

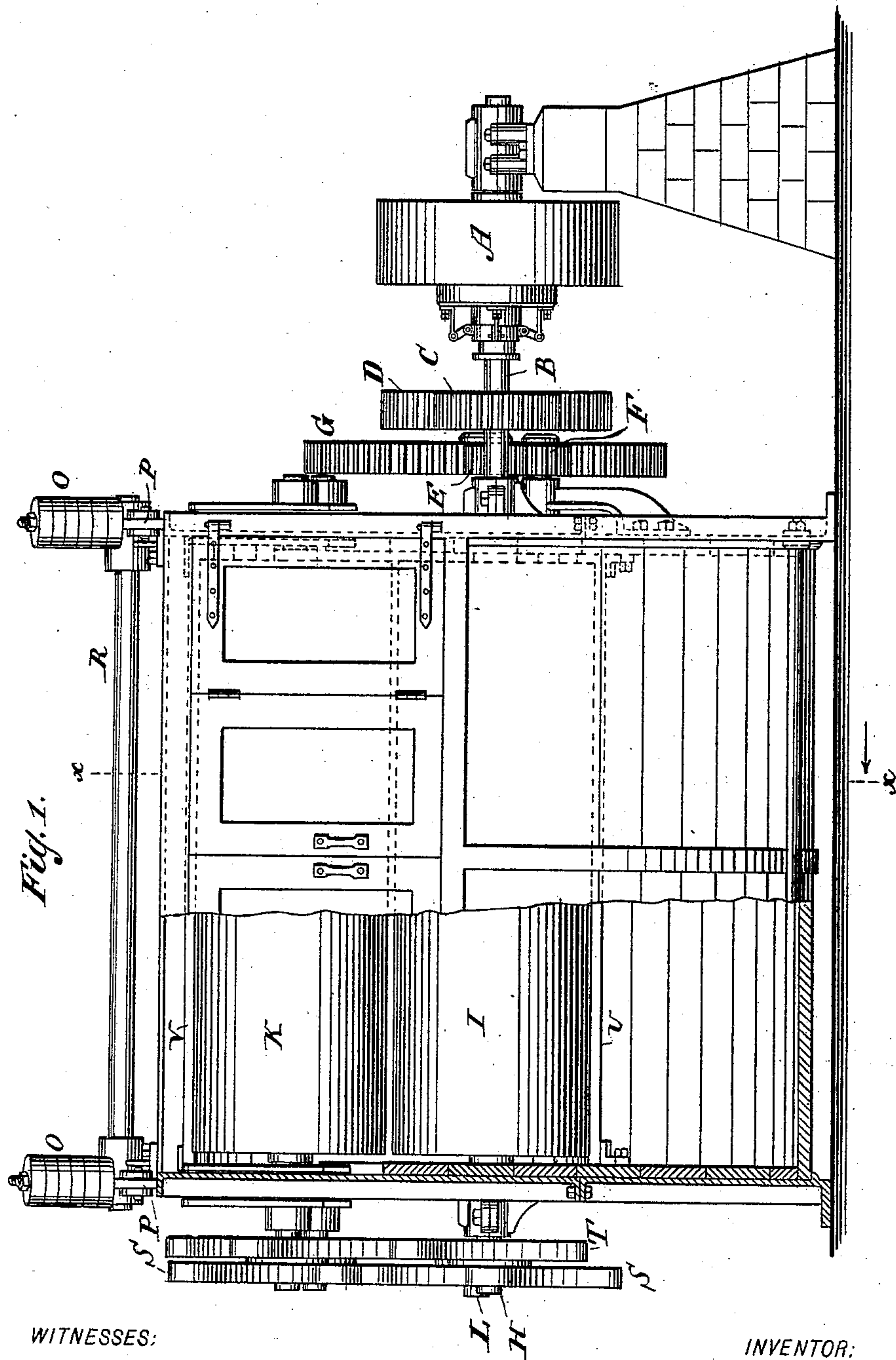
(No Model.)

5 Sheets—Sheet 1.

J. W. MILLET.  
FULLING MILL.

No. 472,900.

Patented Apr. 12, 1892.



WITNESSES:

*Edward Wolff.*  
*William Miller*

INVENTOR:

*John W. Millet.*

BY

*Van Santvoord & Hauff*  
his ATTORNEYS.

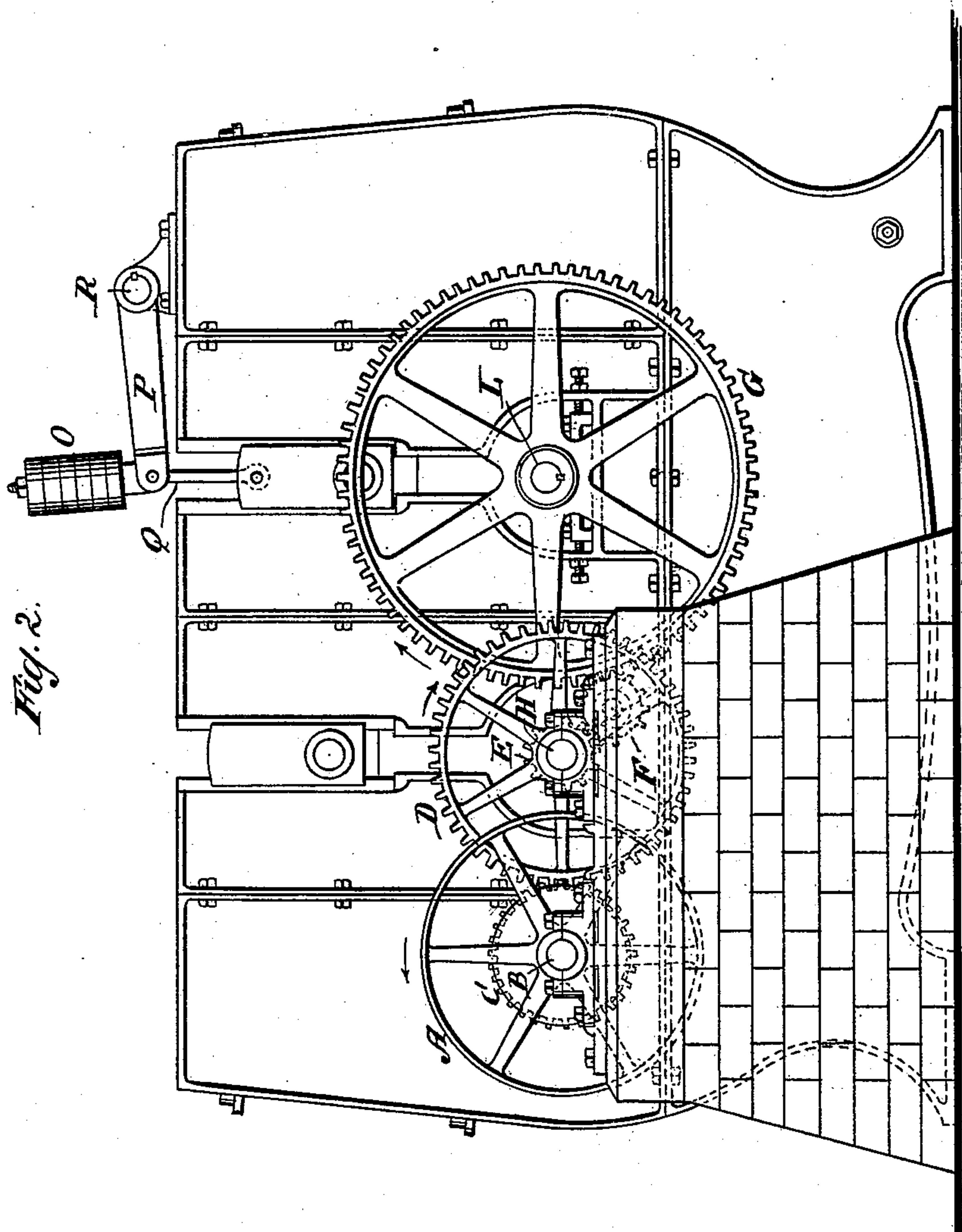
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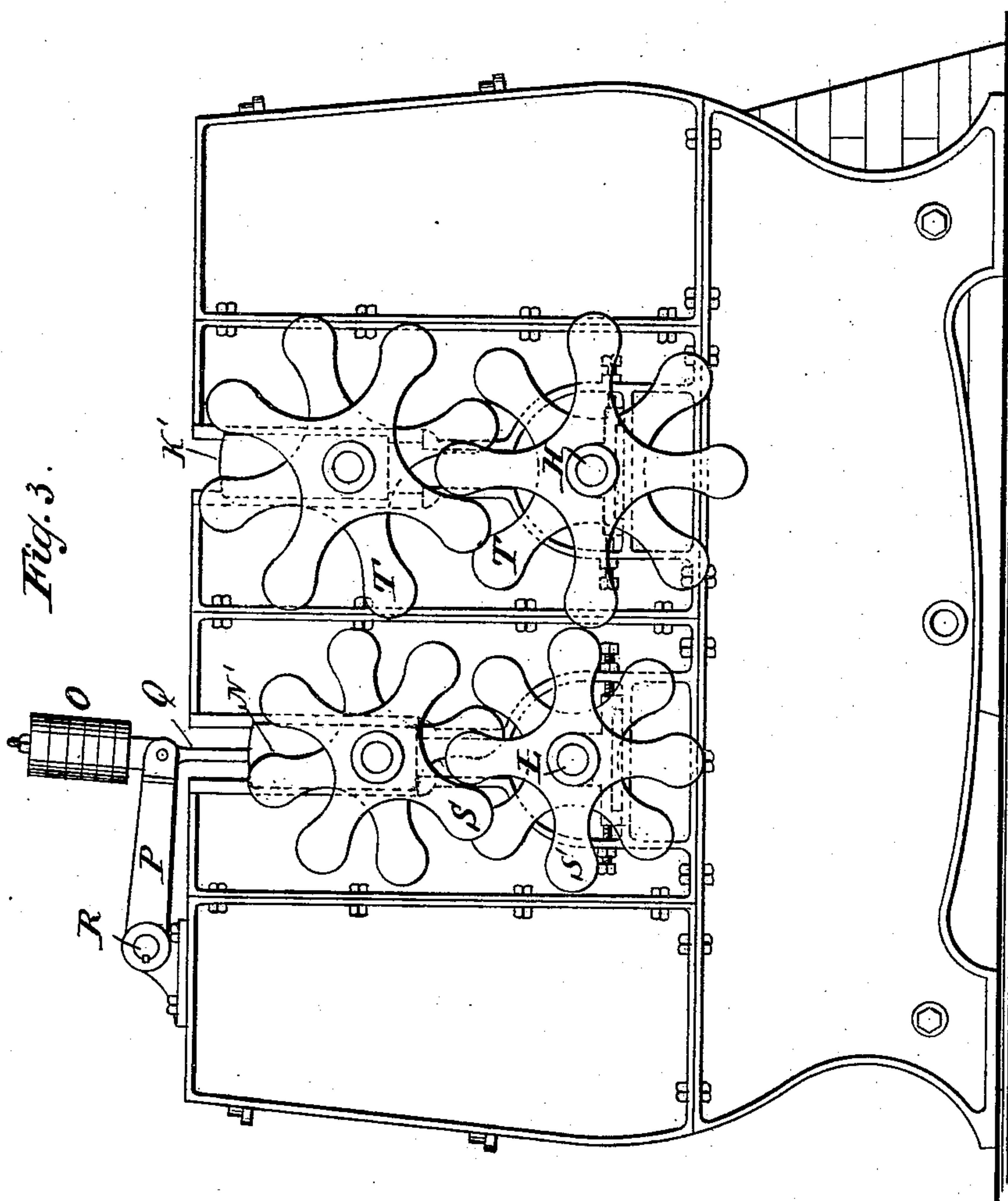
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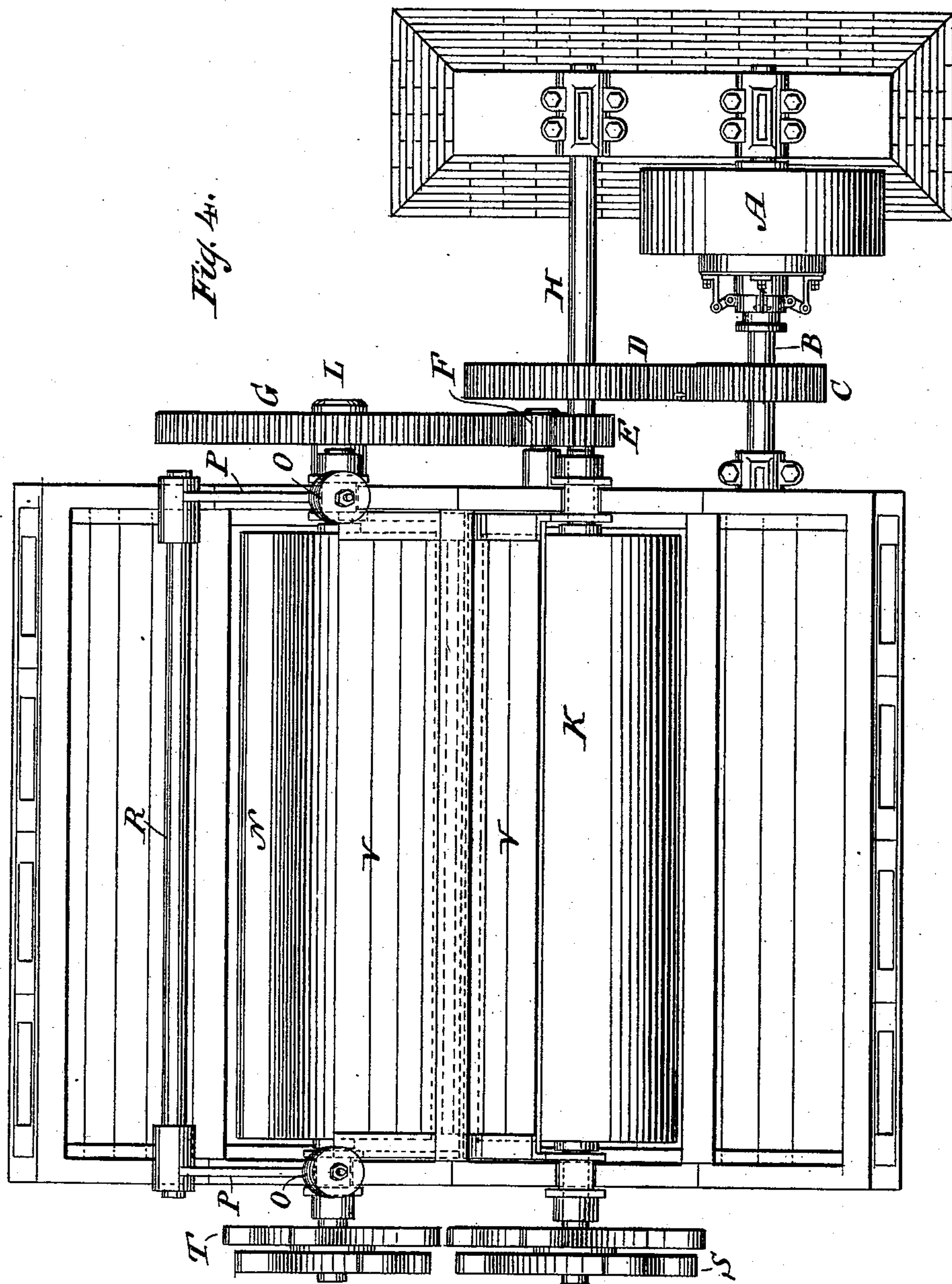
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WITNESSES:

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INVENTOR:

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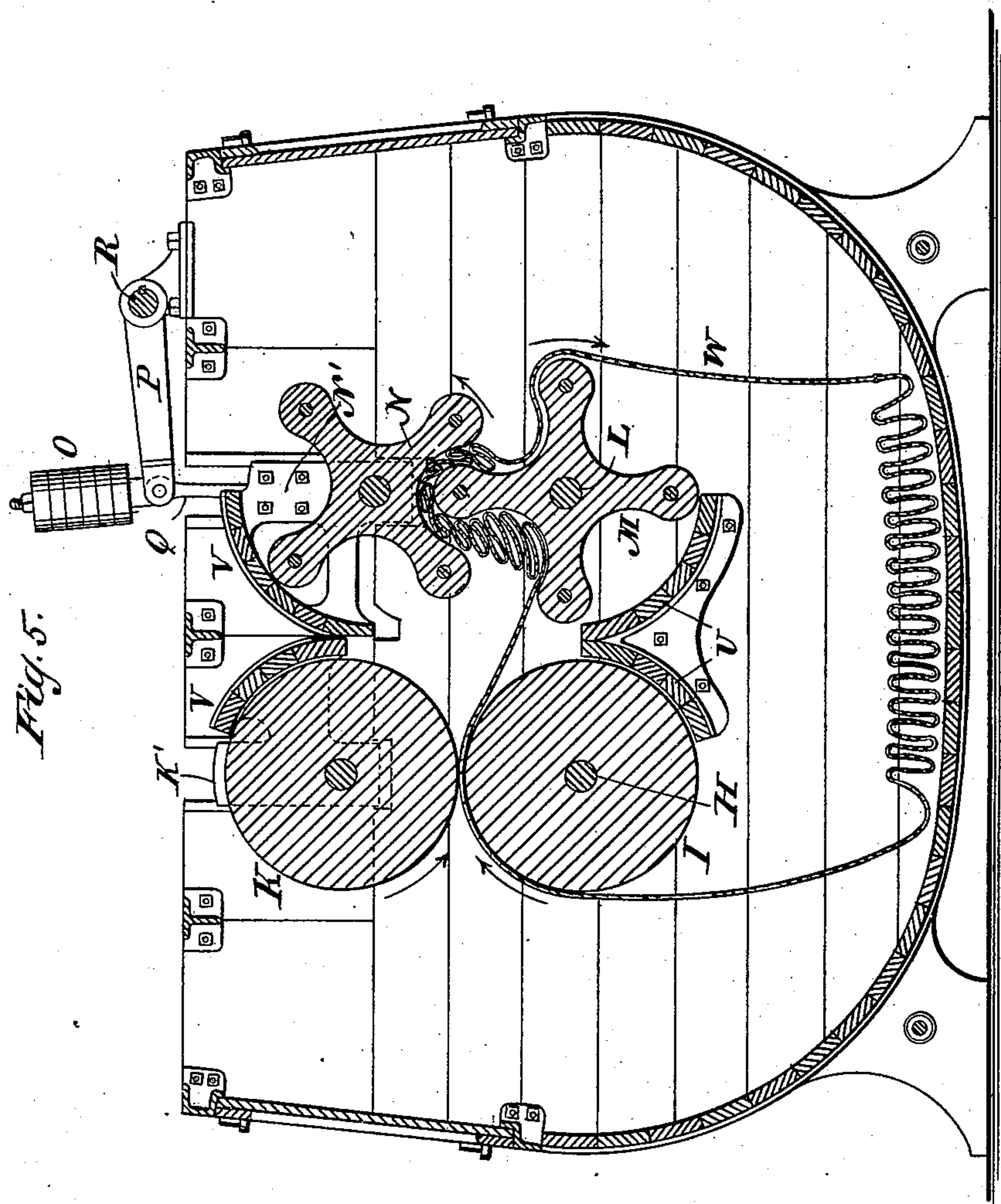
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# UNITED STATES PATENT OFFICE.

JOHN W. MILLET, OF DOLGEVILLE, NEW YORK, ASSIGNOR TO ALFRED DOLGE, OF SAME PLACE.

## FULLING-MILL.

SPECIFICATION forming part of Letters Patent No. 472,900, dated April 12, 1892.

Application filed January 7, 1892. Serial No. 417,283. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. MILLET, a citizen of the United States, residing at Dolgeville, in the county of Herkimer and State of New York, have invented new and useful Improvements in Fulling-Mills, of which the following is a specification.

This invention relates to an improvement in fulling apparatus; and it consists in the details of construction set forth in the following specification and claims and illustrated in the annexed drawings, in which—

Figure 1 is a front elevation of the fulling apparatus. Fig. 2 is a side elevation of Fig. 1. Fig. 3 is an elevation of the opposite side from that shown in Fig. 2. Fig. 4 is a plan view of Fig. 1. Fig. 5 is a section along  $x x$ , Fig. 1.

In the drawings, the letter A indicates a drive-pulley, which by a friction-clutch or other connection drives the shaft B, on which is mounted gear C, which drives gear D and pinion E. The pinion E drives the loose pinion F, which actuates the gear G. The shaft H of the gear D carries the lower feed-roll I. The upper feed-roller K is mounted in boxes K', movable toward and from roll I. The shaft L of gear G carries the lower working roll M. The upper working roll N is mounted in boxes N', which are movable toward and from roll M, and said roll N is weighted, so as to exert pressure. The weights O are shown on the levers or swinging arms P and exert pressure by means of the links or connections Q on the boxes N' for the shaft of roller N. The shaft R is keyed securely to the levers P and is parallel to rollers M N and compels the roller N to move up and down parallel to roller M. Motion is communicated from the lower rollers I M to the upper rollers K N by means of finger-gears S T. These gears are made in the form shown to allow the upper rollers to move toward and from the lower rollers without coming out of gear. This play of the rolls is essential for obtaining satisfactory results, as will be hereinafter shown. The shields U V V prevent the felt from feeding down between the rollers I M or from being carried over the top of roller N. The lower shield U remains fixed or stationary. The shields V V are secured to the sliding boxes of the upper rollers, so as to rise and fall with the latter.

In operating the machine one end of the cloth or felt W is passed between the feed-rollers I K and the work-rollers M N, after which the ends of the felt are sewed or secured together to form an endless band. Two or more bands or pieces can be inserted and fullled simultaneously, if desired. The feed-rollers I K are arranged to run faster than the work-rollers—say about six times as fast. The cloth or felt is thus fed to the work-rollers in folds or plaits, as seen, for example, in Fig. 5. The work-rollers because of their form and the upper work-roller being weighted compress the plaits or folds and in revolving work the plaits together and give them a sliding or kneading motion, so as to full the fabric. The folds or plaits in being fed into the work-rollers are liable to be uneven, and as the top roller can adjust itself with respect to the lower one without coming out of gear the unevenness of the felt portions will not hinder the action of the machine.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a fulling-mill, the combination, with the feed-rolls I K, the working rolls M N, the rising-and-falling boxes carrying the upper feed and working rollers, and gears connecting the working and feed rollers at one end, of the horizontal rock-shaft R, arranged parallel with the working-rollers, the swinging arms P, rigidly secured to the rock-shaft and provided with weights O, and links Q, connecting the swinging arms with the boxes of the upper working roller, substantially as described.

2. The combination, with the feed-rollers, of the two working rollers, one of each of said feed and working rollers being adapted to rise and fall, finger-gears for connecting said working rollers, a fixed lower shield U, and upper shields V, connected to the movable boxes of the upper feed and working rollers, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN W. MILLET.

Witnesses:

WYMAN EATON,  
NIRS ROSEN.