

No. 711,415.

Patented Oct. 14, 1902.

J. L. BOWLES.

THREAD GUMMER FOR ENVELOP MACHINES.

(Application filed Nov. 30, 1898. Renewed Oct. 25, 1901.)

(No Model.)

2 Sheets—Sheet 1.

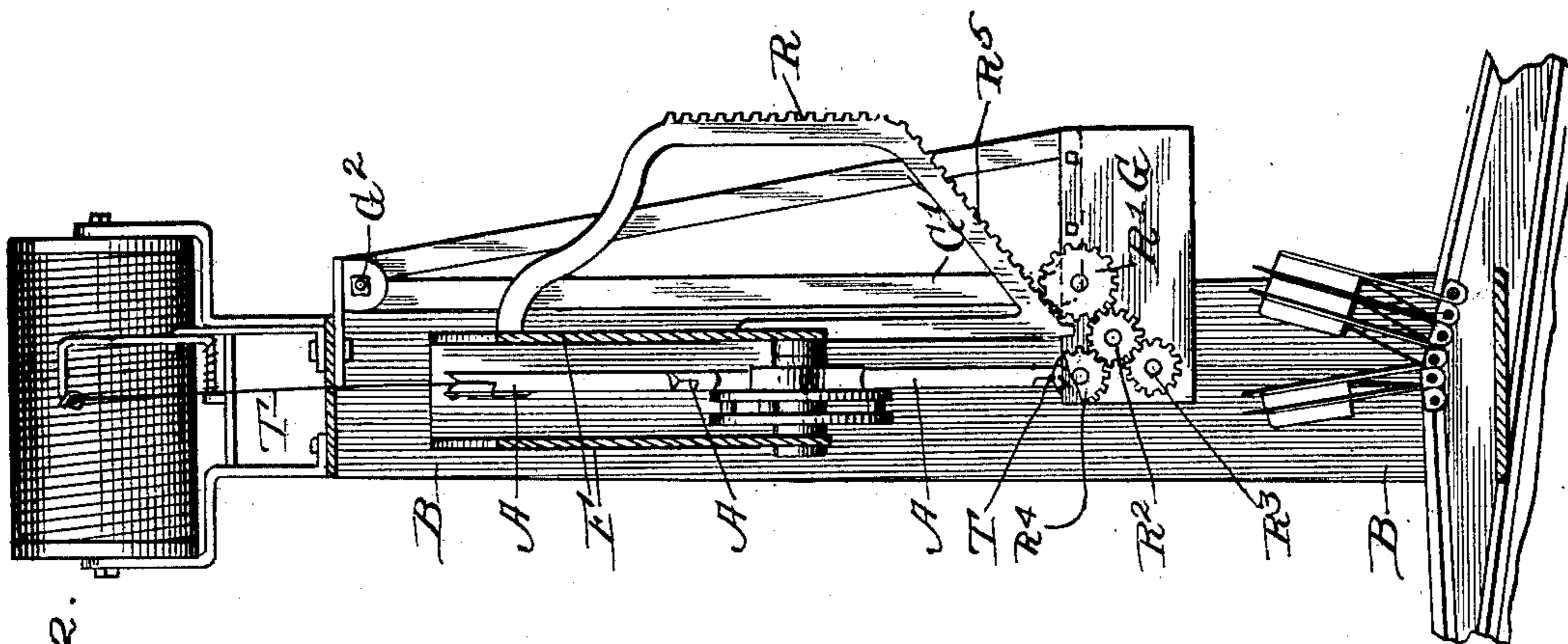


Fig. 2.

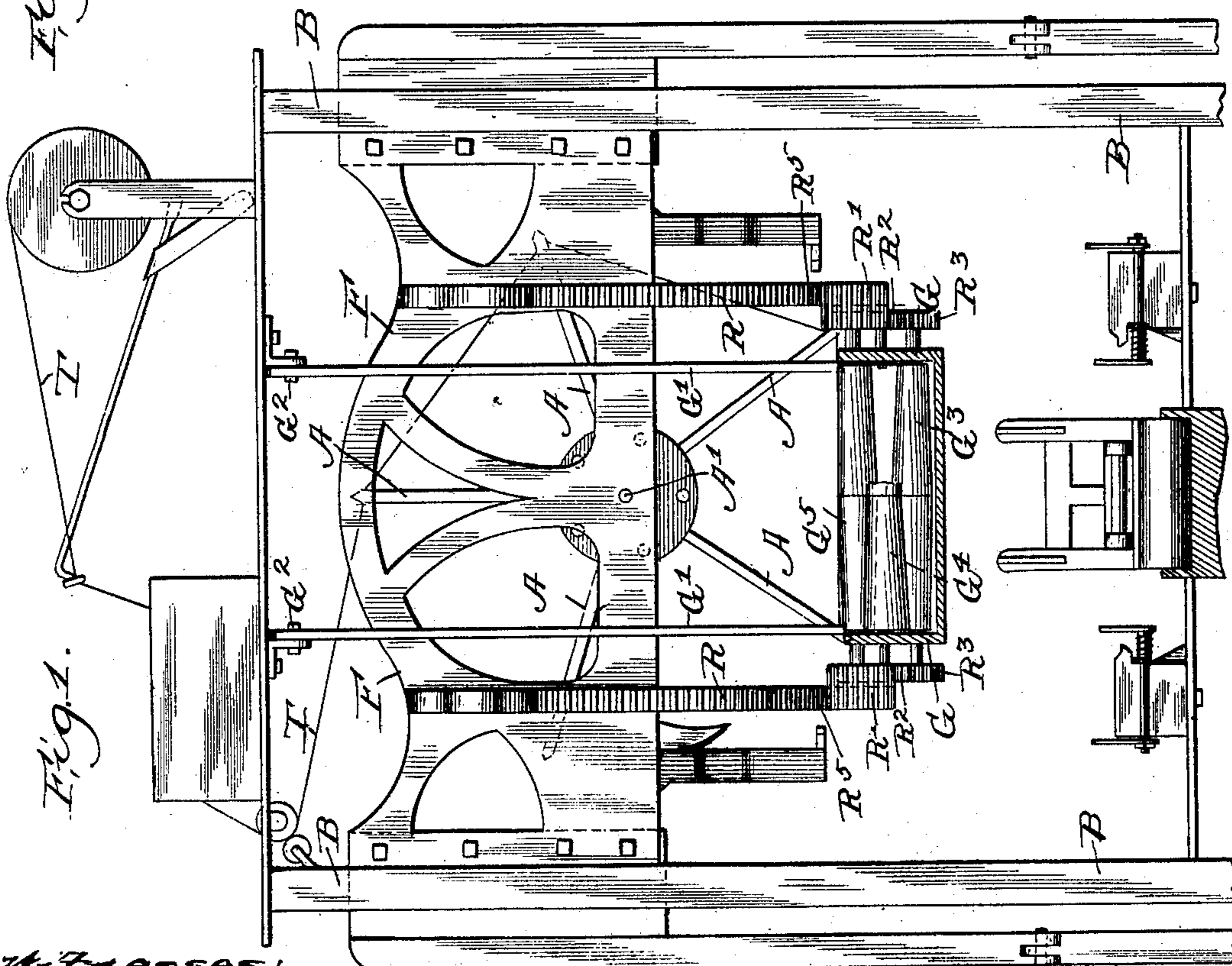


Fig. 1.

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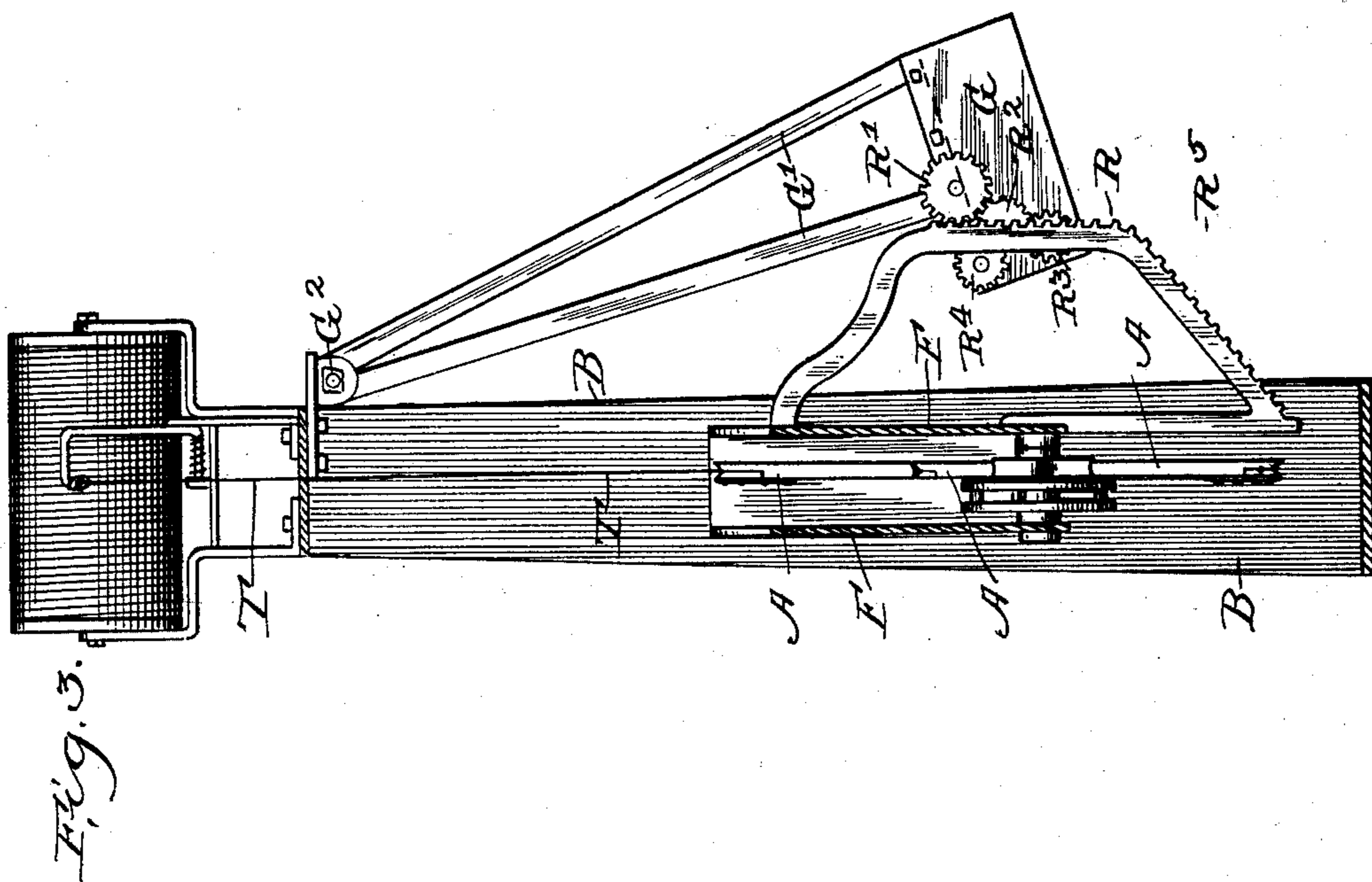
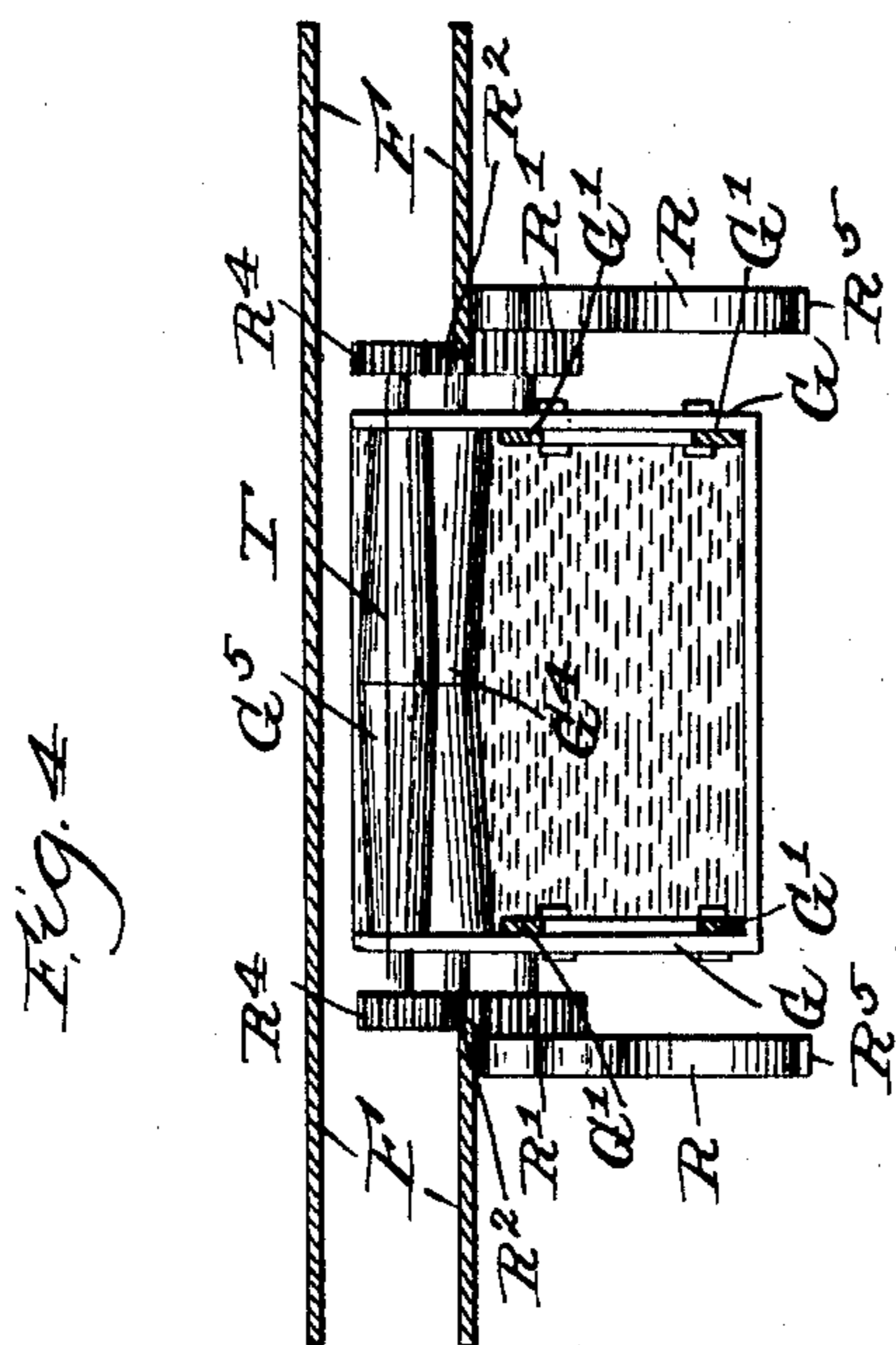
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## THREAD GUMMER FOR ENVELOP MACHINES.

(Application filed Nov. 30, 1898. Renewed Oct. 25, 1901.)

(No Model.)

**2 Sheets—Sheet 2.**



Witnesses:  
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# UNITED STATES PATENT OFFICE.

JOHN LLEWELLYN BOWLES, OF CHICAGO, ILLINOIS, ASSIGNOR TO PERFECT LETTER OPENER COMPANY, OF LOS ANGELES, CALIFORNIA, A CORPORATION OF CALIFORNIA.

## THREAD-GUMMER FOR ENVELOP-MACHINES.

SPECIFICATION forming part of Letters Patent No. 711,415, dated October 14, 1902.

Application filed November 30, 1898. Renewed October 25, 1901. Serial No. 80,000. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN LLEWELLYN BOWLES, a citizen of the United States of America, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Thread-Gummers for Machines for Fixing Threads in the Flaps of Envelops, of which the following is a specification.

10 The object of my invention is to provide a thread-gummer for envelop-machines of that class which affix threads in the flaps of envelops; and the purpose of this invention is to provide a simple, cheap, and efficient construction and arrangement of parts, as will be more fully described herein.

15 The invention consists in the novel construction and arrangement of the parts and the combination thereof, as is set forth in the claims.

20 Reference will be had to the accompanying drawings, in which—

Figure 1 is a front elevation of the invention. Fig. 2 is a side sectional view thereof. 25 Fig. 3 is a view similar to Fig. 2, showing the parts in a different position. Fig. 4 is a detailed plan view.

30 In the drawings, F indicates the reciprocating frame of a machine for fixing the threads to envelop-flaps, B the supporting-frame of said machine, and A thread-carrying arms, which are mounted upon the axes A', fixed to the reciprocating frame F. To this frame are fixed cams or segmental racks 35 R, which move up and down with the frame F and engage pinions R', mounted upon the sides of a gum-box G, which box is fixed to arms G', pivoted at G<sup>2</sup> to the frame B. Within the box G there are gumming-rollers G<sup>3</sup>, G<sup>4</sup>, 40 and G<sup>5</sup>, the latter being the roller which applies the glue directly to the thread T. The pinions R' engage and drive pinions R<sup>2</sup>, which in turn engage and drive pinions R<sup>3</sup> and R<sup>4</sup> upon the axes of rollers G<sup>3</sup> and G<sup>5</sup>. Thus as 45 the pinions revolve the several glue-rollers are made to revolve, and being in contact with each other and the lower ones being immersed in the glue a new supply of glue is constantly furnished to the surface of roller

G<sup>5</sup>. The pinions R' serve also as ordinary contact-wheels in engagement with the racks R, which causes the gum-box G to swing laterally upon its supporting-pivots G<sup>2</sup>, and the sections R<sup>5</sup> of the cams or racks R are so curved that on the upward movement of the 55 reciprocating frame F the gum-box G is permitted to swing upon its pivots G<sup>2</sup> toward the thread-carrying arms and bring the roller G<sup>5</sup> in contact with the thread T at the upper limit of movement of the frame F, and upon 60 the descent of the frame F, carrying the racks R, the curved sections of the racks R<sup>5</sup> force the gum-box G outward from the thread and cause the gum-box and its rollers to be moved entirely clear of the thread-carrying arms and 65 the frame members. Upon the further descent of the frame F after the box G is moved outward to its full limit the pinions R' engage the straight section of the racks R and permit the free descent of the frame F, as is shown by 70 Fig. 3. Thus the mechanism required to manipulate the gummer in gumming the thread is simply the racks R, shaped as described, together with the arms, pivoted as described, and pinions mounted to engage the racks and 75 act both as driving-pinions for the glue-rollers and as rollers to engage the rack and produce the swinging movement of the glue-box and its members, which is a very simple, efficient, and cheap construction. 80

85 In the drawings I show the location of the pivots G<sup>2</sup> for the gum-box G in such a position that gravity causes the boxes to swing forward to bring the gumming-rollers G<sup>5</sup> in contact with the thread, and the shape of the racks is such as to move the gum-boxes outward away from the thread. The pivots may have any desired location such that the racks swing the boxes positively in one direction and allow gravity to return them, or I may provide a curved guideway or guideways in connection with the racks R and an additional roller or rollers journaled to the box G, which guideway and rollers will cause the pinions R' to be maintained constantly in engagement 95 with the racks R, and thereby make it unnecessary for gravity to perform any part in the movements of the boxes G. Since these

are modifications that will readily be apparent to any one and do not depart from the spirit of my invention, I have not deemed it necessary to show in the drawings such a construction.

I claim—

1. In combination with a reciprocating frame carrying a thread holding and carrying member, of the curved racks fixed to the reciprocating frame, of a glue-box mounted to swing to and from the thread holders and carriers and provided with pinions in engagement with the racks combined and arranged whereby upon the reciprocating movement of the racks, the glue-box is caused to move to and from the thread holder and carriers substantially as shown and described.

2. In combination with a reciprocating frame carrying thread holder and carrier members, of curved racks fixed to and carried by the frame, of a gum-box movably mounted on a fixed part and in which are mounted gum-applying rollers, of pinions fixed to the box and adapted to engage the teeth of the racks and to engage gears upon the axes of the gum-rollers, whereby upon the movement of the boxes caused by the movement of the racks the gum-rollers are made to revolve and to refurnish the glue on their peripheries, and the gum-box caused to move away from the path of the reciprocating frame combining an arrangement substantially as shown and described.

3. In combination with the reciprocating frame carrying thread holder and carrier members of curved racks fixed to the frame and moving therewith, of a gum-applying device pivoted to the frame of a machine in a manner to swing to and from the thread holder and carrier members and provided with pinions for engaging the teeth of the racks whereby on the descent of the racks the gum-box is moved upon its pivots substantially as shown and described.

4. In a thread-gumming device for machines for applying opening strands to envelopes, the combination of a reciprocating thread-carrier, a gumming device past which the thread is wiped, and a cam moving with the thread and impinging the gumming device and deflecting it away from the path of the thread-carrier.

5. In a machine for applying threads to envelopes the combination of a reciprocating thread-carrier, a gumming device past which a portion of the thread is wiped, a pivoted support by which the gumming device swings to and from the path of the thread, and a cam moving with the thread-carrier deflecting the gumming device from the path of the thread-carrier.

Signed by me at Chicago, Illinois, this 21st day of November, 1898.

JOHN LLEWELLYN BOWLES.

Witnesses:

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CHESTER A. ASKINS.