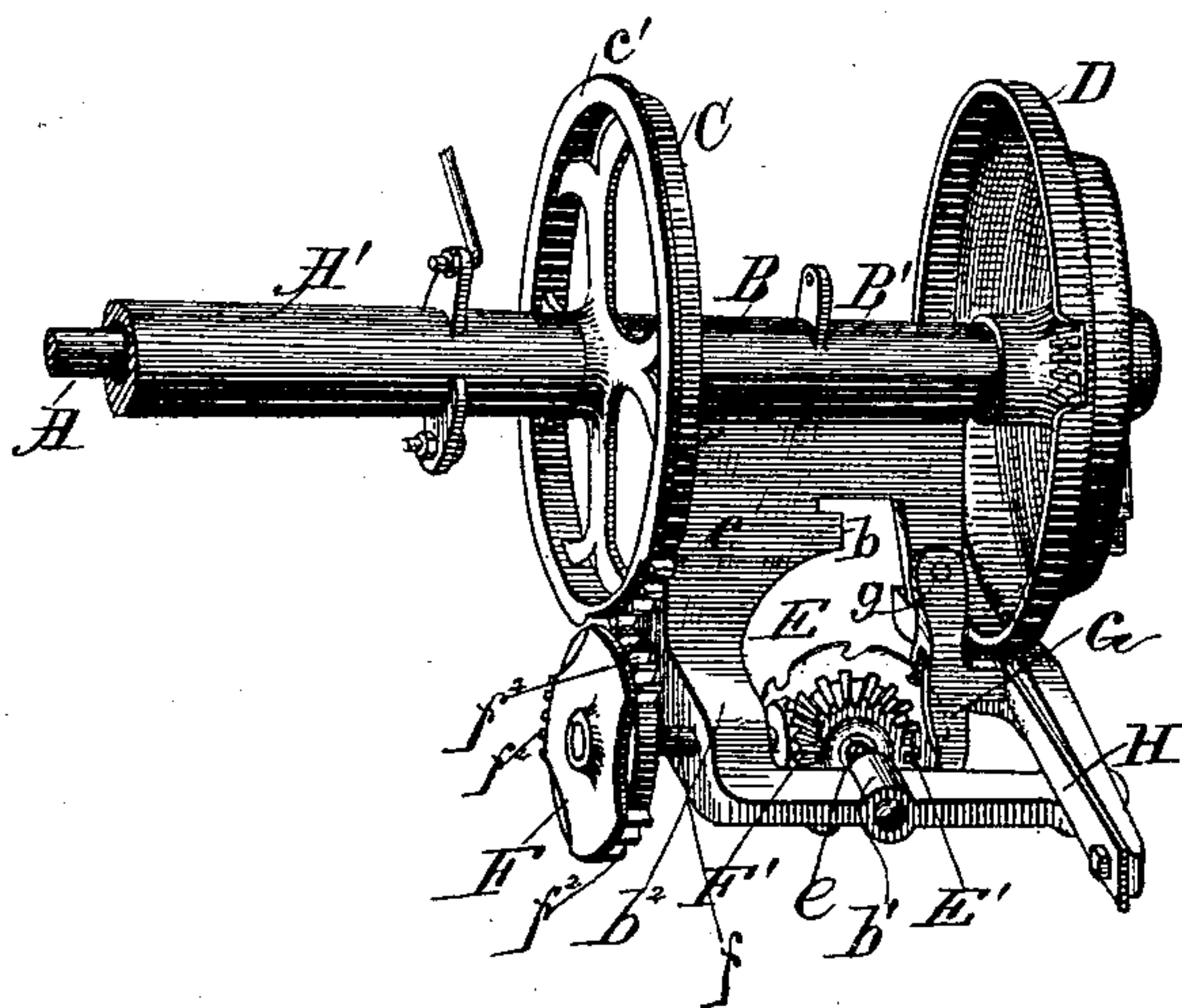


(No Model.)

J. P. BULLOCK.

OPERATING MECHANISM FOR CORD HOLDERS OF GRAIN BINDERS.  
No. 366,372. Patented July 12, 1887.

Patented July 12, 1887.



*Witnesses:*

E. G. Jensen

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flat + Underwood,

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# UNITED STATES PATENT OFFICE.

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(ADMINISTRATRIX OF SAID JOSEPH P. BULLOCK, DECEASED) ASSIGNOR  
TO THE MILWAUKEE HARVESTER COMPANY, OF SAME PLACE.

## OPERATING MECHANISM FOR CORD-HOLDERS OF GRAIN-BINDERS.

SPECIFICATION forming part of Letters Patent No. 366,372, dated July 12, 1887.

Application filed May 19, 1883. Serial No. 95,549. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH P. BULLOCK, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Operating Mechanism for Cord-Holders of Grain-Binders; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to devices for operating the cord-holders of grain-binders; and it consists in certain peculiarities of construction, as will be more fully set forth hereinafter.

The drawing is a perspective view of my invention.

A is the main shaft of the knot-tyer, and A' is a sleeve thereon, which belongs to the main-frame of the machine, of which my present invention forms a part. B is another sleeve on same shaft, but separated from sleeve A' by the wheel C, and located between that wheel and the wheel D at the end of the said shaft A. From the sleeve B there depends the frame B', solid therewith or connected thereto, and of a general L-shape in cross-section, which frame is cut away, as shown at b in the drawing, to permit the needle to pass there-through. The front of this frame is provided with a bearing, b', to receive the shaft e of the notched disk E, and secured to or cast with this disk is the bevel gear-wheel E', the teeth of which mesh with those on a pinion, F', which is on the inner end of a shaft, f, passing through a bearing formed at b<sup>2</sup> in the side of the frame B', and which shaft bears at its outer end the wheel F. This wheel is provided with cogs at, say, three equally distant points, f<sup>2</sup>, on its periphery, separated by three blank portions, and its outer plate is concaved between the cogs, and the wheel C immediately above it has corresponding cogs, c, at one point only, and otherwise presents a blank surface on its periphery, and has a side flange, c', all around it except at the cogs; hence, as the wheel C is revolved by the shaft A, when the cogs c on the wheel C encounter one set of the cogs f<sup>2</sup> on the wheel F, the latter wheel will be revolved just so

long as the two wheels are in mesh, or sufficient to turn the disk E one notch, and then, as the blank surfaces of the wheels C and F do not touch each other, and as the side flange, c', on the former wheel just moves within the concave on the outer side of the latter wheel without contact, the wheel F is not again revolved until the wheel C makes another complete revolution and its cogs c encounter the next set of cogs, f<sup>2</sup>, on the wheel F, the meshing of which serves to turn the disk E another notch, and so on.

G is the shoe of the cord-holder, which is pivoted at g to the frame B', and as the needle (not shown) carries the cord down into one of the notches in the disk E the shoe is forced in toward the disk by spring H, so as to clamp the cord upon the disk and securely hold it.

The device herein illustrated shows a disk E supposed to have six notches, and with its bevel gear-wheel E' furnished with double the number of cogs that the pinion F' bears, and hence the wheel F would have three sets of cogs, f<sup>2</sup>; but it will be understood that I do not limit myself to any particular number of notches or number of cogs, so long as the device is constructed with proper relative proportions (as regards the number of notches and the size and number of cogs, &c.) of the several parts.

Heretofore the notched disks analogous to my disk E have been operated by a pawl-and-ratchet device, which was cumbersome and necessitated a number of extra parts and attachments; but my present device does the work equally well and is much simpler.

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

1. The combination of the cord-holding disk having a bevel-pinion secured to it or forming part thereof, a shaft carrying a bevel-pinion on one end for meshing with that on the holding-disk, and provided at the other end with a wheel having cogs at intervals on its periphery and intermediate smooth concave surfaces, with a wheel on the main tyer-shaft independent of the tyer-operating wheel,



having a cog-segment at one point on its rim, which is otherwise perfectly plain, substantially as set forth.

2. In a grain-binder, the combination with  
5 the knotting mechanism and its wheel D, of cord-holder E E' G, spring H, shaft *f*, having pinion at one end and intermittent gear-wheel at the other, with the wheel C, having a cog-segment on its periphery, as set forth.

In testimony that I claim the foregoing I do have hereunto set my hand, on this 15th day of May, 1883, in the presence of two witnesses.

JOSEPH P. BULLOCK.

Witnesses:

H. G. UNDERWOOD,  
E. B. ASMUSEN.