a chuck and the ratchet R², substantially as described. 70 75

4. In combination with a glass-cutting wheel, a shaft D, sleeve e , mounted on said shaft and carrying arms E E' E², one of said 80 arms supporting a chuck, another arm carrying an adjustable weight, and the third arm connected to means for swinging it, substantially as described.

5. In combination with the swinging arm 85 E, carrying a chuck and the ratchet R², a stationary pawl above the ratchet, pin n' , projecting from the side of the ratchet, swinging trigger n , and spring-bolt t , substantially as described. 90

6. In a glass-cutting machine, the combination, with the cutting-wheel, of a chuck mounted on a swinging arm, a crank, and a pitman connecting the crank with the swinging arm, said pitman consisting of the slotted 95 casing k' , rod k , passing through one end of the casing and having wings k^3 , and rod k^2 , secured to the other end of the casing, substantially as described.

7. In a glass-cutting machine, the combination, with the swinging arm E', of the chuck-carrying head, said head being adjustable on said arm, whereby the chuck may be turned to different angles relatively to the grinder, substantially as described. 100 105

In testimony whereof I affix my signature in presence of two subscribing witnesses.

HARRY C. WOOD.

Witnesses:

C. H. CORBUS,
D. T. COOPER.