

No. 646,605.

Patented Apr. 3, 1900.

A. L. PARRISH.
PAPER BAG MACHINE.

(Application filed Feb. 27, 1899. Renewed Jan. 2, 1900.)

(No Model.)

2 Sheets—Sheet 1.

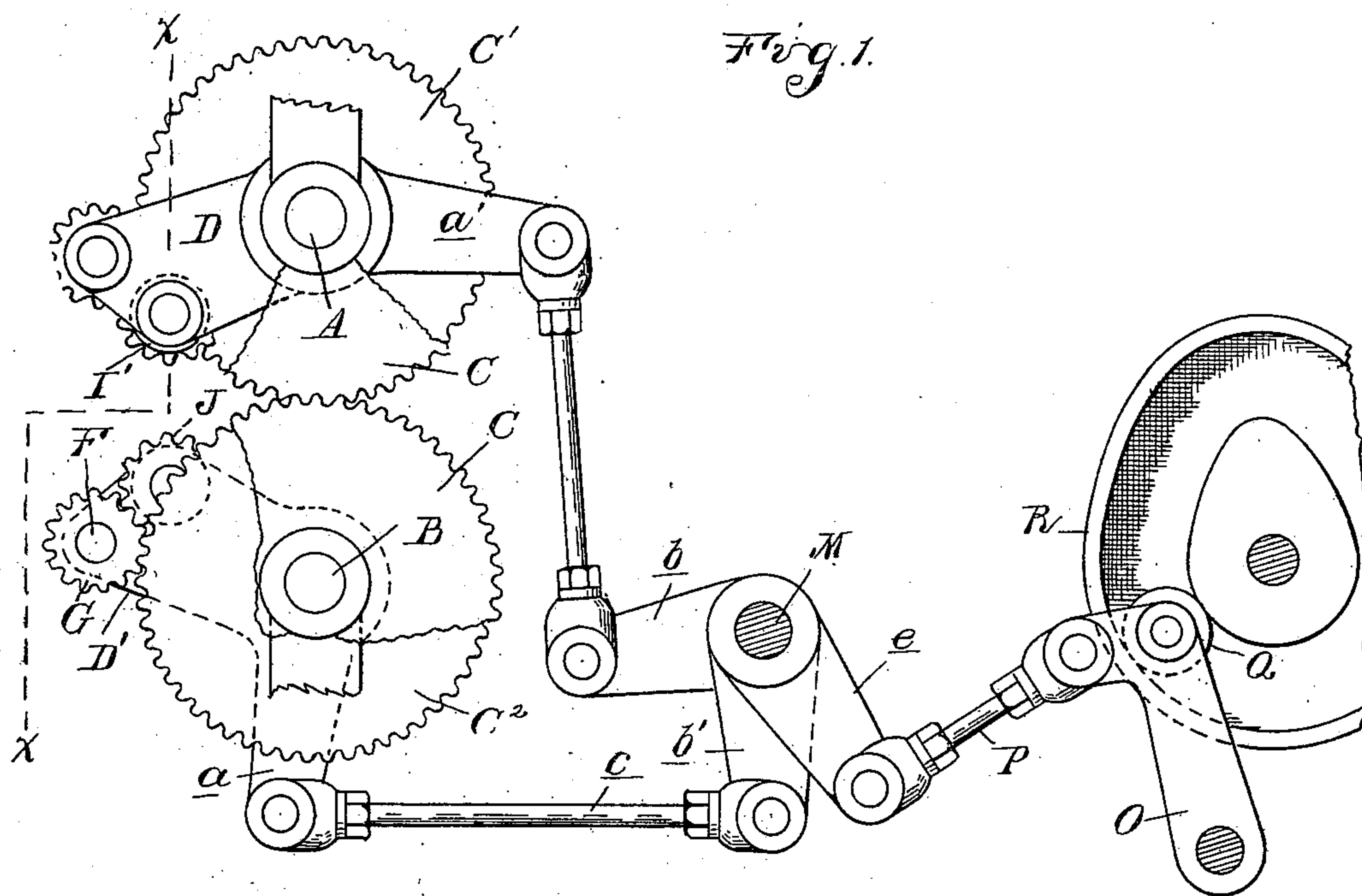
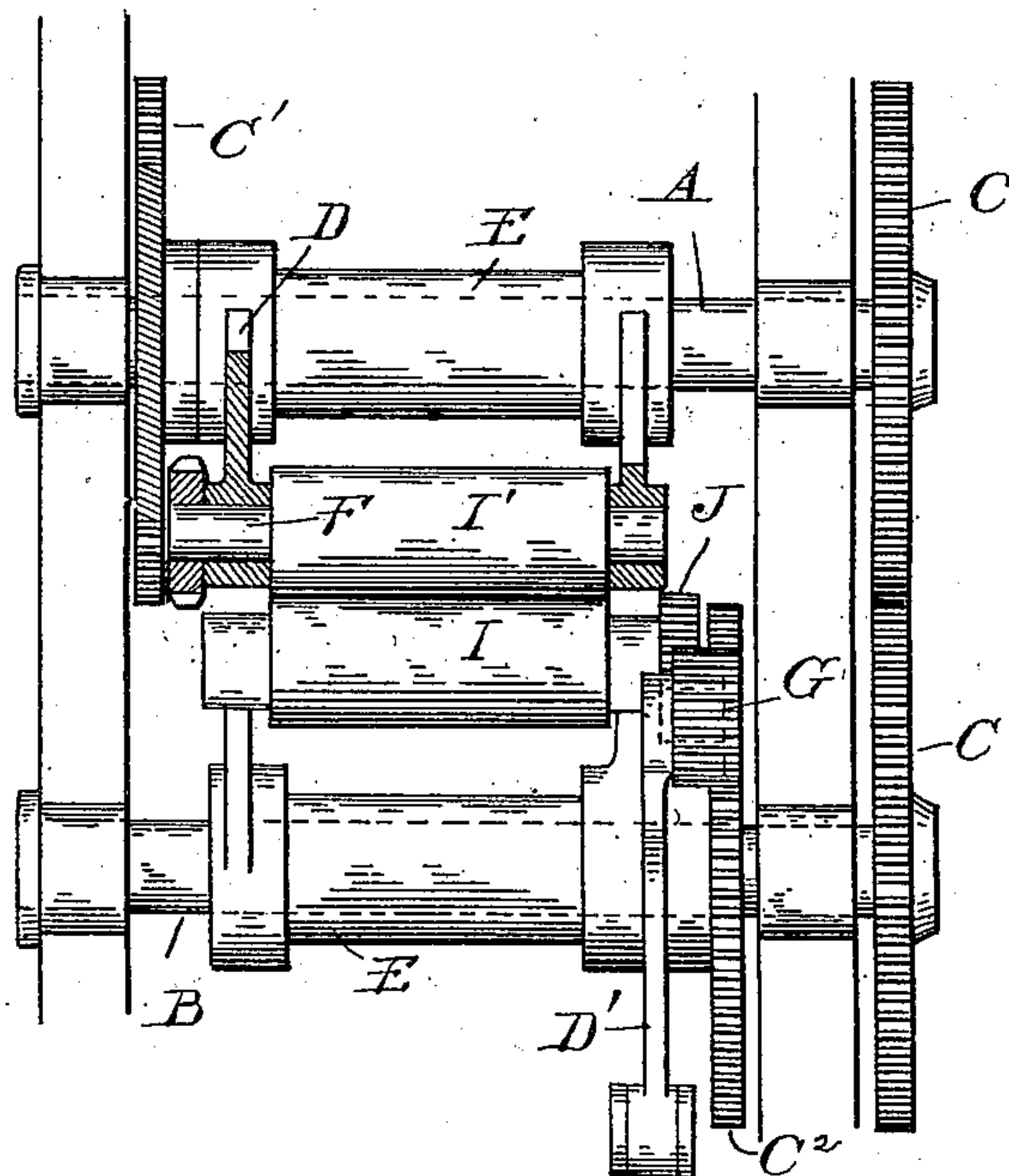


Fig. 2.



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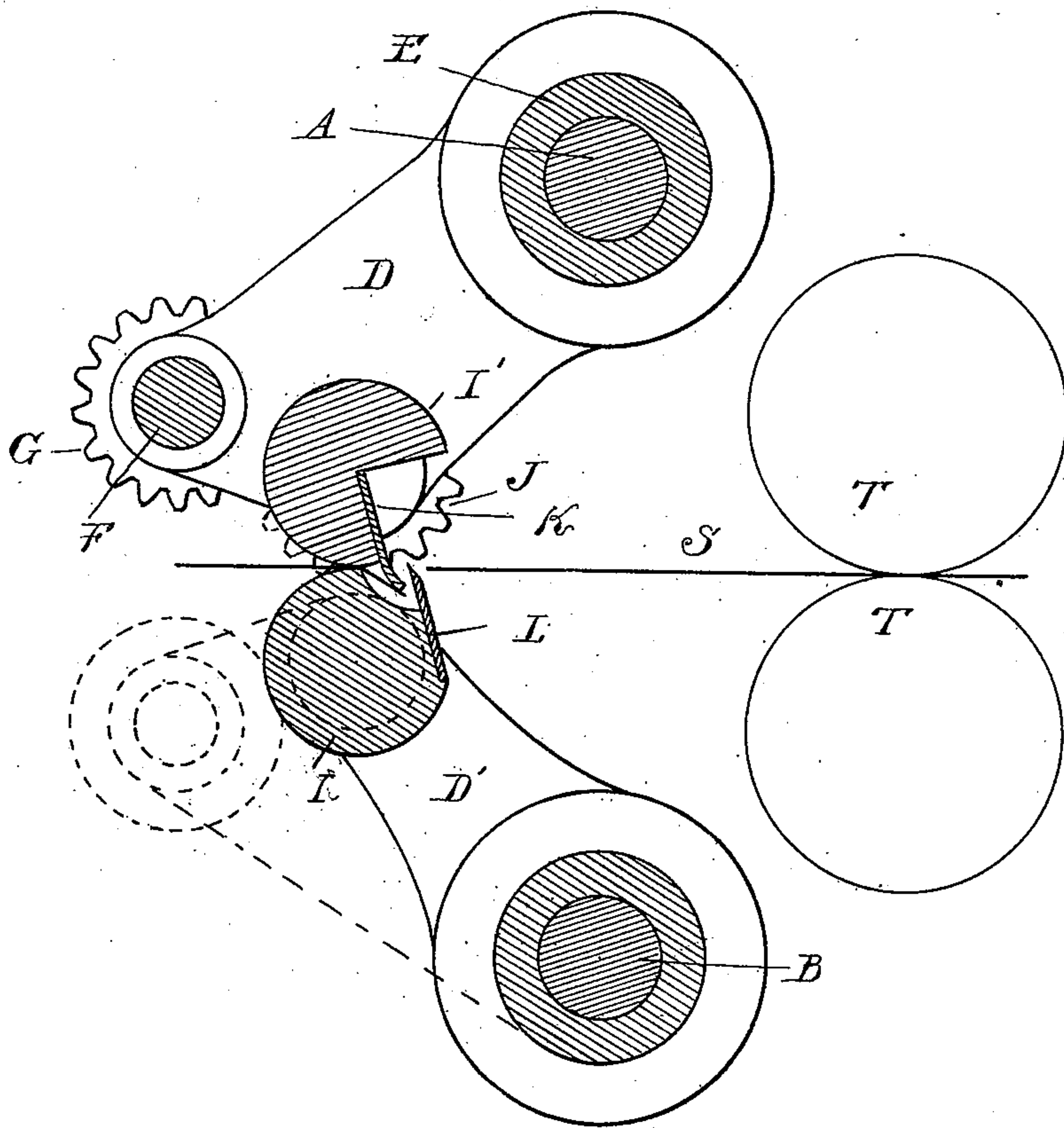
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Fig. 3



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UNITED STATES PATENT OFFICE.

ASA L. PARRISH, OF ELKHART, INDIANA, ASSIGNOR TO THE NATIONAL MANUFACTURING COMPANY, OF SAME PLACE.

PAPER-BAG MACHINE.

SPECIFICATION forming part of Letters Patent No. 646,605, dated April 3, 1900.

Application filed February 27, 1899. Renewed January 2, 1900. Serial No. 166. (No model.)

To all whom it may concern:

Be it known that I, ASA L. PARRISH, a citizen of the United States, residing at Elkhart, in the county of Elkhart and State of Indiana, have invented certain new and useful Improvements in Paper-Bag Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention consists in a cutting device for a machine for making paper bags or tubes; and it particularly consists in rollers which carry the cutting means and in devices for causing the rollers to come into contact and to recede from each other intermittently, and, further, in the specific construction of the parts by which the rollers are thus caused to move and in the actuating devices for the rollers, all as more fully hereinafter described.

In the drawings I have not shown the tube-making machine to which my device is adapted to be attached, but have simply shown it as an attachment which may be employed in known bag-making machines.

Figure 1 is a sectional side elevation of my attachment. Fig. 2 is an elevation thereof, partly in section, as shown by line *xx* in Fig. 1. Fig. 3 is a vertical section through the actuating-rollers and their supporting rock-arms, indicating in dotted lines some of the parts in front of the plane of section.

A and B are two parallel shafts supported in the frame of the machine and driven at uniform speed, being geared together by the gear-wheels C. Upon these shafts are the pairs of rock-arms D and D', respectively, preferably secured to sleeves E, in which the shafts A turn.

C' C² are gear-wheels secured, respectively, to the shafts A and B upon opposite sides of the sleeves E.

In the outer end of one of each pair of rock-arms is a pin or stub shaft F, upon which is journaled a pinion G, one of which meshes with the gear-wheel C' and is driven thereby, the other correspondingly meshing with the gear-wheel C². In the rock-arms D D' are journaled, respectively, two supplemental feed-rollers I and I', these rollers being journaled in such proximity to the pinions G that they may be geared thereto by means of the gear-wheels J upon the shaft of each roller.

The roller I' has a section of its body cut out, as plainly shown in Fig. 3, and fastened to one face in such cut-away portion is a plate K, preferably having its outer edge curved, as shown, and which is what I call a "striker."

The roller I is flattened at one point, and in this flattened surface is secured the knife L, which preferably is toothed and which co-operates with the striker to cut off the paper, as will be hereinafter explained.

One of each pair of rock-arms D and D' is provided with actuating arms or levers *a a'*, and these arms are connected to the rock-arms *b b'* on the rock-shaft M by means of suitable connecting-rods, such as *c*. The rock-shaft M is intermittently rocked by means of the arm *e*, secured to the shaft and connected to the lever O by the link P. This lever has a roller-wrist Q, engaging in the camway of a cam R, as plainly shown in Fig. 1.

The machine is provided with suitable feed devices for the paper strip, which I have shown at S, and I have indicated feeding-rolls T in Fig. 3 as feeding the paper forward toward the rollers I and I'.

This machine being connected to the ordinary machine for making paper bags or tubes, it is intended to cut the tube in lengths, as follows: The tube S is fed toward the rolls I I', which are separated, as shown in Fig. 1. The parts are so arranged and timed that after a proper length of paper tube has passed through between the rollers the cam R will rock the lever O, and through the connections described the rock-arms D D' will be caused to approach each other until the rollers I I' contact upon the paper strip. These rollers being driven through the gear connection described will rotate while in contact with the paper strip, forming a supplemental feed therefor which will keep said strip taut. At the proper time the striker K will force the paper across the knife L, as shown in Fig. 3, sever it, and then the rolls will again be separated to allow another portion of the tube to be fed between them.

I am aware that rollers with striker and knife have heretofore been used for cutting off paper; but I believe I am the first to use such rolls with means for causing them to separate while the paper is being fed therethrough and

to simply move in contact only during the cutting operation. The benefit of this construction is that, regardless of the size of the bag, the small-diameter rolls which I am enabled to use will always have a greater surface speed than the speed at which the paper is fed, and, as is well understood, this is a desirable factor to make such cutting-rolls efficient. I believe also that the mechanism that I employ to effect this movement is extremely simple, will occupy very small space in the machine, and is especially efficacious for the work which is it desired to accomplish.

What I claim as my invention is—

1. The combination with feed devices for the paper, a pair of supplemental feed-rolls between which the paper is fed, transverse-cutting devices thereon, and means for causing the rolls to move into contact to effect the cutting and then to separate.

2. The combination with feed devices for the paper, a pair of supplemental feed-rolls between which the paper is fed, mechanism for intermittently reciprocating the rolls into and out of contact and for holding them in contact during the transverse cutting.

3. The combination in a machine for making paper bags or tubes of feed devices for the tube, a pair of driven rolls between which the tube is fed, cutting devices thereon, arms in which said rolls are journaled and means for intermittently rocking said arms for the purpose specified.

4. The combination in a machine for making paper bags or tubes of feed devices for the tube, a pair of rolls between which the paper is fed, arms in which said rolls are journaled, driving devices for the rolls carried by said arms, a driving connection from the driving means on the arms to stationarily-supported driving means, and means for rocking the arms intermittently for the purpose specified.

5. The combination in a machine for making paper bags or tubes of two parallel shafts geared together, and simultaneously driven, a pair of rock-arms sleeved on each shaft, a roll journaled in each pair of rock-arms, complementary cutting devices on the rolls, a gear connection between each gear on the shafts and one of the rolls, such connecting-gearing being carried by the rock-arm, and means for intermittently rocking the rock-arms, for the purpose specified.

6. The combination in a machine for making paper bags or tubes of feed devices for the paper tube, a pair of driven rolls between which the tube is fed, cutting devices on the rolls, rock-arms in which the rolls are journaled, a rock-shaft, connections from and between the rock-shaft and each rock-arm, a cam, and connections from the cam to the rock-shaft, whereby the rolls are caused to contact and recede from each other intermittently.

7. The combination in a machine for making paper bags or tubes of feeding devices for the paper tube, a pair of driven rolls between which the tube is fed, cutting devices on the rolls, rock-arms in which the rolls are journaled, the actuating-arms *a a'* therefor, the rock-shaft *M*, the arms or levers *b b'* thereon and the connecting-rods *c* between the rock-arms *a, b'* and *a', b* respectively, the lever *O*, the roller-wrist *Q* thereon, the cam *R*, the rock-arm *e* on the shaft *M* and the connecting-rod *P* between the rock-arms *e* and the lever *O*, the parts arranged as and for the purpose described.

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

ASA L. PARRISH.

Witnesses:

WALTER BROWN,
GEORGE W. FREDERICK.