

(No Model.)

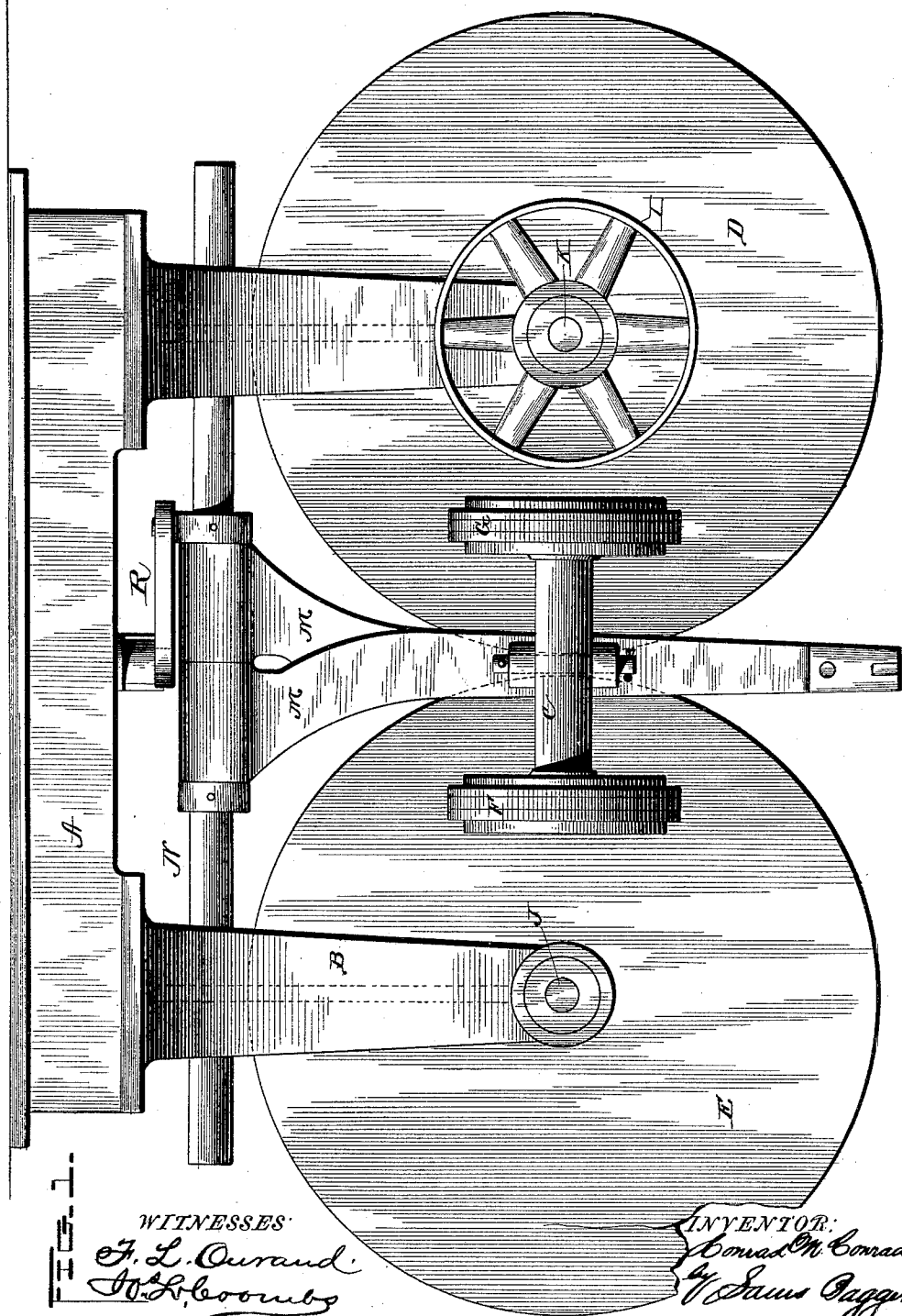
2 Sheets—Sheet 1.

C. M. CONRADSON.

DEVICE FOR VARYING THE SPEED OF MACHINERY.

No. 460,284.

Patented Sept. 29, 1891.



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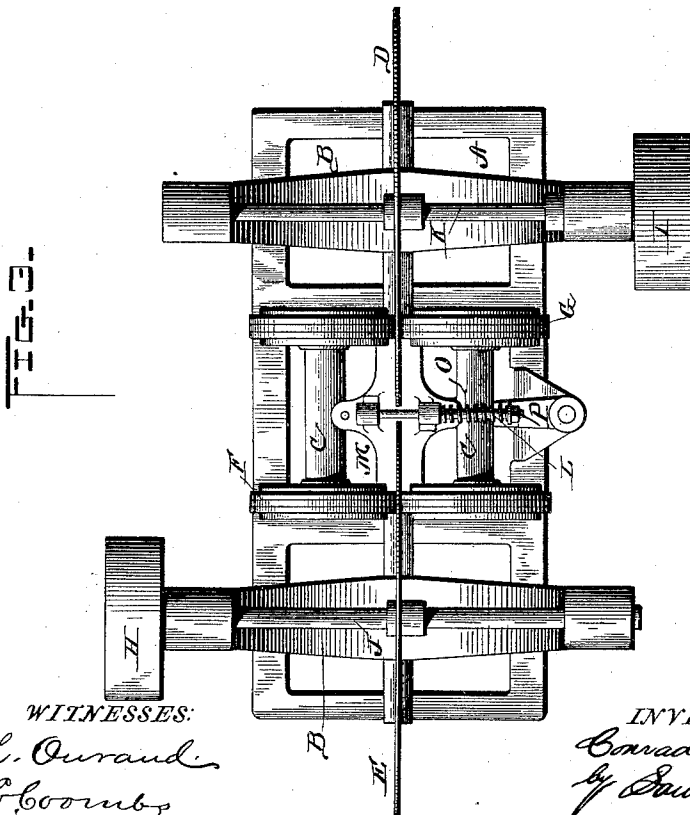
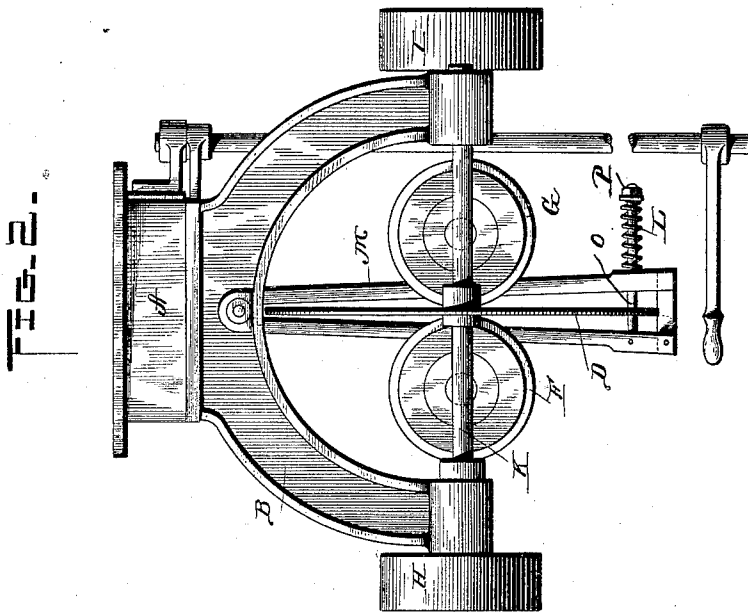
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WITNESSES:

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UNITED STATES PATENT OFFICE.

CONRAD M. CONRADSON, OF MADISON, WISCONSIN.

DEVICE FOR VARYING THE SPEED OF MACHINERY.

SPECIFICATION forming part of Letters Patent No. 460,284, dated September 29, 1891.

Application filed January 6, 1891. Serial No. 376,836. (No model.)

To all whom it may concern:

Be it known that I, CONRAD M. CONRADSON, a citizen of the United States, and a resident of Madison, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Devices for Varying the Speed of Machinery; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

The object of my invention is to provide means for quickly varying the speed of machinery through a large range of speed and in an efficient and practical manner. The ordinary face-wheel and friction-roller are in common use; but no large amount of power can be transmitted by this means, as the friction is excessive. The range of speed is also limited. My invention obviates this difficulty in the manner set forth in the following specification.

In the accompanying drawings, Figure 1 shows a side elevation of the device, Fig. 2 an end elevation of the device, and Fig. 3 the plan.

The brackets B B, attached to base A, carry shafts J and K, either one of which may be the driving-shaft. On the shafts J and K are mounted disks E and D. The arms M M, which are supported on the shaft N, carry journals C C, supporting the friction-rollers F and G, which bear on opposite sides of the disks C and D. The shaft N is adjustable to any desired point longitudinally by means of an arm or lever R, as is usual in this class of devices, thus varying the acting radii of the disks D and E. Secured to one of the arms

M is an outwardly-projecting rod O, which passes through the other arm. The outer end of this rod is provided with a nut or head P. A coiled spring L embraces this rod, one end of which bears against one of the arms, while the other end abuts against the nut or head P, whereby the friction-rollers F G, carried by said arms, are pressed against the disks C D.

The disks D and E, and also the rollers F and G, may be of any suitable material.

The journal-bearings C C are not rigidly connected with the arms M M, but are attached by means of a pin-joint, so as to be free to oscillate slightly, thus allowing each roller to bear on the disks D and E with equal pressure.

The action of the device is obvious. Motion being communicated to the shaft J, it is communicated to the shaft K at a velocity depending on the position of the rollers F and G.

Having thus described my invention, what I wish to claim by Letters Patent is—

In a variable-speed driving-gear, the combination, with the disks D and E, of the longitudinally-movable shaft N, the arms M M, pivoted on said shaft, the friction-rollers F and G, carried by said arms, the rod O, secured to one of said arms and passing through the other arm, the nut or head on said rod, and the coiled spring encircling said rod, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

CONRAD M. CONRADSON.

Witnesses:

W. R. BAGLEY,
D. C. WOODWARD.