

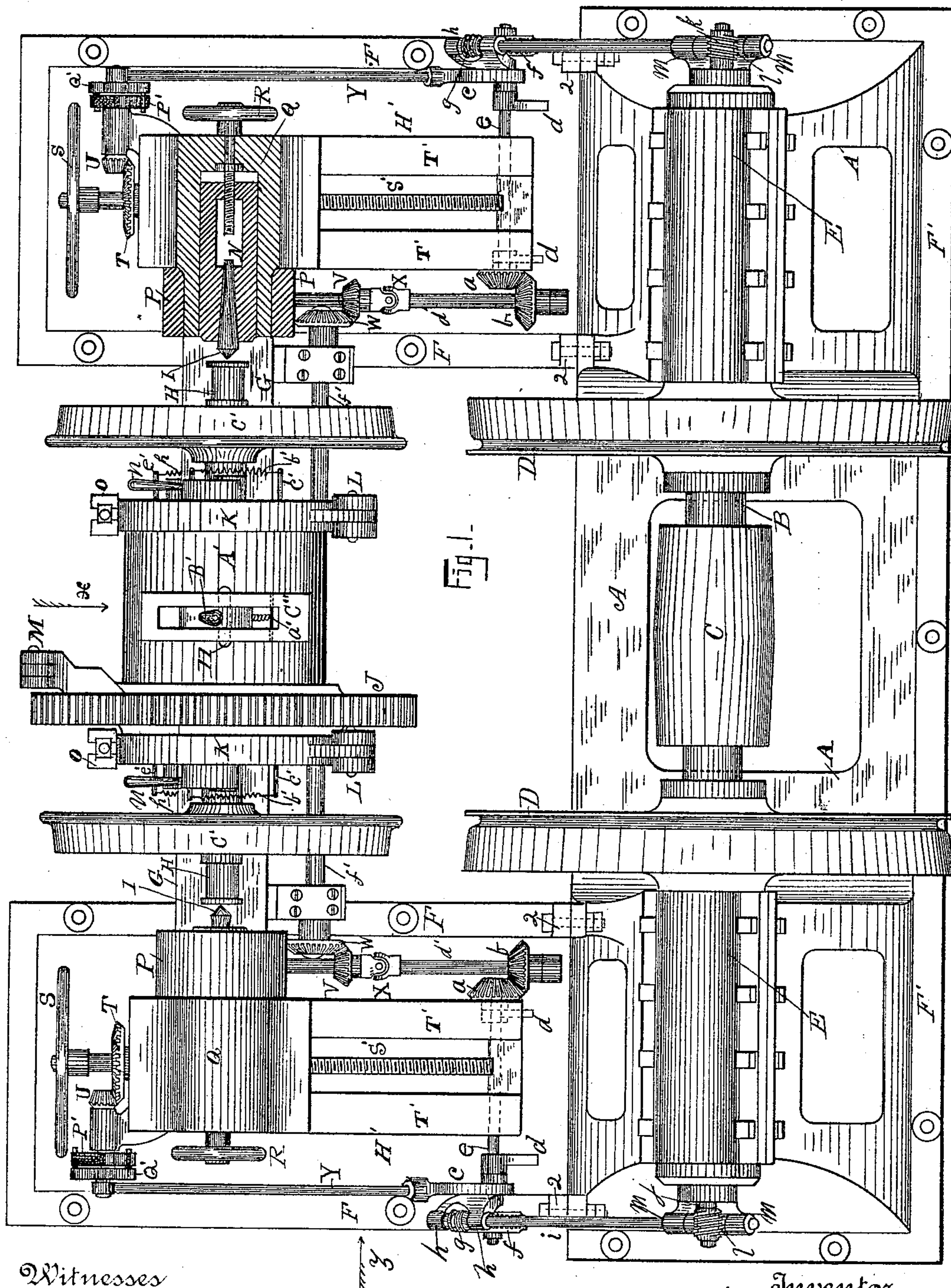
(No Model.)

5 Sheets—Sheet 1.

B. J. ABBOTT.
MACHINE FOR DRESSING CAR WHEELS.

No. 436,295.

Patented Sept. 9, 1890.



Witnesses
Timothy Stebbins
John Burns

Inventor
Benjamin J. Abbott
By his Attorney
G. L. Chapin

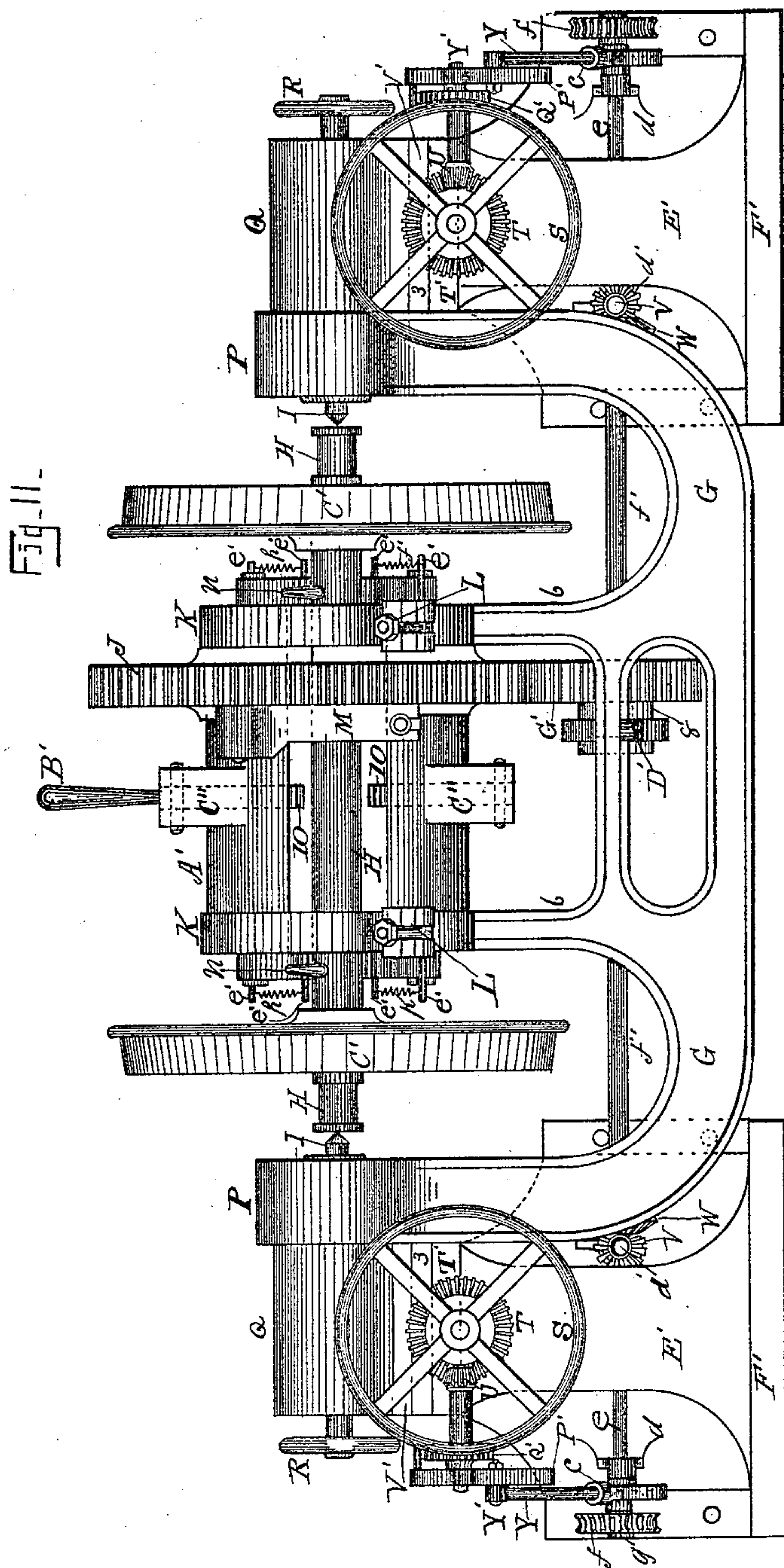
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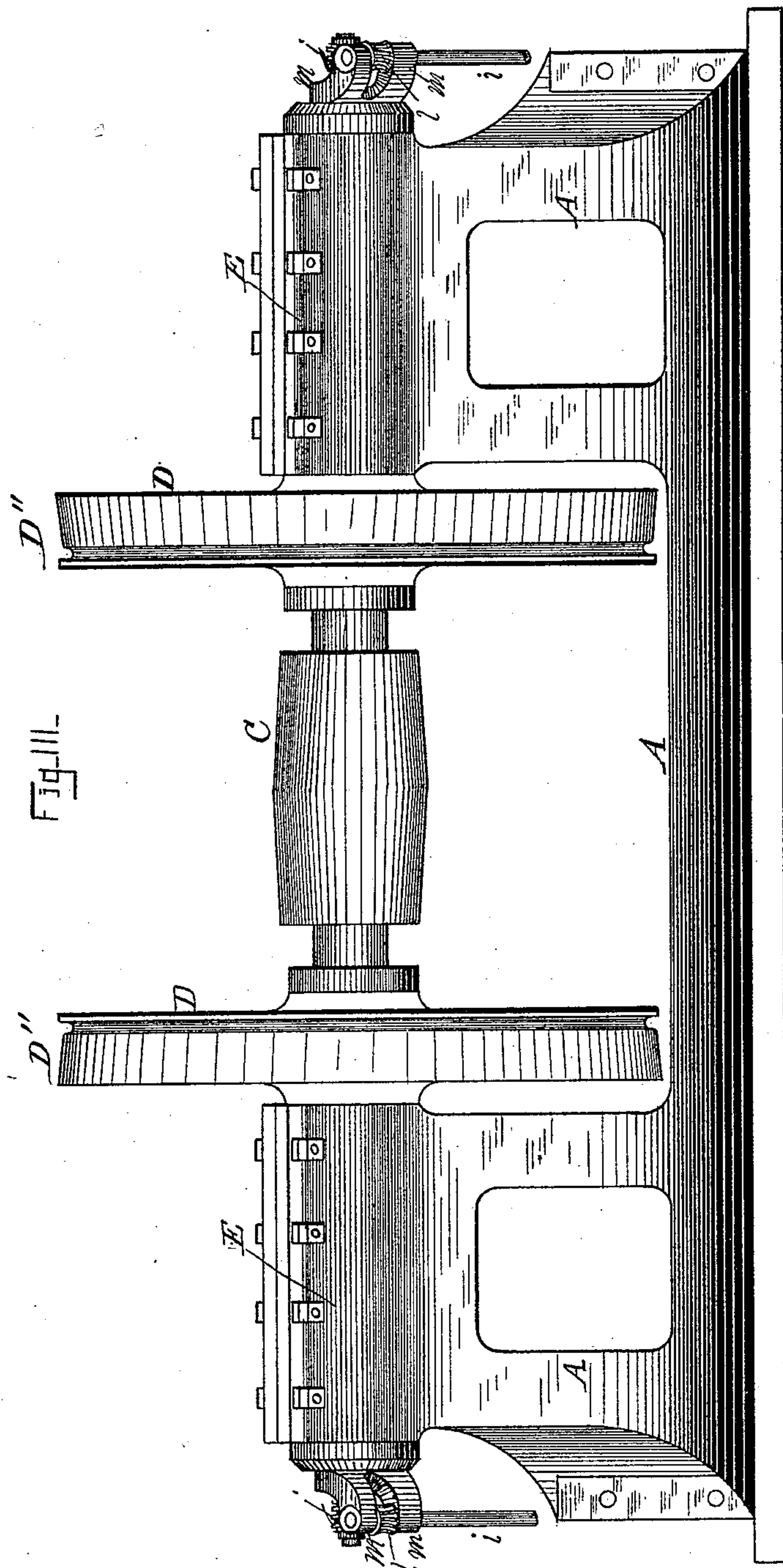
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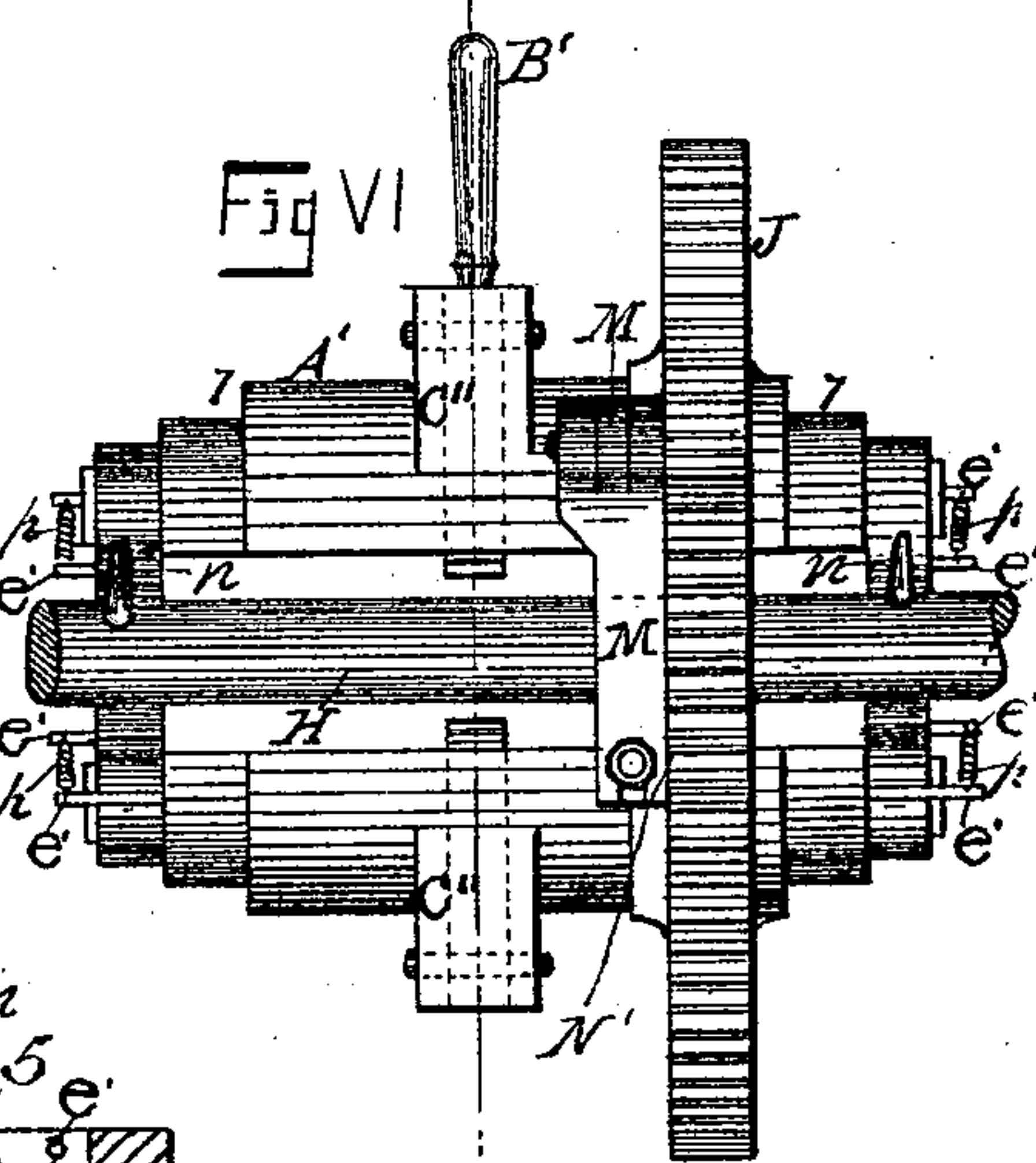
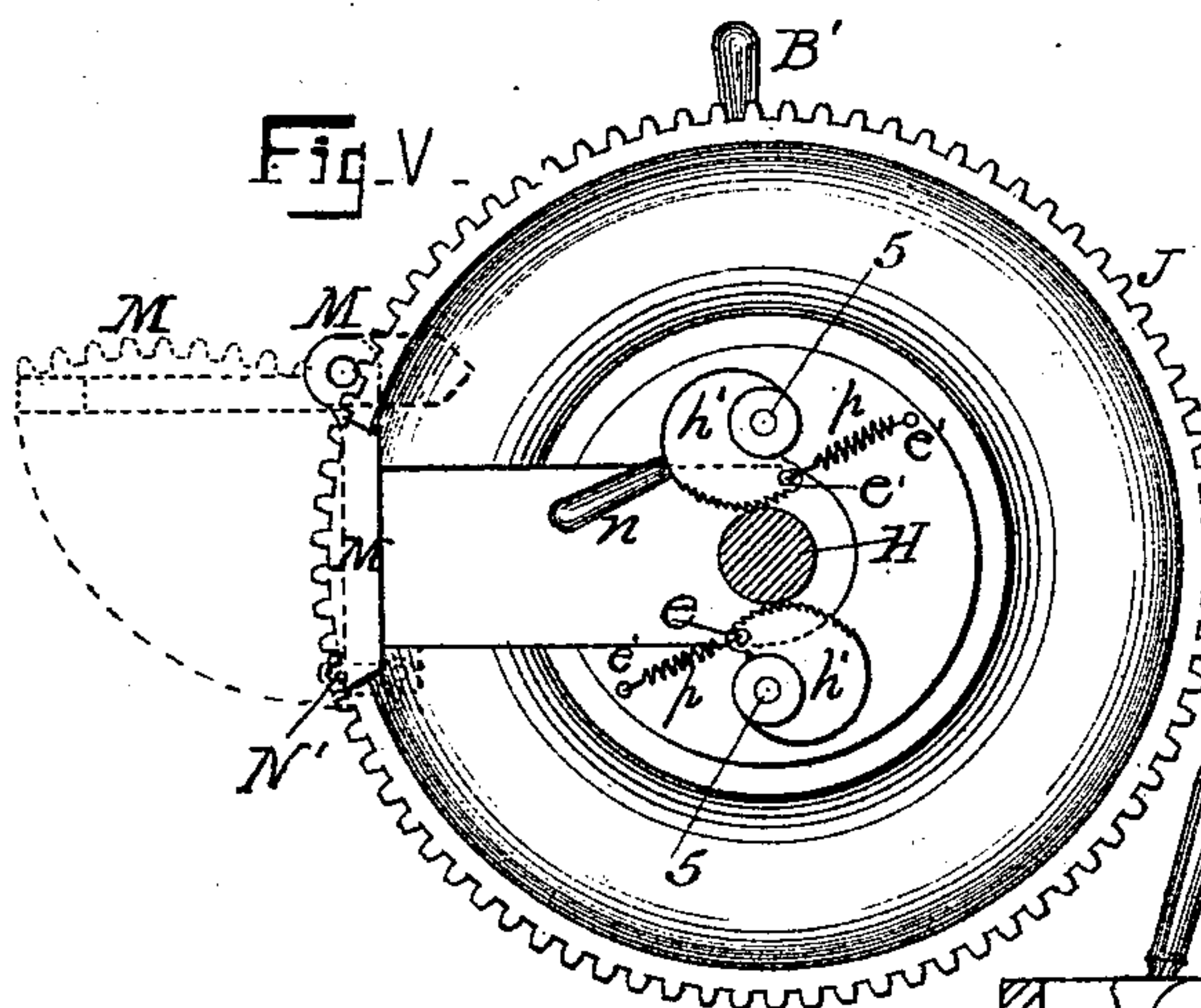
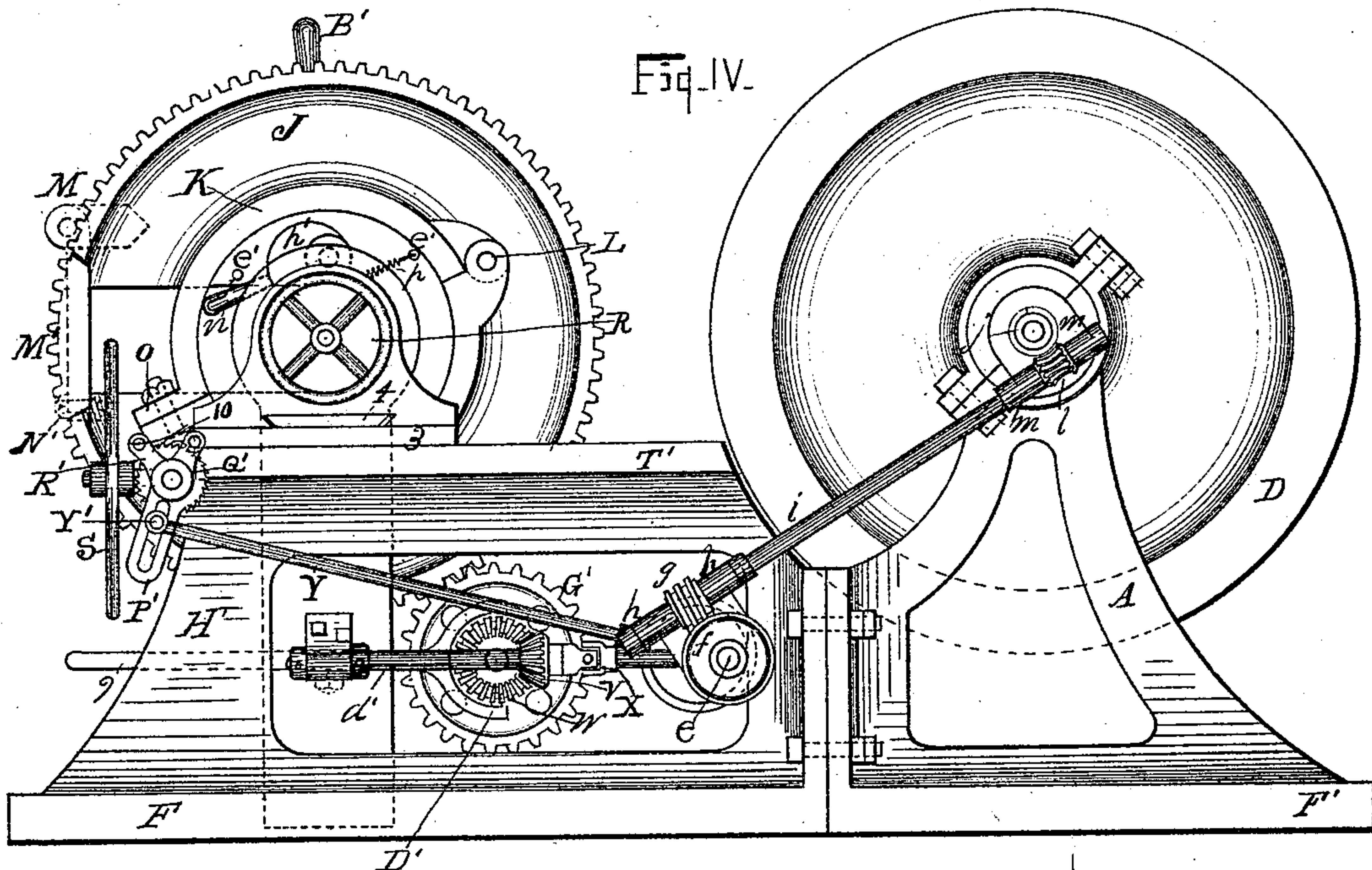
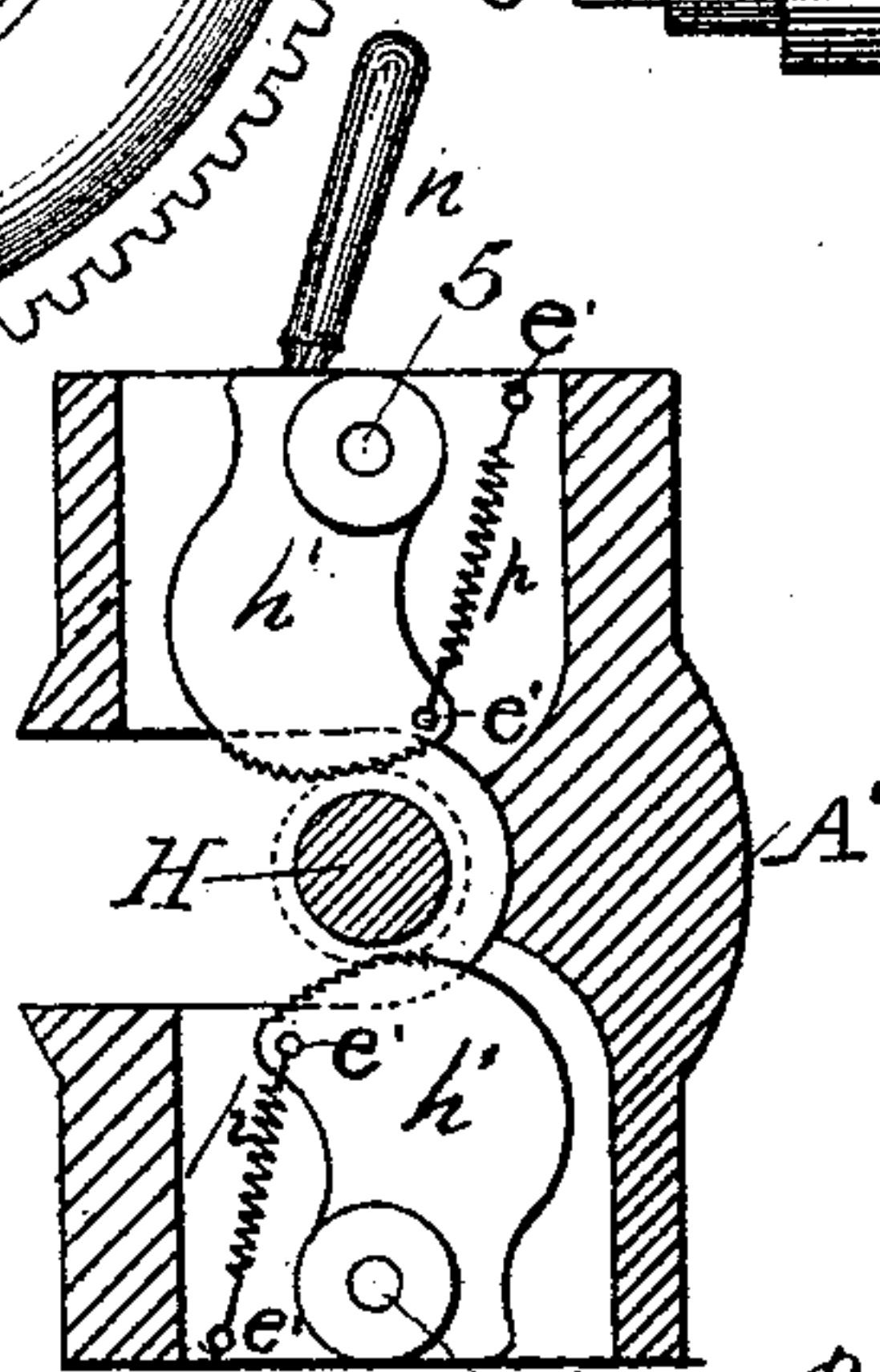


Fig. VII.



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(No Model.)

5 Sheets—Sheet 5.

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Fig. VIII.

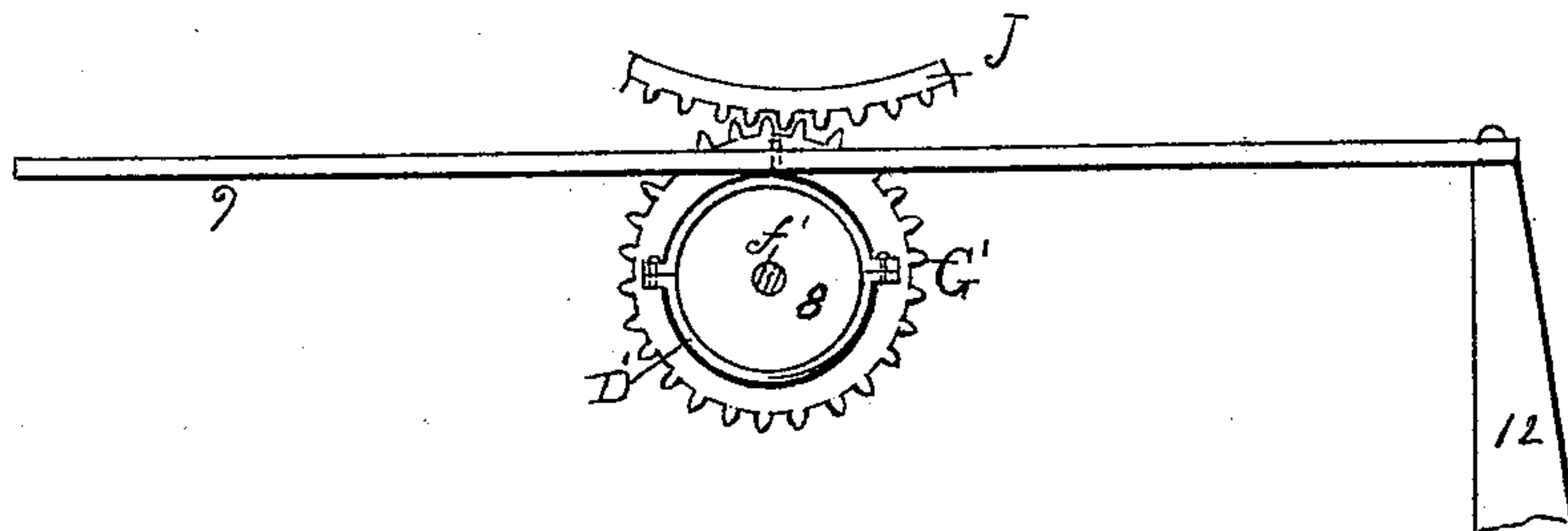
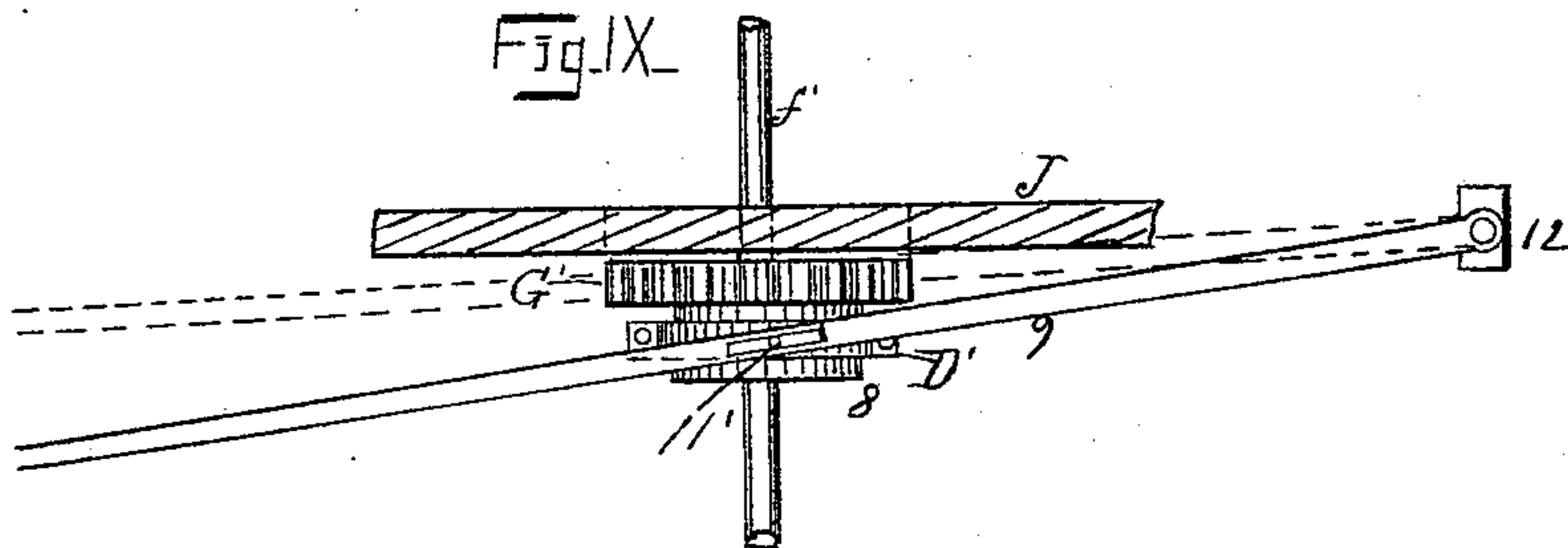


Fig. IX.



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UNITED STATES PATENT OFFICE.

BENJAMIN J. ABBOTT, OF CHICAGO, ILLINOIS, ASSIGNOR OF TWO-THIRDS
TO F. M. ATKINSON AND C. H. BENTON, OF SAME PLACE.

MACHINE FOR DRESSING CAR-WHEELS.

SPECIFICATION forming part of Letters Patent No. 436,295, dated September 9, 1890.

Application filed April 7, 1890. Serial No. 346,806. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN J. ABBOTT, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented new and useful Improvements in Machines for Dressing Car-Wheels, of which the following is a specification, reference being had to the annexed drawings, (four sheets,) illustrating the invention, in which—

Figure I, Sheet 1, is a plan view of a machine for dressing metals in which is embodied my invention. Fig. II, Sheet 2, is a side elevation of Fig. I, looking in the direction indicated by dart *x*. Fig. III, Sheet 3, is an elevation of Fig. I, looking in the opposite direction indicated by dart *x*; Fig. IV, Sheet 4, an end elevation of Fig. I, looking in the direction indicated by dart *z*; Fig. V, an elevation of a detail removed from the other parts; Fig. VI, an elevation of a portion of the mechanism removed from the other parts. Fig. VII shows the devices for clutching the axle of car-wheels, removed from the other parts. Fig. VIII is a detached portion of the machine, consisting of lever-and-clutch device for shipping the gears. Fig. IX is a top or plan view of the same.

The purpose of this invention is to provide better means for dressing and truing the peripheries of car-wheels and cylindrical surfaces by the ordinary process of bringing a rapidly-rotating surface against the slowly-rotating wheel to be dressed.

The mechanism and its operation will be fully comprehended by the following detail description.

A represents a substantial iron frame, which supports the mechanism hereinafter described, and in its upper portion E E are formed bearings for the support of the shaft B, on which the dressing-wheels D are mounted. In the drawings metal-dressing wheels D are shown, and their respective peripheries D' have contours which are the reverse counterparts of the heads of the wheels to be dressed, as is now the custom in machines for dressing car-wheels; but the machine is adapted to employ any kind of cutting-disks on the shaft B, the power being applied to

the pulley C by means of a belt in the ordinary manner. The frame A is bolted to frames F F at 2 2 2 2, so that the two are rigid.

Projecting upward and inward from the frames F F and F F are strong standards H' H', Figs. I and IV, to form supports for two sets of ways T' T'—one set near to each end of the machine. On each set of ways is fitted to run, in the usual manner, a carriage 3, Figs. I and IV. The carriages support V-guides 4, Fig. IV, and the V-guides support spindle-heads Q, whereby in the ordinary manner the spindle-heads may have longitudinal and lateral movements.

A', Figs. I, II, VI, and VII, represents a rotating clutch-head, which is open at one side to permit the axle of wheels to be brought centrally within it. A large cog-wheel J is made rigid to and concentric with the clutch-head A', and to the clutch-head A' are pivoted at 5 5 two cam-clutches *h'* and *h'*, Figs. IV, V, and VII, for the purpose of engaging the axle H and turning the wheels C' slowly around coil-springs *p p*, respectively attached to pins *e* on the clutch-head, and to the free ends of the clutches bring the latter to the axle without any lost motion. The levers *n n* are for the purpose of raising the cam-clutches *h' h'* to permit the axle H to be centered by pivots 1 1. The levers B' being rigid to the cam-clutches are employed to turn the cam-clutches to permit the shaft H to pass in.

The wheel J is provided with a hinged segment M, which can be opened, as shown by dotted lines M', Fig. V, to permit the axle H to pass, by means of a slot, to the center of the wheel, as shown in Figs. I, II, IV, V, and VI. The free end of the cogged segment is held in a fixed position, when closed, by a nut and bolt N'.

Dotted lines M' show the position of the segment when open.

The clutch-head A' and wheel J are supported, when the axle H is removed, by uprights 6 6, projecting up from frame A. Hinged segment-bands K L K L, whose two free ends O connect with the uprights 6 6 by means of bolts, are at their other ends jointed to the opposite portions of said upright supports. These bands, when the axle H is cen-

tered by pivots 1 1 to rotate, as shown at Figs. I and II, remain on the head A' and on the seats 7 7, Fig. VI, to prevent any accident by loss of shaft-center by the pivots 1 1. The pivots 1 1 are set, respectively, in slides N N, which are fitted to have reciprocating movements in pivot-heads Q Q. The slides are operated, respectively, by screws and wheels R R. A pinion G' drives the wheel J, and the shaft *f' f'*, supporting the pinion, has affixed to each end a bevel-gear W, and the two bevel-gears respectively mesh in bevel-gears V on shafts *d' d'*, said shafts being provided with knuckle-joint connections X X to admit of inequalities of line-centers. The shafts *d'* are driven, respectively, by bevel-gears *b b*, and the gears *b b* are driven by gears *a a* on shafts *e e*, having suitable bearings *d d*. The shafts *e e* have worm-gears *f f*, respectively, on their outer ends, and these gears are respectively driven by worms *g g* on shafts *i i*, which respectively have bearings *h h* and *m m* at their ends. On the opposite ends of shafts *i i* are affixed worms *l l*, which respectively mesh in worm-gears *j j* on the outer ends of the shaft B of pulley C. On the pinion G' is affixed a hub 8, which, with the said pinion, is feathered on the shaft *f* so as to slide.

8 is a projecting hub on pinion G', and in its periphery is placed a yoke D', permitting the hub to rotate, and on the top portion of the yoke is a pin 11', which operates in a slot in a lever 9, which is pivoted to a suitable support 12 and employed to throw the pinion G' to one side of the gear J and put them out of mesh, whereby when the machine has been stopped the clutch-head may be turned to the right position for the shaft H to be rolled out of it by swinging the hinged segment-bands K L K L out of the way.

c represents an eccentric attachment on each shaft *e*, which oscillates by means of a rod Y, and an arm Q', a ratchet P', and the ratchet give a rotary motion to a pinion U, meshing into gear T, which drives the feed-screw S'. By disengaging the pawl 10, Fig. IV, the screw S' can be operated by the wheel S. From this it will be understood that the rotation of pulley C will put in motion shafts

B and *i*, shafts *e'* and *d'*, and give oscillating motions to rods Y and rotary motions to screw S', to feed the carriages 3 3, Figs. II and III, forward to bring the car-wheels C' in contact with the wheels D, the operation being automatic when the machine is put in motion. When metal wheels D are employed, I run them at a speed of about thirty-five thousand feet per minute.

In the drawings one pair of cam-clutches, springs, and levers is shown to be in position at each end of the clutch-head A', and one pair of cam-clutches is shown at the middle of the clutch-head, of a like construction as at 10 10, Fig. II.

C'' represents slotted lugs on opposite sides of the clutch-head, and to it at 11, Figs. I and II, the cam-clutches are pivoted. B' represents one lever for operating one of them. The slots in the lugs C'' permit the lever B' to be operated at the outside of the clutch-head.

It is not new with the inventor to form a slot in the side of a spool or spindle to receive a car-axle, nor new to attach a gear thereto. The invention is therefore limited to the claim, as hereinafter set forth.

I claim and desire to secure by Letters Patent of the United States—

In a machine for dressing car-wheels, having a clutch-head with a side slot therein and a slot in its surrounding concentric gear to permit the car-axle to lie in the center of said gear, the clutch-head provided with two slotted lugs, in combination with two spring cam-clutches pivoted to the lugs and their lever attachments projecting out from the lugs, and one set of spring cam-clutches pivoted to each end of the clutch-head, and the levers of the spring cam-clutches projecting outward, and bands jointed to under supports and their detachable free end projecting below the shaft H, a drive-pinion with a clutch-head thereon, and means, substantially as herein described, for putting said pinion out of mesh with the gear on the clutch-head A'.

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