

(No Model.)

2 Sheets—Sheet 1.

D. W. MARMON.

ROLLER MILL.

No. 277,307.

Patented May 8, 1883.

Fig. 1.

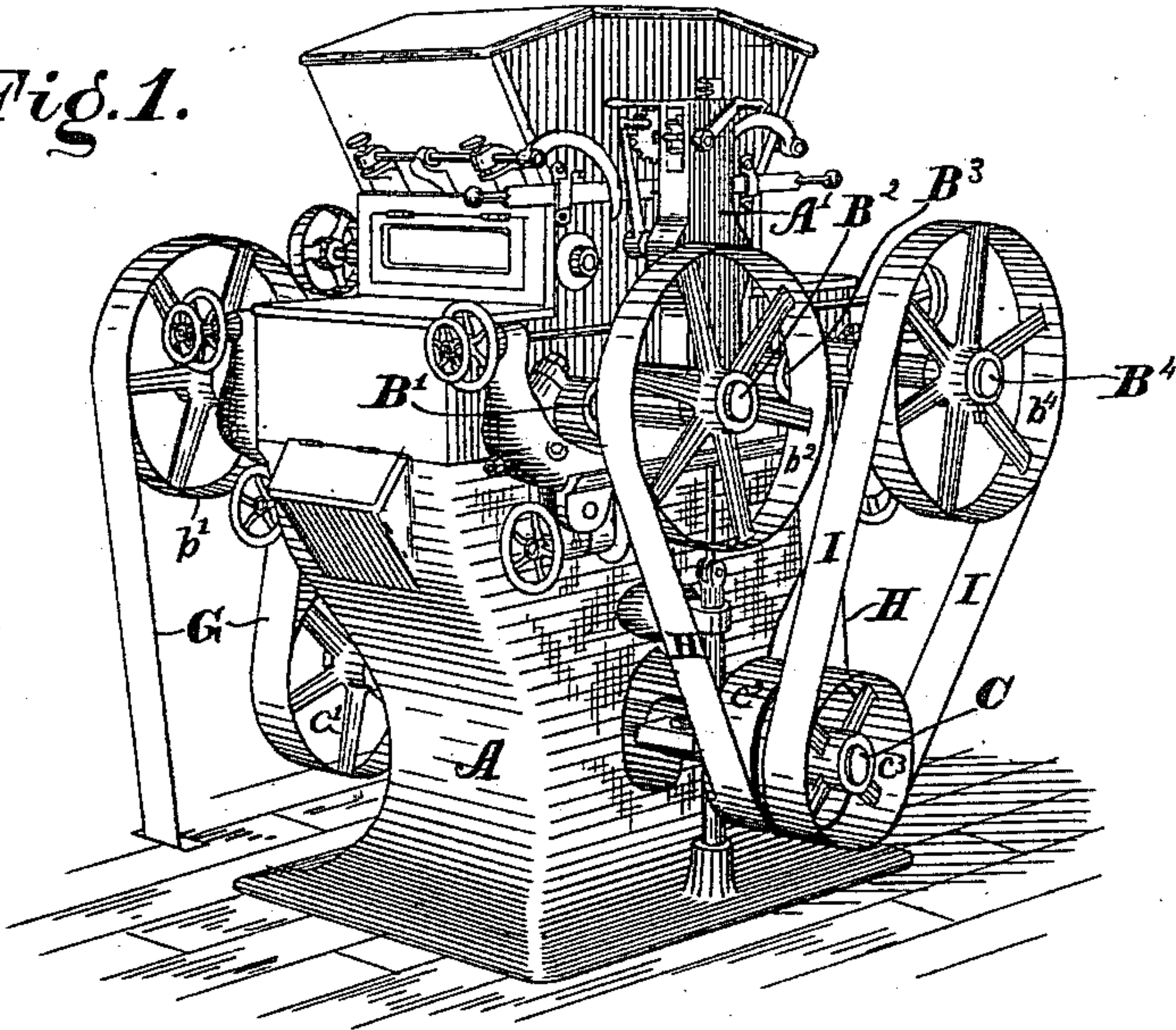
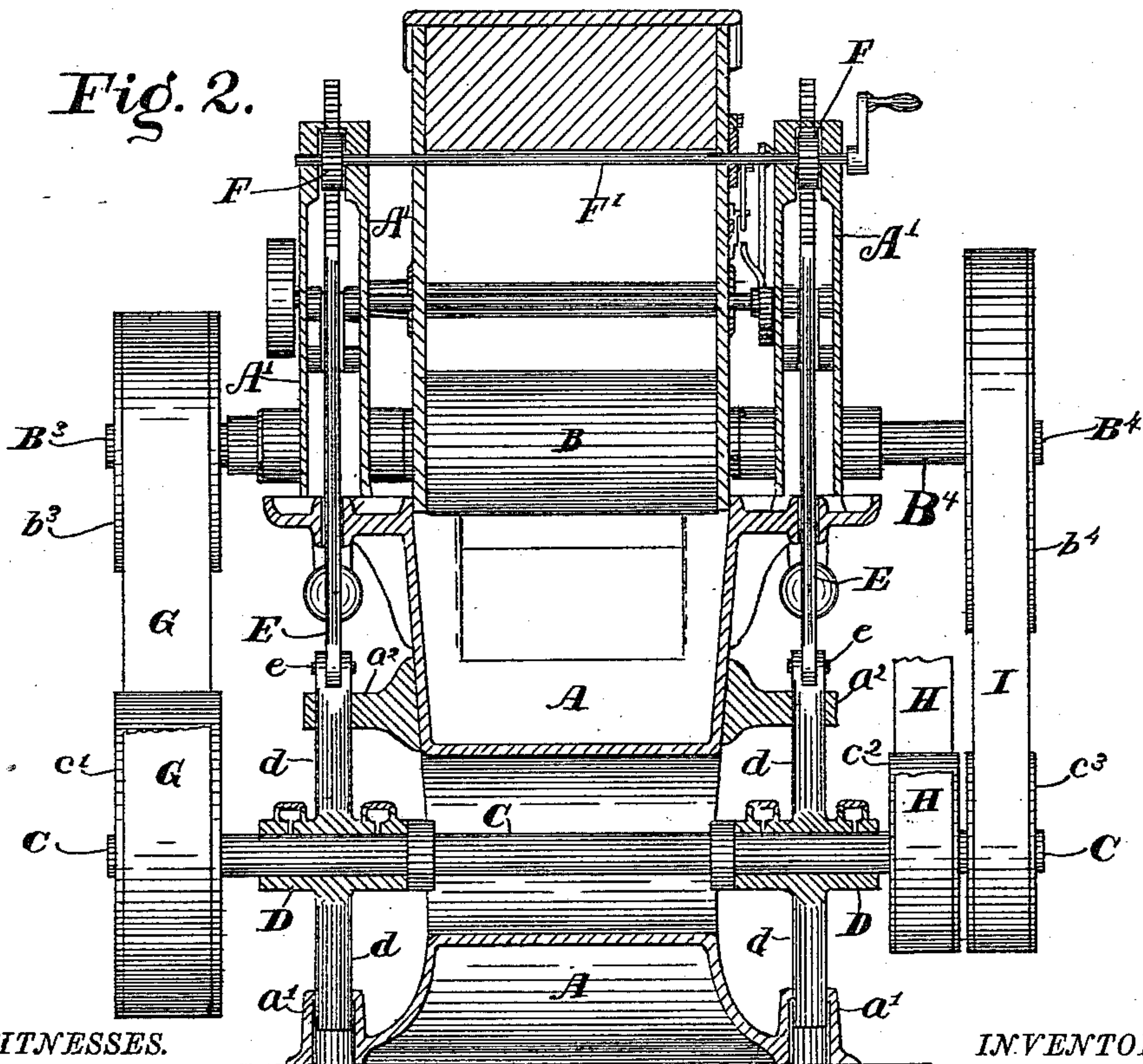


Fig. 2.



WITNESSES.

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(No Model.)

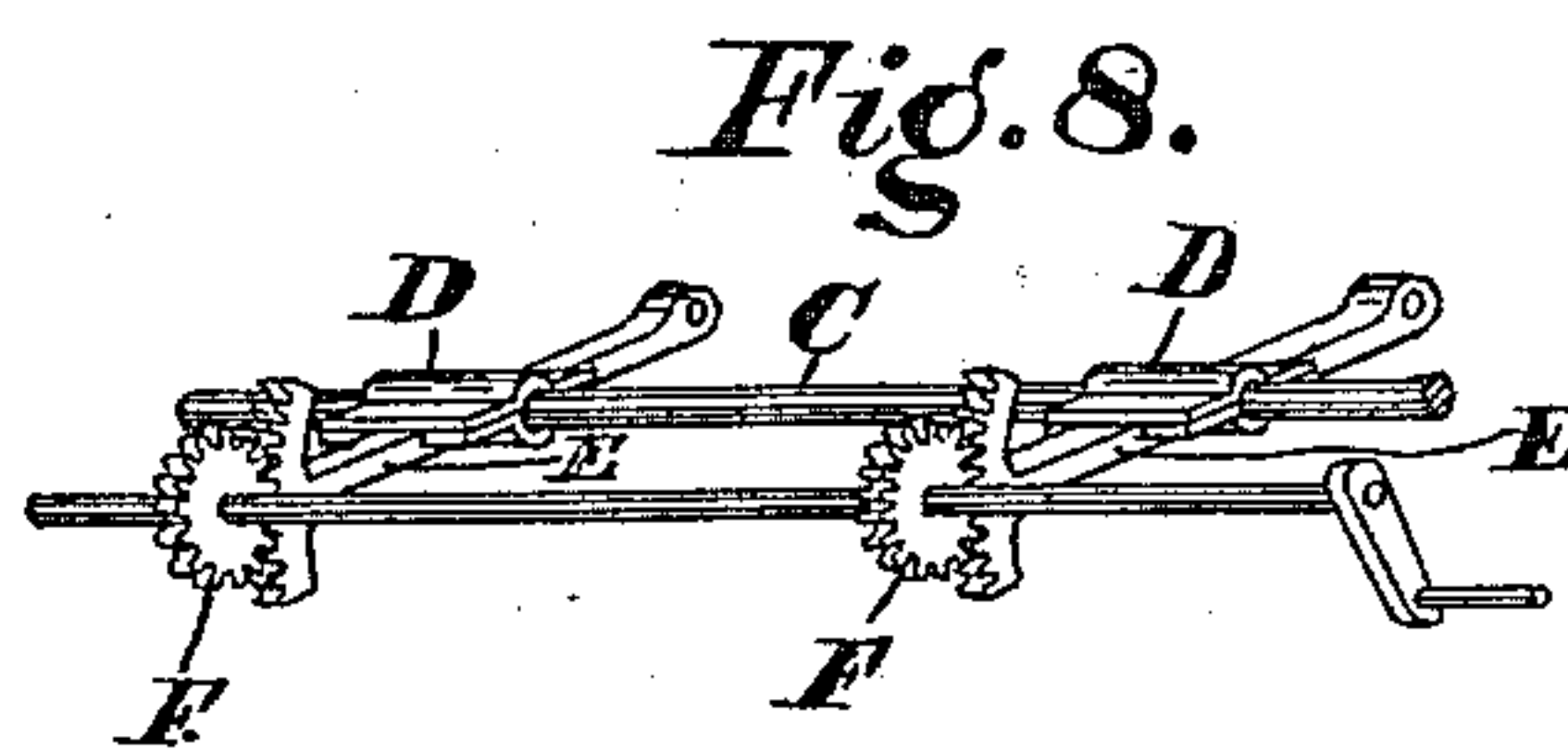
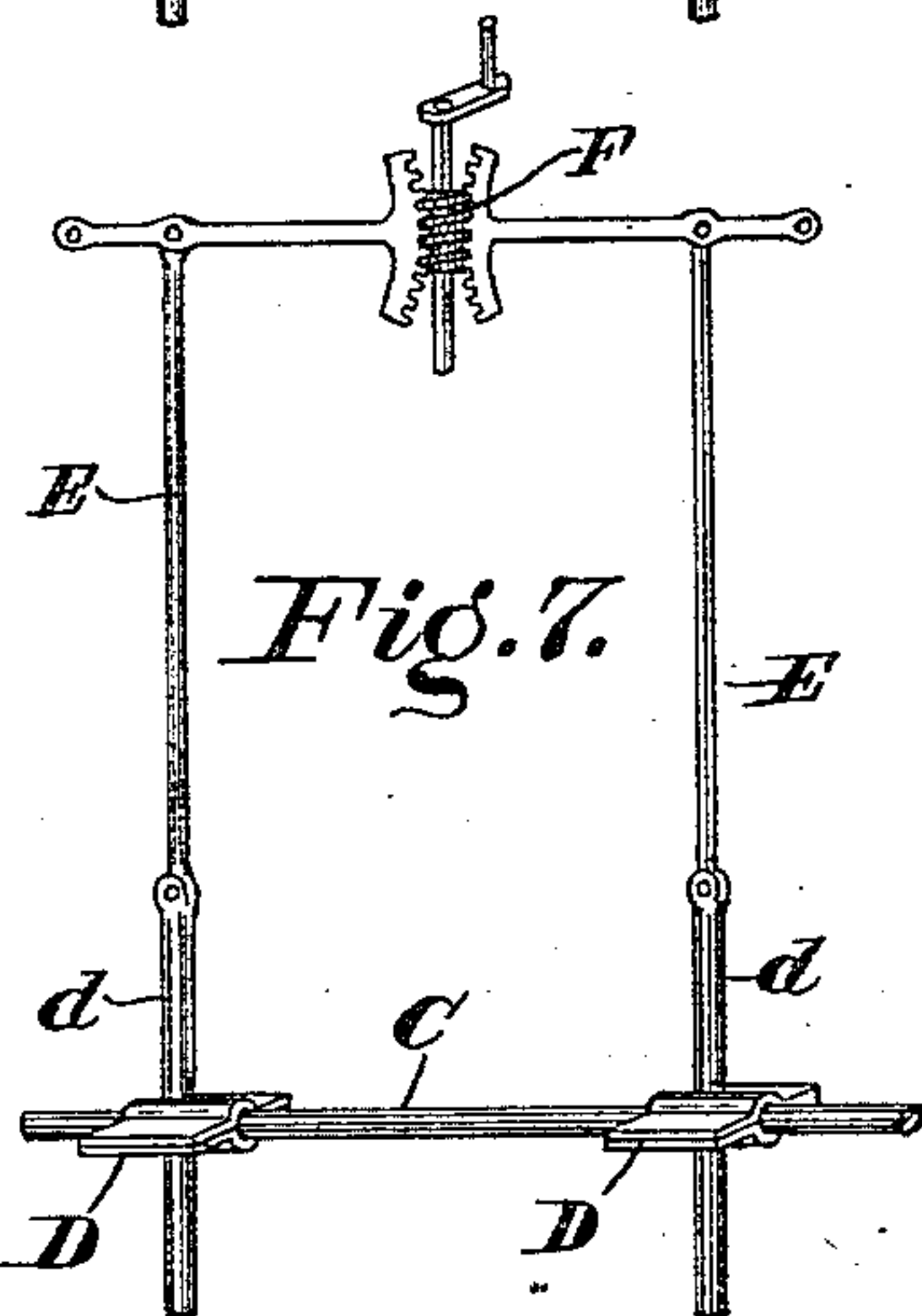
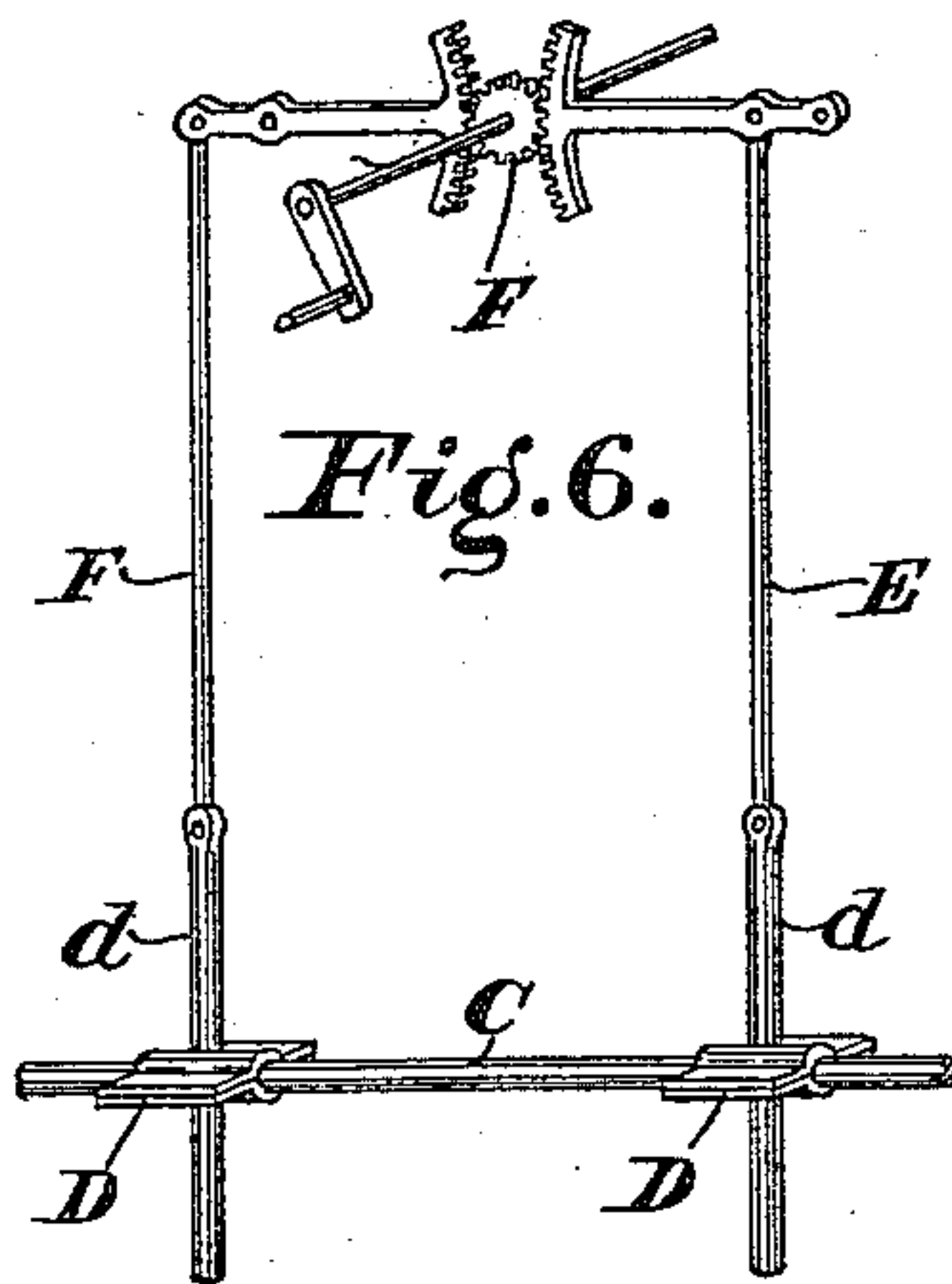
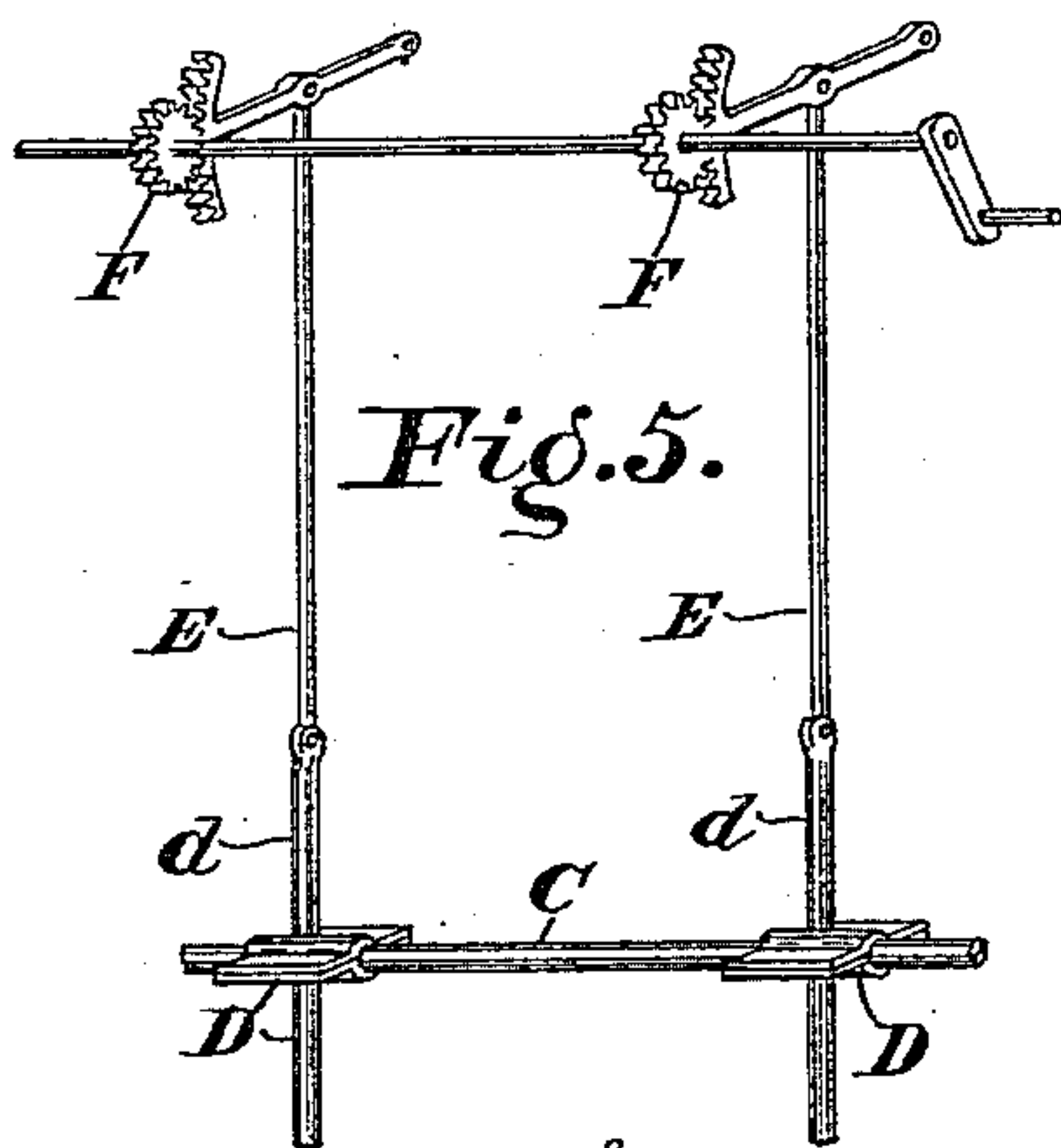
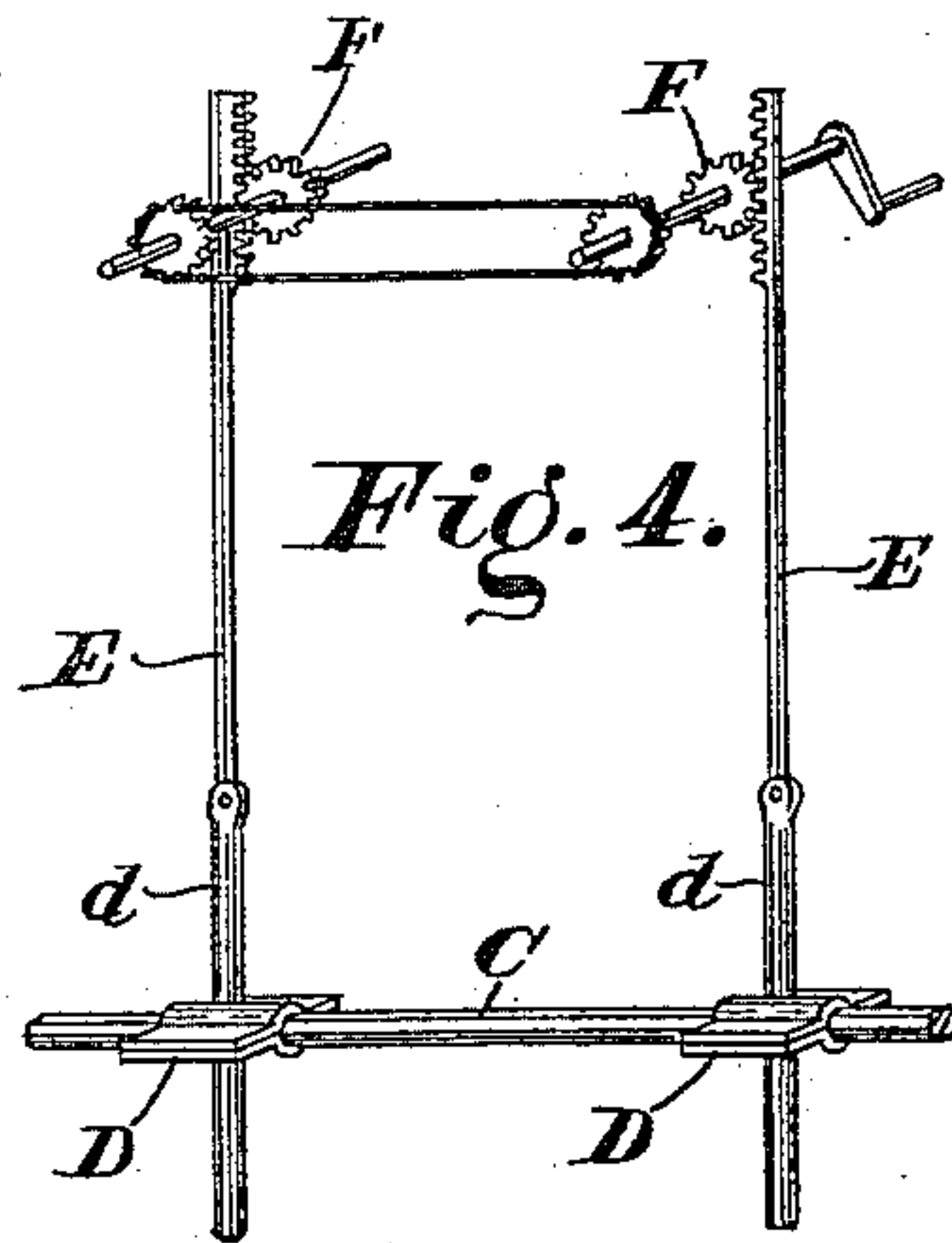
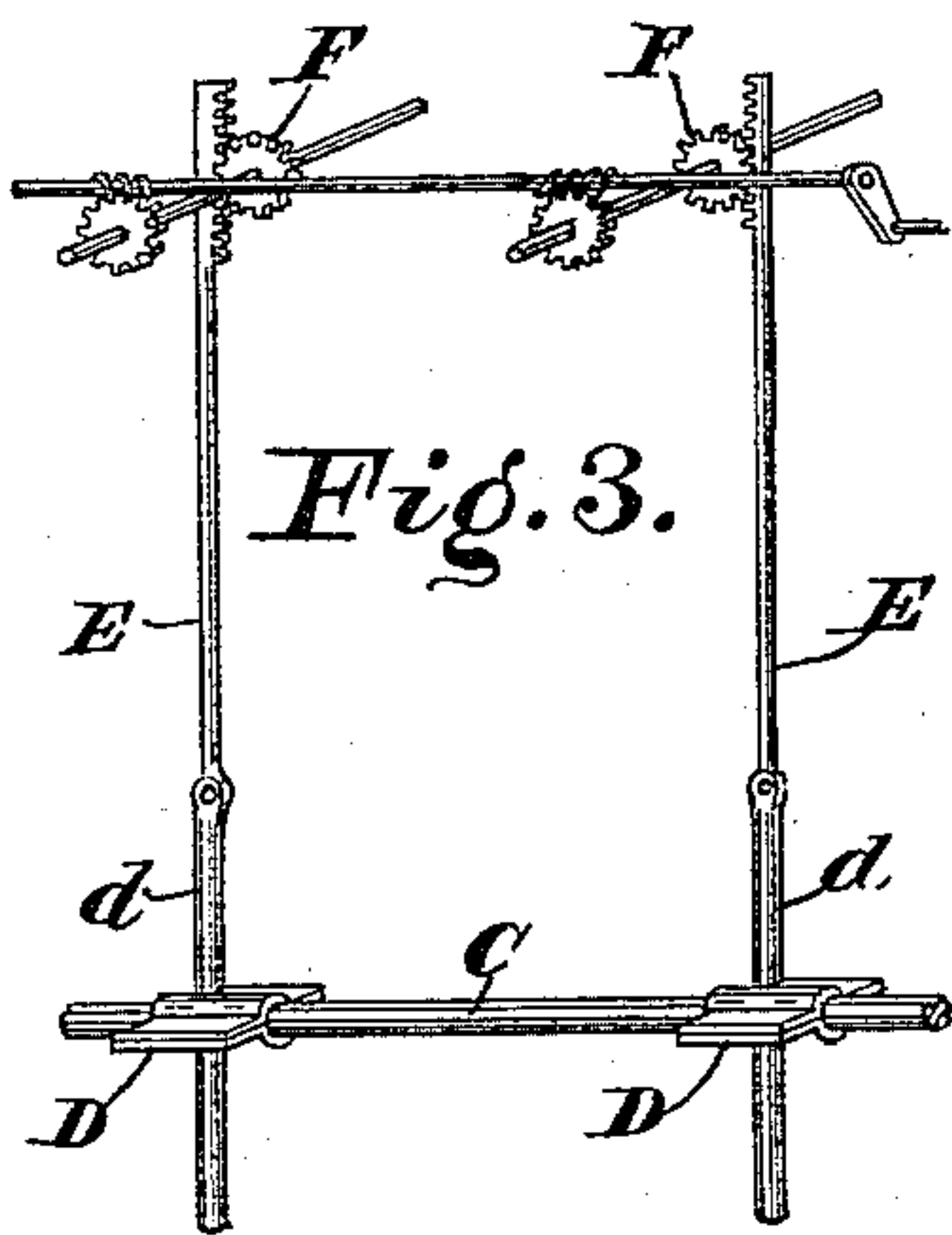
2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

DANIEL W. MARMON, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO THE
NORDYKE & MARMON COMPANY, OF SAME PLACE.

ROLLER-MILL.

SPECIFICATION forming part of Letters Patent No. 277,307, dated May 8, 1883.

Application filed February 27, 1883. (No model.)

To all whom it may concern:

Be it known that I, DANIEL W. MARMON, of the city of Indianapolis, county of Marion, and State of Indiana, have invented certain new and useful Improvements in Roller-Mills, of which the following is a specification.

The object of my said invention is to produce a new and improved means of operating both ends of the counter-shaft of a roller-mill simultaneously.

This object is accomplished by combining with said counter-shaft and sliding or swinging boxes supporting the same means consisting in part of toothed gearing for connecting and adjusting said boxes, as will be hereinafter more fully described.

This present application is intended to cover one class of the modifications or alternate constructions which were to some extent shown and described in my application No. 77,774, filed November 27, 1882.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a perspective view of a roller-mill embodying my said invention; Fig. 2, a central vertical section thereof; and Figs. 3 to 8, skeleton views, illustrating alternate constructions embodying the leading features of my said present invention.

In said drawings, the portions marked A represent the frame-work of the mill; B, one of the grinding-rolls; B' B² B³ B⁴, the roll-shafts; C, the counter-shaft; D, journal-boxes for said shaft; E, rods or bars extending from said boxes and forming part of the supporting, connecting, and adjusting mechanism; F, gear-wheels for operating said rods or bars; and G H I the belts, which are tightened or loosened by the lowering or raising of the counter-shaft.

The frame-work A and many of the other parts of the machine may be of any ordinary or approved form, my present invention being equally as applicable to roller-mills of other forms as to that shown.

The several roll-shafts, B' B² B³ B⁴, are provided with belt-pulleys b' b² b³ b⁴, and are each connected by a belt to the counter-shaft, as shown.

The counter-shaft C is mounted in the boxes D, and has pulleys c' c² c³ thereon. When this shaft is raised or lowered it loosens or tightens the several belts employed to run the grinding-rolls, which is occasionally necessary to the proper operation of the mill.

The boxes D are preferably provided with extensions d, which pass through bearings in the lugs a' a² on the frame A, and are adapted to slide therein.

The rods E are attached to the upper extensions of the boxes D, either by pivots e, as shown, or otherwise, and pass up through bearings in the frame A A', preferably to near the top of the machine, and are preferably formed at the upper ends into rack-bars.

The gear-wheels F are mounted either on the shaft F', as shown in the principal drawings, or otherwise, as shown in Figs. 3, 4, 5, 6, 7, and 8, and mesh into the rack-bar portions of the rods E, or the bars attached thereto, and are thus adapted to raise and lower said rods, and, through them, both ends of the counter-shaft C simultaneously, and thus loosen or tighten the belts G H I, which is a very simple and convenient means for accomplishing this result.

The belt G passes over the pulleys b' b³ on the roll-shafts B' B³, and under the pulley c' on the counter-shaft C, and thus drives all of said shafts. The belts H and I run from the pulleys c² c³ on the counter-shaft to the pulleys b² b⁴ on the roll-shafts B² B⁴, and thus drive said roll-shafts.

As will be readily understood from an examination of the drawings, the rack or toothed portion may be in the form of a straight rack or a segment, and the teeth may be spur or screw teeth, and attached directly to or form a part of the bars or rods supporting the boxes, or be upon bars pivoted or otherwise attached thereto.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a roller-mill, with the counter-shaft C, extending through the mill substantially parallel with the roll-shafts, of an adjusting mechanism consisting of rods or bars supporting the boxes of said counter-shaft, and means embodying toothed gearing

for connecting and simultaneously moving said rods or bars, substantially as described, and for the purposes specified.

2. The combination, with the counter-shaft
5 C and the boxes or bearings therefor, of an adjusting mechanism consisting of rods or bars supporting the said boxes, and having teeth thereon, pinions which engage with said teeth, means for connecting said pinions with each
10 other, and means for operating the same, whereby both ends of said counter-shaft are raised or lowered simultaneously, substantially as described, and for the purposes specified.

3. In a roller-mill, the combination of the
15 supporting frame-work, the rolls, the roll-shafts, the counter-shaft, boxes or bearings

therefor, the pulleys on said several shafts, the belts on said pulleys, the rods E, connected to the boxes of the counter-shaft, means for connecting said rods together, and toothed gear- 20 ing whereby the rods, the boxes, and the counter-shaft are simultaneously adjusted, and the belts thus tightened and loosened, substantially as set forth.

In testimony whereof I have hereunto set my 25 hand and seal, at Indianapolis, Indiana, this 24th day of February, A. D. 1883.

DANIEL W. MARMON. [L. S.]

In presence of—

C. BRADFORD,

E. W. BRADFORD.