

No. 732,763.

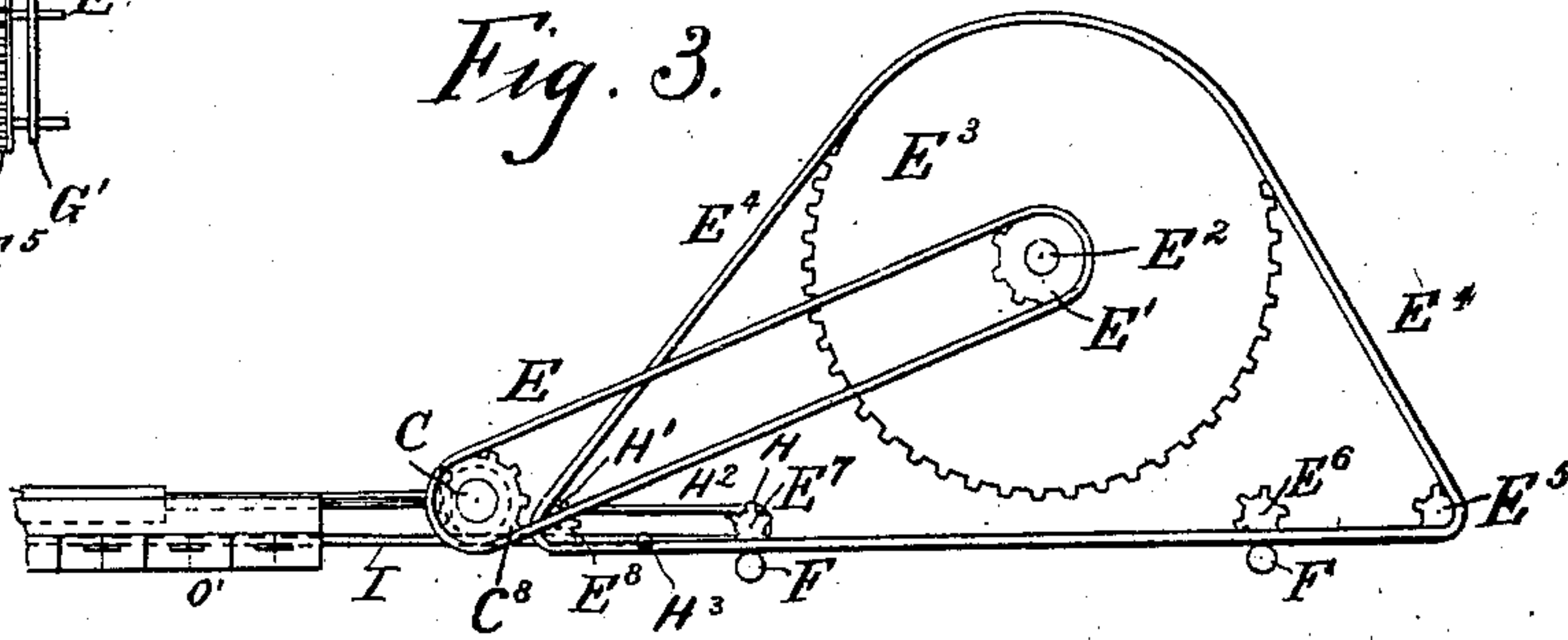
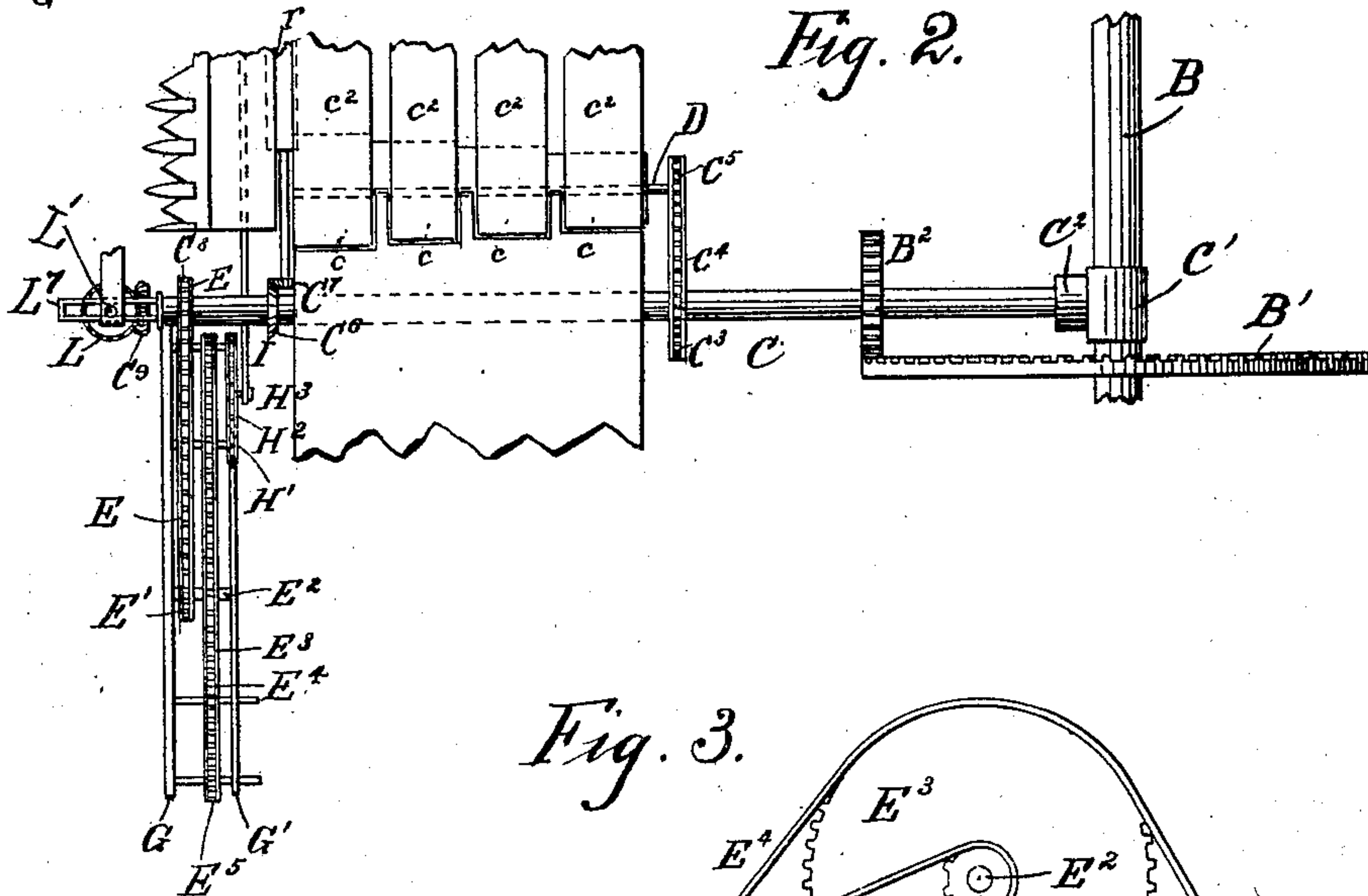
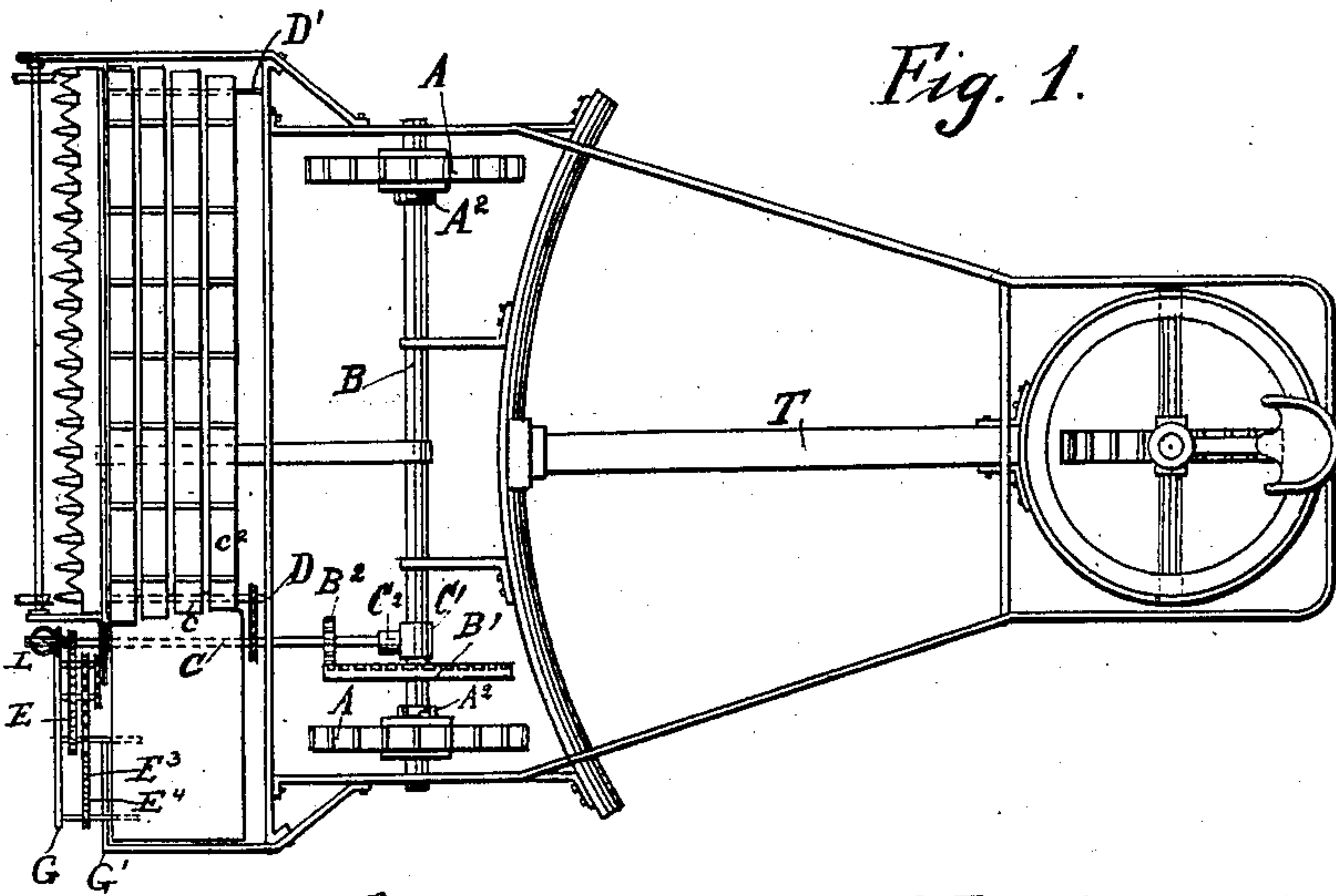
PATENTED JULY 7, 1903.

E. A. MAINGUET.
HARVESTER.

APPLICATION FILED OCT. 18, 1901.

NO MODEL.

2 SHEETS—SHEET 1.



Inventor

Witnesses

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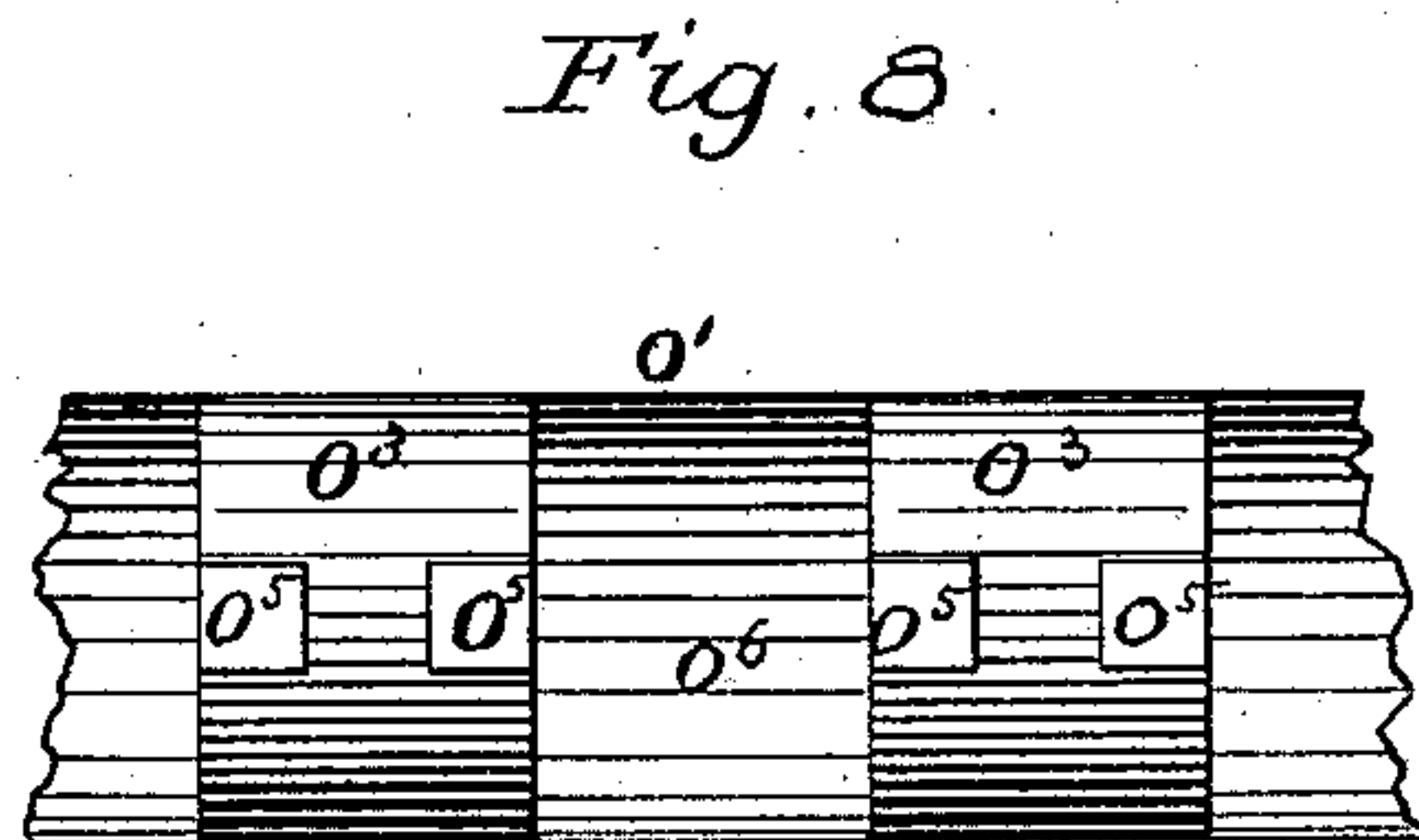
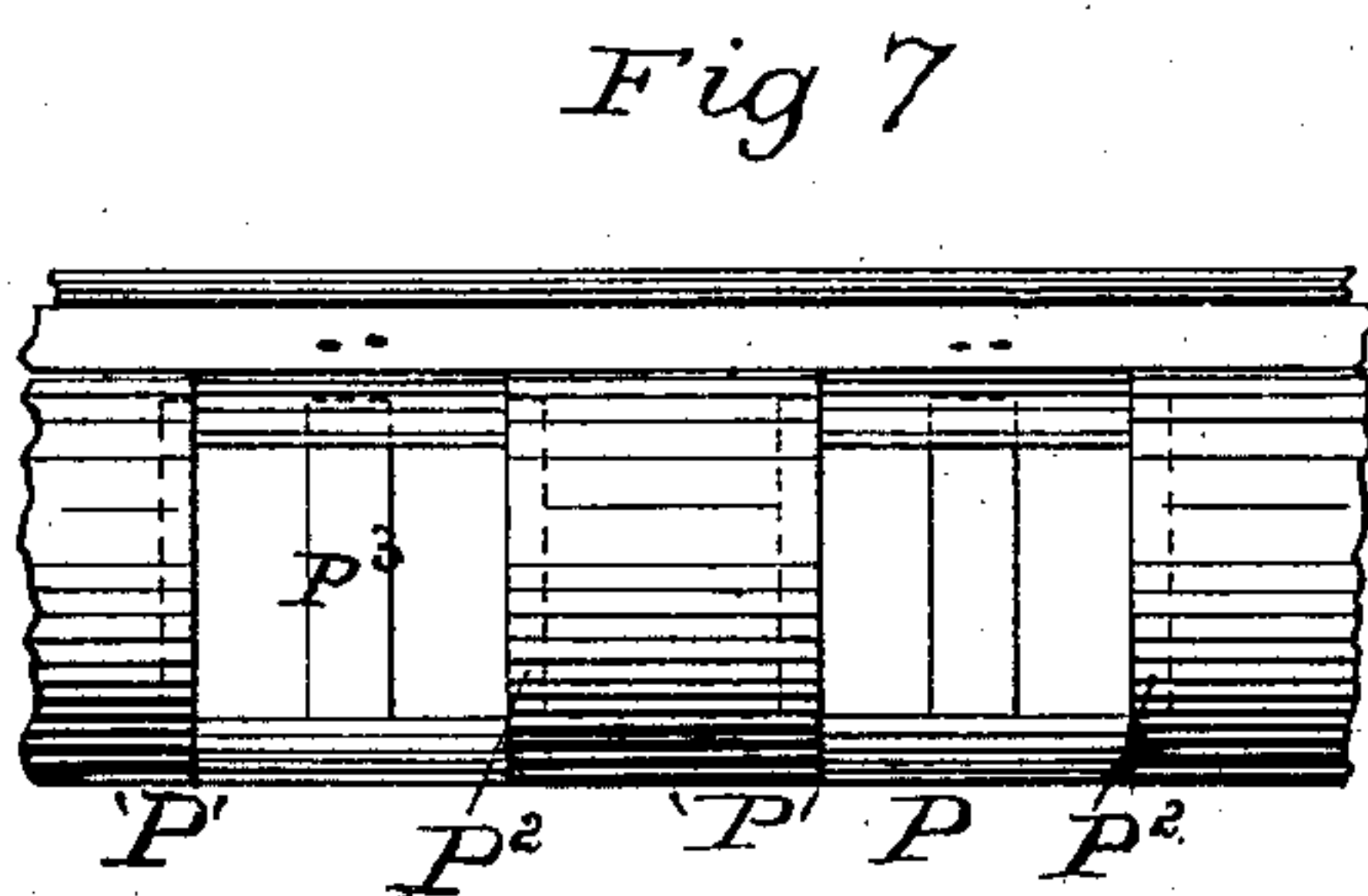
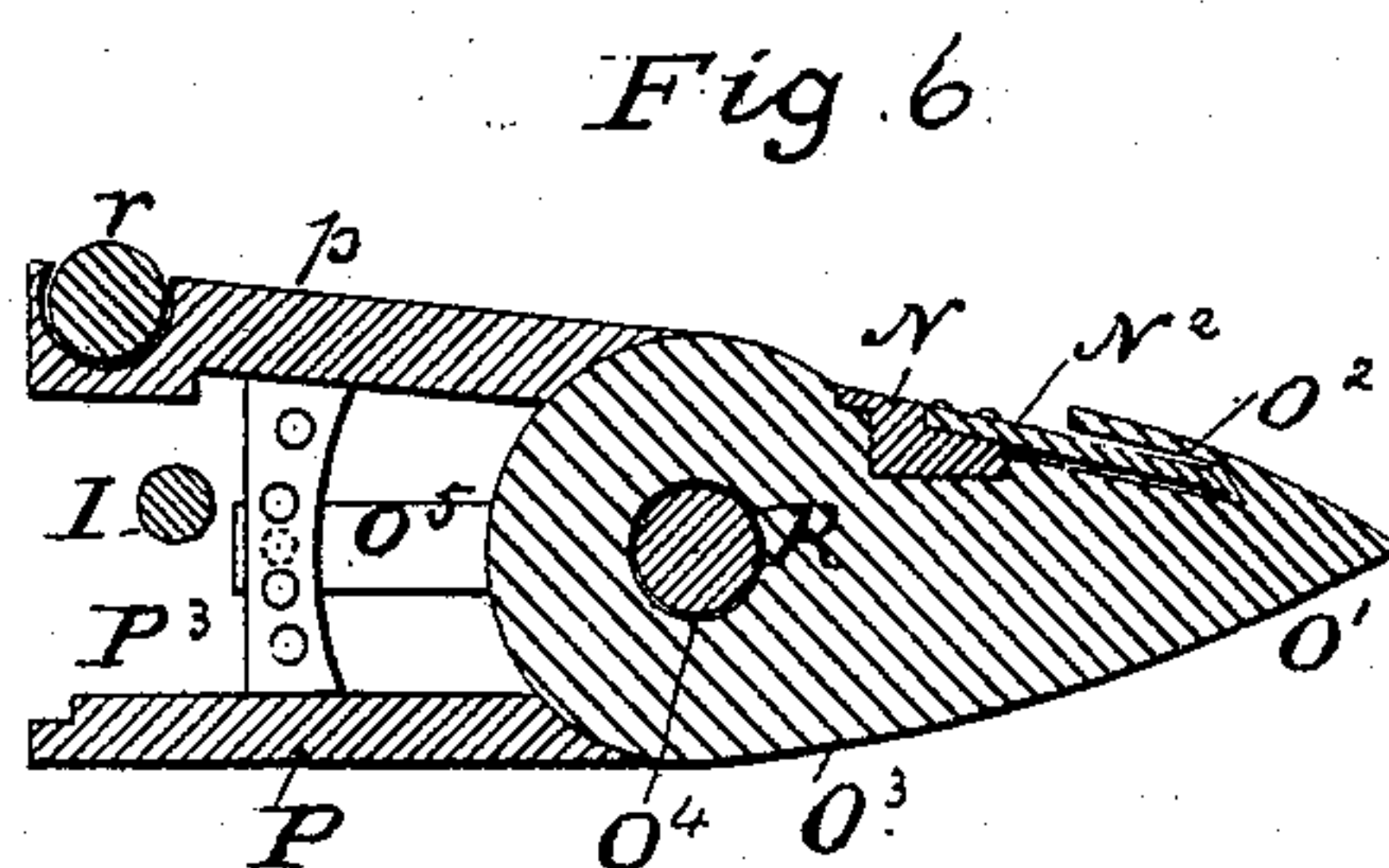
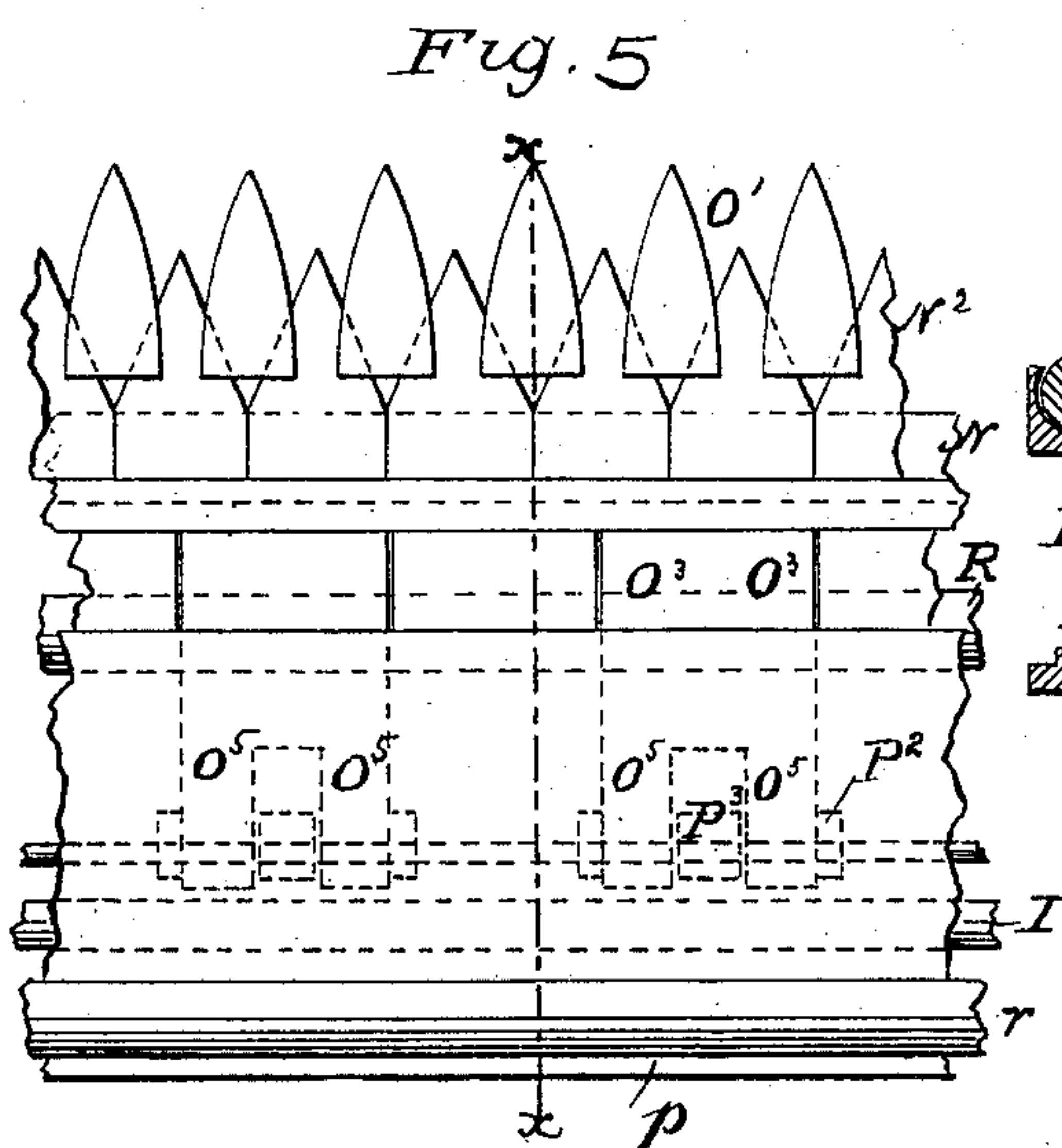
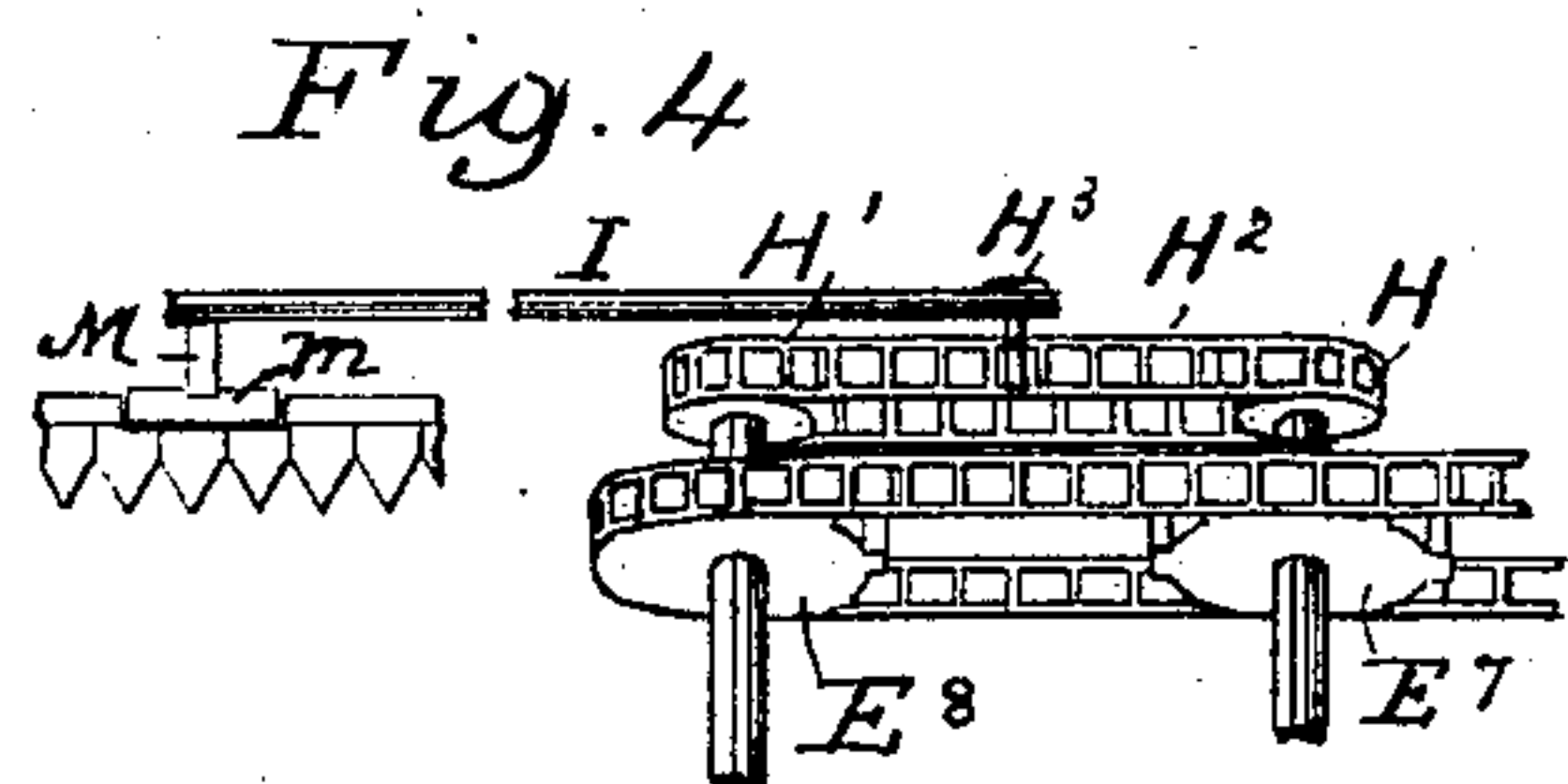
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

EDWARD A. MAINGUET, OF EVANGELINE, LOUISIANA.

HARVESTER.

SPECIFICATION forming part of Letters Patent No. 732,763, dated July 7, 1903.

Application filed October 18, 1901. Serial No. 79,092. (No model.)

To all whom it may concern:

Be it known that I, EDWARD A. MAINGUET, a citizen of the United States, residing at Evangeline, in the parish of Acadia and State of Louisiana, have invented certain new and useful Improvements in Harvesters, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention is an improvement in harvesters, and has for its object, among others, its capability to be used alternately as a mower, as a binder, by addition of the mechanism special to such operation, and as a header, by adapting in the place of the binding mechanism any carrier used for such purpose; but as such mechanism forms no part of the present invention I consider it unnecessary to describe it.

In a previous application I provided means to raise the front frame very high and set it very low. By the present means I am enabled to use my machine for different purposes, and to these ends I combine the different parts, as hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a general top view of the machine. Fig. 2 is a top view, on a larger scale, of a portion of the machine, illustrating the mechanism transferring motion to the different parts. Fig. 3 is a front view of a portion of the gears in the front of the machine and their connections. Fig. 4 is a perspective view showing the means used to give a reciprocating motion to the cutting-bar. Fig. 5 is a top view of a portion of the cutter and finger bars, pitman, and their connections to the frame. Fig. 6 is a vertical section of the same on line *x x* of Fig. 7 and on a larger scale. Fig. 7 is a front view of the frame to hold the rear end of the cutting apparatus. Fig. 8 is a back view of a portion of the finger-bars.

In Fig. 1 is shown the main frame of the machine, having spaces for the horses and the tongue T back of the operating mechanism to push the said mechanism ahead, and consequently causing the rotation of the two main wheels A A. To each of these wheels is attached a member of a clutch which engages with the beveled teeth of the member A² on the axle B, as usual, when going forward, but will slide loosely when going back-

ward. On the same axle B is fixed the large gear B', which transmits its motion to the pinion B². This pinion is fixed to a shaft C at right angle to the axle B. This shaft C is supported at one end by the main axle B by means of a sleeve C', mounted on this axle and having a tubular boss C² surrounding the end of the shaft C and permitting its rotation. Upon the shaft C is also mounted a sprocket-wheel C³, which carries a chain C⁴, which rotates a sprocket-wheel C⁵, the latter giving motion to a shaft D, carrying pulleys *c*, which operate the separate aprons or belts *c*² on said pulleys. To cure the defect caused by the lateral inclination usually taken by the grain in falling upon an ordinary apron, I provided the shafts D and D' with the pulleys *c*, diminishing gradually in size for each belt, the pulley situated next to the cutter having the largest diameter. On the shaft C is also mounted a bevel-gear C⁶, meshing with a bevel-pinion C⁷, connected to the roller *r* for tipping the grain onto the apron, as usually done. Upon the shaft C is also mounted a sprocket-wheel C⁸, which carries a chain E, to give motion to various operating parts of the machine. Upon the same shaft C is also mounted a bevel-gear C⁹, giving motion to the reel hereinafter described.

As shown in Figs. 2, 3, and 4, the chain operated by the sprocket-wheel C⁸ rotates another sprocket-wheel E', which is mounted upon a short shaft E², parallel with the shaft C. Said shaft E² carries also a large sprocket-wheel E³, the periphery of which will multiply the motion of the sprocket-wheel E' in transmitting it. On this large sprocket-wheel E³ is mounted a chain E⁴, which in its course drives small sprocket-wheels E⁵, E⁶, E⁷, and E⁸, the wheel E⁵ being intended to operate a bundle or header carrier when needed, but not shown. The wheel E⁶ is to operate a packer or binder, according to circumstances, and the sprocket-wheels E⁷ and E⁸ operate the pitman by means of similar sprocket-wheels H and H' alongside of and on the same shafts carrying said wheels E⁷ and E⁸, as hereinafter described. On the inner ends of the shafts of the sprocket-wheels E⁷ and E⁸ are secured the sprocket-wheels H and H'. These wheels carry the chain H², as best shown in Fig. 4. To this chain is at-

tached the pin H^3 , which is embraced by the end of the pitman I, which pitman by means of said sprocket-wheels receives its reciprocating motion and actuate the cutting-bar, forming hereinafter the subject of a special description. It will be seen that by this use of the chain H^2 , I can drive the cutter-bar across two, three, or more fingers by setting the wheels H and H' farther apart and having the chain H^2 of a corresponding length. Beneath the sprocket-wheels E^6 and E^7 are located two small rollers F to cause the main chain E^4 to mesh perfectly with said wheels. (See Fig. 3.) This whole system of gears and wheels is supported by braces or portions of the frame permanently fixed and represented in Figs. 1 and 2 by the bars G and G' .

As mentioned before, the axle C carries the pinion C^9 . This pinion has a set of beveled teeth of convex form, which meshes with another pinion L, having the same shape of teeth. This pinion L is fixed and keyed to the shaft L' , operating the reel l by means of bevel-gears, the upper one of which is mounted upon the reel-shaft.

The pitman I, which receives motion by means already described, is connected to the cutter-bar first by a cross-pin M, passing through a slot bored for such purpose in the parts of the cutting apparatus, and thence jointed to the cutter-bar by a short sleeve m or any device permitting a little vertical motion of the cutter-bar.

The cutting apparatus considered as a whole can be divided mainly in three distinct parts. (See Figs. 5, 6, 7, 8.) The first part consists of the cutter-bar N, carrying the knives N^2 , said knives being of the usual form. The second part consists of the outer fingers O' , having grooves O^2 , suitably shaped, as shown in Fig. 8, to receive the cutter-bar and cutters above mentioned. The rear end of this part is divided into alternate sections having the form of half-cylindrical rings O^3 , provided with central holes O^4 to receive the pivot-rod R. These rings O^3 are provided with tails O^5 , as best shown in Figs. 7 and 10, to retain the fingers at any desired angle, and said tails may be at any suitable distance apart so long as the desired rigidity is obtained; but to elucidate the description this part is divided into series, choosing the thickness of three finger-bars as a sample of the two interlocked closed members of the hinge. Figs. 5, 7, and 8 show that a ring or closed member of the hinge has the thickness of a finger and a half. Next to this ring is a hollowed space O^6 of the same thickness as the previous ring, which space is to receive the ring of the next part, the whole constituting a long hinge permitting the tilting of the fingers. The rear part of said hinge is formed by a lower plate P and an upper plate p , having beveled and concave front edges and a

series of hollowed cylindrical rings P' , conveniently spaced and built to fill the spaces O^6 in the finger-bar, previously described, and to receive also the rod R. The plates P and p are connected together by the rings P' and the uprights P^3 . The upper plate P receives in its top the tipping grain-roller r . As it will be understood, the rings O^3 have the same thickness as the rings P' . They receive the rod R, uniting these two parts together, permitting the tilting of the first part, and they are fixed in any desired position by the tails O^5 and supports P^2 and P^3 , hereinafter described. The upright supports P^2 and P^3 are conveniently spaced apart to be alongside of the tails O^5 and are provided with four holes to receive a pin to keep the tails O^5 in any one of four different positions. The rod R connects these parts and keeps the knives in a position substantially horizontal with the ground even when the front frame of the machine is tilted.

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

1. The combination of the main axle and a gear-wheel thereon, the shaft C at right angles to said axle and gear-wheel B^2 thereon, a sprocket-wheel C^8 upon the shaft C, a chain E mounted upon said wheel C^8 , the short shaft E^2 parallel with the shaft C, the large sprocket-wheel E^3 thereon, the chain E^4 carried by said sprocket-wheel, the sprocket-wheels E^7 , E^8 , H and H' , the chain H^2 carried by the sprocket-wheels H and H' , the pin H^3 carried by the chain H^2 and the pitman I having one end receiving the pin H^3 , substantially as described.

2. The combination of a harvester-pitman having an eye at one end, a pin H^3 received in said eye, a chain carrying said pin, and two sprocket-wheels carrying said chain, with a cutter-bar having an arm connected with the opposite end of the pitman, a series of fingers grooved on top to receive the cutter-bar and cutters, said fingers having cylindrical rear ends alternately concave and convex, and in the rear of the fingers a frame consisting of the plates P and p having portions concave and convex in their front ends, the pivot-rod R connecting said fingers and plates and upright connections P^3 having transverse perforations therethrough, the rear ends of the fingers having tail-like extensions O^5 adapted to be adjustably secured to the connections P^3 , substantially as described.

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

EDWARD A. MAINGUET.

Witnesses:

E. E. MASSON,
R. F. STORM.